

#	Ch	From Page	From Line	To Page	To Line	Comment
1	2	0	0	0	0	General Comments on Chapter 2. Foundations for Decision-Making: Impressive chapter especially the Decision-Making approaches and Figure 2-3 showing the hierarchy of decision-makers. Also, the Institutional context part, social context part and the elements & principles of effective decision support. Figures 2-5, 2-6 and 2-7 are prepared in a very clear format and impressive. The part 2.4. for the Linking Adaptation with Mitigation and Sustainable Development is clear and prepared in a high quality. There are no other comments. (Labib, Mounir Wahba , Third National Communication (TNC) Project)
2	2	0	0	0	0	Chapter 2 is soundly structured, well written and thoroughly documented. (Danae Diakoulaki, Chemical Engineering, NTUA, Greece) (GREECE)
3	2	0	0	0	0	Very good chapter. This is a nice addition to the Assessment Report. (Toman, Eric, The Ohio State University)
4	2	0	0	0	0	The chapter is entitled "Foundations for Decision-Making". The chapter as it stands is very focussed on climate change, but I strongly encourage the authors to also include resilience to current climate and to climate variability in addition to climate change, unless this is dealt with in another chapter. If it is to just be climate change then I think the chapter should be something like "Foundations for Decision-Making related to climate change". (Hewitt, Chris, Met Office)
5	2	0	0	0	0	This chapter is a major addition to AR5 with very great integrating power and the potential to ensure adaptation (and other chapters) are seen more effectively through the decision-making lens. Overall it does a very useful job of mapping the territory. It includes several explicit cross references to other chapters. However several of these other chapters do not seem to adequately pick up the connections to Chapter 2 (Chap 16 excepted). Most crucial in this respect are Chapters 14 through 17. May already happen but is there a formal joint review or workshop planned across these chapters? (Webb, Bob, Australian National University)
6	2	0	0	0	0	This chapter is possibly one of the most important chapters of the WGII report. The headings of contents are quite promising but the reading is difficult and complex. There are very theoretical parts and digressions, and in the end the sections don't provide a real sense of helpfulness or clarify the current state of the art and foundations for decision making, or provide practical information. Finally, there are few findings that can really be useful for adaptation stakeholders and policymakers. More synthesis or structured contents would improve the capacity to extract useful information from the chapter. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
7	2	0	0	0	0	The Executive Summary has many terms that need clarification. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
8	2	0	0	0	0	I wonder whether the concept of maladaptation should be introduced more prominently given its significance in later chapters (from those that I have had chance to read). (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
9	2	0	0	0	0	The reference to the concept of reflexivity/ reflexiveness is to be welcomed, but it could be more explicitly defined. By no means every reader will be familiar with the sociological literature from which it originates. Currently its implications are only really elaborated with regards reflexive scenarios - what about other methods? (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
10	2	0	0	0	0	Foundations of decision making: Climate services were mentioned as component for decision making but only a few were mentioned. There are much more on the market. A better survey about these services are needed and in an attachment links to certain services should be provided. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
11	2	0	0	0	0	Chapter 2 is too long, it is suggested to shorten the whole context of Chapter 2. (Xu, Yinlong, Institute of Environment and Sustainable Development in Agriculture (IEDA), Chinese Academy of Agricultural Sciences (CAAS))

#	Ch	From Page	From Line	To Page	To Line	Comment
12	2	0	0	0	0	Very good draft of the chapter. (Suarez, Avelino, Institute of Ecology and Systematic, Cuban Environmental Agency)
13	2	0	0	0	0	The chapter contains a lot of good information about managing climate risk. However, it is not logically structured and thereby diverts the reader's attention. It would be more logical, for example, to first clearly lay out how climate risk differs from existing risks that decision makers have experience with. What are the characteristics and properties of climate risk that make risk management of climate risk different from risk management of more familiar risks? Subsequently, the authors can lay out what existing risk management models can be used to deal with climate risk and, if climate risk has properties that are not well captured by current risk management models, lay out the research needs and priorities. This approach will likely also make the chapter much more condensed. (de Zegher, Joann, Stanford University)
