

#	Ch	From Page	From Line	To Page	To Line	Comment
1	15	0	0	0	0	Think term “low regrets” would be better than "no regrets" or "win-win" solutions referred to in Chapter. Firstly, it is term used in other chapters such as Chapter 9 on Rural Areas. So there's issues of consistency across chapters. Secondly and, more importantly, "low regrets" indicates a more nuanced and realistic understanding of issues. It acknowledges that there are always winners and losers within any course of action and there is really no such thing as a "no regrets" or "win win" solution. "Low regret" strategies would be those that address adaptation gap or deficit in short-term but can also begin to address future risks and uncertainty. These would integrate both sustainable development and disaster risk reduction goals. (Granderson, Ainka, University of Melbourne)
2	15	0	0	0	0	Chapter does not really address key issue of "what makes for successful planning process and outcomes"? Presents planning and implementation processes as smooth and rational, and does not engage critically with issues surrounding the plurality of knowledges, meanings and interests attached to climate change risks and adaptation responses, and issues of power, politics and justice that arise in negotiating these pluralities across multiple stakeholders and scales. For example, section 15.2.2.4.1 does not mention issues of power and politics in engaging local communities and operationalizing plans as well as fact that many external forces (discourses, foreign aid, market forces, policy environment) often shape this process for better or worse. For further details of these issues, see: Few, R., Brown, K., Tompkins, E.L., 2007. Public participation and climate change adaptation: avoiding the illusion of inclusion. Climate Policy 7, 46–59. Ayers J. 2011. Resolving the adaptation paradox: exploring the potential for deliberative adaptation policy making in Bangladesh. Global Environmental Politics 11(1). Cameron, E.S. 2012. Securing indigenous politics: a critique of the vulnerability and adaptation approach to the human dimensions of climate change in the Canadian Arctic. Global Environmental Change 22: 529-536. (Granderson, Ainka, University of Melbourne)
3	15	0	0	0	0	Though the chapter is supposed to be on adaptation planning and implementation, the chapter is heavy on planning, particularly decision support tools, with not much on implementation. This is a weakness. (Chan, Christina, U.S. Department of State)
4	15	0	0	0	0	The chapter is heavy on description, light on assessment and analysis of the literature. Also, policy statements are made that are not backed up by evidence. This is a weakness that should be corrected. (Chan, Christina, U.S. Department of State)
5	15	0	0	0	0	The word "embryonic" is extremely overused. (Chan, Christina, U.S. Department of State)
6	15	0	0	0	0	It is difficult to provide comments on whether the key points from the chapter are accurately and appropriately reflected in the Executive Summary. This was a difficult chapter to read. There were too many subsections, many of which are inter-related or even the same. Some sections were very difficult to read. Others did not provide much evidence from the literature. There is much room for <u>shortening this chapter.</u> (Chan, Christina, U.S. Department of State)
7	15	0	0	0	0	George, D.A., Clewett, J.F., Birch, C.J, Wright A.H. and Allen, W.R. (2009), A professional development climate course for sustainable agriculture in Australia. Journal of Environmental Education Research. 15(4), 417-441. (George, David, Griffith University)
8	15	0	0	0	0	George, D.A., Clewett, J.F., Wright, A. Birch, C., and Allen, W. (2007), Improving farmer knowledge and skills to better manage climate variability and climate change. Journal of International Agricultural and Extension Education. 14(2), 5-19. (George, David, Griffith University)
9	15	0	0	0	0	George, D.A., Clewett, J.F., Birch, C., Wright A. and Allen, W. (2007), Development and accreditation of an applied climate education unit for sustainable land use in Australia. Journal of Sustainable Agriculture. 29(4), 87-108. (George, David, Griffith University)
10	15	0	0	0	0	George, D.A., Birch, C., Clewett, J.F., Wright A., Allen, W. and Keogh, D.U. (2007), Needs for applied climate education in agriculture. Australian Journal of Experimental Agriculture. 47(1), 1-12. (George, David, Griffith University)

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11	15	0	0	0	0	George, D.A., Clewett, J.F., Selvaraju, R. and Birch, C. (2006), Applied climate education and training for agricultural and natural resource management in India, Indonesia, Zimbabwe and Australia. Journal of Agricultural Education and Extension. 12(2), 141-157. (George, David, Griffith University)
12	15	0	0	0	0	George, D.A., Birch, C., Clewett, J.F., Wright, A. and Allen, W. (2005), Major issues and solutions to applied climate education in Australia. Journal of International Agricultural and Extension Education. 12(3), 21-31. (George, David, Griffith University)
13	15	0	0	0	0	George, D.A., Birch, C., Buckley, D.J., Partridge, J. and Clewett, J.F. (2005), Surveying and assessing climate risk to reduce uncertainty and improve farm business management. Extension Farming Systems Journal. 1(1), 71-77. (George, David, Griffith University)
14	15	0	0	0	0	General Comments on Chapter 15. Adaptation Planning and Implementation: Impressive and practical chapter which presents the definitions and procedures of the adaptation planning and implementation. The most important part in this chapter is the adaptation tools and decision support processes. Also, the monitoring, modeling & spatially integrated tools, the decisionmaking tools and communication tools. The parts 15.4. for governing adaptation and 15.5. for research needs for maximizing opportunities are very impressive and clear to users. Figure 15-1 presents the four main phases of adaptation planning and implementation (local, sub-national, national and international) and Figure EA-1 for the ecosystem based adaptation approaches (Munang et al. 2013). are impressive and presents new materials. (Labib, Mounir Wahba , Third National Communication (TNC) Project)
15	15	0	0	0	0	The scope of the chapter is not clear. It focuses mostly on planning processes and less on the structure and objectives of adaptation plans. There are several overlaps with other chapters. (Danae Diakoulaki, Chemical Engineering, NTUA, Greece) (GREECE)
16	15	0	0	0	0	The text comprises several syntax errors and typos. (Danae Diakoulaki, Chemical Engineering, NTUA, Greece) (GREECE)
17	15	0	0	0	0	Executive summary is not particularly illustrative about scope and main findings. (Danae Diakoulaki, Chemical Engineering, NTUA, Greece) (GREECE)
18	15	0	0	0	0	Chapter 15 provides an interesting - and to a good extent complete - review of the literature on CCA. However the focus of the chapter, namely "On assessing cases at different cases, from international to local in various sectors from different aspects such as and governance of adaptation" is not met as the Chapter fails to provide solid recommendations on steps to be followed, on obstacles to be removed, on methodologies to be integrated in national/local policies, on specific tools to be used, and on governance reforms to be worked out at the intergovernmental, governmental, regional and local levels, etc. Taken the generality of the comments, the usefulness of the Chapter is limited. (Constantinos Cartalis, Environmental Physics, University of Athens, Greece) (GREECE)
19	15	0	0	0	0	This chapter should cross-reference Chapter 2. (AUSTRALIA)
20	15	0	0	0	0	This chapter is 'lumpy' in that it goes from lists of activities with no clear line of argument, to broad-sweeping statements that are poorly referenced or referenced by non-peer-reviewed literature. Suggest a solid rewrite. (AUSTRALIA)
21	15	0	0	0	0	Please spell out all acronyms and also attribute listed planning and implementation activities to the country in which they are taking place. (AUSTRALIA)
22	15	0	0	0	0	I would suggest clarifying generally when references used are grey literature or policy literature rather than peer-reviewed papers so that it is clear for a reader without turning to the reference list. It is not always clear in the text and becomes a bit confusing when assessing statements and conclusions drawn. (Storbjork, Sofie, Linkoping University)
23	15	0	0	0	0	A paper that is generally worth elaborating upon in the chapter is Sarah Burch "Transforming barriers into enablers of action on climate change: Insights from three municipal case studies in British Columbia, Canada". Global Environmental Change 20 (2010) 287-297. as it deals with transforming barriers to enablers and path transformations in terms of climate adaptation. (Storbjork, Sofie, Linkoping University)

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24	15	0	0	0	0	the chapter has a lot of relevant content but would benefit from a much clearer structure/ narrative/ storyline, and clearer complementarity (also avoiding overlap) and cross references to other Chapters especially Chapters 2, 14, 16, 17 (Webb, Bob, Australian National University)
25	15	0	0	0	0	Adaptation planning and implementation: states that adaptation now moves from a phase of awareness towards implementation of concrete responses. Unfortunately it is not yet clear, whether these adjustments are responses to perceived changes truly shifting societies to a well-adapted state. A framework about success factors of adaptation is obviously still missing. Moreover, in scientific terms a systematic research which can provide these measures is still in its infancy. Thus, one can really ask whether adaptation is well-routed in science or just policy making with an additional climate label. Overall the chapter provides an exhaustive overview on the current status of international mechanisms supporting adaptation planning, national plans, and national activities. The chapter can be structured much more in order to make clear how adaptation and mitigation might work together ("labor share"). This remains open, it provides just an overview, without making very clear, how climate change might shrink adaptation opportunities in the future. In particular, section 15.3 on capabilities for adaptation is extensive and mostly descriptive. There are many good insights to be gained on describing particular examples of institutional capacity, spatial planning role on adaptation, early warning systems etc.. Despite the usefulness of describing all these factors contributing for enhancing the adaptation capacities of countries or regions the chapter fails in providing a different overarching conclusions than the one in AR4, this is, that adaptation is highly context specific. Thus, what is new from this exercise, or in other words a synthesis for this chapter is mostly missing. The role of climate services is mentioned, but rather short. This can be extended. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
26	15	0	0	0	0	The Chapter uses the term 'resilience' frequently and in some cases indiscriminantly; its meaning is never defined. For example: is resilience considered positive with no negative implications or is the term value neutral; can an improvement in resilience for one actor result in a decrease in resilience for another? This lack of clarity in the use of resilience has implications for how some key sections within the chapter are read and interpreted. Based on its use I assume that resilience is considered positive with no negative implications. For example the paragraph beginning on page 15, line 9 describes a number of ways to improve ecosystem resilience. However these measures could be imposed on communities by powerful actors and actually reduce the viability of the certain livelihoods resulting in a downward spiral of unintended negative consequences (see for example a work by political ecologists such as Blaikie and Brookfield 1987, Land Degradation and Society) (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
27	15	0	0	0	0	The chapter does address the issue of flexibility but not in enough detail (it is highlighted as a key aspect of successful adaptation in Chapter 12, pg 9, line 2). In highly uncertain environments a valid approach to adaptation is to keep as many options open for as long as possible to help reduce problems associated with prematurely choosing one option over another. Examples of this can be seen in development behind hard engineering in flood plains or the difficulties or shifting from carbon intensive to renewable energy supply systems. Promoting flexibility will help to ensure that ecosystems and social systems are agile enough to cope with sudden changes, regime shifts and surprises. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)

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28	15	0	0	0	0	This chapter presents an overview of adaptation planning and implementation, with a lot of examples from various countries. However it is very academic, and needs to be more comprehensive and synthetic. Much of the information could be summarised into tables. More detail is needed on the content of the adaptation plans beyond the fact that they already exist, in particular providing an idea of the sectors covered and the level of detail provided. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
29	15	0	0	0	0	On the whole this chapter is comprehensive. But the rural adaptation element and the planning elements associated with that is missing. (INDIA)
30	15	0	0	0	0	Throughout this chapter, sweeping statements about the lack of national guidance, cooperation etc. are being made based on single studies. This gives a very unfair picture, as these studies often focus on areas where there are problems, and seek to identify what might be causing these. No attempt is made by this report to seek out additional information to obtain a complete and correct picture of the situation, which leaves the resulting text unbalanced. (Sjostrom, Asa, Swedish Meteorological and Hydrological Institute)
31	15	0	0	0	0	See my comment on chapter 14 (Kankaanpää, Susanna, Helsinki Region Environmental Services Authority (HSY))
32	15	0	0	0	0	This subsection seems to discuss also adaptation planning in general and not only adaptation in spatial planning. Maybe the title should be changed? (Kankaanpää, Susanna, Helsinki Region Environmental Services Authority (HSY))
33	15	0	0	0	0	Governance is an important subject and it is good that it has section of its own. However, this section still seems to be quite unfinished, for example the first paragraph. (Kankaanpää, Susanna, Helsinki Region Environmental Services Authority (HSY))
34	15	0	0	0	0	several inconsistencies in style across the chapter suggest the need for a general revision by a single hand expert on the theme, which would add to the chapter's overall readability. \n\n (NETHERLANDS)
35	15	0	0	0	0	general inconsistencies in use of decimals (some with points, some with numbers) and thousands sign (points or comma or space)\n\n (NETHERLANDS)
36	15	0	0	0	0	Comments provide on Chapter 15 and submitted by Jean Palutikof were developed at a one day workshop of the following reviewers: Kate Auty (Victorian government), Mark Gibbs (AECOM), Adam Gray 9South Australia, Local Government Association), Chris Lee (New South Wales Government), Stefanie Pidcock (Australian Government), Elvira Poloczanska (CSIRO), Sandra Schuster (Private Consultatnt), Bob Webb (ANU), Sarah Wheeler (University of South Autralia), Stella Whittaker (Manidis Roberts), Sarah Boulter (Griffith University), David George (Griffith University) (Palutikof, Jean, Griffith University)
37	15	0	0	0	0	Additional contributing authors would help expand the depths and introduce case studies. It would give greater breadth of experience/literature (Palutikof, Jean, Griffith University)
38	15	0	0	0	0	The chapter has many long and convoluted sentences throughout - the meaning is sometimes lost. (Palutikof, Jean, Griffith University)
39	15	0	0	0	0	This chapter suffers from a lack of narrative structure, poor sentence structure, lack of case studies, overall poor structure, repetitiveness and unclear/unsubstantiated statements. The text is dense and poorly edited and is not representative of the current literature. Chapter is very uneven. Multiple paras with no references others well referenced. P31 forwards clearly a new author -much better and clearer. The chapter could be shortened considerably through restructure and tightening. (Palutikof, Jean, Griffith University)
40	15	0	0	0	0	From comparison with the plenary-agreed outline, some sections are missing: Adaptation status and indicators; Financing for adaptation (Palutikof, Jean, Griffith University)
41	15	0	0	0	0	Would be improved with the inclusion of a selection of case studies. (Palutikof, Jean, Griffith University)

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42	15	0	0	0	0	All material on barriers needs to be gathered together in one place and discussed as a cohesive topic. Page 10 lines 12-22 as an example (Palutikof, Jean, Griffith University)
43	15	0	0	0	0	We were concerned about the strength of statements made/based/supported by only a single reference which sometimes was not peer reviewed. This needs to be looked at throughout the chapter to ensure statements are appropriately supported by the literature. (Palutikof, Jean, Griffith University)
44	15	0	0	0	0	Discussion on the allocation of risk is missing from this chapter. Those who make the decisions don't necessarily carry the risk. Risk is best allocated to those best able to manage it. (Palutikof, Jean, Griffith University)
45	15	0	0	0	0	The chapter has considerable cross-linkages to Chapter 2. Suggest cross-reference. (Palutikof, Jean, Griffith University)
46	15	0	0	0	0	The approach of the chapter is a literature review rather than a critical assessment. This presents a number of problems including the limited evidence of case studies available in the literature. The chapter needs considerable revision to ensure it is making a critical assessment of the literature, providing more case studies and capturing the breadth of literature. (Palutikof, Jean, Griffith University)
47	15	0	0	0	0	The provision of a chart could be used to structure and signpost the chapter and provide a synthesis of the chapter. Recommend include this as a figure - it will give the reader a lot of help. (Palutikof, Jean, Griffith University)
48	15	0	0	0	0	Two elements not captured in the chapter are: (a) vulnerable peoples and (b) a complete lack of information about agriculture in developed countries such as Australia. Suggest review literature and address these issues. (Palutikof, Jean, Griffith University)
49	15	0	0	0	0	There is limited literature available on implementation, especially peer-reviewed – this is a disadvantage for this chapter. Much of the evidence is likely to be available in local reports, government papers etc. The Chapter is about activities that are the core business of governments – yet these activities are often not referenced/present in the formal literature. This makes it a challenge to assess the literature. Grey literature should be considered in a critical and case study approach. (Palutikof, Jean, Griffith University)
50	15	0	0	0	0	King County is referenced a number of times through the chapter, but is a dated example. Should be more recent case studies to draw upon. For example: New York case study – should be in the literature and could be used. Possible references: Mehrotra, S., J. Carmin, A. Fenech, H. Fünfgeld, Y. Labane, J. Li, R. Roggema, F. Thomalla, and C. Rosenzweig, 2013: Adapting to climate change in cities. In Climate Adaptation Futures. J. Palutikof, S.L. Boulter, A.J. Ash, M.S. Smith, M. Parry, M. Waschka, and D. Guitart, Eds. Wiley-Blackwell, 311-321. \n Mehrotra, S., C.E. Natenzon, A. Omojola, J. Gilbride, and C. Rosenzweig, 2012: Framework for city climate risk assessment. In Cities and Climate Change: Responding to an Urgent Agenda, Vol. 2, Urban Development Series. World Bank, 182-241. (Palutikof, Jean, Griffith University)
51	15	0	0	0	0	Would recommend case studies on: 1. urban areas, 2. Business, 3. Agriculture (e.g. Murray Darling Basin water trading). Possible references: Commonwealth of Australia, 2012. Water Act 2007 - The Basin Plan, Canberra. Can be sourced at: http://www.comlaw.gov.au/Details/F2012L02240 ; Loch, A, Wheeler, S, Bjornlund, H, Beecham, S, Edwards, J, Zuo and Shanahan, M 2013 The role of water markets in climate change adaptation, National Climate Change Adaptation Research Facility, Gold Coast. pp.142. Can be sourced at: http://www.nccarf.edu.au/publications/role-water-markets-climate-change-adaptation (Palutikof, Jean, Griffith University)
52	15	0	0	0	0	Evidence of change in development of thinking around adaptation and a sense that the science has moved forward since AR4 is not really there (Palutikof, Jean, Griffith University)
53	15	0	0	0	0	The authors have put risk reduction and adaptation together, but don't justify that approach. Need to justify and clarify this approach. (Palutikof, Jean, Griffith University)

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54	15	0	0	0	0	Australia's disaster recovery identified as a maladaptation in the report of its Productivity Commission on "Barriers to effective climate change adaptation" because "it may be distorting the incentives that state and territory governments have to reduce their risks through disaster-mitigation measure". Tends to put adaptation and disaster risk reduction together and assumes that they need to be inherently coupled. But doesn't ever justify that. Can be a positive relationship or a negative relationship - see discussion in Productivity Commission report. How is the relationship between disaster reduction and adaptation managed in countries? Need to point out the shift from disaster response, which may be an incremental change, to the need for transformational change. (http://www.pc.gov.au/projects/inquiry/climate-change-adaptation/report). Need to say that disaster recovery can lead toward or away from adaptation. Worth acknowledging. (Palutikof, Jean, Griffith University)
55	15	0	0	0	0	Tends to put adaptation and disaster risk reduction together and assumes that they need to be inherently coupled. But doesn't ever justify that. Can be a positive relationship or a negative relationship - see discussion in Productivity Commission report. How is the relationship between disaster reduction and adaptation managed in countries? Need to point out the shift from disaster response, which may be an incremental change, to the need for transformational change. See: http://www.pc.gov.au/projects/inquiry/climate-change-adaptation/report (Palutikof, Jean, Griffith University)
56	15	0	0	0	0	Climate change adaptation tends to take place in incremental changes. But when talking about disaster – very different strategic response. Should discuss the different response to disasters and to incremental climate change – different assignment of risk, response, engagement, financial response. This analysis is lacking. (Palutikof, Jean, Griffith University)
57	15	0	0	0	0	Ch 25 Insurance box a relevant opportunity for cross-referencing in the section on tools in this chapter (15.2.4). (Palutikof, Jean, Griffith University)
58	15	0	0	0	0	Role of re-insurance is underplayed. It should be discussed more clearly in this chapter. (Palutikof, Jean, Griffith University)
59	15	0	0	0	0	Quasi insurance strategies – farm funds; derivative markets etc. – there are a range of options and examples that could be given. Suggest broaden discussion (Palutikof, Jean, Griffith University)
60	15	0	0	0	0	Insurance understated in this chapter. Insurance being withdrawn from towns in some places where risk is now too high. Chapter needs to consider this (Palutikof, Jean, Griffith University)
61	15	0	0	0	0	Definitions absent - in particular for adaptive capacity. Needed to ensure precision. Cross reference to definitions of terms e.g. adaptive capacity (maybe defined in Chapter 14 as the starting point for consideration of adaptation). (Palutikof, Jean, Griffith University)
62	15	0	0	0	0	Inconsistent structuring - In S15.2 the authors use an overview with no refs. In S15.2 there is no overview. In sections 15.3 and 15.4 there is a short overview both with refs. Suggest revise to create consistency (Palutikof, Jean, Griffith University)
63	15	0	0	0	0	Throughout this chapter, sweeping statements about the lack of national guidance, cooperation etc. are being made based on single studies. This gives a very unfair picture, as these studies often focus on areas where there are problems, and seek to identify what might be causing these. No attempt is made by this report to seek out additional information to obtain a complete and correct picture of the situation. which leaves the resulting text unbalanced. (SWEDEN)
64	15	0	0	0	0	Calling for sophisticated coordination and efficiency in many places seems to side-step realities on the ground. In other words, what is really doable and practical especially in already overburdened local/urban governments? (UNITED STATES OF AMERICA)

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65	15	0	0	0	0	Informal communities are hardly discussed at all, yet these communities are one of the anticipated high population growth areas, and informal communities already account for over 1 billion people. Can the authors explicitly assess the literature related to these communities given their circumstances? (UNITED STATES OF AMERICA)
66	15	0	0	0	0	Need stronger reference to existing planning mechanisms for land use planning. The Chapter largely ignores integration into existing institutions and efforts. With the current approach in the text, there exists a very real risk of coming across as promoting the creation of (only) new CCA planning institutions that do not build upon (and strengthen) existing rural planning, city/regional policies and procedures such internationally-applied decisional analysis like environmental impact assessment. For example, in the United States, advances have been made in reducing the environmental impact of activities (e.g., LEED certification of buildings), but these assessments need to include climate resiliency planning (e.g., avoidance of placement of HVAC systems in basements that are increasingly prone to flooding). This Chapter should include discussions of how, for example, the White House Council on Environmental Quality (CEQ) has issued interim guidance on the integration of climate change mitigation and adaptation into existing USG environmental impact assessment methodologies per the 2010 Memo from Nancy Sutley, http://ceq.hss.doe.gov/nepa/regs/Consideration_of_Effects_of_GHG_Draft_NEPA_Guidance_FINAL_02182010.pdf . (UNITED STATES OF AMERICA)
67	15	0	0	0	0	Organizationally, there appears to be a constant blending of developing country city experiences etc., and developed country experiences, yet these tend to be starkly different experiences and it seems unclear as to which of these experiences and ways of doing things and levels or organization and coordination are at all sharable. Perhaps it would read more clearly if developing and developed country experiences etc. were separated and treated separately, but in a related manner. (UNITED STATES OF AMERICA)
68	15	0	0	0	0	The authors arrive at many policy-type recommendations without support/ evidence. These unsupported conclusions should be corrected going forward. (UNITED STATES OF AMERICA)
69	15	0	0	0	0	The whole chapter needs to be edited for basic syntax, grammar and language. There are many places where sentences do not make sense and meanings are very unclear. (UNITED STATES OF AMERICA)
70	15	0	0	0	0	There is no reference to the concept of climate services in this and other chapters. Was this intentional? (UNITED STATES OF AMERICA)
71	15	0	0	0	0	This chapter would benefit from taking more of literature review-type approach (i.e., more thorough citations, more clear delination between summarizing the literature and making a more synthetic statement about the current status of adaptation). It can still include a synthetic component that makes statements about the current status of the field of adaptation, but we recommend that it not focus solely on that synthesis. We recommend that the authors look at WGII Chapter 4 for an example of a chapter structure that allows for overarching statements (the Executive Summary) followed by a somewhat more detailed summary of the weight of the evidence (i.e., the availability of evidence and degree of agreement) for each statement (Chapter 4 pages 20-22), followed by a literature review. We think this structure works well for making synthetic comments that are supported by a literature review. (UNITED STATES OF AMERICA)
72	15	0	0	0	0	With the exception of a few sections, this chapter did not make good use of citations. It is important that peer-reviewed articles be used to support statements. It also made it challenging to comment on the validity of some statements because one could not refer to the literature. (UNITED STATES OF AMERICA)

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73	15	0	0	0	0	It would be helpful if this chapter (either in section 15.2.4, section 15.3.2 or 15.3.3) engaged with the growing number of tools and approaches being developed to bring together local and scientific climate information to strengthen decision making. This includes participatory scenarios, integrated and consensus forecasts, etc. Some references include: \nZiervogel, G., & Opere, A. (2010). Integrating meteorological and indigenous knowledge-based seasonal climate forecasts for the agricultural sector: Lessons from participatory action research in sub-Saharan Africa; IDRC. IDRC [online]. Chaudhury, M., Vervoort, J., Kristjanson, P., Ericksen, P., & Ainslie, A. (2012). Participatory scenarios as a tool to link science and policy on food security under climate change in East Africa. Regional Environmental Change, 1-10. Tall A, Jay A and Hansen J. 2013. Scaling Up Climate Services for Farmers in Africa and South Asia Workshop Report. CCAFS Working Paper no. 40. CGIAR Research Program on Climate Change, Agriculture and Food Security (CAAFS). Copenhagen, Denmark. (Harvey, Blane, IDRC)
74	15	0	0	0	0	I was surprised this chapter has no author from Europe. (Puetz, Marco, Swiss Federal Institute for Forest, Snow and Landscape Research WSL)
75	15	0	0	0	0	Very useful review, though more critical analysis of adaptation plans and execution would have been welcome. (Alcamo, Joseph, UNEP)
76	15	0	0	0	0	Because the summary is very conceptual, it's difficult to draw out key messages. Is it possible to include on or two examples even though it is the summary? (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)
77	15	0	0	0	0	GENERAL comments made here are for Chapter 15 authors consideration. Text in comments coes from the attached supporting document: Indigenous Health Impacts from Climate Change expert reviewer Blake Gentry. See pages 1-2, 5-8. Identification of indigenous social and historical markers when assessing indigenous vulnerability and resilience to climate change adaptation is key to identifying strategies to build adaptive capacity in both resource rich and in resource poor indigenous communities. \n\nRationale for Suggested Modifications in Language Related to Indigenous Peoples: General statements about the uniqueness and special relationship of indigenous to ancestral lands encapsulates a singular yet inaccurate view of indigenous as a part of human settlements. Deeper analysis is required to understand the demographic and settlement patterns situation of indigenous in Central and North America. Such analysis can benefit the creation of a positive framework for approaching adaptation strategies and programs for indigenous peoples. Excluding immigrant indigenous as a socially identified sector disallows an accurate analysis of their adaptive capacities, even when displaced, precisely because their cultures differ greatly from that of other displaced peoples (e.g. recent victims of extreme weather events: Katrina, Sandy, Joplin ,MO. Moore, Okla., etc.). I suggest use of the following framework that defines indigenous by three criteria under going the impacts of climate change or potentially subject to them: 1. Delineation of the relationship of indigenous peoples to land, 2. The Degree of migration for indigenous communities / peoples, and 3. The Degree of adaptive capacity. The full framework is detailed below. \n (Blake, Gentry, Institution no 1: Gente de litoi A.C., non-profit in Mexico. Dir. of Health Services.)
78	15	0	0	0	0	[Continued] Analytical Framework for Indigenous Adaption to Climate Change \nAn analytical frame that may better orient adaptation specialists in identifying and ultimately measuring resilience and vulnerability of indigenous communities for adaptation to climate change is needed. The framework can overcome the artificial (but necessary for the IPCC AR 5 review)) separation of peoples from the region they live in by accurately identifying them in temporal and future time and space given the task before the IPCC to project future impacts within this report. A suggested three part framework is outlined below.\nPart I: The Delineation of the relationship of indigenous peoples to land into four spheres: \n1. Living in ancestral homelands (70-100% of population remain)\n2. Permanently removed from ancestral homelands (45-100% of population removed)\n3. Partially dispossessed and displaced (10-45% of population displaced)\n4. In transmigration outside ancestral areas. (25 -100% of population displaced)\n (Blake, Gentry, Institution no 1: Gente de litoi A.C., non-profit in Mexico. Dir. of Health Services.)

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79	15	0	0	0	0	[continued] Part II: The Degree of migration for indigenous communities / peoples can be qualitatively approximated by the percentage of immigrant population using an intentionally disproportionate scale based on the depletion of human and capital resources. Effects of migration are accumulative and include a tipping point. Therefore a strict proportional Likert scale would prove inaccurate. \nLow: (10%-15%) Incipient Migration: partial migration of communities; more single youth less head of households, not the most marginal. \nMedium low: (15%-25%) Catalectic Migration: regularization of individual migration, start of family migration, changes in migrant demographic: more head of household in mix, remittance system established.\nMedium: (25%-40%) Patterned & Cyclical Migration: cyclical migration encourages use of migration to create livelihood for individuals and head of households (HHH) as remittances provide cash infusions), HHH migration weakens community participation, educational enrollment drops significantly,). This is the range within which the tipping point for climate change adaptation negatively changes unless an intervention produces a reversal. \nMedium High: (40-60 %) Remittance Dependent: regularized remittances overtake or on par with main economic activity for livelihoods, local gender based hollowing out effect for males, stagnated decision making process, informal/formal community social structures emerge in relocation area. \nHigh: (60%-100%) Permanent Migration: migrants are captured by economic production in destination location, legal restrictions highly diminish cyclical migration, communal cultural practices parically or wholly abandoned) path dependent on outside financial and human capital, land base vulnerable to acquisition by non-community members, collapsing social structure and dysfunctional community based decision making capacity.\n (Blake, Gentry, Institution no 1: Gente de litoi A.C., non-profit in Mexico. Dir. of Health Services.)
80	15	0	0	0	0	[Continued] Part III: Degree of Adaptive Capacity can be qualitatively approximated by a rough calculation of the demonstrated capacity and pattern of human and financial capital investment \nHigh: (75%-100%) Underutilization of Human Capital: normal human development pattern is generally viable, but partial migration of community members due to lack of age/gender based opportunities; more single youth, less head of households.\nMedium high: (60-75%) Diffusion of Human Capital: regularization of migration as livelihood source, economic decision making begins change from community to family based economy as remittance system established.\nMedium: (40-60%) Path Dependent Tipping Point: migration partially eclipses development progress as it weakens community decision making while lowering local human capital and financial investment in local infrastructure (housing, commons) , remittances become viable alternative to traditional economic activity, polarization of HH incomes. Within this range a tipping point is reached unless a community directed intervention produces a reversal. \n\n (Blake, Gentry, Institution no 1: Gente de litoi A.C., non-profit in Mexico. Dir. of Health Services.)
81	15	0	0	0	0	[continued] Medium low: (20-40%) Displacement of Human Capital: regularized remittances overtake traditional main economic activity for livelihoods, local male gender based hollowing out effect, stagnation in communal decision making process, formalized community structures appear in relocation area. \nLow: (10-20%) Dispossession and Displacement: Path dependent on outside financial and human capital, land base vulnerable to acquisition by non-community members, collapsing social structure and dysfunctional community based decision making capacity, family divisions and further non-voluntary migration due to depleted human and financial resource base. \nLimitations: The three part analytical framework relies on community based and institutional based assessments. Terminology for land possession is not necessarily interchangeable, but sub-region or country specific. Therefore terminology differs within sub-regions for North, Central , and South Africa, and for North, Central , and South America). A partial list for land base terminology might be: ancestral homelands, traditional territories, homelands , reserves, reservations, trust lands, catons, communities, etc. \n (Blake, Gentry, Institution no 1: Gente de litoi A.C., non-profit in Mexico. Dir. of Health Services.)