14	2	0	0	0	0	Excellent chapter - provides a comprehensive discussion of the complex issues involved in both framing and making adaptation decisions. Key contributions are - CC impacts and responses occur with a wider systemic context; while our ability to model biophysical impacts is quite strong, our ability model the wider socio-economic implications of those impacts is limited but improving; the harnessing of stakeholder input (ie non-scientific perspectives) to the decision making process provides important information which science alone cannot provide. I may have missed it, but I didn't see a treatment of the need for integration of government adaptation response planning and implementation, both within and between jurisdictions. For those of us who are concrete thinkers, I wonder whether Figures such as 2-5 (which provides an excellent process overview cum road map of 'how to' integrate all this information and move forward in a systematic fashion) and the principles on p24, lines 23-51 (which provide enhanced detail of both concepts and activities involved in generating options within the roadmap of Fig 2-5) - might be given extra prominence - say as an image and a box appended to the Exec Summary for instance. Otherwise, there is a tendency for it to be 'buried' (lost) within the text (Soste, Leon, Department of Primary Industries, Victoria, Australia)
15	2	0	0	0	0	The key conclusions in this chapter lack uncertainty or confidence level. especially in its ES, where no conclusions have been given uncertainty or confidence. It is suggested to be supplemented in accordance with IPCC's Guidance Note for Lead Authors of the IPCC Fifth Assessment Report on Consistent Treatment of Uncertainties (6-7 July 2010). (CHINA)
16	2	0	0	0	0	The words "decision maker(s)" and "decision making" are used extensively throughout the chapter, though not written in a consistent way. Please decide whether to use a hyphen, space or nothing and use this variant consistently throughout the chapter. \n\n (NETHERLANDS)
17	2	0	0	0	0	We assume this is a difficult comment, but maybe you can bare it in mind while making changes; many sentences are rather long. If possible, I would propose shortening and/or splitting sentences. Mainly to make the chapter easier to read.\n\n (NETHERLANDS)
18	2	0	0	0	0	Decision making under uncertainty literature could be brought in more (not angles are covered but perhaps too much in selected areas such as psychology of decision making). More could be made of the kinds of concepts that are in Chapter 16 about making decisions about what kinds of risks are in the realm of "acceptable" and what kinds of climate-related risks are in the realm of "intolerable" risks. Decision makers will have to balance those kinds of considerations moving forward, so represent a better balance of literature there. (Corendea, Cosmin, United Nations University Institute for Environment and Human Security )
19	2	0	0	0	0	Poor legal assessment compared with the psychological factors in the social context (no human rights implications, migration). No sociological approach. Too much psychological focus on language and meaning (Corendea, Cosmin, United Nations University Institute for Environment and Human Security )

#	Ch	From Page	From Line	To Page	To Line	Comment
20	2	0	0	0	0	Cullinan, C (2003), Wild Law: A Manifesto for Earth Justice, Green Books, Totnes, Devon Abram, D (1996), The Spell of the Sensuous, Vintage Books, New York Berry, T (1999), The Great Work: Our Way into the Future, Bell Tower, New York Berry, T, Swimme, B (1992) The Universe Story: From the Primordial Flaring Forth to the Ecozoic Era - A Celebration of the Unfolding of the Cosmos, Harper Collins, New York Reichel-Dolmatoff, G (1994) The Forest Within: The World-View of the Tukano Amazonian Indians, Green Books, Totnes Reichel-Dolmatoff, G (1997) Rainforest Shamans: Essays on the Tukano Indians of the Northwest Amazon, Green Books, Totnes Roldán Ortega, R (2000) Indigenous Peoples of Colombia and the Law: A Critical Approach to the Study of Past and Present Situations, COAMA, Bogotá, Tercer Mundo Editores Warner, K. & K. van der Geest (2013). Loss and damage from climate change: Local-level evidence from nine vulnerable countries. Int. J Global Warming, Vol. X, No. x. Huq, S. & E. Roberts (2013). Coming full circle: The history of loss and damage in the UNFCCC process. Int. J Global Warming, Vol. X, No. x, pp. xx-xx. S. Cutter on resilience chapter and connection between resilience and decision- making (hurricane Katrina) (Corendea, Cosmin, United Nations University Institute for Environment and Human Security )
21	2	0	0	0	0	There are no FAQs for this chapter. If some are to be included, it is important to ensure that they are adequately reviewed (CANADA)
22	2	0	0	0	0	I recommend defining the term adaptive capacity early in the chapter. The term is defined on page 29, but it is used frequently before that page. (UNITED STATES OF AMERICA)
23	2	0	0	0	0	It is worth noting that climate resilience can be improved not only by an increase in adaptive capacity but also by enhancing other system capacities (e.g., absorptive capacity, restorative capacity, etc.) (UNITED STATES OF AMERICA)
24	2	0	0	0	0	The acronym CCIIV is defined up front (Climate Change Impact, Adaptation, and Vulnerability). The acronym is not used consistently. If you are talking about assessments, then "CCIIV assessment" must be stated. As an example, on page 25, lines 14-15: "Progress in CCIIV has been gradual, evolving as the scientific understanding of climate improves." How has climate change impact or climate change vulnerability been gradual, evolving as the scientific understanding of climate improves? I suggest the impacts are independent of our understanding of climate. I suggest that a single editor review all uses of the acronym CCIIV is used consistently -- assure that the words "climate change impact, adaptation and vulnerability" fit into the sentence. (UNITED STATES OF AMERICA)
25	2	0	0	0	0	The text of sections 2.1 and 2.2 is extremely difficult for a non-expert to follow. At times it seems to be a primer on decision making science with little connection to climate. It is dense with poorly defined jargon. The flow of the discussion is not apparent in many places. This changes dramatically in sections 2.3 and 2.4 which do not pose the same challenges for the reader. (UNITED STATES OF AMERICA)