#	Ch	From Page	From Line	To Page	To Line	Comment
82	15	0	0	0	0	There are some missing/ incorrect citations in the chapter. These discrepancies have been highlighted in the ref check document for chapter 15 and is available in the supporting material web page. Chapter team may wish to rectify these errors before starting to work on SOD revisions and FGD preparation. (Chatterjee, Monalisa, IPCC WGII TSU)
83	15	0	0	0	0	Authors may wish to add synthesis elements like tables of key messages from specific chapter discussions. (Chatterjee, Monalisa, IPCC WGII TSU)
84	15	0	0	0	0	Authors should ensure balance in regional examples. (Chatterjee, Monalisa, IPCC WGII TSU)
85	15	0	0	0	0	The chapter focuses on assessing information that will facilitate planning but not so much on assessing societal capacities with the process of implementing plans. (Chatterjee, Monalisa, IPCC WGII TSU)
86	15	0	0	0	0	Authors may consider highlighting important messages that are buried in text, further tighten and condense discussions in text, some mention of limits. (Chatterjee, Monalisa, IPCC WGII TSU)
87	15	0	0	0	0	Authors may wish to add some discussions on challenges of participatory decision making. (Chatterjee, Monalisa, IPCC WGII TSU)
88	15	0	0	0	0	Authors may reconsider the usage of 'international literature' in the chapter. (Chatterjee, Monalisa, IPCC WGII TSU)
89	15	0	0	0	0	The chapter has a lot of rich material, some revisions are required to make it flow better as a chapter. (Chatterjee, Monalisa, IPCC WGII TSU)
90	15	0	0	0	0	Although the chapter is on planning and implementation there should a brief discussion on autonomous adaptation. (Chatterjee, Monalisa, IPCC WGII TSU)
91	15	0	0	0	0	The author team is strongly encouraged to further develop figures and tables to present key and synthesized findings wherever possible. (Estrada, Yuka, IPCC WGII TSU)
92	15	0	0	0	0	1) Overall -- The chapter team has developed a strong 2nd-order draft. In the final draft, the chapter team is encouraged to continue prioritizing high specificity, clear writing, and compact and rigorous assessment. (Mach, Katharine, IPCC WGII TSU)
93	15	0	0	0	0	2) Coordination across Working Group II -- In developing the final draft of the chapter, the author team should continue to ensure coordinated assessment, both in the chapter text and at the level of key findings. In particular, the coverage of and handoffs among the adaptation chapters should continue to be refined. Where cross-references are made, they should ideally refer to specific sections of other chapters and/or their assessment findings, reducing overlaps and harmonizing assessment. (Mach, Katharine, IPCC WGII TSU)
94	15	0	0	0	0	3) Harmonization with the Working Group I contribution to the AR5 -- In developing the final draft, the chapter team should also ensure all cross-references to the Working Group I contribution are updated, with discussion of climate, climate change, and climate extremes referencing the assessment findings in that volume. (Mach, Katharine, IPCC WGII TSU)
95	15	0	0	0	0	4) Report release -- The chapter team should be aware that the final drafts of the chapters will be posted publicly at the time of the SPM approval, before final copyediting has occurred. Thus, the chapter team is encouraged to continue its careful attention to refined syntax and perfected referencing. (Mach, Katharine, IPCC WGII TSU)
96	15	0	0	0	0	5) Characterization of future risks -- In assessing adaptation planning and implementation, the chapter team may wish to consider risks of climate change for what can be considered two eras. Some risks become relevant in the next few decades, during which time projected temperatures do not vary substantially across socioeconomic/climate scenarios. These coming decades can be considered an era of climate responsibility, and adaptation can be considered a primary means of reducing risks during this time. In contrast, mitigation choices made now and in the coming decades will be important in determining the level of climate change realized in the 2nd half of the 21st century and beyond. This longer-term period can be considered an era of climate options. Mitigation and adaptation are both relevant for risk reduction over this time frame. (Mach, Katharine, IPCC WGII TSU)

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97	15	0	0	0	0	6) Informing the summary products -- To support robust and insightful summary products report, the chapter team is encouraged to maximize nuance and traceability in its key findings, continuing to use calibrated uncertainty language effectively. In addition to nuanced consideration of future risks, the chapter team is encouraged to consider themes emerging across chapters, for example the importance of extreme events in understanding adaptation deficits and vulnerabilities to date, as well as future risks and potential responses, the role of limits to adaptation and transformation, the relevance of multidimensional inequality in the context of climate change, understanding of adaptation experience to date, the costs of adaptation versus economic/avoided damages and mitigation costs, and the nature of interactions among mitigation, adaptation, and sustainable development. (Mach, Katharine, IPCC WGII TSU)
98	15	0	0	0	0	7) Use of tables in the chapter -- In preparing the final draft of the chapter, the chapter team should seek opportunities to move presentation of some examples into tables to enhance the accessibility of the assessment. (Mach, Katharine, IPCC WGII TSU)
99	15	0	0	0	0	8) Shortening and tightening the assessment -- In revising the chapter, the author team should aim to shorten the chapter as much as possible, for example by more than 10 pages of chapter text. By focusing each section further on the core messages and key findings of that section, reducing text accordingly, the chapter team will produce an even tighter, more readable assessment. All overlap across sections should be evaluated and reduced to a minimum. (Mach, Katharine, IPCC WGII TSU)
100	15	0	0	0	0	GENERAL COMMENTS: I congratulate the author team for all their work on an interesting and informative SOD. When considering the suite of review comments, please look for opportunities to continue to hone and focus the text in revision even further, reducing length and overlap where possible. Please see my detailed comments for suggestions related to specificity of ES findings and traceable accounts, refining figures and tables, and specific clarifications. (Mastrandrea, Michael, IPCC WGII TSU)
101	15	0	0	0	0	SUMMARY PRODUCTS: In preparing the final draft of your chapter and particularly your executive summary, please consider the ways in which your chapter material has been incorporated into the draft SPM and TS. For Chapter 15, relevant sections include presentation of observed impacts and vulnerabilities in section A.i, adaptation experience in section A.ii, iterative management of risk in section B.i, and principles for effective adaptation in section B.ii, as well as related figures and tables. Are there opportunities for presenting chapter findings and material in a way that further supports broad themes highlighted in the summary products and that facilitates additional cross-chapter synthesis in specific findings or figures/tables? Do the existing summary product drafts suggest additional coordination that should occur between Chapter 15 and other chapters at LAM4? (Mastrandrea, Michael, IPCC WGII TSU)
102	15	0	0	0	0	Yet another non Chapter. I suppose it pays the rent (Gray, Vincent, Climate Consultant)
103	15	0	12	0	0	The terminology of "sustainable forestry quotas" is not commonly used in forestry. Proposed to be reviewed and change to commonly used terminology such as "sustainable forest management" or "annual allowable coupe". (MALAYSIA)

#	Ch	From Page	From Line	To Page	To Line	Comment
104	15	1	0	51	0	Unfortunately I found this chapter deceiving. Implementation is unsufficiently treated and badly conceptualized. If the objective of this chapter was to explain why transition from planning to effective implementation meets constraints at the moment, it is a failure. Furthermore I think there is potentially considerable overlap with chapter 16. I think that concepts like governance and adaptation types are somewhat ill-defined. How development- DRM - adaptation are related / differing / sharing commonalities deserve better treatment as this is becoming an issue that scholars are increasingly aware of. REF: Eisenack, K. and R. Stecker. 2012. A framework for analyzing climate change adaptations as actions. Mitigation and Adaptation Strategies for Global Change 17:243-260; Murtinho, F. and T. M. Hayes. 2012. Adaptation in Resource-Dependent Communities: A Call for Greater Methodological Clarity in Adaptation Field Research. Society & Natural Resources 25:513-522.; Dupuis, J. and G. R. Biesbroek. Forth. Comparing apples and oranges: The dependent variable problem in comparing and evaluating climate change adaptation policies. Submitted; Mercer, J. 2010. Disaster risk reduction or climate change adaptation: Are we reinventing the wheel? Journal of International Development 22:247-264. (Dupuis, Johann, Swiss Graduate School of Public Administration (IDHEAP))
105	15	1	0	52	0	Adapatation Planning and Implementation is firmly linked to DRR which is commendable. However, what is largely missing in the entire planning process is how lack of jobs and income are to be an intergral part of the planning process in order to meet with the challenges faced most vulnerable people. These people, to a great extent, live on vulnerable lands with a great overlap where CCA measures are needed. Adapataion planning need to take the job lens of investment into adapataion measures into account and make it an explicit goal of adapataion planning and implementation. Every stone must be turned their way to build resilience and income levels play an important part of this resilience. (Jobs or employment are only mentioned on page 30 as an example of benefits from one programme.) (Harsdorff, Marek, ILO)
106	15	1	17	2	17	Chapter 15 deals with adaptation planning and implementation but does not have a section on evaluation. Evaluation however is a necessary step in the adaptation process and would need to be treated in this chapter. Evaluation is hidden though in section 15.3.1.2. of Spatial Planning - why it is placed there and not discussed elsewhere and as a separate subject is a bit difficult to understand. (Kankaanpää, Susanna, Helsinki Region Environmental Services Authority (HSY))
107	15	2	34	0	0	Some of the conclusions in the Executive Summary seem to be mere observations, rather than a review of the evidence. For example, "a variety of tools are being employed in adaptation planning and implementation..." or "There are many strategies and approaches to climate change adaptation...". Yes, but so what? Hasn't this always been the case? Aren't there more important conclusions that should be included in the summary, such as whether spatial planning is effective for adaptation, or whether there is evidence that the institutional frameworks for DRR/CCA are increasingly converging? (Bettencourt, Sofia, World Bank)
108	15	2	34	0	0	Authors should use confidence scale with key messages in executive summary. (Chatterjee, Monalisa, IPCC WGII TSU)
109	15	2	34	0	0	Executive Summary -- All calibrated uncertainty language used in the executive summary should be italicized for clarity. (Mach, Katharine, IPCC WGII TSU)
110	15	2	34	0	0	Executive Summary: Please carefully check the line of sight to chapter sections throughout the ES, as there are places where the indicated chapter section needs updating or where additional chapter sections should be listed that contain the relevant material, as well as a few cases where the line of sight is not clear. See my specific comments for details. (Mastrandrea, Michael, IPCC WGII TSU)
111	15	2	34	4	28	The ES is missing any reference to: finance, institutional capacity, link mitigation and adaptation, urban and cities, barriers and limits (Palutikof, Jean, Griffith University)
112	15	2	36	2	37	Use of "concrete" not supported by the chapter. Less categorical statement based on the evidence presented. Perhaps substitute "actual" (Palutikof, Jean, Griffith University)

#	Ch	From Page	From Line	To Page	To Line	Comment
113	15	2	36	2	47	Executive Summary states that there is high agreement and robust evidence that adaptation planning is transitioning from a phase of awareness and promotion to the construction of concrete responses in societies. Where is the evidence? I do not see the evidence in the remainder of the paper to support this statement. (Chan, Christina, U.S. Department of State)
114	15	2	37	2	37	Please avoid use of "concrete"; perhaps use "substantive" or "tangible" (Hay, John, University of the South Pacific)
115	15	2	37	2	39	Is the intended meaning that these efforts have raised "awareness of" the importance of adaptation? Please clarify. (Mastrandrea, Michael, IPCC WGII TSU)
116	15	2	39	0	0	Replace "dominated" by "more dominant" (WOODS, Paul, World Vision)
117	15	2	39	2	40	Rewrite the following phrase that begins as follows to be clear and make sense, "countries dominate the literature whereas more implementation cases..." (Wilson, Lynn, SeaTrust Institute)
118	15	2	39	2	40	It is stated that: "National-level plans and adaptation strategies for developed countries are dominated in the literature than for developing countries", this is confusing. It should say: "National-level plans and adaptation strategies for developed countries are more dominating in the literature than for developing countries"\n\n (NETHERLANDS)
119	15	2	41	2	45	Not sure what this means. (Chan, Christina, U.S. Department of State)
120	15	2	49	0	0	More attention than what? Clarify this statement (Palutikof, Jean, Griffith University)
121	15	2	49	0	0	What is the connection between social dimensions of disaster and development? (Palutikof, Jean, Griffith University)
122	15	2	49	2	50	The sentence is incomplete: the social dimensions of adaptation have attracted more attention than which dimension? (GERMANY)
123	15	2	49	3	5	In the Technical Summary (TS, page 24, line 24-29) it is stated that 'steps ARE BEING taken to achieve better integration', while the Executive summary of Chapter 15 (page 2, line 49 to page 3 line 5 and page 3 line 41-49) rather seems to convey that steps SHOULD be taken. \n\n (NETHERLANDS)
124	15	2	49	3	5	It is not clear what this key finding is trying to convey. It is not clear what is meant by the "social dimensions" of adaptation in line 49. It is also not clear how the text of the point supports the assertion in bold. (UNITED STATES OF AMERICA)
125	15	2	49	3	49	I think the use of concepts to distinguish between several types of adaptation should be harmonized. At the present time, the use of multiple and differing concepts give a sense of conceptual fuzziness. For example line 49-50 p.2 is mentioning adaptation, development and disaster risk management. But, then line 21-23 are mentioning "win-win" adaptation strategy what is this? Where do the authors classify these in the nexus between adaptation - development and disaster risk management? Are win-win adaptation strategies still adaptation? Or do they fall in the category of development or disaster risk policies? In line 30-32, again other concepts are introduced which overlap with the previous ones. Decreasing vulnerability, increasing resilience, increasing adaptive capacity and decreasing the risk of impacts are depicted as possible approaches to adaptation. Again, how do the authors differentiate or class these approaches in the nexus between adaptation - development - disaster risk management? If all these approaches fall in the category of adaptation, then I would oppose that there is considerable overlap between the adaptation approach of increasing adaptive capacity and decreasing vulnerability or standard development policy. Furthermore line 41-42 disaster risk management is now called disaster risk reduction (DRR). I strongly suggest the authors to be extremely clear about the concepts they are using, to minimize the quantity of differing labels they use to define adaptation and to increase the consistency of their use of these different concepts, as this is absolutely vital in order to be able to track adaptation progress in planning or implementation. (Dupuis, Johann, Swiss Graduate School of Public Administration (IDHEAP))
126	15	2	50	2	50	DRR rather than DRM (Hay, John, University of the South Pacific)

#	Ch	From Page	From Line	To Page	To Line	Comment
127	15	2	51	0	0	Please avoid the use of the imprecise term "stimuli" - what are we talking about specifically? (Harnisch, Jochen , KfW)
128	15	2	54	3	1	Statement that the relationship between adaptation and risk managments "needs" to be more explicit. As stated it does not support the finding. (UNITED STATES OF AMERICA)
129	15	3	1	3	5	Some sections of this Chapter needs strong editing for grammar, spelling and clarity of expression, eg sentence on p. 3, line 1 to 5 (WOODS, Paul, World Vision)
130	15	3	1	3	5	The sentence structure obscures the point(s) of the sentence such that it does not make sense or support the finding. It appears to be a heavily edited version of p. 7 lines 1 -7. (UNITED STATES OF AMERICA)
131	15	3	7	3	9	Not the right topic sentence for the rest of the paragraph. (Chan, Christina, U.S. Department of State)
132	15	3	7	3	9	The sentence in boldface should be revised as follows: The nation level plays a key role in adaptation planning and implementation, while developing countries need urgently financial supports from international society in planning and implementation of adaptation (high agreement, high evidence) (wang, chunfeng, State Forestry Administration, China)
133	15	3	7	3	13	The assertion in lines 12-13 that "an assessment of the characteristics and effectiveness of of the coordinating role of national adaptation strategies and plans is an urgent pending task" seems to contradict the key finding that the national level plays a key role. If the key finding is what is meant, please explain what kind of assessment is needed. (UNITED STATES OF AMERICA)
134	15	3	7	3	19	We suppoort this summary. (NEW ZEALAND)
135	15	3	7	3	19	Supporting text does not address the finding of diverse adaptation processes and outcomes at all levels. (UNITED STATES OF AMERICA)
136	15	3	8	3	9	Based on the communication note high evidence is not valid, change to robust evidence. (GERMANY)
137	15	3	8	3	9	Following the uncertainties guidance for authors, "robust evidence" should be used in place of "high evidence." (Mach, Katharine, IPCC WGII TSU)
138	15	3	9	3	11	Confidence levels do not seem to agree. The confidence level belonging to the sentence 'National governments ... of government.' as found in the SPM (page 7, line 22-25) is High agreement, robust evidence. In the Executive summary of chapter 15, this sentence is found in a paragraph which has High agreement, high evidence (Ch 15, page 3, line 9-11). \n\n (NETHERLANDS)
139	15	3	9	3	11	Query if this is universally true (Palutikof, Jean, Griffith University)
140	15	3	11	3	11	Not just to "other levels of government" (Hay, John, University of the South Pacific)
141	15	3	18	3	19	Statement that linkages are important reads as opinion rather than as supporting evidence. (UNITED STATES OF AMERICA)
142	15	3	20	3	21	The sentence on residual loss and damage is ambigious and uses 'is may'. Also clarity on what is meant by 'residual' (apologise if this has already been made). Is it residual to efforts to mitigate and adapt or will there always be an underlying level of loss and damage that can not be lowered through mitigation or adaptation that gets bundled into the residual term? (AUSTRALIA)
143	15	3	21	0	0	This concept is also true among disadvantaged people in developing countries (Palutikof, Jean, Griffith University)
144	15	3	21	0	28	This paragraph is a very important message for policy-makers and a summary or the sentence in bold letters (Adaptation efforts in some developing countries provide a "win-win" adaptation strategy that strengthens resilience to climate change while improving economic stability and environmental quality (high agreement, medium evidence)) should be included in the SPM and TS. (JAPAN)
145	15	3	21	3	21	Delete "developing"?since not only in developing countries, but also in developed countries, win-win adaptation strategy can strengthens resilience to climate change and improving economic stability and environment quality. (wang, chunfeng, State Forestry Administration, China)

#	Ch	From Page	From Line	To Page	To Line	Comment
146	15	3	21	3	22	It is not that some developing countries have win win adaptation measures and others do not; (Hay, John, University of the South Pacific)
147	15	3	21	3	23	Not the right topic sentence for the rest of the paragraph, which is about ecosystems and natural strategies. (Chan, Christina, U.S. Department of State)
148	15	3	21	3	28	This is only the case for ecosystem-based adaptation, and not for general "climate change adaptation efforts". Suggest rephrasing 21 as "Ecosystem-based Adaptation efforts in some developing countries (...). Ecosystem based climate change adaptation efforts also improve ecosystem resilience by.... (Bettencourt, Sofia, World Bank)
149	15	3	21	3	28	This paragraph does not support the assertion in the bolded text in line 22 that adaptation efforts "improve economic stability." The supporting text is focused only on the environmental quality issues. Recommend adding supporting information or deleting the assertion. (UNITED STATES OF AMERICA)
150	15	3	21	3	28	This paragraph mainly talks about Ecosystem-based adaptation. This should therefore be reflected in the bold text of the paragraph. (Harmeling, Sven, Germanwatch)
151	15	3	21	3	28	Win-win strategies don't just apply to developing countries but also developed. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)
152	15	3	21	3	42	The SPM states that 'While no-regret, low-regret and win-win strategies have attracted attention in the past, now there is increasing recognition that [...]'. However, Chapter 15.2.3, to which this statement in the SPM refers, among others, states that 'A no-regrets co-benefits approach [...] has become increasingly common.' (Ch15, page 14, line 11-12). Related statements also appear in the Executive summary of Chapter 15 (Ch15, Page 3, line 21-23 and line 41-42). These statements seem to be inconsistent, is the use of these no-regret strategies currently increasing or decreasing? (NETHERLANDS)
153	15	3	21	3	49	line 21- 28 , the authors are saying that adaptation efforts in some countries prove a win-win adaptation strategy that strengthens resilience to climate change. Line 41 -49, the authors are saying the exact same thing but with to DDR strategies. I would advise to merge the two paragraphs, because to me, that is exactly a same and unique finding. (Dupuis, Johann, Swiss Graduate School of Public Administration (IDHEAP))
154	15	3	23	3	23	The referenced chapter should be [15.2.3], not [15.3.1] (JAPAN)
155	15	3	23	3	23	The referenced chapter should be [15.2.3], not [15.3.1] (JAPAN)
156	15	3	23	3	23	It seems that section 15.2.3.3 contains the relevant information, rather than 15.3.1. (Mastrandrea, Michael, IPCC WGII TSU)
157	15	3	24	3	24	I don't understand what the term "sustainable forestry quotas" refer to; it may not be a widely used term. Please give a further explanation in footnote. Otherwise, I suggest using more universal term. Similar expression can also be found in line 12 of page 15 in this chapter. Please check it. (wang, chunfeng, State Forestry Administration, China)
158	15	3	26	3	28	The greater emphasis on nature-based protection strategies is very important but it is not clear what 'nature-based protection strategy' means. The phrase could be more clearly phrased by recognising the role of ecosystem services, which is wider than nature protection. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
159	15	3	27	3	28	The last sentence of this paragraph is supported by section 15.3.4, which should be added here. (Mastrandrea, Michael, IPCC WGII TSU)
160	15	3	30	0	0	strategies and approaches not used in a clear sense. Need some defining (Palutikof, Jean, Griffith University)
161	15	3	30	3	32	What about the strategy of facilitating transformations in systems that are expected to undergo major changes that are unavoidable (if not necessarily predictable)? We suggest that this is an additional adaptation strategy. (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
162	15	3	30	3	39	Not the right topic sentence for the rest of the paragraph, which seems to be a mish mash of thoughts. (Chan, Christina, U.S. Department of State)
163	15	3	30	3	39	Content of Ch 15 section 15.2.3 is not reflected well by the Executive summary (Ch 15, page 3, line 30-39) and the TS (page 25, line 38-50). Executive summary and TS are in agreement with each other, but not with the main text of the Chapter. For example, the statement that complementary top-down strategies are required couldn't be found in the main text of section 15.2.3 (it is actually in section 15.4.2, page 32 , line 12 and section 15.5, page 35, line 1) Similarly, the word 'bottom-up' does not even appear in the main text of Section 15.2.3. In section 15.2.4.4 or 15.4, these words are mentioned. Therefore, please be more accurate in referencing the statement in the TS as well as in this part of the Executive Summary of Ch. 15. \n\n (NETHERLANDS)
164	15	3	32	3	32	Following the uncertainties guidance for authors, "robust evidence" should be used in place of "high evidence." (Mach, Katharine, IPCC WGII TSU)
165	15	3	34	3	35	This statement is discussed in section 15.2.2.2, which should be added to the line of sight for the paragraph. (Mastrandrea, Michael, IPCC WGII TSU)
166	15	3	35	3	39	Please clarify the line of sight for these statements, as they do not appear to be covered by 15.2.3. (Mastrandrea, Michael, IPCC WGII TSU)
167	15	3	36	3	36	the household information of the community are important. The community based adaptation committee can act in association with local government authority accordingly their past experiences with the hazardous events such as flood, as a consequence the level of vulnerability would definitely been reduced (Younus and Harvey 2011). (Younus, Md, Lecturer, School of the Environment, Flinders University, Research Fellow, Adelaide University, South Australia)
168	15	3	41	3	41	Instead of "no-regrets co-benefits" the chapter team should consider using the phrase "low-regrets." (Mach, Katharine, IPCC WGII TSU)
169	15	3	41	3	42	There is too much repetition between this and the statements related to DRM (page 2, line 50) (Hay, John, University of the South Pacific)
170	15	3	41	3	49	There are several important conclusions summarized in this paragraph, and I suggest separating them. The first conclusion is that "Improving resilience through an emphasis on disaster risk reduction has become increasingly common". The second - separate - conclusion is that the root causes of CC vulnerability cannot be addressed through risk management alone. This is a pretty important and general assertion which seems to only be derived from a single study in Canada (see later in the Chapter). I suggest it be caveated accordingly. The third conclusion is that "Due to uncertainty, dynamic complexity, and short to long-time frames associated (...) robust adaptation efforts require iterative risk management strategies (add ... and processes). (Bettencourt, Sofia, World Bank)
171	15	3	41	3	49	In the TS (page 24, line 24-29) it is stated that 'steps are being taken to achieve better integration', while the Executive summary of Chapter 15 (page 2, line 49 to page 3 line 5 and page 3 line 41-49) rather seems to convey that steps SHOULD be taken. \n\n (NETHERLANDS)
172	15	3	41	3	49	The sentence 'Due to the uncertainty, dynamic complexity and short to long timeframes associated with climate change, robust adaptation efforts require iterative risk management strategies.' is presented as main conclusion printed in bold in both the SPM and the TS, while in the Executive summary of Chapter 15 (page 3, line 48-49) it is merely a line appearing under another heading. Moreover, this statement does not appear at all in the main text of Chapter 15 or any other chapter. So where is this conclusion actually underpinned in the main text?\n\n (NETHERLANDS)
173	15	3	44	0	0	not always in separate agencies. Sweeping generalisation. (Palutikof, Jean, Griffith University)
174	15	3	47	3	48	seems to conflict with Chapter 2 page 3 lines 36-42 which indicates that risk management can be all encompassing provided the outcomes at risk are appropriately framed (Webb, Bob, Australian National University)

#	Ch	From Page	From Line	To Page	To Line	Comment
175	15	3	47	3	48	Sentence not supported elsewhere. Suggest delete the sentence OR change to read "risk reduction alone" replacing "risk management alone". Ref to Chapter 2 page 3 lines 15-42 discrepancy? (Palutikof, Jean, Griffith University)
176	15	3	47	3	48	'the root causes... risk management alone'. This statement is based on a single study in Canada that was more complex than is highlighted here (see page 14 line 22-23). Suggest it the exec summary line oversimplifies and overextends based on the evidence. Suggest deletion from the exec summary. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)
177	15	3	47	3	50	Support -particularly the discussion on need for iterative risk management strategies (NEW ZEALAND)
178	15	3	48	3	49	Please clarify the line of sight for this statement, as it is not covered in 15.2.3.2. (Mastrandrea, Michael, IPCC WGII TSU)
179	15	3	51	3	52	Sections 15.2.5 and 15.3.2 are also relevant here and should be added to the line of sight. (Mastrandrea, Michael, IPCC WGII TSU)
180	15	4	0	0	0	Page 4 (Section 15.4): Appreciate the "adaptation governance" bullet in the Executive Summary, however, recommend providing tangible illustrative examples of such governance approaches, not just multiple level/top to bottom/multidimensional. Most CCA experts are NOT governance experts, and the chapter authors should ask for input from democracy, human rights and/or governance specialists who focus on the range of subject areas including rule of law, elections and political processes, decentralization, civil society, media, etc. For example, a USAID program is taking advantage of a current decentralization process to integrate climate change resiliency planning into the new municipalities. (UNITED STATES OF AMERICA)
181	15	4	7	4	8	A finding described in the ES that "monitoring and early warning systems play an important role in helping to adjust adaptation implementation" is an important message of political relevance and deserves mentioning in SPM. (JAPAN)
182	15	4	10	0	0	Suggest remove "social" seems superfluous. Or make clear what mean by social learning (Palutikof, Jean, Griffith University)
183	15	4	10	4	10	Adaption planning and implementation are much more than a "social learning process" (Hay, John, University of the South Pacific)
184	15	4	10	4	17	I don't think that social learning is the only aspect of implementation which is poorly researched at the present time. Rather, I would suggest that there are currently really a few studies which have trully researched the process of implementing adaptation policy. I would put a lot more emphazise on this and on the need to research the wide numbers of variables and mechanisms that can hamper implementation and which the implementation litterature has already identified in other policy fields. see: Hupe, P. L. 2011. The Thesis of Incongruent Implementation: Revisiting Pressman and Wildavsky. Public Policy and Administration 26:63-80; Dupuis, J. and P. Knoepfel. Revised and resubmitted. The Paradox of Designing and Implementing Successful Adaptation Policies: Climate Change or Vulnerability-centred Framings of adaptation? Ecology and Society.\n\n (Dupuis, Johann, Swiss Graduate School of Public Administration (IDHEAP))
185	15	4	10	4	17	It is not clear what is meant by the bold text in this key finding. (UNITED STATES OF AMERICA)
186	15	4	12	4	12	The line of sight should be to 15.3.1.2 instead of 15.3.3. (Mastrandrea, Michael, IPCC WGII TSU)
187	15	4	19	0	0	Suggest remove the word "adaptation" - creating new jargon (Palutikof, Jean, Griffith University)
188	15	4	19	4	0	adaptation governance is used ambiguously, so the clear definition and the scope of the term should be given. (JAPAN)
189	15	4	19	4	20	This is a very important point (Hay, John, University of the South Pacific)

#	Ch	From Page	From Line	To Page	To Line	Comment
190	15	4	19	4	20	In the process of development and implementation of adaptation plans, it is not enough just to focus on decision making. It is equally necessary to obtain sufficient financial and technological support. It is suggested to reformulate “adaptation governance plays a key role to promote the transition from planning to implementation of adaptation” into “adaptation governance, including institution, finance, technology, incentives, information management etc, plays a key role to promote the transition from planning to implementation of adaptation”. At the same time, it is suggested to insert elements on finance and technology into Paragraph 15.4.1 taking into account reports by UNFCCC and other relevant agencies. Accordingly, a revision should be made to Line 38-39, Page 25 in the TS. (CHINA)
191	15	4	19	4	28	I have read no empirical evidences in this report nor in the litterature which supports the claim that multilevel governance is related to pro-active adaptation. See my other comment on line 41 p.5; Furthermore the authors do not define anywhere what they understand under the expression "governance" this is as well a problem for readers with a background in sociology or in political sciences, because it is well recognized in those fields that this concept is actually an "empty signifier" Offe, C. 2009. Governance: An “Empty Signifier”? Constellations 16:550-562.; Treib, O., H. Bähr, and G. Falkner. 2007. Modes of governance: towards a conceptual clarification. Journal of European Public Policy 14:1-20. More clarity is needed on this point. (Dupuis, Johann, Swiss Graduate School of Public Administration (IDHEAP))
192	15	4	19	4	28	Not only the multilevel/vertical interplay described pose problems but also the horisontal interplay/lack of learning across administrative/various sector units operating at a similar administrative level (often referred to in the chapter). See e.g. Næss, L. O.et al, 2005. Institutional adaptation to climate change: Flood responses at the municipality level in Norway. Global Environmental Change 15, 125-138, Moser, S., 2005. Impact assessments and policy responses to sea-level rise in three US states. Global Environmental Change 15, 353-369, Storbjörk, (2010), “It takes more to get a ship to change course. Barriers for organisational learning and local climate adaptation in Sweden”, Journal of Environmental Policy and Planning Vol. 12, No. 3, 235-254. Dovers and Hezri (se reference list of chapter 15). Glaas, E. et al, 2010. Managing climate change vulnerabilities: formal institutions and knowledge use as determinants of adaptive capacity at the local level in Sweden. Local Environment 15, 525-539. Hedensted Lund, D. et al (2012), Climate change adaptation in Denmark: enhancement through collaboration and meta-governance. Local environment, Romero-Lankao, P. (2012) Governing Carbon and Climate in the Cities: An Overview of Policy and Planning Challenges and Options, European Planning Studies, 20, pp. 7-26, Wilby, R.L. & Keenan, R. (2012) Adapting to flood risk under climate change, Progress in Physical Geography, 36, pp. 348-378. Runhaar, H., Mees, H., Wardekker, A., van der Sluijs, J. & Driessen, P.P.J. (2012) Adaptation to climate change-related risks in Dutch urban areas: stimuli and barriers, Regional Environmental Change, 4, pp. 777-750. (Storbjork, Sofie, Linkoping University)
193	15	4	19	4	28	Isn't this true for good governance as a whole, rather than just adaptation governance? (Bettencourt, Sofia, World Bank)
194	15	4	19	4	28	Adaptation in urban areas is particularly advanced, but it is not mentioned in the SPM. This paragraph could better highlight (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
195	15	4	33	4	35	I suggest to finish the sentence: "...because of their high vulnerability, and their limited adaptive capacity." (Hoffmann, Dirk, Bolivian Mountain Institute - BMI)
196	15	4	33	4	38	This paragraph is too general, it could be applied to the whole WGII. It could rather state that "recently, increased attention have been given to the role of adaptation planning in shaping adaptive capacity and vulnerability to climate change". (Dannevig, Halvor, Western Norway Research Institute)
197	15	4	34	0	0	marginalised - not clear what mean by marginalised communities - why marginalised? If you mean poor by use of the term marginalised, consider if that is true or not. Revise to clarify (Palutikof, Jean, Griffith University)

#	Ch	From Page	From Line	To Page	To Line	Comment
198	15	4	40	0	0	Authors may wish to add a table with key findings from AR4 and AR5. (Chatterjee, Monalisa, IPCC WGII TSU)
199	15	4	49	4	52	Again, If the authors define "adaptation strategies" as "plan of action for addressing the impacts of climate change including climate variability and extremes", then the distinction between adaptation and DDR falls apart. This is another example of conceptual indistinctness.\n Furthermore, if the authors define "adaptation strategies" as plan of action then, none of the National Adaptation strategies of the European countries fall into this categories as they generally do not define any actions but consist mostly of guidelines and general and abstract goals. (Dupuis, Johann, Swiss Graduate School of Public Administration (IDHEAP))
200	15	4	50	4	52general plan of action for addressing the FELT OR ANTICIPATED impacts of climate change,..... (Hoffmann, Dirk, Bolivian Mountain Institute - BMI)
201	15	4	52	4	52	Where "the country" is mentioned here, word choice could be considered--are such plans/objectives always formulated at the country level? (Mach, Katharine, IPCC WGII TSU)
202	15	5	0	0	0	With the increased research focus on determinants of adaptive capacity, there is a need to distinguish between frameworks suited to assess adaptive capacity in developed and developing nations. This publications discuss this issue based on case studies in the Nordic countries: Kesitalo, E. C. H., Dannevig, H., Hovelsrud, G. K., West, J. J., & Swartling, Å. G. (2010). Adaptive capacity determinants in developed states: examples from the Nordic countries and Russia. Regional Environmental Change, 11(3), 579–592. doi:10.1007/s10113-010-0182-9 (Dannevig, Halvor, Western Norway Research Institute)
203	15	5	1	5	2	Whole sentence not a clear reflection of the content of the chapter. Rather, it suggests what the authors have struggled to achieve. Need to reconsider the sentence or the chapter. (Palutikof, Jean, Griffith University)
204	15	5	1	5	22	The chapter may also wish to cover changes in the planning system in response to climate change. (Chatterjee, Monalisa, IPCC WGII TSU)
205	15	5	3	0	0	recent not "resent" (Spittlehouse, Dave, BC Ministry Forests, Lands and Natural Resource Operations)
206	15	5	3	5	3	No time period is specified for the assessment of the status of climate change adaptation planning and implementation. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
207	15	5	3	5	22	The formatting of these bullets makes it hard to read. It seems as though the first phrase is intended to capture the main idea and then the following sentences should provide additional detail. If this is the case, please separate with colons so it is clear that this is the intent. (UNITED STATES OF AMERICA)
208	15	5	7	5	12	The intent of the second bullet is unclear. Please revise for clarity. (UNITED STATES OF AMERICA)
209	15	5	13	5	16	There are two recently published assessments that initiate a discussion based on 80 previous studies on "barriers to climate change adaptation". The argument is - in brief - now local case-studies have identified 200 context-dependent barriers, how much wiser are we? See e.g. Biesbroek et al 2013 "Analytical lenses on barriers in the governance of climate change adaptation", Mitig Adapt Strateg Glob Change, published online. and Biesbroek et al 2013 "On the nature of barriers to climate change adaptation", Reg Environ Change, published online. (Storhiork, Sofie, Linköping University)
210	15	5	13	5	16	this and subsequent sections related to this may be doubling up on Chapter 16 which has a major focus in this area? This is an example of where closer integration with other chapters could benefit (Webb, Bob, Australian National University)
211	15	5	13	5	16	Thought this was the intent of chapter 16 - which does so in a fairly exhaustive fashion. Not really addressed in Ch 15. Suggest delete this text. (Palutikof, Jean, Griffith University)
212	15	5	13	5	16	Presumably assessment of this topic is carefully coordinated with chapter 16? (Mach, Katharine, IPCC WGII TSU)

#	Ch	From Page	From Line	To Page	To Line	Comment
213	15	5	32	5	33	The authors should consider re-wording in order to avoid misinterpretation of "environment" and unclear antecedents: Figure 15-1 depicts a general adaption process and the governance structures that influence it. This chapter will discuss the planning and implementation components. (UNITED STATES OF AMERICA)
214	15	5	32	5	33	It will be useful if some explanation on how these components interact is provided. (Chatterjee, Monalisa, IPCC WGII TSU)
215	15	5	32	5	41	I think the figure 15.1 is problematic. A new concept is now introduced "capacity building", but the relations between capacity building, development, DDR and adaptation are left undefined. Furthermore the conceptualisation of adaptation policymaking that is shown is a bit weak... again this figure 15-1 is extremely vague and give a sense of indistinctness. Governance is much more complex than what is shown in the figure. (Dupuis, Johann, Swiss Graduate School of Public Administration (IDHEAP))
216	15	5	38	0	0	Think the intent is: "uncertainty in the future climate" rather than projections. Not actually building resilience to uncertainty in projections. Reconsider the sentence accuracy. (Palutikof, Jean, Griffith University)
217	15	5	39	5	40	What is the evidence, the literature (none are cited) to support this statement? (Chan, Christina, U.S. Department of State)
218	15	5	40	5	41	It is unclear what is meant by this sentence. (UNITED STATES OF AMERICA)
219	15	5	41	6	52	I share the observation of the authors that "very few published examples of case studies of how adaptation to climate change is actually being delivered.." But i feel that this is in perfect contradiction with the claim on p. 4 line 19-28 that there is a clear link between multi-level governance and proactive adaptation. I think that this an under-researched issue, and I wonder on what evidences the authors are basing themselves, since they acknowledge that there is actually few researches on how adaptation actions are being delivered. Even in the political sciences which is specialized in the study of governance processes, very rare are the studies which claim a direct link between modes of governance and policy outcomes. Some references : Termeer, C., A. Dewulf, and M. van Lieshout. 2010. Disentangling scale approaches in governance research: comparing monocentric, multilevel, and adaptive governance. Ecology and Society 15:29; Newig, J. and O. Fritsch. 2009. Environmental governance: participatory, multi-level – and effective? Environmental Policy and Governance 19:197-214; Papadopoulos, Y. and P. Warin. 2007. Are innovative, participatory and deliberative procedures in policy making democratic and effective? European Journal of Political Research 46:445-472.\n (Dupuis, Johann, Swiss Graduate School of Public Administration (IDHEAP))
220	15	5	44	0	0	Sections 15.2 and 15.3 do not address the issue of maladaptation in sufficient detail. The sections do not explore the risks of wrongly adapting and whether this is happening / has happened to date. The difficulties of making decisions about future events in which the outcome is uncertain is a very real issue and could lead to certain choices being made that result in the wrong path being followed (a type of 'lock in'). This issue is touched upon in section 15.3.2.4 but only briefly. The chapter would be strengthened considerably if this issue was explored in more detail: an emerging research agenda may be identified that seeks to examine incorrect adaptation planning and implementation and identifies specific learning points for wider dissemination. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
221	15	5	44	0	0	Section 15.2. For the conclusions presented in this section prior to 15.2.1, specific line-of-sight references to the supporting chapter subsections need to be provided, along with calibrated uncertainty language characterizing the chapter team's degree of certainty in the findings. (Mach, Katharine, IPCC WGII TSU)
222	15	5	44	6	24	S15.2 there is no referencing in this section. Does not support the statement in page 5 lines 48-49 Within chapter cross-referencing could potentially solve this problem. (Palutikof, Jean, Griffith University)

#	Ch	From Page	From Line	To Page	To Line	Comment
223	15	5	45	6	24	None of this section seems to have references. Although we believe a lot of what it is in the text, without citations, it risks being taken as generalities without supporting literature that summarizes these large trends. In particular, we would appreciate seeing more comparison between how developed and developing countries have addressed adaptation (attention to impacts and DRR vs. integration into development needs). (UNITED STATES OF AMERICA)
224	15	5	46	5	47	I think this assumption needs to be nuanced. Science and media are surely important triggers but more commonly case-studies on climate adaptation have suggested that for spurring at least local action, the occurrence of weather extremes and direct experiences of climate-related problems are a perhaps even more important "trigger" for raising awareness/importance of climate adaptation. See e.g. Næss, L-O, Bang, G., Eriksen, S. & Vevatne, J. (2005), Institutional adaptation to climate change: Flood responses at the municipality level in Norway, <i>Global Environmental Change</i> , 15, pp. 125-138. Storbjörk, S. (2007), <i>Governing Climate Adaptation in the Local Arena: Challenges of Risk-Management and Planning in Sweden</i> , <i>Local Environment</i> , 12, pp. 457-469. Amundsen, H., Berglund, F., and Westskog, H., 2010. Overcoming barriers to climate change adaptation: a question of multilevel governance? <i>Environment and Planning C: Government and Policy</i> , 28, 276–289. Nilsson, A., Gerger Swartling, Å., and Eckerberg, K., 2012. Knowledge for local climate change adaptation in Sweden: challenges of multilevel governance. <i>Local Environment</i> , in press. I know that the papers mentioned are from a Nordic context but more generally the reactive/event-driven nature of climate adaptation initiatives is often noted. See e.g. Adger, N., Arnell, N., and Tompkins, E., 2005. Successful adaptation to climate change across scales. <i>Global Environmental Change</i> , 15, 77–86. See also conclusions within this chapter on the role of local champions by Carmin et al 2012 in the chapter. Also emphasised as triggers are legal requirements. See e.g. Runhaar, H., Mees, H., Wardekker, A., van der Sluijs, J. & Driessen, P.P.J. (2012) Adaptation to climate change-related risks in Dutch urban areas: stimuli and barriers, <i>Regional Environmental Change</i> , 4, pp. 777-750. (Storbjork, Sofie, Linköping University)
225	15	5	46	5	53	While we agree that adaptation implementation lags behind planning, there are some notable examples of implementation that should be noted, including the 18 projects that are currently funded by the Climate Adaptation Fund, which supports on-the-ground adaptation projects for wildlife conservation in the United States (http://www.wcsnorthamerica.org/ClimateAdaptationFund.aspx). Many other examples can be found by searching the Climate Adaptation Knowledge Exchange (www.cakex.org). (UNITED STATES OF AMERICA)
226	15	5	47	5	47	Is the intended meaning here more nearly "have raised awareness of the importance of adaptation"? (Mach, Katharine, IPCC WGII TSU)
227	15	5	48	5	49	Again, this is a similar statement to that made in the ES page 2 line 36-37. Make consistent in both places and ensure it is an accurate reflection of the literature. Beginning to transition might be a more accurate statement (Palutikof, Jean, Griffith University)
228	15	5	48	5	53	This section indicates that climate change adaptation (CCA) and disaster risk reduction and management (DRR/M) are increasingly separated whereas the two are actually coming together, as evidenced in work in Durban, South Africa at COP15 by the ISDR (International Strategy on Disaster Risk Reduction) to integrate CCA with DRR/M. Much of the literature over the last 18 months increasingly integrates the two in theory and in practice. (Wilson, Lynn, SeaTrust Institute)
229	15	5	49	5	40	This statement could be characterized with calibrated uncertainty language as done in the executive summary. (Mach, Katharine, IPCC WGII TSU)
230	15	5	50	0	0	What do the authors mean by positive trend? Suggest revise to clarify (Palutikof, Jean, Griffith University)
231	15	5	51	5	53	What does this mean? (UNITED STATES OF AMERICA)
232	15	5	52	5	52	limited evidence as calibrated uncertainty language should be italicized. (Mach, Katharine, IPCC WGII TSU)

#	Ch	From Page	From Line	To Page	To Line	Comment
233	15	6	4	6	9	There is no supporting evidence in the chapter that substantiates the claim that there are differences in approaches between developed and developing countries. Cite the literature. There are no citations in this paragraph! (Chan, Christina, U.S. Department of State)
234	15	6	5	6	7	Can you provide a reference for the conclusion that most developed country adaptation plans are focused on DRR, vs. in developing countries, where they focus on "development needs and stresses"? An example of the latter would also be helpful. (UNITED STATES OF AMERICA)
235	15	6	5	6	9	What does this mean? (UNITED STATES OF AMERICA)
236	15	6	11	6	17	There are no citations in this paragraph. Where is the literature/evidence? (Chan, Christina, U.S. Department of State)
237	15	6	19	6	24	The paragraph rightly cautions about the tendency to underestimate difficulties in the process of adaptation planning and its ability to deliver positive outcomes. However, the paragraph does not sufficiently highlight the risks of poorly planned and implemented adaptation. Such measures could lead to an increase in vulnerability for certain sections of society and / or ecosystems for example. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
238	15	6	20	6	20	Is Public safety issue not a development issue? (INDIA)
239	15	6	24	6	24	Adaptation is closely linked to livelihoods. There is no explicit reference to this. (INDIA)
240	15	6	27	7	36	The title for this section does not seem to match the content. (UNITED STATES OF AMERICA)
241	15	6	29	0	0	This section reviews literature that has examined adaptation planning and implementation at different levels. Specific attention is paid to the potential links with the development agenda and the importance of mainstreaming adaptation into other agendas. More attention should be given to the contribution that other agendas have made to adaptation planning and implementation (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
242	15	6	29	6	39	Any changes in the way or approaches by which these plans are prepared? (Chatterjee, Monalisa, IPCC WGII TSU)
243	15	6	38	6	39	If a significant number of publications are descriptive and provide limited information about progress, how does this chapter arrive at so many policy-type recommendations? (Chan, Christina, U.S. Department of State)
244	15	6	41	6	41	Given the fact that Green Climate Fund (GCF) will have a significant contribution for adaptation actions it is important to highlight this. (INDIA)
245	15	6	41	6	52	The paragraph reviews literature that examines adaptation planning and implementation as one corpus of work. This paragraph would benefit from separating out literature that examines adaptation planning with literature that examines adaptation implementation. Adaptation planning has received more attention than adaptation implementation: the conclusions that can be drawn about these two distinct issues should may differ and this should be explored in more detail. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
246	15	6	45	6	48	Poor sentence. Suggest revise and rewrite (Palutikof, Jean, Griffith University)
247	15	6	50	0	0	Please avoid the use of the imprecise term "stimuli" - what are we talking about specifically? (Harnisch, Jochen , KfW)
248	15	7	0	9	0	Chapter 15.2.2.1 should be complemented with supporting activities from the European Commission and the European Environment Agency. Please check the European Climate Adaptation Platform (www.climate-adapt.eea.europa.eu) for adaptation guidance, tools, datasets, information portals, publications etc. (Puetz, Marco, Swiss Federal Institute for Forest, Snow and Landscape Research WSL)

#	Ch	From Page	From Line	To Page	To Line	Comment
249	15	7	0	13	0	Chapter 15.2.2. is titled "International, National and Local Assessment" but contains a lot of information about national and other strategies for adaptation which would also fit into Chapter 15.2.3 "Strategies and Approaches". I found the term "Assessment" in the heading of 15.2.2 misleading as this chapter is actually not so much about assessments but rather about planning of adaptation, policy making and especially the development of national adaptation strategies. (Puetz, Marco, Swiss Federal Institute for Forest, Snow and Landscape Research WSL)
250	15	7	5	0	7	Here the articles by Eriksen S. H. et al 2011 "When not every response to climate change is a good one: Identifying principles of sustainable adaptation", Climate and Development 3, pp 7-20, Brown, K. 2011 "Sustainable adaptation: An oxymoron? Climate and Development 3, pp21-31 and Eriksen, S.H. and O'Brien, K. (2007), 'Vulnerability, poverty and the need for sustainable adaptation measures', Climate Policy, vol 7, pp337-352 could be used. They discuss the consequences of adaptation policies and recognise that not every adaptation is good also raising the question good for whom (issues of social justice and environmental integrity) using case-studies from different national contexts. (Storbjork, Sofie, Linkoping University)
251	15	7	5	7	5	correct citation: Sietz et al. (2011) (sietz, diana, Wageningen University)
252	15	7	7	7	11	The notion of context-specific adaptation seems extremely important but underdeveloped in the text. The authors should consider expanding the discussion of this topic. (UNITED STATES OF AMERICA)
253	15	7	15	7	17	What does this sentence mean? Why is it important? (UNITED STATES OF AMERICA)
254	15	7	15	7	26	In the executive summary, discussion of disaster risk management is integrated with this discussion, while it is separate here. That is fine as long as the basis for ES integration is clear, but I flag it for consideration. (Mastrandrea, Michael, IPCC WGII TSU)
255	15	7	18	0	0	Please avoid the use of the imprecise term "stimuli" - what are we talking about specifically? (Harnisch, Jochen , KfW)
256	15	7	19	7	21	Better references for the relation between adaptation framings and adaptation policy includes Juhola, S., E. C. H. Kesitalo, and L. Westerhoff. 2011. Understanding the framings of climate change adaptation across multiple scales of governance in Europe. Environmental Politics 20:445-463.; Dupuis, J. and P. Knoepfel. 2011. Les barrières à la mise en oeuvre des politiques d'adaptation au changement climatique: le cas de la Suisse. Revue suisse de science politique 17; Dupuis, J. and P. Knoepfel. 2011. Political Barriers to the Implementation of Climate Change Adaptation Policies: How Does The Political Framing of Climate Change Affect Decision Making in the Case of Switzerland. IGS-SENCE Conference Resilient Societies - Governing Risk And Vulnerability For Water, Energy And Climate Change, University Of Twente, Enschede, The Netherlands; (Dupuis, Johann, Swiss Graduate School of Public Administration (IDHEAP))
257	15	7	20	7	20	In text citation for Measham et al 2010 should be Measham et al 2011 (Measham, Thomas, CSIRO Ecosystem Sciences)
258	15	7	28	0	0	Perhaps give some indication of what these important steps for mainstreaming are? (Storbjork, Sofie, Linkoping University)
259	15	7	39	0	0	This section does not examine potential maladaptation and negative impacts arising from adaptation planning and implementation. This is a significant omission considering that the section aims to provide an overview of the status of international, national and local assessment (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
260	15	7	39	0	0	Section 15.2.2: Not clear that titles of the sub-sections of 15.2.2 reflect the content. (Palutikof, Jean, Griffith University)
261	15	7	39	0	0	Any changes in the approaches by which these assessments are done? (Chatterjee, Monalisa, IPCC WGII TSU)
262	15	7	43	7	44	It is unclear: 1) why examples are given here, 2) why specifically these countries are given as example, 3) where this information comes from (no reference), and 4) what exactly they are examples of (adaptation planning initiatives at the international, national, subnational or local level?). We suggest leaving out this list of countries here.\n\n (NETHERLANDS)

#	Ch	From Page	From Line	To Page	To Line	Comment
263	15	7	44	7	49	This sentence is really long and complicated. It would be better to break it down into fewer less complicated sentences that can more clearly explain the points. (CANADA)
264	15	7	46	7	47	The idea that there are challenges to "create multilevel governance to support dynamic adaptation planning and implementation" is vague. Rewording and more specificity is suggested. (CANADA)
265	15	7	49	7	50	It is true that many adaptation initiatives are at an embryonic state; however, disaster risk management planning has been around for considerably longer, and some lessons learned could be derived from what is essentially a very similar process. (Bettencourt, Sofia, World Bank)
266	15	7	51	0	0	What are these programs and where are they from? Revise to clarify - don't assume a level of knowledge that the reader may not have. (Palutikof, Jean, Griffith University)
267	15	7	51	7	52	Why aren't the Least Developed Countries Fund and the Special Climate Change Fund included here, when the Adaptation Fund and the PPCR are? The LDCF and SCCF were established by the Conference of the Parties to the UNFCCC. They have M&E criteria and reports. (Chan, Christina, U.S. Department of State)
268	15	8	1	9	18	This section seemed to be a catalogue of programs. We recommend that the authors consider clearly identifying some key messages/lessons learned through all of this activity in order to inform the reader. If international mechanisms are being covered, shouldn't we also be cataloguing bilateral assistance? Are we missing things? Why are NGO programs being included along with funding organizations, given that they play very different functions? What's the overall point of this section? If anything, it seems like it belongs in a chart of international mechanisms, unless there are some key lessons that we can extract about how multilateral mechanisms can best support adaptation. (UNITED STATES OF AMERICA)
269	15	8	3	0	0	What do the authors mean by mechanisms? Suggest add a line to define (Palutikof, Jean, Griffith University)
270	15	8	3	8	3	What do you mean by "mechanism"? Should this section not also include initiatives like GFCS, GCOS, etc.? This isn't just about money. There is more to supporting adaptation planning, including climate information services. (Chan, Christina, U.S. Department of State)
271	15	8	3	9	17	A lot of examples are given in this section. Can this be summarised in a table, with the area covered by each programme some information on the content and the extent of the effort. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
272	15	8	3	9	20	Section 15.2.2.1 is largely a list with no critical assessment. Suggest convert paragraph to a list or a table (Palutikof, Jean, Griffith University)
273	15	8	9	8	11	SPREP is not a regional initiative, but a regional center. The equivalent regional program to the Caribbean Catastrophic Risk Insurance Facility is the Pacific Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI), or the Pacific Disaster Risk Financing and Insurance Program (Bettencourt, Sofia, World Bank)
274	15	8	13	8	13	Replacing "mechanisms" with "adaptation mechanisms" or some other more specific wording would provide more clarity on what types of mechanisms are discussed. (CANADA)
275	15	8	13	8	24	On line 13 is spoken about Multilateral Development Organizations, on line 24 is spoken about Multilateral Development Agencies (MDA). Are these the same? Then please use one consistent term throughout the text, and give the abbreviation the first time it is mentioned. \n\n (NETHERLANDS)
276	15	8	13	8	24	Is there an intentional difference between Multilateral Development Organizations and Multilateral Development Agencies? It is unclear from the text. (UNITED STATES OF AMERICA)
277	15	8	17	8	17	ICLEI is an association of local governments, and shouldn't therefore not be called a non-governmental organization.\n\n (NETHERLANDS)
278	15	8	18	8	9	Correction: IDFG should be DFID. Also suggest amending "Climate Change Adaptation in Africa" to "Climate Change Adaptation in Africa programme." (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)

#	Ch	From Page	From Line	To Page	To Line	Comment
279	15	8	27	8	30	In addition, the World Bank is presently developing sectoral screening tools for climate change (including energy, water, transport, and agriculture) (Bettencourt, Sofia, World Bank)
280	15	8	34	8	36	Together with ...(UNEP) provide support...', should become 'Together with ... (UNEP) UNDP provides support ... '?\n\n (NETHERLANDS)
281	15	8	37	8	39	The NAPAs are for Least Developed Countries (LDCs). The National Adaptation Plan (NAP) process is for LDCs but can also be used by non-LDC developing countries. Please correct the text accordingly. (UNITED STATES OF AMERICA)
282	15	8	37	8	39	This sentence does not reflect the definitions under the UNFCCC. First, the NAPAs are for Least Developed Countries (NOT Least Developing Countries). Second, NAPs are were established to enable least developed country Parties to identify medium- and long-term adaptation needs and to develop and implement strategies and programmes to address those needs, building upon their experience in preparing and implementing national adaptation programmes of action. (1/CP.16 para 15) This means that NAPs can be seen as a successor of NAPAs, taking into account more long-term targets. Further, although guidelines have to date only been issued for LDCs, 12/CP.18 para 4 requests the GEF, through the Special Climate Change Fund, to consider how to enable activities for the preparation of the national adaptation plan process for interested developing country Parties that are not LDCs. (Harmeling, Sven, Germanwatch)
283	15	8	39	8	39	NAPs are also for non-LDC developing countries. (Chan, Christina, U.S. Department of State)
284	15	8	41	8	3	The same subtitle is repeated twice (Dupuis, Johann, Swiss Graduate School of Public Administration (IDHEAP))
285	15	8	41	8	47	This paragraph reads like a description of funds, not as a literature review. (Chan, Christina, U.S. Department of State)
286	15	8	41	8	47	There are several other relevant funds: for example, the Japan Africa Adaptation Programme (managed through UNDP), and various trust funds for disaster risk management funded through the Global Facility for Disaster Reduction and Recovery (GFDRR). The Japan Policy and Human Development Technical Assistance Fund (PHRD) also has a window for adaptation (which funded the first phase of the Kiribati Adaptation Program, for example). (Bettencourt, Sofia, World Bank)
287	15	8	41	8	47	When talking about relevant funding mechanisms, for reasons of completeness the Green Climate Fund (GCF) should also be mentioned, even if it is only just being set up (Harmeling, Sven, Germanwatch)
288	15	8	50	8	53	Are these activities actually adaptation? Applies to the whole section. The text seems to be describing development. Need to revise text to be clearer about the intention of these actions, and be clear whether they deliberately adapt or it's a by-product of a different goal. (Palutikof, Jean, Griffith University)
289	15	8	50	9	5	It is hard to read this paragraph. It seems like some words may be missing. Also "risk transfer" and "risk reserves" should be in parentheses and "insurance" and "savings" should be out of parentheses in line 53. (UNITED STATES OF AMERICA)
290	15	8	54	8	54	IFRC stands for 'International Federation of Red Cross and Red Crescent Societies' according to their website\n\n (NETHERLANDS)
291	15	9	3	9	5	Text states that NGOs have created mechanisms to support adaptation planning at the local level in developed countries but fails to give examples and cites refs dating back to 2008 and 2009. Are there more recent examples to point to? Can these mechanisms be described in greater detail as examples? (UNITED STATES OF AMERICA)
292	15	9	8	0	0	IRFC - please define (Palutikof, Jean, Griffith University)
293	15	9	16	0	17	This final sentence is interesting but it is a bit uncertain what it is referring to? Could it be specified and contextualised a bit more? (Storbjork, Sofie, Linkoping University)
294	15	9	16	9	17	This is a big statement with no exploration of the issue. Either delete or elaborate. (AUSTRALIA)
295	15	9	16	9	17	It would be good to specify what kind of critical reflection needs to be provided on the adaptation process. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)

#	Ch	From Page	From Line	To Page	To Line	Comment
296	15	9	16	9	17	Need to explore this statement (rather than simply note) and reference (Palutikof, Jean, Griffith University)
297	15	9	16	9	17	The line about little attention being paid to critical reflections. We recommend that the authors expand this discussion. What's happening so far? What's missing? Need some more analysis here rather than leaving it as a one-off comment. (UNITED STATES OF AMERICA)
298	15	9	19	9	19	Insert new sub-section, ideally as 15.2.2.2 "Adaptation policy instruments" (making all following sections moving up one digit). The following text is proposed for this section: "Agrawala and Fankhauser (2008) distinguish the following adaptation policy instrument categories relevant for key sectors: Insurance schemes (all sectors; extreme events), price signals / markets (water; ecosystems), financing schemes via Public-Private-Partnerships or private finance (flood defence, coastal zones, water), regulatory measures and incentives (infrastructure: building standards; zone planning), and research and development incentives (agriculture, health). Butzengeiger-Geyer et al. (2011) further differentiate into non-market and market mechanisms and specify ten instruments for the non-market category, and 11 instruments for the market category. [Full table from this reference could be inserted, as it provides full taxonomy and types of application]. Market mechanisms could be used for fund raising for adaptation activities, efficient allocation of funds that are available for projects aiming to avoid climate change related damages, and promotion of adaptation by various stakeholders. The different instruments are assessed according to political and technical criteria; lessons from mitigation policy instruments have been taken into account. So far, actual application of adaptation policy instruments is in its infancy." If desired, I (Axel Michaelowa) could expand such a section as contributing author. Full references: Agrawala, S. and S. Fankhauser (eds.), 2008: Economic Aspects of Adaptation to Climate Change. Costs, Benefits and Policy Instruments, Paris; Butzengeiger-Geyer, S.; Michaelowa, A.; Köhler, M.; Stadelmann, M. (2011): Policy instruments for climate change adaptation - lessons from mitigation and preconditions for introduction of market mechanisms for adaptation, paper presented at the Colorado Conference on Earth System Governance, 17–19 May, Colorado State University (Michaelowa, Axel, University of Zurich)
299	15	9	20	0	0	15.2.2.2 could be converted to tables or dot points (Palutikof, Jean, Griffith University)
300	15	9	20	9	20	Would prefer to call this "National Adaptation Planning" vs. "National Adaptation Plans". The former is more inclusive, reflects a process, etc. which can include plans, but doesn't limit to plans. (Chan, Christina, U.S. Department of State)
301	15	9	20	9	20	This section talks about strategies, not plans. The chapter needs to be clearer on what is classified as strategies, plans and activities. (AUSTRALIA)
302	15	9	20	9	20	The title "National Adaptation Plans" is confusing as it is the exact translation of the abbreviation "NAPs" under the UNFCCC. It might therefore be more appropriate to use language such as "Adaptation Plans at the National Level" or "Adaptation Planning at the National Level". (Harmeling, Sven, Germanwatch)
303	15	9	20	10	22	Other comparative studies on European National Adaptation Policies are: Swart RJ et al 2009. Europe Adapts to climate change. Comparing national adaptation strategies. Helsinki: PEER Report. See also Johola, Keskitalo and Westerhoff (2011). Understanding the framings of climate change adaptation across multiple scales of governance in Europe. Environmental Politics 4, 445-463. Termeer, Carrien et al 2011, Institutions for adaptation to climate change: comparing national adaptation strategies in Europe. European Consortium for Political Research 1680-4333/1. (Storbjork, Sofie, Linköping University)

#	Ch	From Page	From Line	To Page	To Line	Comment
304	15	9	20	10	47	The authors present the two planning mechanisms NAPA and NAP in two separate sections. This is reasonable, however, potential lessons learned from NAPA for the NAP process are thus neglected in the text. In particular, the need for sustained monitoring and evaluation of the NAPA process mentioned in the NAPA section does also apply for NAP but it is not mentioned. The authors should include more references that analyze the performance of the NAPA process and draw conclusions for NAP. Main lessons learned of NAPA highlight the role of mainstreaming, monitoring, flexibility and accurate stock-taking for NAP (Sharma, 2009). Sharma, A. 2009, Planning to Deliver: Making the Rio Conventions more Effective on the Ground: Climate Change, Biodiversity, Desertification, GTZ. Eschborn, Germany, http://www2.gtz.de/dokumente/bib/gtz2009-0191en-climate-change-biodiversity-desertification.pdf (GERMANY)
305	15	9	20	10	50	15.2.2.2 nearly half is about strategies which are different to plans. Need to be careful with terminology. Suggest revise to make terminology clear and , in particular, distinction between strategies and plans (Palutikof, Jean, Griffith University)
306	15	9	20	12	37	Is it possible to add some initial analysis and evaluation of planning at different levels? Are there already lessons learned? How does success with planning or plans compare at one level to another? Some barriers have been identified, for example institutional problems (page 10, line 12) but a more systematic analysis of barriers and obstacles would be very valuable for decision makers. (Alcamo, Joseph, UNEP)
307	15	9	21	41	23	This section could also make reference to poorly regulated (flag and port) states (in addition to reference made to resources and adaptive capacity), which compound difficulties in fishery management areas. Details on this can be explored generally at http://www.fao.org/fisherv/topic/3195/en (AUSTRALIA)
308	15	9	22	9	43	The statements made in these paragraphs need citations. Please provide them. (UNITED STATES OF AMERICA)
309	15	9	23	9	24	Do the authors have these numbers, or some literature that tracks these numbers? This information should be included. (Palutikof, Jean, Griffith University)
310	15	9	24	9	24	It will be useful if these approaches are briefly described. (Chatterjee, Monalisa, IPCC WGII TSU)
311	15	9	27	9	28	In the face of the development of discussions in the UNFCCC context please also refer to the NAPs and not only NAPAs. NAPs can be seen as a successor of NAPAs, enabling least developed country Parties to identify medium- and long-term adaptation needs and to develop and implement strategies and programmes to address those needs, building upon their experience in preparing and implementing national adaptation programmes of action. (1/CP.16 para 15) (Harmeling, Sven, Germanwatch)
312	15	9	34	9	34	The sentence starts by referring to the international literature on the role of national governments in adaptation but fails to cite any refs. (UNITED STATES OF AMERICA)
313	15	9	34	9	35	This sentence is not adequately referenced. The statement is also not always true. Different countries have different governance systems that operate differently in relation to each other. Suggest removing this sentence. (AUSTRALIA)
314	15	9	34	9	35	Needs to be more nuanced - more than said here. Suggest revise to explore concepts in more depth (Palutikof, Jean, Griffith University)
315	15	9	34	9	43	It would be preferable to provide citations for these statements or calibrated uncertainty language if they are key findings of the chapter's assessment. (Mach, Katharine, IPCC WGII TSU)
316	15	9	35	9	37	National governments also have an important role in mainstreaming adaptation into national and sectoral level plans and strategies (Bettencourt, Sofia, World Bank)