26	2	0	0	0	0	This chapter is extremely difficult to read and follow. There are numerous sentences that are incomplete or otherwise flawed and difficult to follow. There is substantial inconsistency among sections in terms of clarity, comprehensibility and use of jargon. It is strongly suggested that the authors reconsider their target audience and seek external guidance to bring a consistent approach and to provide a well coordinated message. (UNITED STATES OF AMERICA)
27	2	0	0	0	0	Throughout the entire chapter, adaptation is considered to be positive quality that results in net benefits. The authors might want to consider adding some discussion regarding that while increased adaptive capacity is generally positive because it provides greater ability to respond and cope with changes, not every adaptation will necessarily have a beneficial impact on countries. For example, "just-in-time" business has been a positive adaptation of businesses in certain regards. However, it has also increased risks associated with supply chain disruptions since businesses keep a lower inventory in stock. (UNITED STATES OF AMERICA)
28	2	0	0	0	0	This chapter reads like a risk analysis textbook with much emphasis on theory. There are very few examples provided here (Nair, Malini, Indian Institute of Science)

#	Ch	From Page	From Line	To Page	To Line	Comment
29	2	0	0	0	0	In a number of locations throughout the text the adjective 'better' is used to describe the type of decisions that are possible. This needs to be clarified. In what sense are they better? Without this clarification the statement is lacking rigour. (Street, Roger B, Oxford University)
30	2	0	0	0	0	The authors are to be congratulated for the significant improvements in the chapter since the FOD. The chapter contains a lot of helpful and policy-relevant information. (Ebi, Kristie, ClimAdapt, LLC)
31	2	0	0	0	0	The chapter continues to have sections that are more review than assessment with, for example: multiple lists of what different publications consider to be the components of some factor; suggested further reading; and multiple definitions for a term. Please assess these and note what are the most relevant / useful / important. (Ebi, Kristie, ClimAdapt, LLC)
32	2	0	0	0	0	The use of the term methodologies is unclear, and how methodologies (a term used incorrectly by many scientists) differs from methods. Further, the terms appear to be used inconsistently across the chapter. It would be helpful to clarify what is meant and be consistent in use of terms. (Ebi, Kristie, ClimAdapt, LLC)
33	2	0	0	0	0	Chapter 2 is too lengthy, SUGGESTION: shorten Chapter 2 (PAN, Jiahua, Chinese Academy of Social Sciences)
34	2	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 2 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)
35	2	0	0	0	0	1) Overall -- The chapter team has developed a solid assessment in its 2nd-order draft. In the final draft, the chapter team is encouraged to continue its prioritization of compact and rigorous assessment, effective figures, and clear writing and logic. (Mach, Katharine, IPCC WGII TSU)
36	2	0	0	0	0	2) Coordination across Working Group II -- In developing the final draft of the chapter, the chapter team should continue to ensure coordinated assessment, both in the chapter text and at the level of key findings. As appropriate, cross-references to the sections of other chapters and/or their assessment findings should be used, reducing overlaps and harmonizing assessment. (Mach, Katharine, IPCC WGII TSU)
37	2	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)
38	2	0	0	0	0	4) Tightening and shortening the chapter's assessment -- As the author team prepares the next draft, it should continue to condense and tighten the assessment wherever possible. The chapter will be more effective and widely read if it is shorter. Across all sections, repetition should be reduced. (Mach, Katharine, IPCC WGII TSU)
39	2	0	0	0	0	5) Characterization of future risks -- In assessing foundations for decision-making, 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)

#	Ch	From Page	From Line	To Page	To Line	Comment
40	2	0	0	0	0	6) Informing the summary products -- To support robust and insightful summary products for the report, the chapter team is encouraged to maximize nuance and traceability in its key findings. As part of this, the chapter team should use calibrated uncertainty language to characterize its degree of certainty in its key assessment findings, most especially those included in the executive summary. In addition to nuanced characterization of future risks (see the previous comment), the chapter team is encouraged to consider themes emerging across chapters, indicating for example how risk and risk management approaches are relevant in the context of the assessment across the report, how adaptation experience to date relates to core topics assessed in the chapter, how limits to adaptation may be relevant in the context of this chapter, and how interactions among mitigation, adaptation, and sustainable development may occur. The chapter team is also encouraged to consider further informing box SPM.4 within the summary for policymakers, as well as section B more broadly. (Mach, Katharine, IPCC WGII TSU)
41	2	0	0	0	0	7) 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 release, 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)
42	2	0	0	0	0	8) Assessing theory and concepts -- Where the chapter assesses theory and abstract concepts, it should aim to make the material as concise, clear, logically rigorous, and accessible as possible. (Mach, Katharine, IPCC WGII TSU)