#	Ch	From Page	From Line	To Page	To Line	Comment
317	15	9	42	0	43	I think it would be equally interesting to know about the effectiveness of e.g. national adaptation strategies compared with e.g. clear legislative demands. I.e. how effective are various policy instruments for actually driving change. Sweden lacks a national adaptation strategy but has e.g. stated in the planning and building act that planning needs to consider adaptation which in turn has motivated local action according to national surveys. The importance of legislative changes was also noted by Runhaar, H., Mees, H., Wardekker, A., van der Sluijs, J. & Driessen, P.P.J. (2012) Adaptation to climate change-related risks in Dutch urban areas: stimuli and barriers, Regional Environmental Change, 4, pp. 777-750. (Storbjork, Sofie, Linkoping University)
318	15	9	45	0	0	The correct referral is that all EU countries have submitted information on their adaptation plans in their 5th National Communication to the United Nations Framework Convention on Climate Change. In addition, some actions and measures are increasingly being taken at regional and local levels. The overview of progress towards national adaptation strategies indicates that some are defined by the EU member states' governments themselves as a 'national climate change adaptation strategy'. However neither EEA nor the European Commission has developed an agreed common definition or criteria for the content and scope of a national adaptation strategy. To this end, line 45 should be corrected accordingly. (Constantinos Cartalis, Environmental Physics, University of Athens, Greece)\n (GREECE)
319	15	9	45	9	48	Please update the information based on the EEA Report 3/2013 "Adaptation in Europe" (http://www.eea.europa.eu/publications/adaptation-in-europe) (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
320	15	9	45	9	48	The list of European countries which created a national adaptation strategy or a national adaptation action plan is not up to date. Please check the European Climate Adaptation Platform (www.climate-adapt.eea.europa.eu) for the current state of transnational, national and subnational adaptation strategies. (Puetz, Marco, Swiss Federal Institute for Forest, Snow and Landscape Research WSL)
321	15	9	45	9	54	Why not include something here about the US? The President has mandated that every federal agency have an adaptation plan. Information can be found on CEQ's website. (Chan, Christina, U.S. Department of State)
322	15	9	45	9	54	In addition, there is evidence from the Pacific Islands (and from several African countries) that standalone strategies that are not linked to budgetary allocations have limited effectiveness. See Bettencourt et al. (2008) Not If but When - Adapting to Natural Hazards in the Pacific Island Region. World Bank sent as Natural Hazards report FINAL.pdf as supporting documentation to this review. = (Bettencourt, Sofia. World Bank)
323	15	9	47	0	0	Sweden has currently NO national adaptation strategy, contrary to what is stated in Prutsch et al 2010. Their technical paper links to the latest Swedish Governmental Bill on Climate Change but it mostly focuses on mitigation and energy. It does not qualify as a national adaptation strategy. In fact there has been in Sweden a reluctance to see CA as a national issue and it is heavily decentralised. It seems like many of the documents Prutsch et al refer to are not available in English, including the Swedish one, which might explain this misunderstanding? (Storbiork, Sofie, Linkoping University)
324	15	9	51	9	54	It would be more accurate to say, 'The Australian Government has invested in research through the CSIRO Climate Change Adaptation Flagship program and the National Climate Change Adaptation Facility, as well as a range of national activities to equip decision makers with information and tools for adaptation, including the Coastal Adaptation Decision Pathways Program (CADP) aimed at local government decision makers'. (AUSTRALIA)
325	15	9	52	0	0	The "National Adaptation Research Facility" should be referred to as the "National Climate Change Adaptation Research Facility" (WOODS, Paul, World Vision)
326	15	9	52	0	0	NCCARF incorrectly named: National Climate Change Adaptation Research Facility. Also this would be a good place to box the text and use it as a case study of what a developed country is doing to achieve better research outcomes through targeted funding. See NCCARF web page www.nccarf.edu.au (Palutikof, Jean, Griffith University)

#	Ch	From Page	From Line	To Page	To Line	Comment
327	15	9	53	9	54	Sentence is incorrect - suggest remove. The roles and responsibility document for Australia could be used as a reference - laying out clear roles for all levels of government. See http://www.climatechange.gov.au/roles-and-responsibilities-climate-change-australia (note this is an html document a pdf can be provided on request) (see Role and Responsibilities_Ch15_P9_L53.pdf) (Palutikof, Jean, Griffith University)
328	15	9	54	0	0	I am a bit puzzled that a Masters thesis (Doran 2011) features in the chapter. Is this really accepted practice? (Storbjork, Sofie, Linkoping University)
329	15	9	54	0	0	Reliance on a Master's thesis. Not peer reviewed literature that can be used to support this statement. Suggest provide alternative literature to support statement. (Palutikof, Jean, Griffith University)
330	15	10	1	10	2	Not clear what authors are referring to - please clarify and provide supporting references to the activities in the three named countries. (Palutikof, Jean, Griffith University)
331	15	10	4	0	0	It would be nice to learn a bit of what these implementation obstacles are? (Storbjork, Sofie, Linkoping University)
332	15	10	4	10	6	Why call out the US in this case when this statement is relevant for other countries as well? (Chan, Christina, U.S. Department of State)
333	15	10	6	10	6	Complicated sentence formulation, and we think that 'have as yet to be' should be replaced by 'have as yet been'\n\n (NETHERLANDS)
334	15	10	8	10	10	Strange and incorrect formulation, please reformulate sentence\n\n (NETHERLANDS)
335	15	10	12	10	22	This text is discussing barriers, challenges of governance. Not in the right place in this section about adaptation plans. Perhaps move to S15.3 which is more about barriers and enablers. (Palutikof, Jean, Griffith University)
336	15	10	14	10	19	Important take away points, perhaps make them more visible? (Chatterjee, Monalisa, IPCC WGII TSU)
337	15	10	17	0	19	Here it would perhaps be good to state that implementation challenges can both concern the vertical and the horizontal, which e.g. Unwin and Jordan makes clear (Storbjork, Sofie, Linkoping University)
338	15	10	18	10	18	It is Urwin 2008 and not Unwin 2008 (Dupuis, Johann, Swiss Graduate School of Public Administration (IDHEAP))
339	15	10	20	0	21	Can this be supported by references? (Storbjork, Sofie, Linkoping University)
340	15	10	25	10	47	The authors need to supplement the text with more analysis here about what NAPAs have and have not accomplished relative to the original expectations, which also need to be detailed. For example, NAPAs were explicitly not about doing additional analysis but relying on what existed to generate short-term funding options. Should we still be relying on them when science and other understanding has progressed significantly, as well as potential impacts on a country? Did the process of doing them have lasting impacts on the individual countries in terms of capacity to address climate change or to better coordinate among existing agencies? Did the outcomes of the reports seem like they effectively identified some of the most critical early issues? There's at least a comment at the end about the need to transition from a project basis to an adaptation process -- would like to hear more about the pros and cons of these different things. (UNITED STATES OF AMERICA)
341	15	10	27	10	27	What does "particular condition" mean? (Chan, Christina, U.S. Department of State)
342	15	10	27	10	27	What is meant by "have a particular condition" should be clarified. (Mach, Katharine, IPCC WGII TSU)
343	15	10	30	10	30	Please update the statistics on NAPA's if possible. We expect that there must be more recent data than 2010. (UNITED STATES OF AMERICA)
344	15	10	30	10	31	After checking the UNFCCC website, by the end of Dec. 2011, UNFCCC secretariat has received 47 NAPAs. Please check and update the data used in this sentence. (wang, chunfeng, State Forestry Administration, China)
345	15	10	30	10	31	As of May 2013, the UNFCCC Secretariat received 49 NAPAs. (http://unfccc.int/adaptation/workstreams/national_adaptation_programmes_of_action/items/4585.php) (Harmeling, Sven, Germanwatch)

#	Ch	From Page	From Line	To Page	To Line	Comment
346	15	10	33	10	33	Reliance on this program for what? Please clarify in the text. (UNITED STATES OF AMERICA)
347	15	10	33	10	47	The paragraph provides a description of some of the problems associated with the development of Country NAPAs. Further examination / explanation is required to show the implications of these problems on the NAPAs themselves. For example, paragraph highlights a study that states only 20% of the projects described in NAPAs have local institutions as the focus of adaptation. But does not state what this means for the NAPA process and adaptation in general. Does the inability to use local institutions result in less adaptation, maladaptation or no adaptation? (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
348	15	10	33	10	47	Although this paragraph is titled and talks about NAPAs, it would be very beneficial to also refer to the NAPs. As pointed out in previous comments, NAPs can be seen as a successor of NAPAs, enabling least developed country Parties to identify medium- and long-term adaptation needs and to develop and implement strategies and programmes to address those needs, building upon their experience in preparing and implementing national adaptation programmes of action. (1/CP.16 para 15). AT COP17 UNFCCC Parties also agreed on guidelines for the design of NAPs (Harmeling, Sven, Germanwatch)
349	15	10	42	10	43	Incorrect sentence formulation, please reformulate\n\n (NETHERLANDS)
350	15	10	43	10	47	The NAPAs are a planning tool, rather than a project proposal. The financial difficulties stem from the fact that the NAPAs tend to list a large number of separate small projects, without presenting them in a format that is adequate for international financing. Hence, considerable additional work is needed under the LDCF fund to prepare and submit suitable project proposals (Bettencourt, Sofia, World Bank)
351	15	10	50	10	50	Would prefer to have this subsection refer to planning rather than plans. Planning is broader, more inclusive. (Chan, Christina, U.S. Department of State)
352	15	10	50	11	27	This seems to be a mixture of subnational and supra-national. Perhaps a reframe in title of 15.2.2.3? (Storbjork, Sofie, Linkoping University)
353	15	10	50	13	26	This section lends itself well to expand on some of the challenges by highlighting case studies. Could develop a case study box here (Palutikof, Jean, Griffith University)
354	15	11	1	11	2	There are several examples of sub-national adaptation planning. For example, the Samoa Coastal Infrastructure Management Plans have as a basis building resilience to natural hazards. Similarly, the Zambia Pilot Program for Climate Resilience (PPCR Phase II) Project, just approved, seeks to mainstream adaptation into participatory planning at the district, ward, and community levels. See reports on these two programs sent by separate attachment to the Working Group (see Implementation_20Guidelines.pdf for the Samoa program, and http://documents.worldbank.org/curated/en/2013/04/17615484/zambia-second-phase-strengthening-climate-resilience-project for the Zambia Project) (Bettencourt, Sofia, World Bank)
355	15	11	4	11	27	There are huge differences between many developed countries, where sub-national vs. national relationships, funding, power dynamics, etc., have already been worked out, and many developing countries that are trying to figure out devolution of decisions and funding for the first time. This paragraph deals only with developed countries, but it would be useful to have a focus on developing countries and the special differences that they are dealing with in the timing of their own processes, the additional challenges of capacity at sub-national level, much less capacity in adaptation-related issues, etc. (UNITED STATES OF AMERICA)
356	15	11	6	11	7	Implicit assumption in this sentence is that adaptation should be top-down...is this the optimum way to do adaptation? Perhaps add sentence "It is assumed that national governments have an enabling role" (Palutikof, Jean, Griffith University)
357	15	11	10	0	10	Suggest adding: some states such as South Australia and Victoria have released climate change adaptation strategies and action plans. (AUSTRALIA)

#	Ch	From Page	From Line	To Page	To Line	Comment
358	15	11	10	0	11	Suggest replacing "provincial governments" with "Provincial and Territorial governments". (CANADA)
359	15	11	10	11	11	Suggest providing one or more examples of Canadian provincial government adaptation initiatives to support this assertion, such as Ontario's Climate Ready Adaptation Strategy and Action Plan 2011-2014 (http://www.ene.gov.on.ca/environment/en/resources/STDPROD_081665.html), British Columbia's Climate Change Adaptation Strategy (http://www.env.gov.bc.ca/cas/adaptation/), and Quebec's 2013-2020 Government Strategy for Climate Change Adaptation (http://www.ene.gov.on.ca/environment/en/resources/STDPROD_081665.html) (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)
360	15	11	20	11	22	Expressing concern is not an example of state collaboration. Suggest revise or delete (Palutikof, Jean, Griffith University)
361	15	11	22	11	22	Correction: Regional Adaptation Collaborative Program. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)
362	15	11	27	11	27	Monitoring needs more attention than a simple throw away line. More text on monitoring and evaluation should be included (Palutikof, Jean, Griffith University)
363	15	11	30	0	52	I lack a few points in discussing local adaptation plans, i.e. clearly stating that we cannot see local governments or councils as homogeneous units. There are often different sectoral interests and perspectives and internal struggles that create barriers for adaptation that relate to problematic cross-sectoral or horizontal interplay. This features as an issue in many of the local case studies reported in the last years. See e.g. Næss, L. O. et al, 2005. Institutional adaptation to climate change: Flood responses at the municipality level in Norway. Global Environmental Change 15, 125-138, Moser, S., 2005. Impact assessments and policy responses to sea-level rise in three US states. Global Environmental Change 15, 353-369, Storbjörk, (2010), "It takes more to get a ship to change course. Barriers for organisational learning and local climate adaptation in Sweden", Journal of Environmental Policy and Planning Vol. 12, No. 3, 235-254. Dovers and Hezri (see reference list of chapter 15). Glaas, E. et al, 2010. Managing climate change vulnerabilities: formal institutions and knowledge use as determinants of adaptive capacity at the local level in Sweden. Local Environment 15, 525-539. Hedensted Lund, D. et al (2012), Climate change adaptation in Denmark: enhancement through collaboration and meta-governance. Local environment, Romero-Lankao, P. (2012) Governing Carbon and Climate in the Cities: An Overview of Policy and Planning Challenges and Options, European Planning Studies, 20, pp. 7-26, Wilby, R.L. & Keenan, R. (2012) Adapting to flood risk under climate change, Progress in Physical Geography, 36, pp. 348-378. Runhaar, H., Mees, H., Wardekker, A., van der Sluijs, J. & Driessen, P.P.J. (2012) Adaptation to climate change-related risks in Dutch urban areas: stimuli and barriers, Regional Environmental Change, 4, pp. 777-750. (Storbjörk, Sofie, Linköping University)
364	15	11	35	11	37	I suggest change the sentence "However, limited economic, human, technical sources at the local level highlight the importance of national and subnational levels of government" into "However, limited financial human, technical sources at the local, national and international levels highlight the importance of supports from international, national, subnational and local levels." by using "financial" to replace "economic" ? this is in line with the expressions used under UNFCCC. (wang, chunfeng, State Forestry Administration, China)
365	15	11	35	11	37	It is unclear whether the sentence 'However,.... stakeholders.' is based on expert judgment or whether this statement is based on literature. What evidence is there to support the statement that specifically the limited availability of economic, human and technical resources at the local level render the national and subnational levels of government more important in adaptation plans? \n\n (NETHERLANDS)

#	Ch	From Page	From Line	To Page	To Line	Comment
366	15	11	37	11	38	There is a recent guide which was developed by six international NGOs (Emergency Capacity Building Project) as an introductory resource for staff of development and humanitarian organizations working with people whose lives and rights are threatened by disasters and climate change. The guide "Towards Resilience: A Guide to Disaster Risk Reduction and Climate Change Adaptation" can be found at http://www.ecbproject.org/new-practitioners-guide-to-disaster-risk-reduction-drr/practitioners-guide-to-drr--cca . (UNITED STATES OF AMERICA)
367	15	11	38	0	39	Further references here are e.g. Amundsen, H., Berglund, F., and Westskog, H., 2010. Overcoming barriers to climate change adaptation: a question of multilevel governance? Environment and Planning C: Government and Policy, 28, 276–289. Measham, T.G., Preston, B.L., Smith T.F., Brooke, C., Gorrard, R., Withycombe, G. & Morrison, G. (2011) Adapting to climate change through local municipal planning: barriers and challenges, Mitigation and Adaptation Strategies for Global Change, 16, pp. 889-909. Sofie Storbjörk and Johan Hedrén (2011). Institutional capacity-building for targeting sea level rise in the climate adaptation of Swedish coastal zone management. Lessons from Coastby. Ocean and Coastal Management Vol. 54, No 3, 265-273. Dannevig, H., T. Rauken, and G. Hovelsrud. 2012. "Implementing adaptation to climate change at the local level." Local Environment 17: 597-611. (Storbjörk, Sofie, Linköping University)
368	15	11	38	11	43	This paragraph relates to capacity, which is also outlined in 15.3.1.1.1 Cross reference would be appropriate (Dannevig, Halvor, Western Norway Research Institute)
369	15	11	41	11	43	It would be useful if the sentence would be more specific on who should guide the local councils and planners on decision making (on adaptation issues?) and what form this guidance could take and what would the aim of the guidance be. (Kankaanpää, Susanna, Helsinki Region Environmental Services Authority (HSY))
370	15	11	41	11	43	Perhaps more importantly, even when local governments and planners have the necessary information and relevant tools (such as the case in British Columbia, Canada and via the Canadian Institute of Planners) climate change decision making competes with the more immediate (and therefore prioritized as such) requirements of the community (ie. aging infrastructure, insufficient public services, and so forth). Regardless of the motivation of the local government staff and planners, the limited resources available are allocated to the more immediate needs - until an extreme event occurs with resulting political fall-out (why was 'this' not addressed in light of the evidence regarding climate change and potential localized impacts?). (Callihoo, Christine, Canadian Institute of Planners (CIP))
371	15	11	45	11	47	Also Norwegian experiences support this statement: Dannevig, H., Rauken, T., & Hovelsrud, G. (2012). Implementing adaptation to climate change at the local level. Local Environment, 17(6-7), 597–611. doi:10.1080/13549839.2012.678317 (Dannevig, Halvor, Western Norway Research Institute)
372	15	11	47	0	48	Another paper stressing this is Mees, H., Driessen, P. and Runhaar H., 2012. Exploring the scope of public and private responsibilities for climate adaptation. Journal of Environmental Policy and Planning, 14 (3), 305–330. (Storbjörk, Sofie, Linköping University)
373	15	11	52	0	0	Another paper stressing this is Jonsson, E.C., Hjerpe, M., Andersson-Sköld, Y., Glaas E., André, K. and Simonsson L 2012. Cities' capacity to manage climate vulnerability: experiences from participatory vulnerability assessments in the lower Göta Älv Catchment, Sweden, Local Environment 17:6. 735-750. (Storbjörk, Sofie, Linköping University)
374	15	12	1	12	37	Absence of discussion of rural agriculture in developed countries in this section. (Palutikof, Jean, Griffith University)
375	15	12	1	12	37	This section is bringing together too many things that don't belong together (indigenous, business, community, rural). Suggest revise and separate out these distinct topics (Palutikof, Jean, Griffith University)
376	15	12	1	12	37	A suggestion for reorganising is to have a separate heading "place based" and put text about cities and rural into this section (Palutikof, Jean, Griffith University)
377	15	12	1	12	37	A table with categories such as status of planning in AR4, key developments in AR5, planning experience, planning barriers, approach employed, relevant sections would be helpful. (Chatterjee, Monalisa, IPCC WGII TSU)
378	15	12	1	12	37	Chapter 9 should be cross referred here. (Chatterjee, Monalisa, IPCC WGII TSU)

#	Ch	From Page	From Line	To Page	To Line	Comment
379	15	12	1	13	26	There is an opportunity here to talk about cross institutional and sectoral approaches. Suggest include additional analysis and references on these topics. (Palutikof, Jean, Griffith University)
380	15	12	1	13	26	Rural and Urban areas are under Section 15.2.2.4 Local Adaptation Plans and should not be. Revise content and/or structure. (Palutikof, Jean, Griffith University)
381	15	12	4	12	6	How do we know if the evaluation of adaptation is a gap area? How is success defined? (Chan, Christina, U.S. Department of State)
382	15	12	9	12	12	Such differences have also been documented through spatial vulnerability maps weighted by experts and community members in Central Mozambique by Kienberger 2012. This also underlines the different perceptions which are here expressed as differences in perceived vulnerabilities. The reference could be added here. Kienberger, S., 2012. Spatial modelling of social and economic vulnerability to floods at the district level in Búzi, Mozambique. Natural Hazards 64(3), 2011-2019. http://dx.doi.org/10.1007/s11069-012-0174-9 (Kienberger, Stefan, University of Salzburg)
383	15	12	13	12	13	How do we know if the evaluation of adaptation is a gap area? How is success defined? (Chan, Christina, U.S. Department of State)
384	15	12	16	12	17	The sentence 'The creation ... adaptation efforts' seems to lack a reference. Is there evidence that the creation of community organizations helps in sustaining adaptation efforts? Or is this based on expert judgment? (NETHERLANDS)
385	15	12	22	0	0	Shocking sentence! Revise (Palutikof, Jean, Griffith University)
386	15	12	22	0	0	Suggest considering revising use of language of "victims of climate change". (CANADA)
387	15	12	22	12	22	Suggest remove the word 'victims', as it is emotive and inaccurate. (AUSTRALIA)
388	15	12	22	12	22	This sentence needs a citation and sets up a comparison without finishing it. What else are they? (UNITED STATES OF AMERICA)
389	15	12	22	12	28	Consider revising to better reflect discussions in previous chapters such as Chapter 7 section on IK (Ramos Castillo, Ameyali, United Nations University - Institute of Advanced Studies)
390	15	12	22	12	28	There are several sentences in this paragraph that do not have citations, but should be supported by references. You might consider citing the following article in this paragraph: Cochran, P., O. Huntington, C. Pungowiyi, S. Tom, F. S. Chapin, H. Huntington, N. Maynard, and S. Trainor. 2013. Indigenous frameworks for observing and responding to climate change in Alaska. Climatic Change (http://link.springer.com/article/10.1007%2Fs10584-013-0735-2). (UNITED STATES OF AMERICA)
391	15	12	22	12	28	15.2.2.4.1: The above analytical framework can orient the authors the suggestions below that distinguish between permanently settled and immigrant indigenous populations. I offer commentary below on indigenous adaptive strategies and in the attached supporting document: Indigenous Health Impacts from Climate Change expert reviewer Blake Gentry, section III. A Strategies for Adaptation Planning with Indigenous Communities, pages 10-12. for the Chapter 15 authors' consideration of strategies used in Central and North America. Climate adaptation planners and funders may find that, at a minimum, categorizing indigenous populations by their respective land status will positively improve outcomes and sustainability. Whether they constitute permanent settlements, partially displaced settlements, or settlements with longer term transmigration containing both partially abandoned and distant satellite communities, can orient strategies to the actual social conditions that form the communities negatively impacted by climate change. There is overlap, but identifying the origin of indigenous relationship to their lands is key. (Blake, Gentry, Institution no 1: Gente de Itoil A.C., non-profit in Mexico. Dir. of Health Services.)

#	Ch	From Page	From Line	To Page	To Line	Comment
392	15	12	22	12	28	[continued] For Permanently Settled Communities. \nMexico's Secretary of the Environment and Natural Resources (SEMARNAT) incentivize community development projects for climate adaptation by insisting on livelihood improvements when funding climate adaptation projects. Projects solely based on building more robust and flexible public infrastructure in the face of severe drought, flooding, and fires, are likely to face local opposition. It is understandable that non-development specialists may consider this an aberration of improving climate adaptation capacity, but 50 years of development experience provides many lessons in how to implement improvements in capacity. This methodology should be considered for the US and Canada as well. Permanently settled indigenous living on ancestral lands since before European contact remain key to biodiversity through CO2 CDM off-set programs, and to maintaining food security. In Chiapas, Mexico, for example, the Scolel Te Project has improved reforestation and provided sustainable timber sales, organic coffee, and other agroforestry products to local farmers . \n (Blake, Gentry, Institution no 1: Gente de litoi A.C., non-profit in Mexico. Dir. of Health Services.)
393	15	12	22	12	28	[continued] In the semiarid Sonoran Desert region zone of NW Mexico, regional warming has reduced cattle and grain production, prompting SEMARNAT to fund adaptation projects. Hydroponic greenhouses for growing food, such as the one in Lomas de Bacum, Sonora, Mexico, are administered as an agricultural coop by Yaqui indigenous women . \nSmall local technology driven projects designed to promote sustainable energy and livelihoods are applicable to migratory, resettled, and permanently settled climate vulnerable indigenous. The use of appropriate technology improves environmental management, sustains development project interventions, and improve livelihood benefits which builds reliance in indigenous communities to multi-factors causing displacement including climate change impacts. Case examples are are micro-hydro for agro processing (Bolivia –I), bio-digesters in rural communities (Costa Rica –I), and soalr electrification via micro enterprises (Dominican Republic-3), plus 43 more reviewed the UN Global Energy Facility small grants programme. \n (Blake, Gentry, Institution no 1: Gente de litoi A.C., non-profit in Mexico. Dir. of Health Services.)
394	15	12	22	12	28	[Continued] In the US \nIntra-institutional compacts can be constructed to be incentivized without reinforcing traditionally hostile political relations. By granting joint university programs and natural resource departments of tribal governments in the US and Canada with adaptation planning and implementation grants, given the gap of non-state and non-provincial planning roles due to federal separation of administrative powers can be overcome. Rewarding both tribal governments and universities for higher levels of collaboration can improve the quality of project completion, a perennial challenge for many grant funded efforts. Inclusion of language that recognizes the US government's intention to complete prior consent efforts, as called for in the UN Declaration of the Rights of Indigenous Peoples, and the IPCC's review of proposed projects though a GEF funding mechanism would bring adaptation planning and results to an international level where best practices can be disseminated. Linking adaption planning to formal intra-tribal councils can also incentivize collaboration. Specifically, the United States Department of the Interior, US Forest Service, and the Bureau of Land Management can provide land management training for environmental services to tribal nations if an incentive based program specific to the bio-region and specific needs of reservation governments are considered. Water conservation efforts in the arid SW are in critical need of scaling up. \n (Blake, Gentry, Institution no 1: Gente de litoi A.C., non-profit in Mexico. Dir. of Health Services.)

#	Ch	From Page	From Line	To Page	To Line	Comment
395	15	12	22	12	28	[Continued] For Displaced Indigenous Peoples \nRural and urban indigenous communities, in Guatemala, Mexico, and the United States can build resilience by networking urban resources in the service of rural needs. Purposeful identification of urban ethnic enclaves, as opposed to the current policies of ignoring their existence, can improve the access to resources needed to manage small infrastructure projects, health prevention campaigns (TB, Dengue, Malaria). Providing small centers staffed with bi-lingual indigenous liaisons can vastly improve implementation of projects after local participatory planning has taken place. This strategy takes into account that, for example in the United States 27% of Native Americans move between rural and urban areas for the highest within state migration rates in the United States of any ethnicity in the United States. Reservation based, community based tribal consortium, regional approaches are already documented, while federal strategies are challenged by the regional and jurisdictional complexities. \n (Blake, Gentry, Institution no 1: Gente de litoi A.C., non-profit in Mexico. Dir. of Health Services.)
396	15	12	22	12	28	[Continued] For all Indigenous Communities\nThe most fundamental skill needed for adaptation projects are indigenous language skills. This most critical omission in adaptation planning is similarly lacking for development project planning in general when engaging in indigenous communities. The normal policy of willfully ignoring the indigenous language as a working language is a measure of policy weakness from the outset. Funding of indigenous language in planning is needed as a regular part of project design, implementation, and completion. \n\nEvaluation measures of climate adaptation capacity that consider indicators of community leadership and demonstrated success in mobilizing social participation will be more robust measures than those that limit indicators on outcomes attuned primarily to technical milestones . The use of indicators for institutional capacity in this regard are also sorely needed. Two examples are listed below. The first example is of private incentivizing of livelihoods, and the second is a governmental example. families.\n (Blake, Gentry, Institution no 1: Gente de litoi A.C., non-profit in Mexico. Dir. of Health Services.)
397	15	12	27	0	0	I suggest to include a sentence (after the Nakashima reference): "However, there is also evidence that now more often indigenous communities are at a loss as how to interpret formerly unknown climate signals." (Hoffmann, Dirk, Bolivian Mountain Institute - BMI)
398	15	12	27	12	28	The sentence 'Indigenous Arctic ... to adapt' seems to lack a reference. Is anything published about this, or where does this information come from?\n\n (NETHERLANDS)
399	15	12	27	12	28	Suggest cite the polar chapter here (Palutikof, Jean, Griffith University)
400	15	12	27	12	28	The sentence states that indigenous Arctic communities are providing systematic obs, but cites no refs or examples. (UNITED STATES OF AMERICA)
401	15	12	30	12	37	Paragraph on business not appropriate in this section. Needs own section, title and more content. Plenty of literature available for a discussion on business. (Palutikof, Jean, Griffith University)
402	15	12	30	12	37	This paragraph seems out of place in this section. Please find a way to integrate it into the section or delete it. (UNITED STATES OF AMERICA)
403	15	12	30	12	37	This paragraph on the "Business community" does not fit into the section on "Rural and community adaptation planning". (Harmeling, Sven, Germanwatch)
404	15	12	33	0	0	Other studies...other forces suggest delete sentence. Meaningless (Palutikof, Jean, Griffith University)
405	15	12	33	12	33	Casual usage of "unlikely" should be avoided, as it is a reserved likelihood term. (Mach, Katharine, IPCC WGII TSU)
406	15	12	40	0	0	Section 15.2.2.4.2: The EEA Report -No 2/2012 "Urban adaptation to climate change in Europe" is not cited at all in this chapter. This section may be an appropriate one to do so. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
407	15	12	40	0	0	Chapter 8 should be cross referred here. (Chatterjee, Monalisa, IPCC WGII TSU)

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408	15	12	42	13	14	State explicitly that cities can work with climate adaptation in the sense of both disaster management and also preventive in spatial planning, urban design etc. Technical protective infrastructure is one way, allowing for planned flooding and flexible designs of houses etc. is another way. (Storbjork, Sofie, Linkoping University)
409	15	12	48	12	48	This presumably refers to "peer and non-peer reviewed literature" on line 44, but the construction of the sentences is ambiguous. (Mach, Katharine, IPCC WGII TSU)
410	15	12	50	12	53	Unclear and incorrect distinction between large and medium-size cities. E.g. Rotterdam is indicated as large city, but Cape Town as medium sized, while it is both in area and population size larger than Rotterdam \n\n (NETHERLANDS)
411	15	12	53	12	53	This is a mistake, the city of Cartagena in Colombia does not have an adaptation plan in place. There are studies and vulnerability assessments but there is not a working adaptation plan yet. Several institutions are working on it but it is at very early stages and far from being implemented. (Lacambra Segura, Carmen, Grupo La era)
412	15	13	1	13	2	What kind of early lessons? (Chan, Christina, U.S. Department of State)
413	15	13	1	13	2	What are the lessons? Please describe them in the text. (UNITED STATES OF AMERICA)
414	15	13	20	13	26	Why is this just specific to urban areas? (Chan, Christina, U.S. Department of State)
415	15	13	21	13	25	Maybe the authors refer to overlap between DRR and CCA rather than gap and limited coordination of these two cross cutting activities. It is not clear how this overlap lead to conflicts or maladaptation. Do the authors refer to conflict among the public or entities that implement both activities? Can the authors provide examples of maladaptation due to overlap between DRR and CCA activites? This is an extremely broad statement without specific evidence. (UNITED STATES OF AMERICA)
416	15	13	21	13	26	I think the argument that "enforcing parallel agendas for disaster risk management and climate change adaptation runs the risk of duplicating efforts and ressources" needs to be better developped. For most planners at the local level the difference between adaptation and disaster risk is just a wordplay. There are no parrallel agendas. In most cities, disaster risk management needs to be improved, as to deal with the normal fluctuations of the climate. It is only in a second step that future climate predictions will be integrated in eventual policy reforms. In this context, I do not see why trade-offs would develop. (Dupuis, Johann, Swiss Graduate School of Public Administration (IDHEAP))
417	15	13	29	0	0	Define what is meant by strategies (Palutikof, Jean, Griffith University)
418	15	13	29	0	0	Section 15.2.3: Evidence of implementation is not included. Need to provide more evidence in this section (references or case studies) (Palutikof, Jean, Griffith University)
419	15	13	29	0	0	The usage of terms strategies and approaches is confusing. Authors may add clarification and also coordinate with its usage in the rest of the report. (Chatterjee, Monalisa, IPCC WGII TSU)
420	15	13	29	7	39	S 15.2.3 A lot of this section is about alternative ways of framing adaptation. This topic is covered in some depth by preceding chapters. Better if take as given what is provided in these chapters, and this has the potential to strengthen the framing. Could put case study on Murray-Darling Basin here. (Palutikof, Jean, Griffith University)
421	15	13	29	13	29	The following paper is especially relevant to this section - Hay, J.E. and N. Mimura, 2013: Vulnerability, Risk and Adaptation Assessment Methods in the Pacific Islands Region: Past Approaches, and Considerations for the Future. Sustainability Science (DOI 10.1007/s11625-013-0214-8) (Hay, John, University of the South Pacific)
422	15	13	29	16	19	I would refer to spatial planning as a potential strategy/approach to deal with climate adaptation. Also perhaps climate change policy-integration = mainstreaming as strategies and approaches in 15.2.3. For the latter the second PEER-report is a good reference. i.e. Mickwitz P., F. Aix, S. Beck, D. Carss, N. Ferrand, C. Görg, A. Jensen et al. 2009. Climate Policy Integration, Coherence and Governance: PEER Report 2. Helsinki: Partnership for European Environmental Research. (Storbjork, Sofie, Linkoping University)

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423	15	13	29	16	19	Content of Ch 15 section 15.2.3 is not reflected well by the Executive summary (Ch 15, page 3, line 30-39) and the TS (page 25, line 38-50). Executive summary and TS are in agreement with each other, but not with the main text of the Chapter. For example, the statement that complementary top-down strategies are required we cannot find in the main text of section 15.2.3. Similarly, the word 'bottom-up' does not even appear in the main text of Section 15.2.3!!!the section should refer to 15.4, where these words are mentioned. \n\n (NETHERLANDS)
424	15	13	30	16	19	Section 15.2.3: The subsections of this section don't really seem to fit together. Are these the main strategies and approaches, without anything else? How does DRM fit together with stakeholder participatory approaches? How do both fit in with the intermediate section on development impacts? We could not understand the flow and these different concepts are grouped together. We recommend that the authors consider organizing this section in a more logical way in order to improve it. (UNITED STATES OF AMERICA)
425	15	13	31	13	52	How is this an overview of the rest of the subsection? Main points in this overview paragraph are not exactly what's covered in rest of the section. (Chan, Christina, U.S. Department of State)
426	15	13	31	14	6	Lot of references to infrastrure in the overview, but infrastructure is not discussed in main text sections. Discussion of infrastructure needs to be considered throughout section 15.2.3, or an explicit section needs to be included. (Palutikof, Jean, Griffith University)
427	15	13	31	14	6	Overview section needs to be completely reconsidered. It doesn't really seem to be an overview of the text that follows in this section. (Palutikof, Jean, Griffith University)
428	15	13	33	0	0	It would be useful to define the use of the term strategy in this section - especially as in the previous sections for example national plans have been discussed. At least in our "administrative jargon" in Finland the term strategy is often used for strategic level plans (such as national plans), but in this section the term seems to mean something else, a general approach taken to adaptation perhaps? (Kankaanpää, Susanna, Helsinki Region Environmental Services Authority (HSY))
429	15	13	33	13	34	Similar to a previous comment, this statement which lists a number of adaptation strategies should probably include "facilitating tranformations" or "facilitating transformative changes." (UNITED STATES OF AMERICA)
430	15	13	33	13	34	These four strategy areas provide a good outline for the section, but are not clearly addressed with examples and statements. Please elaborate. (UNITED STATES OF AMERICA)
431	15	13	33	13	52	Key regions are missing here, including China and India (the two largest countries) and the Netherlands (where important adaptation efforts are needed). Can this information be summarised in a table? (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
432	15	13	33	13	52	This section is disorganized making it difficult to read. It is unclear how the individual sentences relate to each other. (UNITED STATES OF AMERICA)
433	15	13	33	14	6	Although there is often as rightly stated a focus on technical adaptation perhaps it is worth referring to the distincione e.g. between the strategies opf attack, retreat and defend to at least highlight different options. See e.g. ICE. 2010. Facing Up to Rising Sea-Levels. Retreat? Defend? Attack? London: Institution of Civil Engineers and Building Futures. Vasey Ellis, N. 2009. "Planning for Climate Change in Coastal Victoria." Urban Policy and Research 27: 157-169. Thörn, P., U. Moback, K. Buhr, G.M. Morrison, P. Knutsson, and H. Areslätt 2011. "Climate Change Adaptation of Frihamnen: Visualising Retreat, Defend and Attack." Stockholm, International Water Association. The paper by Moser, S. C., Williams, S.J. and D.F. Boesch 2012. Wicked Challenges at Land's End: Managing Coastal Vulnerability Under Climate Change. Annual Review of Environment and Resources 37: 51-78 also discusses such strategies. (Storbjork, Sofie, Linköping University)

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434	15	13	34	13	36	Although structural solutions such as levees, dykes, coastal walls may reduce the risk for small and frequent hazards, they increase the risk for less frequent but large events when their design capacity is exceeded. therefore they may be reducing exposure in short term but encouraging settlement which may increase risk in the long-term. Hurricane Katrina is a good example as it is mentioned in the same chapter (page 27-line 22-24). There is a deficient risk perception present, stemming from an unjustified faith in the level of safety provided by flood protection systems such as dikes (IPCC, SREX). There are many no regret strategies for reducing risk such as Early Warning Systems, watershed management activities etc which were not mentioned in the overview. (UNITED STATES OF AMERICA)
435	15	13	41	13	44	Inflammatory statement. Does this reflect the peer reviewed references? Tone down Change "Is not likely" to "may not" (Palutikof, Jean, Griffith University)
436	15	13	41	13	46	This paragraph is too generalised and not applicable across the globe. The first on finance channelled through national governments being unlikely to reach the lowest income and most vulnerable people should be rewritten or removed. (AUSTRALIA)
437	15	13	41	13	46	Are these references specific case studies? Be careful not to upscale from them if they are very specific case studies. (Palutikof, Jean, Griffith University)
438	15	13	44	13	46	Should go at the end of the paragraph. The point of sentence not clear. Clarify. Then look at if the whole paragraph works (Palutikof, Jean, Griffith University)
439	15	13	50	13	52	Was the coordination successful or unsuccessful? If successful then maybe there isn't a need for additional adaptation. Clarify (Palutikof, Jean, Griffith University)
440	15	14	4	14	6	The relationship between participation, knowledge and behaviour is complex and is not well represented in the uni-directional interpretation in this section. (AUSTRALIA)
441	15	14	4	14	6	Be careful of this reference (Di Falco) because the point the authors are making is important and broad. Relationship between perception, knowledge and behaviour is complex and this ref is assuming a certain one way relationship. Consider this reference: Wheeler S, Zuo A and Bjornlund H (2013) 'Climate Change Beliefs and Irrigator Adaptability in the Southern Murray-Darling Basin', <i>Global Environmental Change</i> . 23. 537-547 (Palutikof, Jean, Griffith University)
442	15	14	9	0	0	Potential or observed role of actors would be very useful to know. (Chatterjee, Monalisa, IPCC WGII TSU)
443	15	14	11	14	11	Instead of "no-regrets co-benefits" the chapter team should consider using the phrase "low-regrets." (Mach, Katharine, IPCC WGII TSU)
444	15	14	11	14	12	The SPM states that 'While no-regret, low-regret and win-win strategies have attracted attention in the past, now there is increasing recognition that [...]'. However, Chapter 15.2.3, to which this statement in the SPM refers, among others, states that 'A no-regrets co-benefits approach [...] has become increasingly common.' (Ch15, page 14, line 11-12). Related statements also appear in the Executive summary of Chapter 15 (Ch15, Page 3, line 21-23 and line 41-42). These statements seem to be inconsistent, is the use of these no-regret strategies currently increasing or decreasing? (NETHERLANDS)
445	15	14	11	14	41	There are so many aspects of disaster risk management (including risk reduction and risk transfer approaches) and adaptation. Why highlight just these three points in this section on DRM and adaptation (the three points are a paragraph on DRR, a paragraph on need for better coordination between RM and adaptation communities, and a paragraph on migration)? (Chan, Christina, U.S. Department of State)

#	Ch	From Page	From Line	To Page	To Line	Comment
446	15	14	11	14	41	The subsector needs an integration. The focus of the para is not clear and examples appears to be ad-hoc without supporting a common message, challenge or lessons learned. The para needs to be rewritten to emphasize the overlap between DRR-CCA and highlighting the gaps beyond this overlap through examples. For example, one of the great examples of DRR is EWS which aids in reducing vulnerability in short-term as it is addressed in DRR and help in climate adaptation in the long term. There are many good examples of EWS such as flood forecasting which are used in early warning of floods to reduce disaster impact but also can be used in managing water resources for multi-purposes for longer term development and possibly adaptation. (UNITED STATES OF AMERICA)
447	15	14	11	14	41	This section does not address the key issues of what DRR and CCA are, how they differ and how they are complementary. The third paragraph does not clearly relate to this specific topic. This issue is better addressed elsewhere in this chapter. (UNITED STATES OF AMERICA)
448	15	14	13	14	13	After (Mitchell et al., 2010; IPCC, 2012). Add "Child-Centred Disaster Risk Reduction (CC-DRR) is getting increased emphasis worldwide (e.g., Ronan et al., 2013). The UNISDR Hyogo Framework for Action (UNISDR, 2005) explicitly identified disaster prevention and education for children as a key priority in the fight to reduce the impacts of hazards and disasters, and the recently published Synthesis Report on Consultations on the Post-2015 Framework on Disaster Risk Reduction (UNISDR, 2013) places children and youth at the centre of successful long-term adaptation: "In particular children and youth have been singled out as having specific needs in terms of school safety, child-centred risk assessments and risk communication. But, more importantly, if appropriately educated and motivated on disaster risk reduction, they will lead and become the drivers of change" (p.7). Citation: Ronan, K. R., Handmer, J., Towers, B. Haynes, K., Alisic, E., Ireland, N., Petal, M., Davie, S., Mitchell, P., Wade, D., & Bellali, J. (2013). Building best-practice in Child-Centred Disaster Risk Reduction. Multi-year project funded by the Australian Bushfire and Natural Hazards Cooperative Research Centre (BNH CRC). Melbourne: BNH CRC. (Ronan, Kevin, CQUniversity Australia)
449	15	14	14	14	15	Should reflect ES as per earlier comments (too sweeping to say always in separate agencies). (Palutikof, Jean, Griffith University)
450	15	14	14	14	15	This statement about separate agencies is confusing, as it is not clear if this is meant to apply to all countries of the world, or a specific national context, etc. Please clarify this point. (Mastrandrea, Michael, IPCC WGII TSU)
451	15	14	15	14	15	At what level of government is this focused? All, national, subnational? Please describe clearly in the text. (UNITED STATES OF AMERICA)
452	15	14	15	14	15	Presumably "within separate agencies" should be qualified--there must be some circumstances in which this is not the case? (Mach, Katharine, IPCC WGII TSU)
453	15	14	17	14	17	CHARM is not a regional institution but a regional program in the Pacific, implemented through the Secretariat for the Pacific Community Applied Geoscience and Technology Division (SPC-SOPAC) (Bettencourt, Sofia, World Bank)
454	15	14	20	14	21	The fact that disaster risk management strategies by themselves often fail to account for the longer-time scales needed for climate change adaptation does not invalidate the conclusion that the institutions and agencies handling DRR and CCA should be merged to avoid capacity dilution. See Bettencourt et al (2008) "Not If but When...." sent separately to the Working Group as Natural Hazards report FINAL.pdf file. (Bettencourt, Sofia, World Bank)
455	15	14	20	14	23	It is very important to explain further what is the area that is not covered by simply expanding on DRR. Without this information, an overemphasis on DRR could result. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)

#	Ch	From Page	From Line	To Page	To Line	Comment
456	15	14	20	14	23	Although, there is significant overlap between hydrometeorological DRR and CCA, DRR activities are not designed to address all the impacts of climate change. Therefore, statement refering that DRR strategies fail to account for differing spectrum of threats and scales needed for climate change adaptation is false representation of the goal of DRR. The para should highlight the differences and complementarity of DRR and CCA rather than assuming that all DRR activities should address CCA. As mentioned in the paragraph, not all climate chance vulnerability can't be addressed by risk management alone. The need for basic systems such as health care, education, water and sanitation and other system to aid for personal well being and lead to economic development which are critical in human resilience and therefore CCA which are not fullfilled in developing part of the world. The para needs to highlight what DRR offers at least in the short term to lay the foundation for CCA and what needs to be implemented further to adap to CC. (UNITED STATES OF AMERICA)
457	15	14	22	0	0	Etkin et al. didn't "show" the result - probably closer to speculation or opinion (Use text: "suggested" or "speculated") (Palutikof, Jean, Griffith University)
458	15	14	25	14	33	This is a great example of gaps in the legal framework or development rather than DRR. It is not clear what exactly to message in the example beyond the short comings of existing legal issues. FEMA has many examples of relocation after recurrent floods. Some of the laws and regulations may differ for Native American settlements. Therefore, the example is not an isolated DRR-CCA case but there are many other dimension which needs to be mentioned. (UNITED STATES OF AMERICA)
459	15	14	25	14	41	It is not clear what the two examples mentioned on the paragraphs contribute to the discussion of Disaster Risk Management and Adaptation (Bettencourt, Sofia, World Bank)
460	15	14	35	14	41	What is the point of this paragraph on migration here in this section on DRM and adaptation? I would delete, particularly since there is a whole other chapter that treats the issue more in depth. (Chan, Christina, U.S. Department of State)
461	15	14	35	14	41	This paragraph is out of place and does not seem to fit with the rest of the section. Consider relocating it or deleting it. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
462	15	14	35	14	41	Migration and change does not fit in this section as it is a different topic. Or clarify the context. More refs/examples appropriate for this point are available (Palutikof, Jean, Griffith University)
463	15	14	35	14	41	Migration is mainly an economic issue and does not fall under DRR. This paragraph is not belong to this sub-section. Relocation has a complex issue that involves not only land tenure but also social, cultural, historical, economic and political dimension. The migration might need additonal subsector rather than inclusion under disaster. (UNITED STATES OF AMERICA)
464	15	14	40	37	40	This is an interesting box on ecosystem based approaches to adaptation, which has to date not attracted much attention in Australia. However, these issues are not well explored in the text of the chapter. Ecosystem based approaches to adaptation are well documented internationally for references the compilation of examples and relevant knowledge products, and a discussion of issues related to the understanding and implementation of such approaches prepared by the UNFCCC secretariat in response to mandate from the SBSTA at its 34th session in the context of the Nairobi work programme (http://unfccc.int/resource/docs/2011/sbsta/eng/inf08.pdf). The UNFCCC secretariat maintains a database on ecosystem based adpatation examples (http://unfccc.int/adaptation/nairobi_work_programme/knowledge_resources_and_publications/items/6227.php). In Australia this approach has been adopted in the Great Barrier Reef Marine Park Authority Climate change Adaptation Strategy and Action Plan ((http://elibrary.gbrmpa.gov.au/jspui/bitstream/11017/1140/1/GBR%20Climate%20Change%20Adaptation%20Strategy%20and%20Action%20Plan%202012-2017.pdf) (AUSTRALIA)

#	Ch	From Page	From Line	To Page	To Line	Comment
465	15	15	2	15	2	Casual usage of "likely" should be avoided, as it is a reserved likelihood term. (Mach, Katharine, IPCC WGII TSU)
466	15	15	2	15	5	These two sentences seem more appropriate in 15.2.3.1. They are also high-level statements that should go in the Executive Summary. (UNITED STATES OF AMERICA)
467	15	15	5	15	7	Why just highlight a project in Asia? This point about linking adaptation efforts to development is relevant in rest of the world as well. (Chan, Christina, U.S. Department of State)
468	15	15	5	15	7	The draft report states that "[p]rojects in Asia implemented by the Global Environment-Least Developed Country Fund have linked adaptation efforts with development, and allowed for a holistic approach that builds institutional resilience, flexible technologies, and enhanced community capacity". GEF-LDCF is not the only support channel that linked adaptation to development, adopted holistic approaches, built on institutional resilience etc. The authors should be more explicit about this by adding additional references about existing bilateral and multilateral examples for linking adaptation with development (e.g. Fröde et al. 2013, Gupta et al. 2013). Fröde, Alexander, Michael Scholze, and Nadia Manasfi. "Taking a climate perspective on development: GIZ's climate proofing for development approach." Climate and Development ahead-of-print (2013): 1-5. G. J. Gupta, N. van der Grijp, Eds., Mainstreaming Climate Change in Development Cooperation (Cambridge Univ.Press, Cambridge, UK, 2010). (GERMANY)
469	15	15	11	15	12	This sentence needs modifying Climate change efforts CAN improve ecosystem resilience by the measures listed but there are plenty of other actions which reduce resilience e.g. hard engineering responses (Berry, Pam, Oxford)
470	15	15	11	15	14	This statement only applied to certain countries where the study was carried out. Proposed that the relevant countries is stated in the text. (MALAYSIA)
471	15	15	15	15	16	Note that the conclusion that integrated coastal management measures applies well to climate change adaptation contradicts somehow the conclusions of Chapter 5, Box 5-4, page 39, lines 30-32. (Bettencourt, Sofia, World Bank)
472	15	15	16	15	17	This is a very important point that needs to be highlighted and reflected in TS and Please consider reflecting this finding also in the TS and possibly in SPM.. (NORWAY)
473	15	15	17	0	0	nature-based adaptation other chapters and most of the literature refer to ecosystem-based adaptation. (Berry, Pam, Oxford)
474	15	15	18	15	22	The paragraph concludes by highlighting win-win adaptation strategies. However such an approach and outcome is not always possible. Adaptation approaches will require difficult choices to be made and may result in a number of win-loose options (and even loose-loose if poorly planned and implemented) with certain activities prioritised over others. The review does not discuss any literature which examines how to make such difficult choices (in a environment in which the impacts are significant but the uncertainty is high) and the implications of these choices on the stakeholders involved in the adaptation process. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
475	15	15	18	15	22	Some mention of factors that make them 'win win' would be useful. (Chatterjee, Monalisa, IPCC WGII TSU)
476	15	15	20	15	22	Cites one study (Savacool - results based on interviews of expert and therefore opinion). Return quoted suggests the study is questionable. Recommend the authors look for a better study preferably a review which gives an average instead of a max which could be misleading. (Palutikof, Jean, Griffith University)
477	15	15	21	15	21	The number USD 40 million in 2007 does not reflect current spendings on climate change adaptation. Please update. (Harmeling, Sven, Germanwatch)

#	Ch	From Page	From Line	To Page	To Line	Comment
478	15	15	23	15	23	Examples from the forestry sector can be added here. Forest projects have started to recognize their dual contribution to adaptation and mitigation. For example, the forestry project of the Chinchiná watershed, registered in the Clean Development Mechanism, also contributes to hydrological regulation, biodiversity conservation and community adaptation through new activities and incomes (Locatelli et al., 2011). [Locatelli B., Evans V., Wardell A., Andrade A., Vignola R., 2011. Forests and Climate Change in Latin America: Linking Adaptation and Mitigation. Forests 2(1): 431-450. doi:10.3390/f2010431] (Locatelli, Bruno, CIRAD-CIFOR)
479	15	15	24	15	24	It would be clearer to specify more precisely what is meant by "such" measures. (Mach, Katharine, IPCC WGII TSU)
480	15	15	29	15	39	Chapters 13, 9, 19 should be cross refered. (Chatterjee, Monalisa, IPCC WGII TSU)
481	15	15	32	15	32	correct citation: Sietz et al. (2011) (sietz, diana, Wageningen University)
482	15	15	35	15	37	The sentence begins by addressing the roles of individuals, households and civil society organizations, in addition to different levels of govt. How about an example of exactly that? The reviewer suggests that the chapter authors look at the work of Gram Vikas and Joe Madiath in Orissa, India, as an explicit example of exactly what is being discussed. The 2008 reference cited here seems a bit outdated as well. Also, what is 'pro-poor' asset adaptation? (UNITED STATES OF AMERICA)
483	15	15	37	0	0	What does pro-poor asset adaptation mean? revise for clarity/simplicity or define. (Palutikof, Jean, Griffith University)
484	15	15	38	0	0	Don't understand the phrase - " second generation assest based policy" revise for clarity or define. (Palutikof, Jean, Griffith University)
485	15	15	44	0	0	Don't understand - procedural equity; distributional equity. Revise to clarify. (Palutikof, Jean, Griffith University)
486	15	15	48	15	48	The word 'not' should be removed\n\n (NETHERLANDS)
487	15	15	48	15	48	Perhaps 'not' should be deleted. (Chatterjee, Monalisa, IPCC WGII TSU)
488	15	15	53	16	3	It is a bit difficult to see how the dissemination of cc information and policies is associated with the subject of this subsection. Maybe this connection should be opened up in the text. (Kankaanpää, Susanna, Helsinki Region Environmental Services Authority (HSY))
489	15	16	0	18	0	The entire section on the status of Adaptation Planning and Implementation is skewed towards infrastructure, hard ware solutions. The rural focus is missing. More specifically references to agricultural adaptation and water related adaptation planning has not been discussed. (INDIA)
490	15	16	1	16	3	Restructure sentence to reflect findings of study. Needs to be clarified . Perhaps include the word "postively" or "negatively" before significantly so findings are clear. (Palutikof, Jean, Griffith University)
491	15	16	5	16	19	Paragraph needs restructuring to bring ideas together and improve clarity. (Palutikof, Jean, Griffith University)
492	15	16	13	0	0	portfolio of products - meaning not clear. Revise for clarity of meaning (Palutikof, Jean, Griffith University)
493	15	16	17	16	19	Ambiguous sentence about task of ASTRA. Make clear what was done (Palutikof, Jean, Griffith University)
494	15	16	22	0	0	This part of the Chapter (15.2.4) needs to be enhanced in parts 15.2.4.4 (highly general) and 15.2.4.5. (Constantinos Cartalis, Environmental Physics, University of Athens, Greece) (GREECE)
495	15	16	22	0	0	S 15.2.4 Doesn't belong here? Out of place? Better under s15.3. Suggest reconsider structure (Palutikof, Jean, Griffith University)
496	15	16	22	16	22	The title doesn't fit the rest of the text. It's not really about adaptation tools. Title should be "Science and Decision-Making Tools" as that's what the content is. (Chan, Christina, U.S. Department of State)

#	Ch	From Page	From Line	To Page	To Line	Comment
497	15	16	22	18	7	Section 15.2.4. It may be helpful at various parts of this section to draw on Webb, R. and J Beh, 2013. Leading adaptation practices and support strategies for Australia: An international and Australian review of products and tools, National Climate Change Adaptation Research Facility, Gold Coast, pp.120. Accessible at http://www.nccarf.edu.au/publications/leading-adaptation-practices-and-support-strategies . This study has developed a framework for analysing adaptation decision support processes and tools and applied this to a range of Australian and international products, also developing strategic responses in the Australian context. (Webb, Bob, Australian National University)
498	15	16	24	16	31	Is this really an overview of the main points? They don't really fit with rest of the section. (Chan, Christina, U.S. Department of State)
499	15	16	26	0	0	Unclear sentence. Revise for clarity (Palutikof, Jean, Griffith University)
500	15	16	26	16	28	The chapter team should consider presenting calibrated uncertainty language to characterize its degree of certainty in these statements. (Mach, Katharine, IPCC WGII TSU)
501	15	16	27	16	27	Work of Barry Smit from University of Guelph has lots of significance in this context. References from his work in this context would be useful (INDIA)
502	15	16	34	0	0	Discussions in this section can be condensed further. (Chatterjee, Monalisa, IPCC WGII TSU)
503	15	16	34	18	7	Insufficient on science, nothing on uncertainty. Revise content of section to reflect topic (Palutikof, Jean, Griffith University)
504	15	16	34	18	7	The role of "boundary organizations" is mentioned later in the section, but it's a concept that could probably hold this entire section together, i.e. "What's the role in boundary organizations in providing science and/or independent analysis to support adaptation efforts? A focus on what we can learn from well-functioning and effective boundary organizations could have important lessons to this entire section. Instead, it seems like a listing of programs with no analysis of what has been effective and why; instead, it's just a list of different models with no real analysis of impact. (UNITED STATES OF AMERICA)
505	15	16	36	16	41	The first paragraph is quite unclear, please clarify and add some more explanatory text. In the 1st sentence, some words are missing and the meaning of the 2nd sentence is also somewhat unclear. Also, it would be very interesting to have some examples of how science and policy have or can be integrated in a fundamental and structured way. Whether this been done somewhere or if this is just an idea, it would in any case be very interesting and useful if it were opened up more. (Kankaanpää, Susanna, Helsinki Region Environmental Services Authority (HSY))
506	15	16	46	16	50	Long incomprehensible sentence. Revise - and check paragraph is clear (Palutikof, Jean, Griffith University)
507	15	16	46	16	50	The wording of this sentence is unclear. Please revise. (UNITED STATES OF AMERICA)
508	15	16	52	16	54	Based on what indicators of effectiveness? Why? Compared to what? (Chan, Christina, U.S. Department of State)
509	15	17	4	17	4	Presumably "assess climate impacts" is meant here? (Mach, Katharine, IPCC WGII TSU)
510	15	17	4	17	5	Suggest that this text would be better under tools or communication rather than as science. (Palutikof, Jean, Griffith University)

#	Ch	From Page	From Line	To Page	To Line	Comment
511	15	17	4	17	5	The UK is publishing a new National Adaptation Programme in July 2013 which contains a series of adaptation objectives and actions across central and local Government and related stakeholders; it's the most sophisticated programme of action to date. The programme will be monitored/evaluated by the Adaptation Sub-Committee, which will report in 2015 as part of its statutory role set out in the Climate Change Act 2008. Worth including this as it represents a bit step forward in the UK's efforts to implement a coordinated set of actions, and evaluate the effectiveness of the actions. See here http://www.theccc.org.uk/tackling-climate-change/preparing-for-climate-change/how-the-uk-is-progressing/ for information on how we are evaluating progress, which has already started for the key risks the UK faces. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)
512	15	17	4	17	11	The topic sentence really doesn't capture the content of the rest of the paragraph. (Chan, Christina, U.S. Department of State)
513	15	17	5	17	7	This discussion is not fully encompassing of work that has been done in Australia. In Australia, a National Climate Change Adaptation program was implemented between 2007 and 2012 to provide information on climate risks to built and natural assets - for example the Climate Change risks to Australia's Coasts- a First Pass National Assessment (2009) and supplement Climate Change risk to Coastal Buildings and Infrastructure (2011) - as well as an extensive portfolio of adaptation research through the National Climate Change Adaptation Facility. (AUSTRALIA)
514	15	17	5	17	7	These are not activities explicitly designed to incentivize adaptive behaviour -rather they are knowledge building and capacity building. Revise (Palutikof, Jean, Griffith University)
515	15	17	7	0	0	Incomplete sentence - revise and correct (Palutikof, Jean, Griffith University)
516	15	17	7	17	9	This is not a sentence. We recommend that the authors use a peer-reviewed source for this statement rather than a web site. (UNITED STATES OF AMERICA)
517	15	17	8	17	8	The web link does not work. Try http://www.nrcan.gc.ca/earth-sciences/climate-change/community-adaptation/regional-collaborative/679 (CANADA)
518	15	17	9	17	10	This program was instrumental... What's the citation and the evidence that this was instrumental? (Chan, Christina, U.S. Department of State)
519	15	17	10	0	0	Please define OURANOS (Palutikof, Jean, Griffith University)
520	15	17	10	17	11	In addition to OURANOS, you may wish to include Pacific Climate Impacts Consortium (PCIC) http://pacificclimate.org/ (CANADA)
521	15	17	11	17	11	Authors may wish to mention the Ontario Climate Consortium as well (http://climateontario.org/wp/). (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)
522	15	17	13	17	21	This is a description of the 5Cs. For what purpose? This could have been pulled from the 5Cs website. (Chan, Christina, U.S. Department of State)
523	15	17	13	17	21	Where is the citation on the 5Cs? Again, it's unclear to me that ICIMOD and MRI websites are to be considered reputable sources worthy of citation. (UNITED STATES OF AMERICA)
524	15	17	20	17	21	Sentence is strangely formulated and it is unclear whether this refers to the Caribbean region. If yes, we suggest: [Climate adaptation has also been an important issue in mountainous areas of the Caribbean [...]] (NETHERLANDS)
525	15	17	20	17	21	The aspect of climate change adaptation in mountainous areas would deserve a separate paragraph (it is here attached to a paragraph commencing with the Caribbean, which is not a very fortunate conjunction). Because of their high sensitivity to climatic changes, mountain areas have been called by scholars "laboratories for early adaptation practice" (see e.g. IHDP Update, Oct 2008, Issue 2 "Mountainous Regions: Laboratories for Adaptation", which turns them into an important learning place for adaptation. (Hoffmann, Dirk. Bolivian Mountain Institute - BMI)
526	15	17	23	17	34	Is this supposed to be an inventory of NGOs? Why just single out CCAP, CARE, and ICLEI when there are many many more NGOs out there? (Chan, Christina, U.S. Department of State)