43	2	0	0	0	0	9) Geographic balance of examples -- Where the chapter provides specific examples, geographic balance should be considered and addressed as can be supported by available literature. (Mach, Katharine, IPCC WGII TSU)
44	2	0	0	0	0	GENERAL COMMENTS: I congratulate the author team for their work on the SOD, recognizing that there is more work to be done. Please see my detailed comments for suggestions related to ES findings and their traceable accounts, refining figures and tables, calibrated uncertainty language, and various specific clarifications. I have two general comments. (1) A careful edit of the entire chapter would be of great benefit, with an eye to ensuring logical flow and clarity of presentation across the chapter sections, in particular where the discussion covers theoretical approaches and related content. My specific comments try to point out opportunities for this in more detail. (2) Calibrated uncertainty language is needed in the executive summary, and already is provided for statements in some sections of the chapter. Not all of these statements have counterparts in the current executive summary. In revising the chapter and at risk (used colloquially) of stating the obvious, please think carefully about how best to capture the key messages emerging from the chapter assessment in both the chapter text and in the ES. And characterize them with calibrated uncertainty language. (Mastrandrea, Michael, IPCC WGII TSU)
45	2	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 2, this includes presentation of adaptation experience in section A.ii, risk and risk management in section B.i, scenarios in Box SPM.4/TS.3, principles for effective adaptation in section B.ii and climate-resilient pathways and transformation in section D.i and Box SPM.7/TS.10. 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 2 and other chapters at LAM4? (Mastrandrea, Michael, IPCC WGII TSU)
46	2	0	1	17	22	Has there been any work in this area of related to development (i.e. not just environment) - reflects the fact that adaptation is also a development issue and also relates to social justice issues. (Street, Roger B, Oxford University)
47	2	0	1	20	1	this can be a major barrier (Street, Roger B, Oxford University)
48	2	0	3	13	3	Will need to define 'most successful' relative to predetermined and evolving criteria (Street, Roger B, Oxford University)

#	Ch	From Page	From Line	To Page	To Line	Comment
49	2	0	3	33	3	holistic narrative on future adaptation choices that also includes their associated risks. (Street, Roger B, Oxford University)
50	2	0	4	3	5	Where does transformational adaptation play within the context of resilience? (Street, Roger B, Oxford University)
51	2	0	4	3	9	What are these 'similar processes'? (Street, Roger B, Oxford University)
52	2	0	4	11	4	What is meant by most suitable? (Street, Roger B, Oxford University)
53	2	0	5	4	6	Is it not also who is evaluating that decision and also for what purpose? (Street, Roger B, Oxford University)
54	2	0	8	8	8	Appears to be something missing in this sentence ( contrasted what?) (Street, Roger B, Oxford University)
55	2	0	10	9	12	Are there examples of these in reality? (Street, Roger B, Oxford University)
56	2	0	10	11	10	Is there a subsection on synergies? On Interdependencies? (Street, Roger B, Oxford University)
57	2	0	11	4	12	Wicked problem (see page 4 line 51-54). This can play a significant role in affecting the decision and its evaluation (Street, Roger B, Oxford University)
58	2	0	14	13	15	Recognise that different approaches can lead to different decisions (see paper in Risk Analysts mentioned earlier) (Street, Roger B, Oxford University)
59	2	0	15	27	20	Interestingly these also advance the understanding of VIA and not just climate change (Street, Roger B, Oxford University)
60	2	0	16	32	23	Although this does reflect what is in Shafer, more recent literature talks of engagement and knowledge exchange. This includes co-production and co-dissemination, as well as learning (including learning from users) (Street, Roger B, Oxford University)
61	2	0	17	7	19	Does not evidence suggest that this may not be sufficient. For example the proliferation of these tools has not had the desired beneficial impacts (Street, Roger B, Oxford University)
62	2	0	17	13	24	Is there not some more research research related to M&E on which this paragraph could draw? (Street, Roger B, Oxford University)
63	2	0	20	4	20	Know and accept - also a problem, especially in the context of what they do not know or what is not acceptable, but may be necessary (e.g., transformational adaptation and dealing with conflicts (Street, Roger B, Oxford University)
64	2	0	21	9	31	Suggest that there should be some recognition within this text that these different approaches can lead to different 'answers'. See robust Climate Policies Under Uncertainty: a comparison of RDM and Info-gap methods in Risk Analysts, Vol 32, No. 10 2012 (Street, Roger B, Oxford University)
65	2	0	21	33	21	part of climate knowledge exchange (not limit it to only communications) (Street, Roger B, Oxford University)
66	2	0	23	24	43	It would be useful, if there is associated literature, to discuss how to deal with the proliferation of decision-support tools and methodologies - evaluation of these, understanding of assumptions and limitations and the implications for decisions (can result in different decisions). At least should indicatel that this is an emerging issue that will need further effort. (Street, Roger B, Oxford University)
67	2	0	24	3	31	Are there limits to adopting a risk management approach in the context of CCIIV, especially in terms of decision-making in the context of ambiguity and ignorance (as suggested by decision theory)? (Street, Roger B, Oxford University)
68	2	0	25	2	28	In a simple system there can be dependencies and interdependencies with other systems that will require more than consideration of won aims, especially where trade-offs and synergies will require reassessment of aims (Street, Roger B, Oxford University)
69	2	0	25	23	25	Does this address the proliferation of decision-support tools and the implications for those wanting to make use of them? This is a delimma that is becoming apparent (Street, Roger B, Oxford University)
70	2	0	28	15	31	Would help to provide an example of each of these. (Street, Roger B, Oxford University)



#	Ch	From Page	From Line	To Page	To Line	Comment
71	2	0	28	16	29	Is this not also true for adaptation decisions (not just limited to climate change and its impacts)? (Street, Roger B, Oxford University)
72	2	0	28	23	29	adaptation assessments in addition to impacts and vulnerability assessments. (Street, Roger B, Oxford University)
73	2	0	29	26	35	Experience suggests that there is a jump to the first loop and insufficient effort given to identifying the problem and objectives and establishing the decision criteria (see UKCIP guidance associated with the risk assessment) (Street, Roger B, Oxford University)
74	2	0	29	27	29	Is this section not really about assessing impacts to inform adaptation? More than just assessing impacts. (Street, Roger B, Oxford University)
75	2	0	30	2	34	Should provide the reader with more information about what this means for decision making (Street, Roger B, Oxford University)
76	2	0	30	7	31	there may now exist a sufficiently risk set - true, but are these relevant/salient and/or support for those wanting to use them? Availability of these tools and methods may not be sufficient. (Street, Roger B, Oxford University)
77	2	0	32	6	33	In what context are they better estimates? Is this also the case when making decisions under ambiguity and ignorance? (Street, Roger B, Oxford University)
78	2	0	32	16	33	Does how adaptation decisions are addressed, include how and to what extent they are identified, assessed, implemented and evaluated? (Street, Roger B, Oxford University)
79	2	0	32	32	44	The focus appears to be on model projections, whereas climate services is / must be broader to at least include information on past and current climate (including the links to traditional knowledge) (Street, Roger B, Oxford University)
80	2	0	33	6	34	Need to clarify as to who are the stakeholders that need to accept the risk. I would suggest that it is more than just accepting what is at risk, but also the risks associated with the potential 'solutions'. (Street, Roger B, Oxford University)
81	2	0	34	18	36	Are the pros and cons considered? Would be useful to provide some of those highlights. (Street, Roger B, Oxford University)
82	2	0	35	29	41	I would suggest that experience is showing that it is not only extremes as defined by climatology, but also anomalies as defined by stakeholders and their systems' vulnerabilities that are of concern. Extremes increase the likelihood that thresholds are exceeded. (Street, Roger B, Oxford University)
83	2	0	36	29	36	only atmospheric extreme events? Would not this also be the case for sea-level rise particularly in the context of implications for storm surges? (Street, Roger B, Oxford University)
84	2	0	37	31	37	This should be users' demands (recognising that there is not a single user nor homogenous requirements) (Street, Roger B, Oxford University)
85	2	0	37	31	38	Should this not be modes of knowledge exchange (more than communications). I would note that more recent literature suggest that communications is insufficient and knowledge exchange, including engagement are necessary. (Street, Roger B, Oxford University)
86	2	0	37	33	37	including climate change impacts, vulnerability and adaptation (Street, Roger B, Oxford University)
87	2	0	38	12	39	Some would suggest that climate and adaptation are sure to surprise us (adaptation as a continuous learning process) (Street, Roger B, Oxford University)
88	2	0	38	25	39	Need to expand on how a lack of leadership can act as a barrier. Leadership - what can be achieved is dependent on the nature and scope of leadership accessible and provided. For example, one may need to accept a lower level of adaptation when no or insufficient leadership exists. Some adaptation can be achieved even without formal high-level leadership, but it is likely to be limited in scope (is this still better than no adaptation?) (Street, Roger B, Oxford University)

#	Ch	From Page	From Line	To Page	To Line	Comment
89	2	0	38	29	38	Not just people, but also their assets in harms way. (Street, Roger B, Oxford University)
90	2	0	38	35	38	local visualisation of impacts, vulnerabilities , risks and adaptation measures. (Street, Roger B, Oxford University)
91	2	0	39	2	39	The review should also consider whether or not there have been unintended consequences (positive and negative) (Street, Roger B, Oxford University)
92	2	0	39	10	39	Should this be sustainability and adaptation / mitigation (not dangerous climate change) as dangerous climate change is not really a goal. (Street, Roger B, Oxford University)
93	2	0	39	15	39	Need to define 'good'. (Street, Roger B, Oxford University)
94	2	0	40	3	41	In the context of managing risks, is there not also the need to managing risks associated with various adaptation measures? (Street, Roger B, Oxford University)
95	2	0	40	10	40	Need to clarify what uncertainty is reflected in the expert literature (Street, Roger B, Oxford University)
96	2	0	41	2	43	Should provide the reader with more information about what this means for decision making (Street, Roger B, Oxford University)