#	Ch	From Page	From Line	To Page	To Line	Comment
527	15	17	23	17	34	This text is a mix of science and guidelines - needs to be moved from this section (Palutikof, Jean, Griffith University)
528	15	17	23	17	34	The reference to CAKE is misplaced. The Climate Adaptation Knowledge Exchange (CAKE; www.cakex.org) is not a "partner in adaptation", but rather a clearinghouse on adaptation and therefore should be referenced in the second sentence of this paragraph. Reference could also be made here to NGOs as a funder of adaptation, such as the Climate Adaptation Fund which is administered by the NGP Wildlife Conservation Society, and which gives grants to conservation NGOs to support the implementation of on-the-ground projects to support wildlife adaptation to climate change (http://www.wcsnorthamerica.org/ClimateAdaptationFund.aspx). (UNITED STATES OF AMERICA)
529	15	17	28	0	0	CAKE, ICLEI etc not defined. Expand abbreviation and give country reference. Comment relevant throughout chapter (Palutikof, Jean, Griffith University)
530	15	17	36	17	36	Reference to "Many of these adaptation plans" is not clear since the previous paragraphs discussed guides, not specific plans. (UNITED STATES OF AMERICA)
531	15	17	43	17	49	Source for the criteria for success of boundary organizations? It seems incomplete with the focus being on the science side rather than the policy side. See (e.g.) work of David Guston 2000 and 2007. (UNITED STATES OF AMERICA)
532	15	17	43	18	2	Looks like a new paragraph is needed at p. 17 line 43 - "The successful boundary organization" Otherwise the reference to "these" on line 48 does not make sense. (UNITED STATES OF AMERICA)
533	15	17	44	17	49	Please provide a citation for this statement. (UNITED STATES OF AMERICA)
534	15	17	51	0	0	What is "these" referring to? Clarify (Palutikof, Jean, Griffith University)
535	15	17	53	0	0	Is level the right word? Revise (Palutikof, Jean, Griffith University)
536	15	18	10	0	0	Section 15.2.4.3: Another example of such a tool is the CLIMSAVE Integrated Assessment Platform which is a user-friendly, interactive web-based tool that allows stakeholders to assess climate change impacts and vulnerabilities for a range of sectors, including agriculture, forests, biodiversity, coasts, water resources and urban development. The linking of models for the different sectors enables stakeholders to see how their interactions could affect European landscape. See Harrison, P.A., Holman, I.P., Cojocaru, G., Kok, K., Kontogianni, A., Metzger, M. and Gramberger (2012). Combining qualitative and quantitative understanding for exploring cross-sectoral climate change impacts, adaptation and vulnerability in Europe. Regional Environmental Change. DOI 10.1007/s10113-012-0361-y for more details.\nchange. (Harrison, Paula, University of Oxford)
537	15	18	10	0	0	Authors may wish to add something on limitations and challenges in this section. (Chatterjee, Monalisa, IPCC WGII TSU)
538	15	18	10	18	33	Information for adaptation by sector is missing here (e.g. agriculture, forestry, health, ecosystems, water and coasts). The tools for each of these would be different. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
539	15	18	10	18	33	This section needs to cover the role of integrated assessment models, which can provide information on the efficiency of adaptation strategies and/or the costs. For example, see Derying et al Global Biogeochemical Cycles 2011, or Dawson et al, Climatic Change 2009 (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
540	15	18	10	19	5	Section 15.2.4.3 and section 15.2.4.4. The headings of these two sections are somewhat misleading, since both sections in effect deal with tools playing a role in a decision support context, and e.g. modelling and spatially integrated tools (as well as monitoring information) can contribute (be part of) to decision making tools. Would it be an idea to merge these two subsections into one?\n\n(NETHERLANDS)
541	15	18	12	18	13	The use of a...(DSS) is a very effective means... Based on what evidence, how did this get judged as effective? (Chan, Christina, U.S. Department of State)

#	Ch	From Page	From Line	To Page	To Line	Comment
542	15	18	12	18	15	Section 15.2.4.3 p 18; line 12-15: The use of a decision support system can be effective; to say that it is a very effective means is a generalization; or at least there should be some qualifier about how broad the definition of DSS is here. Also, DSS can provide knowledge of choices; whether they are better choices will almost always remain to be seen. (UNITED STATES OF AMERICA)
543	15	18	12	18	21	In my opinion, several value statements are made in this paragraph without properly justifying them. For example; on what basis is DSS a very effective means for comparison of interventions (as compared to other means?). Also, on what grounds are the choices made by DSS "better" - and what are the criteria for this valuation. It would also be very useful if the criteria for "efficient, effective and equitable adaptation" we specified here. (Kankaanpää, Susanna, Helsinki Region Environmental Services Authority (HSY))
544	15	18	23	18	33	Another example of this type of tools are flood forecasting decision making systems, or the (Bettencourt, Sofia, World Bank)
545	15	18	24	18	25	What is 'discussion support' or a dynamic dialogue? Please clarify. (UNITED STATES OF AMERICA)
546	15	18	27	18	27	Not explained in text what the abbreviation USGS stands for\n\n (NETHERLANDS)
547	15	18	36	0	0	Tools to support decision-making might be a better description (Palutikof, Jean, Griffith University)
548	15	18	36	18	36	The subsection on decision making tools applies to the previous section on monitoring, modeling and spatially integrated tools - why not combine? (Chan, Christina, U.S. Department of State)
549	15	18	36	19	5	Decision making tools are one key for NAPs and for adaptation finance. Feasible tools for concrete adaptation demand analysis on national/regional/local level are needed to come to investment decisions. We recommend to add an overview of existing tools such as e.g. http://ec.europa.eu/development/icenter/repository/ECA_Shaping_Climate_Resilient_Development.pdf - used for the CCRIF development (http://www.ccrif.org/content/projects/eca-economics-climate-adaptation) and others. (GERMANY)
550	15	18	38	19	5	This is a simplistic section on decision making tools. There are a number of examples where valued translation functions are building a middle space between just the top down simulated scenarios and the bottom up participatory process (e.g. UKCIP, World Bank, NOAA Coastal Service Center with tools, visualizations, assessments, that facilitate dialogues with information and data). It would be useful to see some reflection on this space between top down and bottom up. (UNITED STATES OF AMERICA)
551	15	18	38	19	5	Would it be useful to discuss demand and supply of decision-making tools? i.e. how do we ensure that top-down tools are being responsive to the needs of decision-makers? The discussion about bottom-up tools seems to be more about stakeholder participation than really about decision-support tools; I wonder if that belongs in a separate section especially about participation in decision-making. (UNITED STATES OF AMERICA)
552	15	18	39	18	39	some top-down tools downscale (Palutikof, Jean, Griffith University)
553	15	18	44	18	48	Suggest use more recent examples, and up-to-date references (Palutikof, Jean, Griffith University)
554	15	18	50	18	51	Suggest modify text to "roles of actors in creating, developing and participating in the system" (Palutikof, Jean, Griffith University)
555	15	18	50	19	5	Important take away point, perhaps make it more visible? (Chatterjee, Monalisa, IPCC WGII TSU)
556	15	18	51	18	54	Please provide a citation for this statement. (UNITED STATES OF AMERICA)
557	15	18	54	19	3	Is there a better example than CRISTAL? The description implies limited utility to divers (i.e. environment) and a quick google search reveals not information on this tool, indicating limited accessibility. Consider InVEST from The Natural Capital Project (UNITED STATES OF AMERICA)
558	15	19	0	0	0	Section 15.2.4.6: I don't think insurance and social safety systems fit with the other subsections under 15.2.4. Instead, insurance and social safety could be examples presented in 15.2.5 (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
559	15	19	0	1	0	Spelling error "diver" replace with "diverse" (WOODS, Paul, World Vision)
560	15	19	2	0	0	Section 15.3 needs major revision: it doesn't hang well together, it's fluffy, poorly referenced, and there is an imbalance in detail (important issues are skimmed over). Suggest complete revision of this section to achieve balance and support for ideas. (Palutikof, Jean, Griffith University)
561	15	19	8	0	0	Section 15.2.4.5: Please add a sentence similar to the following one somewhere in this section: \n "The European Union has launched the European Climate Adaptation Platform (Climate-ADAPT, http://climate-adapt.eea.europa.eu/), which presents information relevant for the development of adaptation strategies, including links to national and regional adaptation strategies and to already implemented adaptation measures across Europe. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
562	15	19	8	0	0	In this section "Harden-up" would be a case study for this section on CommunicationTools See website: http://hardenup.org/ (Palutikof, Jean, Griffith University)
563	15	19	8	0	0	Section 15.2.4.5: I suggest in lines 17 and 22 to include "blogs" as a specific means of communicating climate change (most likely a means with a grower future importance). See e.g.: www.climateprogress.org or www.cambioclimatico-bolivia.org (run by myself). (Hoffmann, Dirk, Bolivian Mountain Institute - BMI)
564	15	19	8	0	0	Discussions in this section can be condensed further. (Chatterjee, Monalisa, IPCC WGII TSU)
565	15	19	8	19	45	Although the section is focusing on communication TOOLS it would be good to include a sentence that stresses that most of these tools are not empirically validated. As Pidgeon and Fischhoff (2011, p. 35) put it: "Although there are many guidelines for climate communication, there is little empirical evidence of their efficacy, whether for dispassionately explaining the science or for persuading people to act in more sustainable ways." \nPidgeon, Nick, Baruch Fischhoff (2011): The role of social and decision sciences in communicating uncertain climate risks. In: Nature Climate Change, 1(1), p. 35-41. \n\nFurthermore, it would be good to include at least one sentence that provides a link to publications that empirically analysed the common challenges for communicating climate change impacts, vulnerabilities and adaptation and how these challenges can be overcome: for example \nAPA – American Psychological Association: Psychology and Global Climate Change – addressing a multifaceted phenomenon and set of challenges. A Report of the American Psychological Association Task Force on the Interface Between Psychology and Global Climate Change. APA, 2010. \nCRED – Center for Research on Environmental Decisions (2009): The Psychology of Climate Change Communication. A Guide for Scientists, Journalists, Educators, Political Aides, and the Interested Public. New York: Columbia University. \nGrothmann, Torsten, Anthony Patt (2005): Adaptive Capacity and Human Cognition: The Process of Individual Adaptation to Climate Change. In: Global Environmental Change 15(3), p. 199-213. \nMorton, Thomas A., Anna Rabinovich, Dan Marshall & Pamela Bretschneider (2011): The future that may (or may not) come: How framing changes responses to uncertainty in climate change communications. In: Global Environmental Change Human and Policy Dimensions, 21(1), p. 103-109. (Grothmann, Torsten, Carl von Ossietzky University of Oldenburg)
566	15	19	8	19	45	Communication tools should also include the many guides available for speaking to a range of people about climate and adaptation - e.g. CRED, Six Americas, Yale Project on Climate Communication) (UNITED STATES OF AMERICA)
567	15	19	10	19	27	Are the citations at the end of the paragraph for the entire (very long) paragraph? It is unclear. (Chan, Christina, U.S. Department of State)
568	15	19	10	19	34	This section is more about decision making tools than communication tools. Consider revision (Palutikof, Jean, Griffith University)
569	15	19	10	19	45	Recommend rewrite to properly reflect the current literature on communication tools. Eg. Agriculture tools. The text fails to distinguish between different tool and different sectors. Suggest including a box on the Climate dogs as a case study. See website: http://www.dpi.vic.gov.au/?a=51059 (Palutikof, Jean, Griffith University)
570	15	19	10	19	45	Additional references could be included. Suggest look at work of Moser (Palutikof, Jean, Griffith University)

#	Ch	From Page	From Line	To Page	To Line	Comment
571	15	19	11	0	0	Text implies a right way. Perhaps replace right with "optimal" or "preferred". Usually pathways (Palutikof, Jean, Griffith University)
572	15	19	11	19	11	Recommend replacing identification of a right adaptation pathway to identification of promising adaptation pathways. (UNITED STATES OF AMERICA)
573	15	19	13	19	14	Developers and receivers have more fluid and flexible roles than discussed here. Revise (Palutikof, Jean, Griffith University)
574	15	19	18	19	18	these tools are effective... Based on what evidence, how did this get judged as effective? (Chan, Christina, U.S. Department of State)
575	15	19	20	0	0	Section 15.2.4.6 gives way to much importance to insurance as an adaptation tool for agriculture. Most of the insurance schemes are supported by public subsidies and with increasing risks they will be increasingly difficult to finance. The whole paragraph should be rewritten. (Yao, Xiangjun, Food and Agriculture Organization of the United Nations (FAO))
576	15	19	21	19	21	exert a positive effect on communities' behavior and practices... Based on what evidence? Do we really see behavior change? Where is the citation? (Chan, Christina, U.S. Department of State)
577	15	19	29	19	30	It states that innovative ways of communication can effectively inform the process of adaptation planning and implementation. What are some of these innovative ways and is there evidence that these are effective in informing the process? (UNITED STATES OF AMERICA)
578	15	19	36	19	45	The information presented in this paragraph does not fit well in this section, it can better be moved to paragraph 15.2.4.4\n\n (NETHERLANDS)
579	15	19	36	19	45	This section needs rewriting - it's simply too dense to be helpful. Could possibly be done as a bulleted list. (Palutikof, Jean, Griffith University)
580	15	19	36	19	45	This paragraph does not really fit in this section and would be better placed in section 15.2.4.4. (UNITED STATES OF AMERICA)
581	15	19	41	19	42	Please provide more recent references. (UNITED STATES OF AMERICA)
582	15	19	48	19	48	This subtitle is titled wrong. The bulk of the content is about insurance, not "social safety" writ large (social safety nets include cash transfers, etc.). (Chan, Christina, U.S. Department of State)
583	15	19	48	20	27	This is in the wrong section. Suggest moving it under the section entitled "DRM and Adaptation" as insurance is a DRM tool, and if it incentivizes risk reduction, can also be an adaptation tool. (Chan, Christina, U.S. Department of State)
584	15	19	48	20	27	insurance and social safety are in wrong place. Suggest consider moving - to put them in a section on Adaptation Tools suggests that the authors see them as such. Insurance would be very dangerous if it was seen simply as an adaptation tool - its potential for maladaptation is high. Need to expand on these important topics and give in-depth assessment of their role in adaptation. Could cross reference to box in Ch 25. Need to have clear delineation between insurance and other financial instruments, and maybe between developing and developed countries. Need to say something about potentially large role of reinsurance. And need to include more options under financial instruments such as derivative markets, options for contracting and leasing. Need to think about insurers are likely to 'behave' under climate change - withdrawal of business, changes in rating etc. See McAneney, J, Crompton, R, McAneney, D, Musulin, R, Benfield, A, Walker, G, Pielke, R 2013, Market-based mechanisms for climate change adaptation: Assessing the\npotential for and limits to insurance and market based mechanisms for\nencouraging climate change adaptation, National Climate Change Adaptation\nResearch Facility, Gold Coast, pp. 1 (Palutikof, Jean, Griffith University)

#	Ch	From Page	From Line	To Page	To Line	Comment
585	15	19	48	20	27	Insurance and Social Safety is incomplete by being written from only the perspectives of the individual household or farmer. It does not address the insurance or social safety capabilities from the point of view of national, subnational or local governments or private industry/business. Wouldn't the policies of (e.g.) Swiss Re, CERES, and/or Zurich Intntl be relevant here? NGO capabilities for social safety? Please consider adding consider adding additional points of view. (UNITED STATES OF AMERICA)
586	15	19	48	20	27	Social safety is mentioned in the title, but the whole section seems to be around insurance, not necessarily social safety. Section is totally missing some of the discussion these days about strengths/weaknesses in crop/index insurance -- there are some definite challenges in successful implementation that are worth detailing to present a more honest picture. (UNITED STATES OF AMERICA)
587	15	19	50	0	0	Insurance has been collapsed with microfinance. Need clear delineation between these two things. Recommend delineating and discussing seperately (Palutikof, Jean, Griffith University)
588	15	19	50	19	51	That's the theory. But this is written as if it is a statement of fact, backed up by evidence. Where is the evidence base? (Chan, Christina, U.S. Department of State)
589	15	19	50	19	54	Please provide citations for the statements in this paragraph. (UNITED STATES OF AMERICA)
590	15	19	52	19	54	That's the theory. But this is written as if it is a statement of fact, backed up by evidence. Where is the evidence base? (Chan, Christina, U.S. Department of State)
591	15	19	52	19	54	The assertion that "throughout the world, crop insurance and risk pooling have allowed national economies, communities and individuals to develop the full potential of their agricultural sector..." seems over-stretched. Index-weather agriculture insurance is only applied to a few developing countries, and tends to rely on government of project subsidies. (Bettencourt, Sofia, World Bank)
592	15	19	54	0	0	Add a sentence: "However, when opportunities are given to purchase index insurance, take-up is low (HLPE 2012, Giné et al., 2008, Giné and Yang 2009)" The refs are: HLPE, 2012. Social protection for food security. A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security, Rome 2012. http://www.fao.org/cfs/cfs-hlpe/reports/en/ Giné, X., Townsend, R. and Vickery, J. (2008). Patterns of rainfall insurance participation in rural India, World Bank Economic Review 22(3): 539–66. Giné, X., and Yang, D. (2009). Insurance, credit, and technology adoption: Field experimental evidence from Malawi, Journal of Development Economics 89(1): 1-11. (Yao, Xiangjun, Food and Agriculture Organization of the United Nations (FAO))
593	15	20	4	20	7	Are the studies cited here theoretical ones, or do they actually provide evidence to support or not support the hypothesis about microfinance? (Chan, Christina, U.S. Department of State)
594	15	20	9	20	27	This paragraph focuses solely on insurance for agriculture. What about for other sectors like coasts? If there is nothing in the peer-reviewed literature, it should at least be recognized. (UNITED STATES OF AMERICA)
595	15	20	9	20	27	This paragraph talks about insurance however only mentions this in the context of developing countries. Particularly in the face of a growing number of climate-related disasters in the developed world, this paragraph would benefit from some kind of analysis around the state of the art on insurance in/for developed countries. (Harmeling, Sven, Germanwatch)
596	15	20	19	20	21	The risk pooling that is being applied (not tested anymore) at the regional-scale in the Caribbean is a sovereign risk insurance through the Caribbean Catastrophe Risk Insurance Facility. This is very different from the agriculture risk insurance, which applies to individual (private) farmers. They should be reviewed separately as the instruments are different. (Bettencourt, Sofia, World Bank)
597	15	20	21	0	0	Index insurance needs to be defined (Palutikof, Jean, Griffith University)

#	Ch	From Page	From Line	To Page	To Line	Comment
598	15	20	21	20	22	The principal reason why index insurance has been introduced is to overcome the lag time and potential political interference associated with dependency on ex-post assessments to determine damage and losses. (Bettencourt, Sofia, World Bank)
599	15	20	26	20	27	Where is the evidence/citations to support sentence about key challenges? (Chan, Christina, U.S. Department of State)
600	15	20	27	0	0	Add a sentence: "In contexts of high poverty and high risks insurance can not replace public provided social protection (HLPE 2012)". The ref is HLPE, 2012. Social protection for food security. A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security, Rome 2012. http://www.fao.org/cfs/cfs-hlpe/reports/en/ (Yao, Xiangjun, Food and Agriculture Organization of the United Nations (FAO))
601	15	20	30	0	0	Top down, bottom up discussion could be useful here. (Chatterjee, Monalisa, IPCC WGII TSU)
602	15	20	30	20	53	I am a bit puzzled where this section 15.2.5 would fit. I would have it as either an extension of the introductory discussion on the adaptation cycle p 5 or as a part of 15.2.4. It deals with both procedural tools and communicative tools as I read it? There are several such decision-making, procedural and stepwise tools at hand that perhaps could be synthesised and discussed? See e.g. Jonsson, E.C., Hjerpe, M., Andersson-Sköld, Y., Glaas E., André, K. and Simonsson L 2012. Cities' capacity to manage climate vulnerability: experiences from participatory vulnerability assessments in the lower Göta Älv Catchment, Sweden, Local Environment 17:6, 735-750. See also Tábara et al 2010 The climate learning ladder. A pragmatic procedure to support climate adaptation. Environmental policy and governance 10, 1-11. (Storbjork, Sofie, Linköping University)
603	15	20	30	20	53	this is a crucial issue (perhaps the most evident issue facing adaptation), and perhaps this section should be moved to start and position the whole of Section 15.3. It (and various parts of Section 15.3) could also be informed by som additional studies that have attempted to synthesise the challenges or barriers to adaptation (e.g. Moser and Ekstrom 2010 which is used elsewhere; Webb, R. J., R. McKellar and R. Kay, 2013. Climate change adaptation in Australia: Experience, challenges and capacity building, (Submitted, in second stage review - will send as separate attachment) (Webb, Bob, Australian National University)
604	15	20	30	20	53	This section could be the introduction/ overview to section 15.3 -topic of text is - What does it take to get implementation? (Palutikof, Jean, Griffith University)
605	15	20	30	20	53	Section seems to be missing transitions, especially between this section and the next one. (UNITED STATES OF AMERICA)
606	15	20	30	24	46	Implementation can be defined as all the activities involving the execution of a piece of legislation, or more precisely "the set of processes after the programming phase {planning phase} that are aimed at the concrete realisation of the objectives of a public policy. (Knoepfel, P., C. Larrue, F. Varone, and M. Hill. 2011. Public policy analysis. The Policy Press, Bristol.\np. 195-196) I find this section quite problematic, because it seems that what the authors consider as implementation is simply what occurs at the local level. Yet planning and implementation can occur both at the local level. I think the discussion on implementation misses the point as it don't discuss at all how public authorities are actually delivering adaptation actions at various level of governance and what is blocking the passage from planning to implementation. That might be again a problem of definition, but I don't see why the authors keep pretending to adress the implementation of adaptation, when they are merely concerned with planning at different level of governances (which is by the way reflecting the state of the litterature on this question). I think if this chapter cannot come up with a satisfying review of the litterature on the implementation of adaptation policy, it should not use the concept of "implementation" as it is then deceiving for those like me, who are actually eager to read something on adaptation policy implementation (Dupuis, Johann, Swiss Graduate School of Public Administration (IDHEAP))
607	15	20	32	0	42	References needs to be included here to support the argumentation. (Storbjork, Sofie, Linköping University)
608	15	20	32	20	33	This is not the right topic sentence. (Chan, Christina, U.S. Department of State)

#	Ch	From Page	From Line	To Page	To Line	Comment
609	15	20	32	20	42	What is the point of this paragraph? It is hard to understand. Suggest deleting it. (Chan, Christina, U.S. Department of State)
610	15	20	32	20	42	This paragraph does not contain any literature references, and it should. \n\n (NETHERLANDS)
611	15	20	32	20	42	Please provide a citation for these statements. (UNITED STATES OF AMERICA)
612	15	20	32	20	42	Citation should be provided for these statements. Alternatively, if they represent conclusions of the assessment, calibrated uncertainty language should be provided to characterize the chapter team's degree of certainty in the statements. (Mach, Katharine, IPCC WGII TSU)
613	15	20	33	20	33	typo (Callihoo, Christine, Canadian Institute of Planners (CIP))
614	15	20	36	20	38	Unclear, needs clarification. Revise text for clarity and add references (Palutikof, Jean, Griffith University)
615	15	20	39	20	42	Please provide a citation for this statement. Please also explain why this sentence refers only to the municipal context. (UNITED STATES OF AMERICA)
616	15	20	44	0	0	pre-decisional practices - what does this mean? Clarify (Palutikof, Jean, Griffith University)
617	15	20	44	20	53	Suggest moving this paragraph to previus section on decision making tools. This does not fit here. (Chan, Christina, U.S. Department of State)
618	15	20	45	0	0	The reference to the whole SREX report (IPCC 2012) is inappropriate - whole report to support a very precise statement. Reconsider reference to chapter of report or alternative reference (Palutikof, Jean, Griffith University)
619	15	20	45	20	45	See also the study by Headwaters Economics Feb 2012 for lessons learned. Change "constraints" to "experiences, culture, and capabilities" for more specificity on potential limitations. (UNITED STATES OF AMERICA)
620	15	20	45	20	53	list of six points. Where do they come from? Reference (Palutikof, Jean, Griffith University)
621	15	21	0	21	0	There are no discussions of the Institutional barriers and challenges associated with adaptation planning and implementation has not been projected. (INDIA)
622	15	21	1	24	43	The authors should consider editing this section for clarity in order to make the key messages come across more clearly. (UNITED STATES OF AMERICA)
623	15	21	1	31	11	This section is short of content about biological diversity. I suggest add corresponding content in 15.3. (Duan, Juqi, National Climate Center, Chinese Meteorological Administration)
624	15	21	2	0	0	Suggest replace title of s15.3 with title of s15.2.5 (Palutikof, Jean, Griffith University)
625	15	21	2	0	0	S 15.3 doesn't talk about disaster risk reduction and management. This is an important topic that should be discussed here. Suggest include text. (Palutikof, Jean, Griffith University)
626	15	21	9	0	0	Municipal government, local government, local councils - are these interchangeable titles/descriptions? Then be consistent throughout chapter. Revise use of these terms throughout chapter and make consistent (Palutikof, Jean, Griffith University)
627	15	21	13	21	15	Please provide a citation for this statement. (UNITED STATES OF AMERICA)
628	15	21	14	21	14	Change "introduce" to "introducing." (Wilson, Lynn, SeaTrust Institute)
629	15	21	15	21	16	Please provide more recent references. (UNITED STATES OF AMERICA)
630	15	21	19	21	23	This division of discussion of institutional arrangements in two chapters seems to me quite artificial and makes it difficult for the reader to get a comprehensive picture of the issue, which is quite important from the point of view of adaptation implementation. See also my comment on chapter 14. (Kankaanpää, Susanna, Helsinki Region Environmental Services Authority (HSY))
631	15	21	20	21	23	The questions raised in this overview paragraph are not actually answered in the remaining subsections. (Chan, Christina, U.S. Department of State)

#	Ch	From Page	From Line	To Page	To Line	Comment
632	15	21	21	21	23	The authors should consider some additional modification of this passage in order draw out the distinction between institutional frameworks and institutional arrangements. (UNITED STATES OF AMERICA)
633	15	21	26	0	0	Section 15.3.1.1: This whole chapter on institutional capacities does not include any reference to a developing country (South Africa being considered rather as an emerging economy). I suggest to include a paragraph with soncrete references to developing countries' situation. (Hoffmann, Dirk, Bolivian Mountain Institute - BMI)
634	15	21	28	21	30	Also Norwegian experiences support this statement: Dannevig, H., Rauken, T., & Hovelsrud, G. (2012). Implementing adaptation to climate change at the local level. Local Environment, 17(6-7), 597–611. doi:10.1080/13549839.2012.678317 (Dannevig, Halvor, Western Norway Research Institute)
635	15	21	28	21	33	These sentences were hard to read and it was unclear what the intention was. Please consider revising for clarity. (UNITED STATES OF AMERICA)
636	15	21	28	22	5	Several papers have pointed out that New Public Management reforms have weakened local governments, as well as electricity and water authorities, adaptive capacity: Eakin, H., Eriksen, S., Eikeland, P.-O., & Øyen, C. (2011). Public sector reform and governance for adaptation: implications of new public management for adaptive capacity in Mexico and Norway. Environmental management, 47(3), 338–51. doi:10.1007/s00267-010-9605-0; Dannevig, H., Rauken, T., & Hovelsrud, G. (2012). Implementing adaptation to climate change at the local level. Local Environment, 17(6-7), 597–611. doi:10.1080/13549839.2012.678317; Inderberg, T. H., & Eikeland, P. O. (2009). Limits to adaptation: analysing institutional constraints. In W. N. Adger, I. Lorenzoni, & K. O'Brien (Eds.), Adapting to Climate Change. Cambridge. (Dannevig, Halvor, Western Norway Research Institute)
637	15	21	28	22	5	The authors should consider drawing more heavily on the experience of UKCIP or of prominent US cities (mentioned elsewhere in the document) New York, Chicago, or C40 Cities initiative; Neil Adgers work on social capital and adaptation, etc. Cities are actually making tremendous progress on visioning for adaptation and connecting to entry points for implementation (including legal and regulatory). (UNITED STATES OF AMERICA)
638	15	21	37	21	37	As currently presented, it's unclear where the above-referenced text is. Please provide a more specific reference in the text. (UNITED STATES OF AMERICA)
639	15	21	38	21	40	Confusing statement: "As with other studies, in the context of adaptation planning, find there is no evidence to show that adaptation planners are deliberately working towards transitions and with little real evidence of climate change adaptation initiatives trickling down to local government level"; after the comma there is no subject for the word "find", therefore the sentence should be rephrased.\n\n (NETHERLANDS)
640	15	21	38	21	40	Indeed, there appears to some research in this area. The authors should consider the views from the Frontline series, although it is specifically conducted to monitor local governance for disasters and DRR framework is relevant to climate change adaptation as well. The VFL illustrates limited progress at local level. The study may be found at http://www.globalnetwork-dr.org/views-from-the-frontline.html . (UNITED STATES OF AMERICA)
641	15	21	38	21	40	Please provide citations for the studies referenced. (UNITED STATES OF AMERICA)
642	15	21	43	21	44	To "The importance of multilevel institutional arrangements" add "The importance of multilevel and multisectoral institutional arrangements...." (Bettencourt, Sofia, World Bank)

#	Ch	From Page	From Line	To Page	To Line	Comment
643	15	21	52	0	0	A lot of studies have documented the lack of horizontal coordination, which can support and strengthen the writings. See e.g. Næss, L. O. et al, 2005. Institutional adaptation to climate change: Flood responses at the municipality level in Norway. Global Environmental Change 15, 125-138, Moser, S., 2005. Impact assessments and policy responses to sea-level rise in three US states. Global Environmental Change 15, 353-369, Storbjörk, (2010), "It takes more to get a ship to change course. Barriers for organisational learning and local climate adaptation in Sweden", Journal of Environmental Policy and Planning Vol. 12, No. 3, 235-254. Dovers and Hezri (see reference list of chapter 15). Glaas, E. et al, 2010. Managing climate change vulnerabilities: formal institutions and knowledge use as determinants of adaptive capacity at the local level in Sweden. Local Environment 15, 525-539. Hedensted Lund, D. et al (2012), Climate change adaptation in Denmark: enhancement through collaboration and meta-governance. Local environment, Romero-Lankao, P. (2012) Governing Carbon and Climate in the Cities: An Overview of Policy and Planning Challenges and Options, European Planning Studies, 20, pp. 7-26, Wilby, R.L. & Keenan, R. (2012) Adapting to flood risk under climate change, Progress in Physical Geography, 36, pp. 348-378. Runhaar, H., Mees, H., Wardekker, A., van der Sluijs, J. & Driessen, P.P.J. (2012) Adaptation to climate change-related risks in Dutch urban areas: stimuli and barriers, Regional Environmental Change, 4, pp. 777-750. (Storbjork, Sofie, Linkoping University)
644	15	21	53	21	54	A single study is used to give a sweeping statement about the existence of national guidelines. There are in fact several examples of national guidelines (ref 1. Länsstyrelserna, 2012: Klimatanpassning i fysisk planering – Vägledning från länsstyrelserna. Available at: http://www.lansstyrelsen.se/skane/SiteCollectionDocuments/Sv/publikationer/2012/Klimatanpassning_fysiska_planeringen_2012.pdf) (Ref. 2: Karin Mossberg Sonnek, Johan Lindgren, Anna Lindberg, 2011: Integrera klimatanpassning i kommunala risk- och sårbarhetsanalyser - en vägledning. Available at: www.foi.se) (Ref.3: The Swedish National Board of Housing, Building and Planning, 2011: Klimatanpassning i planering och byggande - analys, åtgärder och exempel. Available at: http://www.boverket.se/Om-Boverket/Webbokhandel/Publikationer/2011/Klimatanpassning-i-planering-och-byggande/) (Sjostrom, Asa, Swedish Meteorological and Hydrological Institute)
645	15	21	54	22	1	This statement is not true for Australia. Australia has a formalised inter-jurisdictional governance structure through the Council of Australian Governments (COAG) (http://www.coag.gov.au/). While at this stage there is no national adaptation planning framework, there are nationally agreed priorities for adaptation with an agreed coastal adaptation work plan under way as well as agreed roles of responsibilities of levels of government (http://www.climatechange.gov.au/government/initiatives/sccc/meetings.aspx). (AUSTRALIA)
646	15	22	1	22	5	Please clarify if the governing capacities here refer to different types of climate change impacts or impacts of climate variability. (Chatterjee, Monalisa, IPCC WGII TSU)
647	15	22	8	0	0	This part of the Chapter (15.3.1.2) is of particular interest as spatial planning is an important societal tool. However, the text is exhausted in a review of international literature and does not succeed in providing a set of guidelines to be promoted in order spatial planning to be given the appropriate weight. (Constantinos Cartalis, Environmental Physics, University of Athens, Greece) (GREECE)
648	15	22	8	0	0	Section 15.3.1.2: This section could be shorten to include only information regarding spatial planning (e.g. paragraphs from page 22, line 49 to page 23, line 32 could not be part of this section). (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
649	15	22	8	0	0	S15.3.1.2 spatial planning is an extremely long section. Suggest revise and condense (Palutikof, Jean, Griffith University)
650	15	22	8	0	0	The section heading is on spatial planning yet the discussion is much broader. (Chatterjee, Monalisa, IPCC WGII TSU)
651	15	22	8	22	8	This is a misleading title "Role of Spatial Planning". There are only two paragraphs that speaks specifically to spatial planning (page 22 lines 31-41, page 23 lines 34-41). Rest of the paragraphs are about planning more generally. (Chan, Christina, U.S. Department of State)