97	2	0	41	8	42	Is this really an advantage? If so, in what context? Could this also be seen as a disadvantage? (Street, Roger B, Oxford University)
98	2	0	41	30	41	Not sure I would lable UKCIP as a climate service (more of an adaptation service provider) (Street, Roger B, Oxford University)
99	2	0	42	7	42	In what sense are the results 'better'? (Street, Roger B, Oxford University)
100	2	0	42	12	43	New information could also arise as a result of monitoring and evaluation of adaptation measures (in the context of implementation as well as new information on drivers) (Street, Roger B, Oxford University)
101	2	0	43	4	43	Is this a full understanding or a more comprehensive understanding of CCI/AV decision making? (Street, Roger B, Oxford University)
102	2	0	44	5	45	Mainstreaming will also need to be considered in the context of its potential to deliver synergies and the broad spectrum of adaptation (e.g., transformational adaptation) (Street, Roger B, Oxford University)
103	2	0	44	11	45	Provide an example of a single best decision that has been recommended. In adaptation, there is more often a set of decisions (suite of supportive adaptation measures). (Street, Roger B, Oxford University)
104	2	0	44	21	47	check grammar. Does this not also include social justice? (Street, Roger B, Oxford University)
105	2	0	45	15	46	Are knowledge of anticipated regional and local impacts sufficient? Can not knowledge of vulnerabilities (biophysical and social) be 'more' informative in the context of adaptation? (Street, Roger B, Oxford University)
106	2	0	46	14	47	I would note that translation into action is a major barrier, as is these institutions working in silos. (Street, Roger B, Oxford University)
107	2	0	48	5	49	They need to be understood by decision-makers and the public. (Street, Roger B, Oxford University)
108	2	0	49	3	51	How does risk management fit within the evaluation of adaptation measures (relates to comment immediately above)? (Street, Roger B, Oxford University)
109	2	0	49	26	50	How does this relate to adaptation beyond coping? Needing to consider transformational adaptation and not just incremental changes to cope and maintain. (Street, Roger B, Oxford University)
110	2	0	50	8	50	trade-offs and synergies, especially in the case of interdependencies (Street, Roger B, Oxford University)
111	2	0	50	20	51	Check the grammar (Street, Roger B, Oxford University)
112	2	0	51	7	52	Should it be managing and communicating uncertainty (not just addressing) and does decision-making include implementation and evaluation for which managing and communicating uncertainty are also important (Street, Roger B, Oxford University)



#	Ch	From Page	From Line	To Page	To Line	Comment
113	2	0	51	17	52	Policy on climate change or policy that promotes adaptation in the context of climate change? (Street, Roger B, Oxford University)
114	2	0	51	35	51	Is there a reference for the similar set of factors? Is there a suggestion that llthte are some drivers that are not similar? Note there appears to be an acceptance of the need to adapt (even when not necessarily called adaptation), but in some parts of the world for a number of reasons there is not an acceptance to mitigate (Street, Roger B, Oxford University)
115	2	0	52	2	53	Hopefully more than this as access, although necessary, is insufficient (based on experience) In addition, to access there is a need for support and engagement, as well as credibility, legitimacy and saliency. (Street, Roger B, Oxford University)
116	2	0	52	19	52	...rational policy advice - is this actually pointing to as providing a basis for rational policy advice as definitions by themselves are unlikely to provide advice (Street, Roger B, Oxford University)
117	2	0	53	3	53	How would you define better? Better in what sense? Provide the evidence that this is true (Street, Roger B, Oxford University)
118	2	0	54	7	2	Is this not a llimited view. Evidence suggests co-production and co-dissemination of messages is more appropriate and effective (Street, Roger B, Oxford University)
119	2	0	54	7	54	Is it just unaided or also ill-informed reasoning? (Street, Roger B, Oxford University)
120	2	1	41	1	41	Please spell out IAV entirely when it has not yet been defined. (de Zegher, Joann, Stanford University)
121	2	2	4	0	0	Uncertainty Language in the Executive Summary -- The chapter team should assign calibrated uncertainty language to all key findings within the executive summary. Doing so is an important means of communicating the chapter team's degree of certainty in the core conclusions of the chapter, building from its assessment of evidence and agreement for each topic. Additionally, the key findings presented in bold font would be most effective if, in all cases, non-bold supporting text were also provided. (Mach, Katharine, IPCC WGII TSU)
122	2	2	6	2	7	In what sense what the decisions be better? Better informed? More rigorous? More credible? More salient? (Street, Roger B, Oxford University)
123	2	2	6	3	3	General comment on the Executive Summary: \nThe ES is difficult to read and understand which might have several reasons which partly can be overcome by editing: \n1. It still contains many technical terms or terms which are not commonly defined, see as examples related questions in the following comments of the chapter.\n2. Many sentences are formulated in a complicated way and stand isolated, it is not always clear how they link to the previous and following sentence (inter alia because you use different words for the same thing or "suddenly" introduce a new term). \n3. The paragraphs seem to stand isolated and it is not always clear how they relate to the implicit question raised in the first sentence (Line 6-7). In my view, these questions are: 1. What is the foundational knowledge, 2. What are important perspectives? How can better decisions be made? And to what extent do assessments of climate impacts, adaptation and vulnerability play a role in decision making? (GERMANY)
124	2	2	15	2	15	All decisions involving uncertainty and valued outcomes involve risk management. Besides being too categorical, this statement is a vague generality that does not begin to approach offering practical guidance. We suggest replacing this as the topic sentence with one of the following sentences: " Risk management provides a useful framework for most CCIA decision-making. " (UNITED STATES OF AMERICA)
125	2	2	15	2	15	decisions involving uncertainty and valued outcomes: doesn't this describe ALL decisions of any significance? (UNITED STATES OF AMERICA)
126	2	2	15	2	15	To say that ALL decisions involving uncertainty and valued outcomes involve risk management opens the credibility of the statement and the chapter up to unnecessary criticism. This should say usually or normally. (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
127	2	2	15	2	16	What is the international risk management standard? (GERMANY)
128	2	2	15	2	19	It is suggested to change the 'All decisions involving uncertainty and valued outcomes involve risk management' as 'All decisions concerning uncertainty and valued outcomes involve risk management', and then to delete 'The international risk management standard defines risk as the effect of uncertainty on objectives', because it is not necessary to discuss the concept of risk here, just to clearly state what is the risk we mean in this WGII assessment report is okay. (Xu, Yinlong, Institute of Environment and Sustainable Development in Agriculture (IEDA), Chinese Academy of Agricultural Sciences (CAAS))
129	2	2	15	2	19	What would be the case for decisions involving ambiguities or ignorance? What would be the proposed decision-making approach? Does risk management work in these cases or as the decision-theory suggest, are there other approaches that work? (Street, Roger B. Oxford University)
130	2	2	15	2	19	It is suggested to change the "All decisions involving uncertainty and valued outcomes involve risk management" as "All decisions concerning uncertainty and valued outcomes involve risk management", and then to delete "The international risk management standard defines risk as the effect of uncertainty on objectives". It is not necessary to discuss the concept of risk here, just to clearly state what is the risk we mean in this assessment report. (PAN, Jiahua, Chinese Academy of Social Sciences)
131	2	2	16	2	18	The chapter opens by providing two similar definitions of risk, neither of which agree with the definition of risk provided in Chapter 1 (Page 14, lines 49-50) Having provided these competing definitions, it is not clear which one(s) the authors select or if it is used consistently in subsequent discussions. (UNITED STATES OF AMERICA)
132	2	2	17	2	17	What is CCIA ? (Pecheux, Martin, Institut des Foraminifères Symbiotiques)
133	2	2	17	2	17	Why CCIA instead of CCIIV? (Suarez, Avelino, Institute of Ecology and Systematic, Cuban Environmental Agency)
134	2	2	17	2	17	Please spell out CCIA entirely. Right now it is only defined in the Introduction, which follows the Executive Summary. (de Zegher, Joann, Stanford University)
135	2	2	17	2	17	The term CCIA is never defined in this chapter. Climate change impacts and adaptation? (UNITED STATES OF AMERICA)
136	2	2	23	2	23	The terminology of 'calculated risks' and 'perceived risks' in the ES is not the same as in the chapter. \n\n (NETHERLANDS)
137	2	2	24	2	25	What are "simple systems" with regard to decision making processes? (GERMANY)
138	2	2	24	2	28	This material is not discussed in this context in section 2.3.1. It would be useful to consider ways to more explicitly link the material in 2.1.2 and 2.3.1 in the discussions in the chapter text, as is done here in the executive summary. This is also necessary to provide a traceable account for this finding. (Mastrandrea, Michael, IPCC WGII TSU)
139	2	2	26	2	26	2.3.1 - is this the correct reference?\n\n (NETHERLANDS)
140	2	2	33	2	33	It is not clear how it is possible that the "new RCP scenario processs is being constructed". If the authors refer to AR5's RCPs, they say "was constructed"? (UNITED STATES OF AMERICA)
141	2	2	36	2	37	The term "reflexive" might lead to misunderstandings here as it can refer to the system, as in this case, but the term is also used for decision making processes that are designed in a 'reflexive way'. Is there a possibility to describe a 'reflexive system' in other terms? What does it mean? What are the characteristics of being reflexive? (GERMANY)
142	2	2	36	2	39	Is the concept of "reflexive systems" necessary? (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
143	2	2	36	2	39	This material is not discussed in this context in section 2.2.1.1. Please link this material more clearly with the chapter text. Section 2.1.2 contains relevant text (top of p. 5). (Mastrandrea, Michael, IPCC WGII TSU)

#	Ch	From Page	From Line	To Page	To Line	Comment
144	2	2	37	2	38	This is an example where the chapter might benefit from looking into the Operations Research side of decision sciences and link OR to the topic of climate risk management. In particular, it seems like your definition of the issue of reflexive systems is closely aligned with the issue of "endogenous information" in Operations Research; the problem of endogenous information is concerned with decision-making problems where the decisions that agents make affect the information base on which the agent itself and other agents in the network base their decisions. (de Zegher, Joann, Stanford University)