#	Ch	From Page	From Line	To Page	To Line	Comment
652	15	22	8	23	50	Spatial planning useful for new development but not good for existing assets and infrastrucutre. This point needs to me made (Palutikof, Jean, Griffith University)
653	15	22	10	22	23	If "planning" refers to spatial planning, it should be specified in this paragraph as the term "planning" refers throughout this chapter to adaptation planning. (UNITED STATES OF AMERICA)
654	15	22	10	23	50	Spatial planning is an important part of climate adaptation. Sometimes the writings seems to refer to literature dealing with "adaptation planning" in general which could be done in other sectors than spatial planning. This needs to be clarified. As concerns literature on climate change and spatial planning I miss the papers and books by e.g. Blanco, H. & Alberti, M. (2009) Hot, congested, crowded and diverse: Emerging research agendas in planning, Progress in Planning, 71, pp. 153-205. Campbell, H. (2006) Is the issue of Climate Change too Big for Spatial Planning?, Planning Theory & Practice, pp. 201-230. Davoudi, S., Crawford, J. & Mehmood, A. (Eds) (2009) Planning for Climate Change: Strategies for Mitigation and Adaptation for Spatial Planners (London: Earthscan). Hurliman, A.C. & March, A.P. (2012) The role of spatial planning in adapting to climate change, Wiley Interdisciplinary Reviews: Climate Change, pp. 477-488. Runhaar, H., Mees, H., Wardekker, A., van der Sluijs, J. & Driessen, P.P.J. (2012) Adaptation to climate change-related risks in Dutch urban areas: stimuli and barriers, Regional Environmental Change, 4, pp. 777-750. Uittenbroek, C.J, Janssen-Jansen, L.B. & Runhaar, H.A.C. (2012) Mainstreaming climate adaptation in urban planning: overcoming barriers, seizing opportunities and evaluating the results in two Dutch case studies, Regional Environmental Change. DOI:10.1007/s10113-012-0348-8. Wilson E. & Piper J. (2010) Spatial Planning and Climate Change (London: Routledge). (Storbjork, Sofie, Linkoping University)
655	15	22	10	23	50	The spatial planning section should be more focused on issues directly related to the topic. Please either make clear connections between spatial planning and general institutional issues, social learning, evaluation or provide a more focused discussion. (UNITED STATES OF AMERICA)
656	15	22	12	22	14	I don't think it is legitimate to state that the role of "planning" is "driving growth" in societies, that is indeed a notion of the 70s (as the literature reference states). I suggest to a) either find a more updated description of "planning", or b) to say "Planning is TRADITIONALLY considered....." (Hoffmann, Dirk, Bolivian Mountain Institute - BMI)
657	15	22	21	22	23	Please provide a citation for this statement. (UNITED STATES OF AMERICA)
658	15	22	25	22	29	This paragraph is not about spatial planning. Move or revise (Palutikof, Jean, Griffith University)
659	15	22	25	22	29	This paragraph does not seem to fit in this section. Please consider moving it to the appropriate section or modify the language in order to more clearly connect it to its current location. (UNITED STATES OF AMERICA)
660	15	22	35	22	37	Can the authors please provide more information/reference for that statement that it is getting harder to include climate change into development? This seems at odds with other statements in the chapter but an important point if true. (UNITED STATES OF AMERICA)
661	15	22	35	22	37	It would be good to expand on what the motivation is for spatial planners to include climate change as a consideration in the planning process. (UNITED STATES OF AMERICA)
662	15	22	39	22	41	In the Zambia Pilot Program for Climate Resilience (Phase II) Project, cited above, the institutional arrangements needed to enable adaptation through spatial planning were carefully reviewed, and it was concluded that it should be coordinated at the level of the Planning agencies (at the provincial and district level). See http://documents.worldbank.org/curated/en/2013/04/17615484/zambia-second-phase-strengthening-climate-resilience-project for the Zambia Project (Bettencourt, Sofia, World Bank)
663	15	22	43	0	47	Could references be added here? (Storbjork, Sofie, Linkoping University)

#	Ch	From Page	From Line	To Page	To Line	Comment
664	15	22	43	22	47	Does this paragraph deal with only spatial planning or also adaptation planning in general? Institutional (and systemic) changes are definitely needed to respond efficiently to climate change. It would be very useful if these changes would be elaborated a bit more in this paragraph. (Kankaanpää, Susanna, Helsinki Region Environmental Services Authority (HSY))
665	15	22	43	22	47	This seems to capture the main messages of the section, but needs citations or clearer links to the examples above. The authors should clarify the shortcomings, challenges and opportunities. (UNITED STATES OF AMERICA)
666	15	22	43	23	32	The relevance of these paragraphs in the section should be considered. (Mach, Katharine, IPCC WGII TSU)
667	15	22	49	23	5	Social learning is discussed briefly in several places in the chapter, perhaps importance of learning process needs to be discussed in one separate section. (Chatterjee, Monalisa, IPCC WGII TSU)
668	15	22	49	23	15	There are a lot of papers dealing with learning which I think need to be included, particularly as learning is one aspect discussed in the executive summary. See e.g. Berkhout 2012. Adaptation to climate change by organisations. WIREs Clim Change 3: 91-106. Despite the identified need for revising and rethinking current working practices, several international studies report on signals of inertias and missed opportunities for interaction, knowledge exchange and learning that hamper current adaptation practice (Winsvold, M. et al (2009), Organizational learning and governance in adaptation in urban development, in Adger, N. W., Lorenzoni, I. & O'Brien, K. (Eds), Adapting to Climate Change. Thresholds, Values, Governance, pp. 476-490 (Cambridge University Press).; Pelling, M. et al, D. (2008), Shadow spaces for social learning: a relational understanding of adaptive capacity to climate change within organisations, Environment and Planning A, 40, pp. 867-884.; Næss, L-O, et al (2005), Institutional adaptation to climate change: Flood responses at the municipality level in Norway, Global Environmental Change, 15, pp. 125-138.; Storbjörk (2010), "It takes more to get a ship to change course. Barriers for organisational learning and local climate adaptation in Sweden", Journal of Environmental Policy and Planning Vol. 12, No. 3, 235-254; Ivey, J. L. et al (2004), Community Capacity for Adaptation to Climate-Induced Water Shortages: Linking Institutional Complexity and Local Actors, Environmental Management, 33, pp. 36-47. (Storbjörk, Sofie, Linköping University)
669	15	22	49	23	15	This section of learning does not seem to fit under the heading of spatial planning as it is valid for adaptation in general. Perhaps move to the section on learning in 15.3.3 (page 28)? (Storbjörk, Sofie, Linköping University)

#	Ch	From Page	From Line	To Page	To Line	Comment
670	15	22	49	23	15	Perhaps problematise different forms of learning. Pelling et al 2008, Shadow spaces for social learning: a relational understanding of adaptive capacity to climate change within organisations, Environment and Planning A, 40, pp. 867-884), outline six adaptive pathways: 1. Organisational internal action i.e. change in management structure/practice, 2. Organisational external action i.e. change in relationship with external environment, 3. Agent-centred command and control i.e. adjusting routines to comply with work guidelines\n4. Agent-centred resource management i.e. adjusting work routines to reach performance targets without guidelines, 5. Agent-centred reflexive adaptation i.e. lessons from experience causes change in goals and methods for adaptation, 6. Agent-centred institutional modification i.e. attempts to modify institutional context and change policy priorities. Storbjörk 2010, "It takes more to get a ship to change course. Barriers for organisational learning and local climate adaptation in Sweden", Journal of Environmental Policy and Planning Vol. 12, No. 3, 235-254) summarizes five forms of learning: 1. Instrumental compliance = "learning as complying" with rules or guidelines e.g. guidelines for climate adaptation, building standards, flood-zone mapping etc. 2. Proactive internal learning =\nIn the lack of formal rules or guidelines, local agent-centred initiatives are taken as "learning within" the formal municipality administration. 3. Proactive external learning = In the lack of formal rules or guidelines, local agent-centred initiatives of knowledge exchange and learning are taken in interaction with actors outside the formal municipality administration, e.g. in horizontal networks with fellow municipalities, in dialogue with scientists/actors brokering scientific knowledge, in dialogue with local stakeholders, in vertical networks with regional, national and international actors. 4. Systematic and cross-sectoral learning =Systematic and cross-sectoral learning based on e.g. critical self-reflection, challenging of existing worldviews and underlying values, tensions between interests, values and priorities are reflected upon and mediated in the open. 5. Institutional modification = Attempts are made to change overall institutional frameworks or governance conditions by e.g. redesigning or modifying overall institutional or governance norms, frameworks, conditions, policy priorities etc. There are other distinctions as well that allows a discussion on various forms of learning that can be useful to refer to. (Storbjörk, Sofie, Linköping University)
671	15	22	49	23	32	Text on social learning makes no sense in spatial planning section unless make clear why here. Not about spatial planning. Nor is it relevant to a section on Institutional Arrangements (S15.3.1). Suggest move elsewhere. (Palutikof, Jean, Griffith University)
672	15	22	50	22	50	Casual usage of "likely" should be avoided, as it is a reserved likelihood term. (Mach, Katharine, IPCC WGII TSU)
673	15	22	52	22	54	Is there any evidence that social learning is taking place? Can examples be cited? Under what circumstances does learning take place and how would one know? (UNITED STATES OF AMERICA)
674	15	23	0	0	0	There is a big chunk of text on monitoring and evaluation within the spatial planning section, but it goes much wider than spatial planning; worth bringing out into a section on its own. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)
675	15	23	1	23	2	Please provide a citations. (UNITED STATES OF AMERICA)
676	15	23	7	23	32	These paragraphs seem to be the only places in the "adaptation chapters" where evaluation of adaptation is discussed. The subject is a central one in planning and implementation and would merit a section of its own. It is also difficult to see why evaluation is considered a part of just spatial planning and not of any other part of the adaptation process. (Kankaanpää, Susanna, Helsinki Region Environmental Services Authority (HSY))
677	15	23	7	23	32	These paragraphs are well written and applicable to more than just spatial planning. Consider moving them to another part of the chapter that is more overarching and expanding to include additional references. (UNITED STATES OF AMERICA)
678	15	23	7	23	32	Further synthesis of this material is possible. (Chatterjee, Monalisa, IPCC WGII TSU)

#	Ch	From Page	From Line	To Page	To Line	Comment
679	15	23	17	23	50	The aspects dealt with are important but does not only relate to spatial planning. Could they be moved to the sections on institutional capacity? (page 21) (Storbjork, Sofie, Linkoping University)
680	15	24	1	0	0	Some of this discussion should be synthesized further to avoid repetition. Some of the tension between DRR and CCA approaches should be given here. (Chatterjee, Monalisa, IPCC WGII TSU)
681	15	24	1	24	27	It becomes more clear here, what the authors mean by the risk of duplicating resources allocated to DDR and CCA (see my previous comment). Although to enhance the readability of the text, the previous argument should be suppressed or moved in this section. (I21-26) (Dupuis, Johann, Swiss Graduate School of Public Administration (IDHEAP))
682	15	24	1	24	43	S15.3.1.3 and 15.3.1.4 should follow 15.3.1.1 to be more logical. Suggest restructure (Palutikof, Jean, Griffith University)
683	15	24	3	24	35	There seems to be a misconception of what can be accomplished by DRR with respect to CCA. Although there is an overlap between DRR and CCA such as hydromet hazard risk reduction, there are differences between DRR and CCA where DRR also includes hazards that do not have hydromet origin and preparedness for disaster response where as CCA included long-term activities such as sea level rise. DRR does not include every risk and especially longer-term risks. Longer-term risk management is part of sustainable development. Sustainable development and poverty alleviation activities are the main fabric both DRR and CCA should be mainstreamed. CCA is specifically included in the international DRR framework. Can the authors provide specific examples of why these two parallel structures are harmful to implementation of CCA? For example, what are the specific issues in two different laws in Mexico. Do they conflict with one another? (UNITED STATES OF AMERICA)
684	15	24	5	24	7	Please provide citations or examples of the "international pressure" and "divergent laws" cited here. (UNITED STATES OF AMERICA)
685	15	24	15	24	35	We feel that these paragraphs are more about DRR and CCA than institutional arrangements and portions should be integrated into 15.2.3.2. (UNITED STATES OF AMERICA)
686	15	24	33	24	35	The convergence of DRM and CCA does not necessary require new legislation, since in many countries, climate change strategies, policies (and potentially legislation) are still under preparation. However, if this merger is not promoted, they may soon entail new (or revised) legislations, as the institutional mandate of DRM and CCA agencies becomes enshrined into law. (Bettencourt, Sofia, World Bank)
687	15	24	38	0	0	Section 15.3.1.4. This section could be deleted. Alternatively, citations should be provided for these statements, or if they represent conclusions of the preceding sections, this should be clarified and calibrated uncertainty language should be used to characterize the author team's degree of certainty in the findings. (Mach, Katharine, IPCC WGII TSU)
688	15	24	38	24	43	S15.3.1.4 extremely short section for a pivotal point of this chapter. Suggest expand - Good case studies are available that should be drawn on (Palutikof, Jean, Griffith University)
689	15	24	38	24	43	This paragraph should a bit more elaborate of how to enhance the institutional capacity. Currently it is very short. (Harmeling, Sven, Germanwatch)
690	15	24	40	0	43	This conclusion is important but perhaps it should introduce ch 15.3.1 instead? It comes to much at the end of the section and seems to hang a bit loose in between sections? (Storbjork, Sofie, Linkoping University)
691	15	24	40	24	43	What literature? There are no citations. This is such a short section without much content. Suggest deleting. (Chan, Christina, U.S. Department of State)
692	15	24	40	24	43	Please provide citations for this section. It seems weak given the amount of emphasis that development agencies are placing on building institutional capacity. (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
693	15	24	46	28	35	Section 15.3.2. It may be helpful at various parts of this section to draw on Webb, R. and J Beh, 2013. Leading adaptation practices and support strategies for Australia: An international and Australian review of products and tools, National Climate Change Adaptation Research Facility, Gold Coast, pp.120. Accessible at http://www.nccarf.edu.au/publications/leading-adaptation-practices-and-support-strategies . This study has developed a framework for analysing adaptation decision support processes and tools and applied this to a range of Australian and international products, also developing strategic responses in the Australian context. (Webb, Bob, Australian National University)
694	15	24	46	28	35	The discussion in this section focuses on technology options for adaptation. I feel the evidence and literature presented is somewhat technology focused and does not explore prerequisites for such technology being effective, nor indeed any review of such systems being effective. In the case of early warning systems it would be valuable to extend the discussion with literature that explores the factors that are important to the uptake of such technology. High level frameworks such as the Hyogo Framework for Action (UNISDR 2005) or policies such as the European Floods Directive are not mentioned but should be. Also literature exploring factors that influence the uptake of warnings (e.g. Molinari and Handmer, 2010), as well as literature exploring key elements of early warning (Villagran de León et al., 2006) and why such systems may underperform (Handmer 2001) should be mentioned.\nUNISDR (2005), Hyogo Framework for Action 2005-2015, UNISDR International Strategy for Disaster Reduction, www.unisdr.org \nMolinari D., Handmer J., (2011), A behavioural model for quantifying flood warning effectiveness. J Flood Risk Manag 2011, 4,23-32.\nHandmer J., (2001), Improving flood warnings in Europe: a research and policy agenda, Global Environmental Change Part B: Environmental Hazards, 3(1): 19-28\nVillagran de León, J.C., Bogardi, J., Dannenmann, S., Basher, R., (2006). Early Warning Systems in the context of Disaster Risk Management. Entwicklung & Ländlicher Raum 2006(2)\n(Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
695	15	24	49	0	0	This is also a place to discuss rural land holders who have been on the land for several generations -they have a pool of local knowledge and there is a role for knowledge transfer/risk management utilising the knowledge of these land managers (Palutikof, Jean, Griffith University)
696	15	24	49	24	51	Statement made by expert judgement with no references. Additional evidence is needed.\n\n(NETHERLANDS)
697	15	24	51	24	54	While the field of knowledge development and sharing is indeed less advanced than many other areas, there is a growing body of literature on the topic that should be noted. The NICCD program from IDRC and University of Manchester produced two e-books including 20 case studies, as well as a number of working papers on the topic (available at www.niccd.org) . Also Knowledge Management for Development Journal has published a special issue on knowledge management and climate change that covers many of these issues (Vol. 9, no. 1, 2013 - available at http://journal.km4dev.org/). (Harvey, Blane, IDRC)
698	15	25	0	25	0	Indian experience with the application of ICT tools in rural development, especially the models of Village knowledge centers and information kiosks are very productive and it worth to bring some reference in this context. (INDIA)
699	15	25	3	0	0	Section 15.3.2.1. The chapter team should consider merging the material in this section elsewhere in the chapter. (Mach, Katharine, IPCC WGII TSU)
700	15	25	3	25	11	What are the main points here? This is a difficult paragraph to understand. (Chan, Christina, U.S. Department of State)
701	15	25	5	25	11	This section is very short and does not add significantly to the key finding listed in the Executive Summary of this chapter (p.4 lines 3-7). In fact, some of the text from the Executive Summary is repeated nearly verbatim here. We suggest cutting this section, or adding more to make it more substantive. (UNITED STATES OF AMERICA)
702	15	25	10	25	11	Unconnected sentence to rest of text. Revise (Palutikof, Jean, Griffith University)
703	15	25	10	25	11	This sentence seems out of place here. It should be deleted, or the connection to the paragraph made more explicit. (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
704	15	25	10	25	11	Section 15.3.2.1: I have read the paragraph over and over, but the last sentence seems to be disconnected from the rest. I suggest or to make a more explicit connection to the rest of the paragraph, or maybe the sentence should be moved to someplace else. (Hoffmann, Dirk, Bolivian Mountain Institute - BMI)
705	15	25	14	0	0	Discussions in this section can be condensed further. (Chatterjee, Monalisa, IPCC WGII TSU)
706	15	25	14	25	53	Some confusion around seasonal forecasting and early warning systems in the text. Revise for clarity (Palutikof, Jean, Griffith University)
707	15	25	14	26	2	Why is this section on EWS under "Knowledge Sharing" and not in "Decision-making tools" where it ought to be? (Chan, Christina, U.S. Department of State)
708	15	25	14	26	2	Section poorly referenced. More literature on early-warning should be included. (Palutikof, Jean, Griffith University)
709	15	25	16	25	17	It is unclear whether the sentence "Monitoring and early warning systems.." is based on expert judgment or whether this statement is based on literature. Is there any evidence in the literature to be referenced?\n\n (NETHERLANDS)
710	15	25	22	25	27	Please provide a citation for this statement. (UNITED STATES OF AMERICA)
711	15	25	29	0	0	The description "resource insecure populations" is a grab bag for a lot of people. Need to be more inclusive, clarified. Do the authors simply mean the poor? (Palutikof, Jean, Griffith University)
712	15	25	29	25	31	again expert judgement and lack of references.\n\n (NETHERLANDS)
713	15	25	29	25	31	Is this true? There are several studies that show impacts - at least economic impacts - are greater in developed areas such as New York City, where a lot of high value real estate and infrastructure is at risk. Please verify, support with citations and modify the text accordingly. (UNITED STATES OF AMERICA)
714	15	25	31	25	32	Is this referring to the use of climate change analyses, as in projections of future conditions? If so, please give examples of where this is used in early warning systems. (UNITED STATES OF AMERICA)
715	15	25	35	25	46	This seems like a description of FEWSNET that one could pull off a website. What is the value of that? (Chan, Christina, U.S. Department of State)
716	15	25	37	25	38	...but as importantly interagency cross-coordination is a goal and is increasingly embedded with states and local communities. Very confusing "is are?", the statement should be rephrased.\n\n (NETHERLANDS)
717	15	26	0	26	0	Technology Development, Transfer and Diffusion. Line 37. No reference has been made to the issue of Intellectual Property Rights and its implications for promoting adaptation related technologies in the developing countries. (INDIA)
718	15	26	1	26	2	The sentence of insurance seems out of place here. Relocate to section 15.2.4.6 (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
719	15	26	5	26	34	Why is this section under "Knowledge Sharing" and not in "Decision-making tools" where it ought to be? (Chan, Christina, U.S. Department of State)
720	15	26	5	26	49	15.3.2.3 well written but duplication of earlier sections. Suggest use this text in place of early similar text (Palutikof, Jean, Griffith University)
721	15	26	7	26	11	Please provide citations. (UNITED STATES OF AMERICA)
722	15	26	7	26	11	Similar points about the value of collaborative planning involving both scientists and managers, and the importance of sustained science-management partnerships in adaptation planning and implementation are made in the following references: 1) Cross, M. S., P. D. McCarthy, G. Garfin, D. Gori, and C. A. F. Enquist. 2013. Accelerating adaptation of natural resource management to address climate change. Conservation Biology 27:413, 2) Klopogge, P., and J. P. van der Sluijs. 2006. The inclusion of stakeholder knowledge and perspectives in integrated assessment of climate change. Climatic Change 75:359389, 3) Halofsky, J. E., D. L. Peterson, K. A. O'Halloran, and C. Hawkins-Hoffman. 2011. Adapting to climate change at Olympic National Forest and Olympic National Park. Gen. Tech. Rep. PNW-GTR-844. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 130 p. (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
723	15	26	7	26	49	The topics noted in these two sections are important, but the sections as written are weak and should either be rewritten or deleted. In particular, the final sentence on lines 48-49 has been repeated in several places. (UNITED STATES OF AMERICA)
724	15	26	13	26	17	These activities have fairly short-term solution to CCA. Are there examples of long-term adaptaion activities such as alternative and diversified livelihoods in areas where planting will not be sustainable? If so, please provide them here. (UNITED STATES OF AMERICA)
725	15	26	19	26	19	The acronym ICT should be specified. (Mach, Katharine, IPCC WGII TSU)
726	15	26	37	26	49	What are the main points here? This is a difficult paragraph to understand. (Chan, Christina, U.S. Department of State)
727	15	26	37	26	49	We believe this is an imcomplete treatment of the topic. The authors should consider including specifics on some of the major sectors - i.e. technologies for adaptation in water resource and wastewater management; transportation; alternative energy. For Planning see also Shuford et al. 2010 (Planning for a New Energy and Climate Future). (UNITED STATES OF AMERICA)
728	15	26	39	26	49	This section focused on agriculture, but there are other sectors that are dependent upon technology, including urban and coasts. The sentence in lines 39 and 40 is not specific to adaptation. (UNITED STATES OF AMERICA)
729	15	27	3	27	8	Probably need to reiterate a message presented in Chapter 14: Many adaptations are not about new technologies but about using existing technologies differently or more effectively. Adaptation really isn't about technology transfer as much as mitigation is. (UNITED STATES OF AMERICA)
730	15	27	11	27	13	Please provide a citation for this statement. (UNITED STATES OF AMERICA)
731	15	27	17	27	24	This is all we have to say about why technology choices can reduce and exacerbate risk? (Chan, Christina, U.S. Department of State)
732	15	27	21	27	24	Technology may also facilitate coordination. (Chatterjee, Monalisa, IPCC WGII TSU)
733	15	27	27	27	27	Please develop the concept of maladaptation. It is very important that other drivers may push people to maladapt, but it is not explained in the chapter. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
734	15	27	33	27	40	As this paragraph talks about the UNFCCC context with regard to technology development it might be useful to also mention the Technology Executive Committee (TEC), responsible for inter alia promoting technology development and transfer, recommending guidance on policies and programmes and promoting and facilitating collaboration. (Harmeling, Sven, Germanwatch)
735	15	27	43	28	5	This section doesn't say anything. Suggest deleting. (Chan, Christina, U.S. Department of State)
736	15	27	52	27	53	The northeast China example seems really important in that it reinforces social marketing research and practices that point to the behavior changing power of something as simple as what one's neighbors are doing. This entire realm of research seems under represented in this chapter and eslewhere - see the work of Bob Cialdini and others. (UNITED STATES OF AMERICA)
737	15	28	0	28	0	Instead of local & Traditional Knowledge the term experiential knowledge could be used as the adaptation knowledge at the local level is mostly tied up with best practices. (INDIA)
738	15	28	1	28	5	The authors should expand the discussion on availability of climate education programs (or remove the specific enumeration of institutions at all). Clearly, far more institutions provide these opportunities than those listed. (UNITED STATES OF AMERICA)
739	15	28	10	28	13	It is not clear what this sentence (starting with "The value.") means or what exactly it is referring to. (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
740	15	28	15	28	28	This sections seems to repeat a lot of what has been previously assessed in other chapters - suggest revising based on previous discussions and focusing the discussion in this chapter more on the "knowledge development/sharing" than on general recap of Local and Traditional Knowledge. Another reference worth including for this section is Nakashima, D.J., K. Galloway-McLean, H.D. Thulstrup, A. Ramos Castillo, and J.T. Rubis (2012). Weathering Uncertainty: Traditional Knowledge for Climate Change Assessment and Adaptation. UNESCO and UNU, Paris and Darwin, 120pp. See also Climatic Change Special Issue (in press) on Climate Change Mitigation and Adaptation with local Communities and Indigenous Peoples (Ramos Castillo, Ameyali, United Nations University - Institute of Advanced Studies)
741	15	28	17	28	19	Please provide citations for this statement. (UNITED STATES OF AMERICA)
742	15	28	38	31	11	Although the chapter is on learning and capacity-building, there are no references to any formal or informal learning courses. With due respect to the authors, this is incorrect. Please find references addressing this extremely important aspect of climate change and adaptation. (George, David, Griffith University)
743	15	28	40	28	54	Move to Decision-making tools and support section. (Chan, Christina, U.S. Department of State)
744	15	28	40	29	11	The role of the community education process should be referred to under this section rather than just delving straight into tools as the answer (Palutikof, Jean, Griffith University)
745	15	28	42	0	0	Discussion of adaptive capacity - is both here and under spatial planning. Suggest belongs in S15.3.3 (Palutikof, Jean, Griffith University)
746	15	28	42	28	54	lack of learning and knowledge building references Possible references are: George, D.A., Clewett, J.F., Birch, C.J, Wright A.H. and Allen, W.R. (2009), A professional development climate course for sustainable agriculture in Australia. Journal of Environmental Education Research. 15(4), 417-441. (Palutikof, Jean, Griffith University)
747	15	28	42	28	54	George, D.A., Clewett, J.F., Wright, A. Birch, C., and Allen, W. (2007), Improving farmer knowledge and skills to better manage climate variability and climate change. Journal of International Agricultural and Extension Education. 14(2), 5-19. (Palutikof, Jean, Griffith University)
748	15	28	42	28	54	George, D.A., Clewett, J.F., Birch, C., Wright A. and Allen, W. (2007), Development and accreditation of an applied climate education unit for sustainable land use in Australia. Journal of Sustainable Agriculture. 29(4), 87-108. (Palutikof, Jean, Griffith University)
749	15	28	42	28	54	George, D.A., Birch, C., Clewett, J.F., Wright A., Allen, W. and Keogh, D.U. (2007), Needs for applied climate education in agriculture. Australian Journal of Experimental Agriculture. 47(1), 1-12. (Palutikof, Jean, Griffith University)
750	15	28	45	0	0	underestimate? Over estimate? The word 'miscalculate' is not helpful. (Palutikof, Jean, Griffith University)
751	15	28	46	28	48	Seems a sensible response by communitie as there is no certainty that it is due to climate change. Need to note this (Palutikof, Jean, Griffith University)
752	15	28	46	28	48	As a counterpoint, how often can instances of these types of extreme events actually be rigorously attributed to climate change? (Mach, Katharine, IPCC WGII TSU)
753	15	28	48	28	50	Very broad sweeping statement, not convinced its correct. Revise or support (Palutikof, Jean, Griffith University)
754	15	29	0	0	0	Section 15.3.3.2: appears to be extraneous to the text and the authors should consider deleting it. (UNITED STATES OF AMERICA)
755	15	29	0	29	0	Cross-sector Coordination. Role and implications of collective action is critical. It is more important than the collective vision. (INDIA)
756	15	29	2	29	11	Please improve this paragraph. (UNITED STATES OF AMERICA)
757	15	29	5	29	11	This is not about perceptions, yet it is included under the section about perceptions. (Chan, Christina, U.S. Department of State)

#	Ch	From Page	From Line	To Page	To Line	Comment
758	15	29	10	29	10	I suggest change the sentence “and fewer economic and technical resources available”into “and fewer financial and technical resources available”. Using "financial" to replace "economic" so as to be in line with the expression used under UNFCCC. (wang, chunfeng, State Forestry Administration, China)
759	15	29	14	29	26	What is the value of this paragraph? I assume there is a whole IPCC chapter on the inter-relationship between adaptation and mitigation. Suggest deleting or at least referring to that other chapter. (Chan, Christina, U.S. Department of State)
760	15	29	14	29	26	Section 15.3.3.2: Specifically use the term adaptation-mitigation synergy. Quote Ravindranath (2007). Ravindranath NH (2007) Mitigation and adaptation synergy in forest sector. Mitig Adapt Strateg Glob Change 12(5):843–853 (INDIA)
761	15	29	14	29	26	S15.3.3.2 not sure comes in this section? Consider moving (Palutikof, Jean, Griffith University)
762	15	29	16	29	26	Authors may wish to balance regional examples. (Chatterjee, Monalisa, IPCC WGII TSU)
763	15	29	29	0	41	How does this section of learning and capacity-building relate to section 15.3.2 = knowledge development and sharing. To me there are overlaps. Perhaps one subsection in 15.3 dealing with knowledge development and capacity-building and another about learning mechanisms e.g. in organisations (issues now dealt with in section 15.3.1.2) and complemented with the literature on e.g. organisational/social leaning for climate adaptation (suggestions presented in other comments). (Storbjork, Sofie, Linkoping University)
764	15	29	29	29	41	Move to Decision-making tools and support section. (Chan, Christina, U.S. Department of State)
765	15	29	29	29	41	This paragraph looks as if it repeats section 15.2.4.3 (Monitoring, Modeling and Spatially Integrated Tools) (Bettencourt, Sofia, World Bank)
766	15	29	29	29	41	Section 15.3.3.3 It may be helpful in this section to draw on Webb, R. and J Beh, 2013. Leading adaptation practices and support strategies for Australia: An international and Australian review of products and tools, National Climate Change Adaptation Research Facility, Gold Coast, pp.120. Accessible at http://www.nccarf.edu.au/publications/leading-adaptation-practices-and-support-strategies . This study has developed a framework for analysing adaptation decision support processes and tools and applied this to a range of Australian and international products, also developing strategic responses in the Australian context. (Webb, Bob, Australian National University)
767	15	29	44	29	52	Move to communications tools section. (Chan, Christina, U.S. Department of State)
768	15	29	44	30	8	A great example of making climate locally relevant is the King Tides Initiative - photos of inundation during king tide. Happening in place such as California, British Columbia, Queensland, etc. (UNITED STATES OF AMERICA)
769	15	29	46	29	49	Community-based climate change adaptation plans have included strategies for disseminating information on climate change and raising awareness using novel and creative methods, including art and essay writing contests, public information posters, and signs on rickshaws. Please check whether the given references (Mekong River Commission, 2010, Ensor and Berger, 2009) cover this statement, otherwise add different references.\n\n (NETHERLANDS)
770	15	29	52	29	52	Please provide citations. (UNITED STATES OF AMERICA)
771	15	30	1	30	8	Move to local knowledge section. (Chan, Christina, U.S. Department of State)
772	15	30	1	30	8	Relevant literature that has not been cited: Speranza, Chinwe Ifejika, et al. "Indigenous knowledge related to climate variability and change: insights from droughts in semi-arid areas of former Makuani District, Kenya." Climatic Change 100.2 (2010): 295-315. and Kijazi, A. L., et al. The use of indigenous knowledge in weather and climate prediction in Mahenge and Ismani wards, Tanzania. CCIAM, 2012.; Enock, C. Makwara. "Indigenous Knowledge Systems and Modern Weather Forecasting: Exploring the Linkages." Journal of Agriculture and Sustainability 2.2 (2013). (Ramos Castillo, Ameyali, United Nations University - Institute of Advanced Studies)
773	15	30	1	30	8	The authors should consider moving this paragraph into section 15.3.2.7. (UNITED STATES OF AMERICA)
774	15	30	1	30	8	This paragraph is more suitable in section 13.3.2.7. (Harmeling, Sven, Germanwatch)

#	Ch	From Page	From Line	To Page	To Line	Comment
775	15	30	8	0	0	After section 15.3.3.4 need section on formal and informal education. Currently no references on this issue (Palutikof, Jean, Griffith University)
776	15	30	11	0	0	Replace non-understandable sentence to read?: The above cases suggest that the increased intensity, frequency, and duration of extreme events from future climate change may breach thresholds of resilience more often. Adaptation based only on recent experience or extrapolation of historical trends could be largely ineffective. [15.3.2.2] (Backus, George, Sandia National Laboratories)
777	15	30	11	0	0	Section 15.3.4. Should this section be more closely linked with relevant parts of Chapter 16? (Webb, Bob, Australian National University)
778	15	30	11	0	0	Section 15.3.4 -some confusion on use of term 'buffers'. Text probably belongs under 'surprises' but not about buffers. Maybe retitle 'Preparing for surprises: the role of ecosystem services' or similar. (Palutikof, Jean, Griffith University)
779	15	30	11	30	11	The meaning of this title is unclear. What is meant by "buffers"? Please clarify. (UNITED STATES OF AMERICA)
780	15	30	11	30	53	S15.3.4 is struggling for focus: covers ecosystems; adaptation options in developing countries. Distinguish approaches of developing and developed countries. This comment is relevant to the wider chapter. (Palutikof, Jean, Griffith University)
781	15	30	11	31	11	With section 15.3.4 I am a bit puzzled over the content in relation to the other sections. The point of buffers and to include buffers and safety margins in planning for adaptation is very important but how does this fit in the overall structure and why does it feature as a separate section? Could this be made part of the section on strategies and approaches for adaptation = 15.2.3 that is now dealing with e.g. technical adaptations etc. I would also see spatial planning as a strategy/approach in 15.2.3. (Storbjork, Sofie, Linkoping University)
782	15	30	11	31	11	This topic seems like it might be more relevant in Chapter 16. Check for overlap (Palutikof, Jean, Griffith University)
783	15	30	13	30	20	The authors should provide more citations in this paragraph. (UNITED STATES OF AMERICA)
784	15	30	13	31	11	Not clear how this fits in planning. Does this planning include efforts made for conservation that has indirect benefits. If yes, it should be clarified in the beginning of the section. (Chatterjee, Monalisa, IPCC WGII TSU)
785	15	30	14	30	14	...above cases... what above cases? (Chan, Christina, U.S. Department of State)
786	15	30	14	30	15	Rewrite the following phrase for clarity and grammar, " the above cases suggest..." (Wilson, Lynn, SeaTrust Institute)
787	15	30	14	30	15	The above cases suggest that under transitional climate change, due to climate variability and extreme events appear thresholds may be breached more frequently.. The sentence is confusing. We would suggest to rephrase, for example: "The above cases suggest that under transitional climate change, due to climate variability and extreme events, some thresholds appear which may be breached more frequently." \n\n (NETHERLANDS)
788	15	30	14	30	15	As presented, it is unclear what "above cases" are being referred to. As a result, this sentence does not make sense. (UNITED STATES OF AMERICA)
789	15	30	15	30	20	The information contained in this paragraph is of essence. It would be beneficial to reflect this in the chapter summary. (Harmeling, Sven, Germanwatch)
790	15	30	22	30	24	For instance, forest protected areas help conserve ecosystems that provide habitat, shelter, food, raw materials, genetic materials, a barrier against disasters, a stable source of resources and many other ecosystem goods and services – and thus can have an important role in helping species, people and countries adapt to climate change. The examples of environmental services provided by forest protected areas, completely lack of any reference, which in this case from my point of view, expert judgement is not enough. Or is Dudley, 2008 providing adequate backing for this? \n\n (NETHERLANDS)

#	Ch	From Page	From Line	To Page	To Line	Comment
791	15	30	26	30	30	The logic in this couple of sentences flows poorly as is. The first sentence is unclear; then REDD is introduced, without a clear link back to adaptation co-benefits; finally it states that PAs are a tool for biodiversity conservation - without relating that back to the context of the paragraph. (Hole, David, Conservation International)
792	15	30	28	30	28	the reduced emission from deforestation and forest degradation(REDD) should be revised into "reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries?REDD+?"so that the expression is same with that in UNFCCC process. (wang, chunfeng, State Forestry Administration, China)
793	15	30	29	30	30	I suggest to expand the last sentence by the following: "...., and as such can play an important role in mitigation and adaptation to climate change." (Hoffmann, Dirk, Bolivian Mountain Institute - BMI)
794	15	30	38	30	53	This section needs more citations and a clearer explanation of what lessons were learned rather than what was done. (UNITED STATES OF AMERICA)
795	15	30	42	0	0	15.4.3.2. The section on Balancing Mitigation and Adaptation Responses to Climate Change may not do justice to the subject. Somewhere should be a discussion of equivalent depth to Chapter 18 of AR4. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
796	15	30	52	30	53	Not clear what is meant by "adding climate change" to "activities for managing climate-related risks." (UNITED STATES OF AMERICA)
797	15	31	0	33	0	I suggest adding the following references to chapter 15.4. "Governing Adaptation": (1) AMUNDSEN, H., F. BERGLUND, et al. (2010) Overcoming barriers to climate change adaptation-a question of multilevel governance?, Environment and Planning C: Government and Policy 28(2): 276-289. (2) Mickwitz et al (2009): Climate Policy Integration, Coherence and Governance. PEER Report No 2 (Vol. 2). Helsinki. (3) Bauer, A; Feichtinger, J; Steurer, R (2012): The Governance of Climate Change Adaptation in 10 OECD Countries: Challenges and Approaches. J ENVIRON POL PLAN. 2012; 14(3): 279-304. (Puetz, Marco, Swiss Federal Institute for Forest, Snow and Landscape Research WSL)
798	15	31	4	31	11	Please provide citations. (UNITED STATES OF AMERICA)
799	15	31	4	31	11	Please consider reflecting this finding also in the TS and possibly in SPM. (NORWAY)
800	15	31	14	0	0	15.4 This section does not deal with the very important issue of appropriate allocation of risk as a driver for adaptation in governance structures. Refer to the recent work by the Australian Productivity Commission on Barriers to Effective Climate Change Adaptation (http://www.pc.gov.au/projects/inquiry/climate-change-adaptation/report), in particular, chapter 13 which deals with Emergency Management. (AUSTRALIA)
801	15	31	14	33	43	I think many of the points raised in ch 15.4. resembles points already made in the chapter e.g. in sections 15.3.1. It has to do with organisations and institutional arrangements and what is needed. I am not convinced by the structure in the chapter in this respect. To me governing adaptation is a meta-concept of which "planning and implementation" is one part. Could this internal structure and the relationship between the subsections be clarified and strengthened? Perhaps introduce some general aspects of governing adaptation be made at the start of the chapter, e.g. in 15.1 where governance at multiple levels are mentioned briefly but not elaborated. The different levels of governance is today a key issue discussed in e.g. 15.3.1. (Storbjork, Sofie, Linköping University)

#	Ch	From Page	From Line	To Page	To Line	Comment
802	15	31	14	33	46	I think the evidences mentionned in this section do not support the claim that multilevel governance is the mode of governance that will prove the most efficient to allow for reactive adaptation (see the claim in introduction). Furthermore the weak conceptualisation of what is governance is weakening all the section. Are the authors talking about governance as a process, as something that includes policy, polity and politics or are they referring to governance as a mode of interactions between actors coalitions in the policy process? (Howlett, M. 2009. Governance modes, policy regimes and operational plans: A multi-level nested model of policy instrument choice and policy design. Policy sciences 42:73-89.; Treib, O., H. Bähr, and G. Falkner. 2007. Modes of governance: towards a conceptual clarification. Journal of European Public Policy 14:1-20.; Bevir, M. and D. Richards. 2009. Decentring Policy Networks: A Theoretical Agenda. Public Administration 87:3-14.)\n This section however manage to identify some key characteristics of what the governance of adaptation should look like, for instance: decentralisation, flexibility and coordination. However, there is no discussion on the current modes of governance that actually exist in adaptation processes, which actually highly vary. (Bauer, A., J. Feichtinger, and R. Steurer. 2011. The governance of climate change adaptation in ten OECD countries: Challenges and approaches. Institute of Forest, Environmental, and Natural Resource Policy.; Termeer, C., A. Dewulf, and G. Breeman. 2013. Governance of wicked climate adaptation problems. Climate Change Governance:27-39.; Termeer, C., A. Dewulf, and M. van Lieshout. 2010. Disentangling scale approaches in governance research: comparing monocentric, multilevel, and adaptive governance. Ecology and Society 15:29.) Furthermore, there are currently no studies which I am aware of that were able to compare different modes of governance and establish a link to successful proactive adaptation. This is why I think the authors are exaggerating in the introduction, what is just a potential conceptual affinity between multilevel governance and succesfull proactive adaptation. The larger participatory network that are advocated for also involves trade-offs between efficiency, effectiveness and legitimacy, something that is left totally undiscussed at the present time (Fawcett, P. and C. Daugbjerg. 2012. Explaining Governance Outcomes: Epistemology, Network Governance and Policy Network Analysis. Political Studies Review 10:195-207.; Papadopoulos, Y. and P. Warin. 2007. Are innovative, participatory and deliberative procedures in policy making democratic and effective? European Journal of Political Research 46:445-472.) (Dupuis, Johann, Swiss Graduate School of Public Administration (IDHEAP))
803	15	31	15	35	40	S 15.4 duplicates earlier material; although better written than the rest of chapter, it remains unfocused. Could replace comments earlier in chapter with some of this text. OR strusture as Before and After: here's what we currently have and the problems and potential solutions. P21 may need to be revised to align with this section (Palutikof, Jean, Griffith University)
804	15	31	16	0	0	Would be helpful if a definition of governance is included here (Grothmann, Torsten, Carl von Ossietzky University of Oldenburg)
805	15	31	16	31	17	This sentence is unclear; perhaps an 'are' is needed between 'arrangements' and 'inconsistent'? (CANADA)
806	15	31	27	32	3	Section 15.4.1 generally looks a bit too much "cut&paste".,which aggravates its readability\n\n (NETHERLANDS)
807	15	31	29	31	31	Wrong reference. Correct reference is:\nGrothmann, T. (2011). Governance recommendations for adaptation in European urban regions: Results from five case studies and a European expert survey. In K. Otto-Zimmermann (ed.), Resilient Cities - Cities and Adaptation to Climate Change - Proceedings of the Global Forum 2010 (pp. 167-175). Hamburg: Springer.\nPlease change the beginning of the sentence in line 29 from "An assessment of the literature points out" to "A comparative assessment of case studies in urban regions of five European countries" (Grothmann, Torsten, Carl von Ossietzky University of Oldenburg)
808	15	31	29	31	36	More citations needed in this paragraph. (UNITED STATES OF AMERICA)
809	15	31	31	31	32	Unclear sentence "accountability is considered [...]" (Preston et al, 2011)" \n\n (NETHERLANDS)

#	Ch	From Page	From Line	To Page	To Line	Comment
810	15	31	36	31	36	Insert text as follows: "In order to introduce adaptation policy instruments that are as efficient as possible, Michaelowa et al. (2012) propose two generic adaptation effectiveness metrics: 1) wealth saved from destruction through climate change impacts, and 2) disability-adjusted life years saved (DALYs), which are widely used in public health policy analysis." The full reference is: Michaelowa, A.; Köhler, M.; Butzengeiger-Geyer, S. (2012): Market mechanisms for adaptation - an aberration or a key source of finance?, in: Michaelowa, A. (ed.): Carbon markets or climate finance?, Routledge, Abingdon, p. 188-208 (Michaelowa, Axel, University of Zurich)
811	15	31	38	31	39	What does this mean? (UNITED STATES OF AMERICA)
812	15	31	46	31	50	The authors should consider moving these sentences to the DRR and CCA section (15.2.3.2). (UNITED STATES OF AMERICA)
813	15	31	48	31	48	In place of "needs to," which could be interpreted as overly prescriptive, it would be preferable to indicate more specifically why such location is beneficial. (Mach, Katharine, IPCC WGII TSU)
814	15	31	53	31	53	What is meant by "twinning"? Please clarify in the text. (UNITED STATES OF AMERICA)
815	15	32	1	32	1	Some examples will be useful. (Chatterjee, Monalisa, IPCC WGII TSU)
816	15	32	6	0	0	Coordination beyond governing agencies may be important. (Chatterjee, Monalisa, IPCC WGII TSU)
817	15	32	8	32	12	The authors should consider moving this material to section 15.4.1. (UNITED STATES OF AMERICA)
818	15	32	10	32	11	missing rural vulnerability, only urban and social are mentioned. \n\n (NETHERLANDS)
819	15	32	38	32	26	What do we know about capturing perspectives of multiple stakeholders? Some discussion will be useful here. (Chatterjee, Monalisa, IPCC WGII TSU)
820	15	32	53	33	5	This doesn't seem to fit under this section, but it is also a little unclear what the point of this paragraph is. We believe it should be rewritten for clarity and to establish a clearer link to this section if still relevant once clarified. (UNITED STATES OF AMERICA)
821	15	33	4	33	5	...which undermines the legitimacy and effectiveness of some of the decisions and measures... Evidence? Or is it that "Paavola argues..."? (Chan, Christina, U.S. Department of State)
822	15	33	8	33	22	Seems strange to only talk about private-public partnerships under a section entitled "Sustaining Adaptation Implementation" - is the IPCC implying this is the only way to sustain implementation? (Chan, Christina, U.S. Department of State)
823	15	33	8	33	22	Section 15.4.3 is generally unclear\n\n (NETHERLANDS)
824	15	33	10	33	11	What evidence/citation is there for the assertion that "public-private partnerships are considered to favor sustainable outcomes"? Is this supposed to mean public private efforts are more successful? Please provide citations for this assertion. (UNITED STATES OF AMERICA)
825	15	33	10	33	22	Leaping straight to public-private partnerships is missing a whole number of other options, e.g., embedding or mainstreaming. Suggest explore the topic further and broader literature considered. (Palutikof, Jean, Griffith University)
826	15	33	10	33	22	The authors should consider expanding the discussion in this section to include the public-sector only efforts to sustain adaptation implementation (i.e., the role of governments). (UNITED STATES OF AMERICA)
827	15	33	10	33	22	This paragraph is hard to decipher. We recommend that the authors consider editing it for language and structure. (UNITED STATES OF AMERICA)
828	15	33	18	33	22	Although the benefits of devolution management rights undoutably has benefits the process can lead to the exclusion of the more marginalised groups within local communities. Power structures permeate every level of human society: devolving decision making responsibility can provide a means for local powerful elites to exert their influence to further their own ends. See, for example, Chapter 12, pg 19, lines 11 - 16. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)

#	Ch	From Page	From Line	To Page	To Line	Comment
829	15	33	25	33	43	What are the main points here? This is a difficult section to understand. What do you mean by "mechanism"? (Chan, Christina, U.S. Department of State)
830	15	33	25	33	43	The content of this section does not match the title. A focus on monitoring and evaluation and feedback into planning and implementation is missing. The first two sentences are unclear. (UNITED STATES OF AMERICA)
831	15	33	38	33	40	Are there examples outside of developed countries of regional joint planning, co-management, co-implementation etc., or is this an example of something that is largely limited to high income settings such as EU? (UNITED STATES OF AMERICA)
832	15	33	38	33	43	The meaning of this paragraph is unclear. The authors should consider revising it for clarity. (UNITED STATES OF AMERICA)
833	15	33	46	0	0	Section 15.5 Provide some headings/categories for ease of understanding. Suggest box of some good case studies of where research priorities have been set and why. (Palutikof, Jean, Griffith University)
834	15	33	46	0	0	S 15.5 doesn't really tease out research needs - needs to. Could be simply done in bullet points. Suggest separate from conclusions and make this the separate final section. (Palutikof, Jean, Griffith University)
835	15	33	46	0	0	Section 15.5. Repetition with the executive summary should be greatly reduced. Additionally, for any repetition maintained, the same calibrated uncertainty language used in the executive summary should also appear here. (Mach, Katharine, IPCC WGII TSU)
836	15	33	46	0	0	Section 15.5: This section overlaps with the executive summary. Please consider how these presentations interact--I recommend avoiding cutting down the overlapping material here and ensuring that the key messages are presented clearly in the executive summary. For any material retained here, please ensure clear line of sight to other chapter sections where this material is discussed, and also consider what information is appropriate to present here without calibrated uncertainty language. Conclusions of the chapter should not be presented here without such language. (Mastrandrea, Michael, IPCC WGII TSU)
837	15	33	46	35	40	Most of the paragraphs in this relatively long section entitled "Research Needs" do not address research needs! (Chan, Christina, U.S. Department of State)
838	15	33	46	35	40	I am a bit uncertain about the aim and focus of this section. Is it a summary of ch 15.1-15.4 or is it meant to outline future research needs i.e. how can we proceed from the current state of the art in adaptation planning and implementation. The title suggests the latter but contentwise it seems to be more of a summary with some few exceptions? (Storbjork, Sofie, Linkoping University)
839	15	33	46	35	40	The only paragraph that seemed to address the title of this section was the last, short paragraph on research to inform governance needs. Otherwise, the section needs to be re-written to focus on the major, title question. (UNITED STATES OF AMERICA)
840	15	33	48	33	49	This chapter focused primarily and heavily on planning, not implementation, so the topic sentence needs to be changed to reflect this. (Chan, Christina, U.S. Department of State)
841	15	33	48	33	49	See comment 2. The chapter does not address in sufficient detail the limitations of adaptation planning (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
842	15	34	2	34	11	Please provide citations. Please also provide examples from places in addition to the United States. (UNITED STATES OF AMERICA)
843	15	34	8	34	11	Disagree that few estimate costs. Harder to cost the benefits. Do you mean avoided costs? Check meaning is clear. Add sentence on estimating costs of benefits. (Palutikof, Jean, Griffith University)
844	15	34	8	34	11	Cross-references to relevant sections and findings of chapter 17 could be provided. (Mach, Katharine, IPCC WGII TSU)

#	Ch	From Page	From Line	To Page	To Line	Comment
845	15	34	17	34	19	The synergies with development are highlighted and its potential synergy emphasised. However there are issues in linking adaptation with development. These include increased complexity in demonstrating to funders which actions are considered development and which are adaptation; a diffusion of the adaptation agenda and message; and exclusion of other agendas or actors. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
846	15	34	23	34	25	Please note that the Adaptation Fund under the Kyoto Protocol does in fact apply the concept of distinguishing between "adaptation" and "development" as it only funds "concrete adaptation" projects and programmes. (https://www.adaptation-fund.org/sites/default/files/OPG%20Revised%204.4.12%20%28with%20annexes%29.pdf) (Harmeling, Sven, Germanwatch)
847	15	34	27	34	28	with very few such as Rotterdam should be explained further to why Rotterdam was a different case. \n\n (NETHERLANDS)
848	15	34	30	34	31	A clear lack of donors' awareness of climate impacts in Mozambique is revealed by the significant proportion of ODA investments in climate-sensitive sectors in regions highly exposed to extreme weather conditions (Sietz et al. 2011). Specific investments in infrastructure, agriculture and food security made up 76% of climate-sensitive ODA of major donors. The sub-national analysis reveals major climate damage in these regions demonstrating the insufficient adaptation to the recurring extreme events. --- Reference: Sietz, D., Boschütz, M. and Klein, R.J.T. (2011) Mainstreaming climate adaptation into development assistance: rationale, institutional barriers and opportunities in Mozambique. Environ. Sci. Policy 14(4): 493-502. (sietz, diana, Wageningen University)
849	15	34	30	35	40	This section makes clear statements but lacks references to back up the claims. The author should insert a significant number of citations. (UNITED STATES OF AMERICA)
850	15	34	32	34	32	Missing word: initial 'lack' of attention: need to insert lack – changes meaning of the whole sentence. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)
851	15	34	35	34	37	Reference for this section: Sietz, D., Boschütz, M. and Klein, R.J.T. (2011) Mainstreaming climate adaptation into development assistance: rationale, institutional barriers and opportunities in Mozambique. Environ. Sci. Policy 14(4): 493-502. (sietz, diana, Wageningen University)
852	15	34	35	34	37	Other major barriers include insufficient data availability, erosion of institutional memory and lack of inter-institutional coordination, among others (Sietz et al. 2011). Reference: Sietz, D., Boschütz, M. and Klein, R.J.T. (2011) Mainstreaming climate adaptation into development assistance: rationale, institutional barriers and opportunities in Mozambique. Environ. Sci. Policy 14(4): 493-502. (sietz, diana, Wageningen University)
853	15	34	51	34	52	Where is the evidence that NAPAs are favorably viewed? Citations? (Chan, Christina, U.S. Department of State)
854	15	35	2	35	6	The paragraph concludes by highlighting win-win adaptation strategies. However such an approach and outcome is not always possible. Adaptation approaches will require difficult choices to be made and may result in a number of win-lose options (and even lose-lose if poorly planned and implemented) with certain activities prioritised over others. The review does not discuss any literature which examines how to make such difficult choices (in an environment in which the impacts are significant but the uncertainty is high) and the implications of these choices on the stakeholders involved in the adaptation process. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
855	15	35	8	35	12	Where does this paragraph come from? (Chan, Christina, U.S. Department of State)

#	Ch	From Page	From Line	To Page	To Line	Comment
856	15	35	9	0	11	I am not convinced that we can actually say that formalization occurs through dedicated climate units. Rather many studies show that responsibilities are not often clear which is a hindrance, that climate adaptation becomes the task of singular officials at best rather than permanent adaptation offices. At best working groups in a limited time period but more often that climate adaptation is assumed to be mainstreamed into ordinary activities. Of course it varies a lot and this point should be made clear. See e.g. Dovers and Hezri (see reference list of chapter 15). Also Storbjörk, (2010), "It takes more to get a ship to change course. Barriers for organisational learning and local climate adaptation in Sweden", Journal of Environmental Policy and Planning Vol. 12, No. 3, 235-254. Glaas, E. et al, 2010. Managing climate change vulnerabilities: formal institutions and knowledge use as determinants of adaptive capacity at the local level in Sweden. Local Environment 15, 525-539. Hedensted Lund, D. et al (2012), Climate change adaptation in Denmark: enhancement through collaboration and meta-governance. Local environment. Runhaar, H., Mees, H., Wardekker, A., van der Sluijs, J. & Driessen, P.P.J. (2012) Adaptation to climate change-related risks in Dutch urban areas: stimuli and barriers, Regional Environmental Change, 4, pp. 777-750. In the FOD the source to this statement about "dedicated climate units" was looking into local work on mitigation rather than adaptation. For adaptation they (Anguelovski and Carmin 2011) reported on fragmented integration and organisation. Is this comment based on new/other evidence? I don't recognize it from the other sections of the chapter. (Storbjork, Sofie, Linkoping University)
857	15	35	21	35	21	Instead of "no-regrets" the chapter team should consider using "low-regrets." (Mach, Katharine, IPCC WGII TSU)
858	15	35	21	35	35	This paragraph doesn't seem to fit here. The authors have not used "no regrets" in the way that it is traditionally used in climate adaptation. No regrets usually refers to: actions that you would take even if climate change was not happening, benefits regardless of climate change. Distinguish "win-win" or co-benefits which we think you mean. (Palutikof, Jean, Griffith University)
859	15	35	22	35	22	Assuming that there are some circumstances in which adaptation and disaster risk reduction are not in separate agencies, more qualified wording should be used here. (Mach, Katharine, IPCC WGII TSU)
860	15	35	26	0	0	should be a new paragraph. This feeds into research needs and leads well into ch 16 (Palutikof, Jean, Griffith University)
861	15	35	32	35	34	Please consider adding this finding in TS and Please consider reflecting this finding also in the TS and possibly in SPM.. (NORWAY)
862	15	35	37	0	0	This resembles finding from studies on the adaptive capacity wheel and the need for local leadership which can also be quoted here. See: van den Brink, M. et al 2011. Are dutch water safety institutions prepared for climate change? Journal of water and climate change, p 272-287. Gupta, J et al 2010. The Adaptive Capacity Wheel: a method to assess the inherent characteristics of institutions to enable the adaptive capacity of society. Environmental Science & Policy 13, 459-471. (Storbjork, Sofie, Linkoping University)
863	15	35	43	0	0	FAQs are providing general information. One interesting question that may appeal to a wider audience could be on the difference in the implementation of DRR and CCA policies and possibilities of combining them. Another option would be what changes have happened in the planning process since AR4. (Chatterjee, Monalisa, IPCC WGII TSU)
864	15	35	43	35	43	FAQs should cover more aspects of the chapter than at present (Hay, John, University of the South Pacific)
865	15	35	45	0	0	Doesn't say anything about planning and implementation for the private sector. Suggest explore this aspect and add text accordingly (Palutikof, Jean, Griffith University)
866	15	35	47	36	5	This section summarizes high-level thinking on adaptation well and should be incorporated into the introductory section. (UNITED STATES OF AMERICA)
867	15	35	53	35	54	The phrase starting with "the plans" directly contradicts the statement on pg 2, lines 39-40. Please revise accordingly. (UNITED STATES OF AMERICA)
868	15	36	7	36	7	Adaptation policies, not "climate change policies" (Hay, John, University of the South Pacific)

#	Ch	From Page	From Line	To Page	To Line	Comment
869	15	36	7	36	21	The authors never say what NAPAs are or what they are for. Clarify - for who and which countries? (Palutikof, Jean, Griffith University)
870	15	36	7	36	21	FAQ 15-2 Perhaps the FAQ could highlight the barriers in implementing policies. (Chatterjee, Monalisa, IPCC WGII TSU)
871	15	36	11	36	11	Insert the word 'process' after the brackets so it reads '... (NAPs) process'. This is an important point relevant to the UNFCCC negotiations, which agreed that the correct reference to this is the 'National Adaptation Plan process'. 'NAPs' is just used as shorthand. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)
872	15	36	11	36	12	What is lacking is the fact that NAPAs and NAPs are not formulated as project financing documents (e.g. they do not provide sufficient information on particular investments to allow donors to appraise them) (Bettencourt, Sofia, World Bank)
873	15	36	23	0	0	FAQ 15.3: nothing about knowledge capacity and doesn't translate into action. High level view. Says nothing about individuals. Suggest revise (Palutikof, Jean, Griffith University)
874	15	36	23	36	35	FAQ 15-3 Authors may wish to expand the scope of the FAQ to include how to improve these capacities. (Chatterjee, Monalisa, IPCC WGII TSU)
875	15	36	35	49	40	This section might benefit from reference to large-scale geoengineering proposals (sequestration of CO2) along with energy consumption and radiation engineering reference already made in this section. Reference might be made to geosequestration proposals generally, as well as energy and radiation geoengineering proposals. More generally, references include: http://www.co2crc.com.au/dls/factsheets/CO2CRC_FactSheet_01.pdf , http://www.csiro.au/en/Outcomes/Energy/NGL.aspx , http://www.chiefscientist.gov.au/2012/04/ops1/ and http://www.aph.gov.au/Parliamentary_Business/Committees/House_of_Representatives_Committees?url=scin/geosequestration/report.htm (AUSTRALIA)
876	15	37	15	37	28	A comment was made about this cross-chapter box (Chapter 16, page 28), which I don't repeat here (Locatelli, Bruno, CIRAD-CIFOR)
877	15	40	20	40	23	The name of the reference is wrong, because "Cartagena and Tumaco" are Colombian cities, the authors are "INVEMAR" acronym of "Instituto de Investigaciones Marinas y Costeras José Benito Vives de Andrés" and NCAP "The Netherlands Climate Assistance Program" (Velez, Jorge Julian, Universidad Nacional de Colombia Sede Manizales)
878	15	45	22	45	24	Replace working paper reference with peer reviewed journal paper published the following year: Measham T.G., Preston B.L., Smith T.F., Brooke C., Gorddard R. Withycombe G., and Morrison C. (2011) Adapting to climate change through local municipal planning: barriers and challenges, Mitigation and Adaptation Strategies for Global Change, 16(8), 889-909 (Measham, Thomas, CSIRO Ecosystem Sciences)
879	15	47	48	47	49	Wrong reference. Correct reference is:\nGrothmann, T. (2011). Governance recommendations for adaptation in European urban regions: Results from five case studies and a European expert survey. In K. Otto-Zimmermann (ed.), Resilient Cities - Cities and Adaptation to Climate Change - Proceedings of the Global Forum 2010 (pp. 167-175). Hamburg: Springer.\n (Grothmann, Torsten, Carl von Ossietzky University of Oldenburg)
880	15	48	49	48	49	correct reference: Sietz, D., Boschütz, M. and Klein, R.J.T. (2011) Mainstreaming climate adaptation into development assistance: rationale, institutional barriers and opportunities in Mozambique. Environ. Sci. Policy 14(4): 493-502. (sietz, diana, Wageningen University)
881	15	52	0	0	0	Figure 15-1: in the caption it is written that the four main phases of adaptation planning and implementation are needs, planning, implementation and evaluation. I would argue though that identifying needs and evaluation of outcome = implementation are central parts of planning. See also my comment on chapter 14 (Kankaanpää, Susanna, Helsinki Region Environmental Services Authority (HSY))
882	15	52	0	0	0	Figure 15-1: "adaptation governance underlies the capacity" UNCLEAR statement\n\n (NETHERLANDS)

#	Ch	From Page	From Line	To Page	To Line	Comment
883	15	52	0	0	0	Figure EA-1: This figure needs more explanation. (UNITED STATES OF AMERICA)
884	15	52	0	0	0	Figure 15-1: From the way it is presented, it may be hard for readers to interpret that “[E]fforts in adaptation need to be linked with development or disaster risk management.” are linked to adaptation. We need to revise the figure to better incorporate the concept. Also, we may want to develop this figure further to better illustrate a concept stated in a sentence starting “[B]uilding capacity to respond....” in the caption. (Estrada, Yuka. IPCC WGII TSU)
885	15	52	0	0	0	Figure 15-1. In the caption, the repetition of "planning" and "implementation" within "4 main phases of adaptation planning and implementation: needs, planning, implementation, and evaluation" is somewhat confusing and perhaps could be clarified. Additionally, it may be beneficial to simply say "efforts in adaptation can be linked [or are linked]" to avoid a potentially prescriptive formulation. (Mach, Katharine. IPCC WGII TSU)