145	2	2	42	2	42	Inconsistent use of acronyms - line 17 has CCIA and line 42 has CCIIV (Hewitt, Chris, Met Office)
146	2	2	42	2	43	The meaning of this statement is not clear. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
147	2	2	42	2	43	Like the other points in the Executive Summary, this bold-text statement should be followed by a couple of elaborative sentences. (UNITED STATES OF AMERICA)
148	2	2	42	2	43	Please flesh out this finding further to clarify the points being made. (Mastrandrea, Michael, IPCC WGII TSU)
149	2	2	45	2	50	The paragraph standing for itself is clear. However, its position in the ES and its relation to other messages in the ES is confusing. How do other methods referred to in the ES like 'iterative risk management', 'iterative risk assessment' or scenarios relate to "decision support"? Are they not part of "decision support" processes? (GERMANY)
150	2	2	50	2	50	The use of jargon such as "boundary organizations" should be avoided or explained in the Executive Summary. (UNITED STATES OF AMERICA)
151	2	2	52	2	52	It is suggested to change the word "regionally" with "widely" (PAN, Jiahua, Chinese Academy of Social Sciences)
152	2	2	52	2	53	Suggest rewording to "Climate services provide decisions makers with scientifically credible climate information and expertise" (Hewitt, Chris, Met Office)
153	2	2	52	2	53	What does "knowledge competition" mean in the context of climate services? (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
154	2	2	52	2	53	To change 'Climate services aim to make knowledge about climate regionally accessible to a wide range of decision makers.' as 'Climate services, a goal to enable better management of the risks of climate variability and change and adaptation to climate change, aim to make knowledge about climate regionally accessible to a wide range of decision makers.'. (Xu, Yinlong, Institute of Environment and Sustainable Development in Agriculture (IEDA), Chinese Academy of Agricultural Sciences (CAAS))
155	2	2	52	2	53	In this Executive Summary, there is only definition about "climate services", it is needed to be enriched.SUGGESTION: add the content at P.30 line 20-23 "a goal to enable better management of the risks of climate variability and change and adaptation to climate change" here in Executive Summary. Therefore, change"Climate services aim to make knowledge about climate regionally accessible to a wide range of decision makers." as "Climate services aim to make knowledge about climate accessible to a wide range of decision makers with a goal to enable better management of the risks of climate variability and change and adaptation to climate change.". Note that the geographic level for climate services is not only "regionally" (can be locally, globally etc), therefore, "regionally" should be deleted. (PAN, Jiahua, Chinese Academy of Social Sciences)
156	2	2	52	2	53	Section 2.3.3 talks about a range of scales for making knowledge accessible (e.g., local, regional, national). Is the regional scale highlighted here intentionally, or could this statement be broadened? (Mastrandrea, Michael, IPCC WGII TSU)
157	2	3	1	3	1	How does "knowledge transfer" relate to "climate services", the topic of the paragraph? (GERMANY)
158	2	3	1	3	2	What is the meaning of "negotiated process" in the context of knowledge transfer? (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)

#	Ch	From Page	From Line	To Page	To Line	Comment
159	2	3	1	3	2	Knowledge transfer is not sufficient as knowledge exchange is what is required - a two (multiple) way process that recognises the role of framing of the required knowledge and evidence, and the need for knowledge to flow from and between those supplying the information and those requiring the information/knowledge. (Street, Roger B, Oxford University)
160	2	3	1	3	2	In the sentence "Knowledge transfer is a negotiated process that can take a variety of cultural values, orientations and alternative forms of knowledge into account", the word "negotiated" is easy to confuse with the negotiations between government parties. SUGGESTION: change the word "negotiated" as "a two-way communication" (P36 line 16? (PAN, Jiahua, Chinese Academy of Social Sciences)
161	2	3	4	3	4	The provided definition of resilience is unclear. At a minimum, I suggest changing "shocks" for "disturbance" to better match the IPCC WG2 definition of resilience. (Toman, Eric, The Ohio State University)
162	2	3	4	3	5	The resilience definition provided seems to be more representative of "stability" than of resilience. The phrase "in order to maintain the same identity" is somewhat ambiguous but implies that the system must attempt to return to a pre-disruption state. That may be the case in many systems, but as A. Rose (and several others) asserts, that is not the general case, especially for economic systems. Perhaps the phrase "in order to maintain the same identity" can be replaced with "in order to attain a desired state." Please read Rose (2007), especially pages 386 and footnote 4 on these topics. A. Rose, "Economic resilience to natural and man-made disasters: Multidisciplinary origins and contextual dimensions" Environmental Hazards 7 (2007) 383-398." (UNITED STATES OF AMERICA)
163	2	3	4	3	7	One would expect more in-depth findings on the links between sustainable development and adaptation, particularly because this is pursued in most countries. Unclear what is meant by "sustainable adaptation". Which new types of governance and institutional arrangements are studied? (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
164	2	3	4	3	7	I am not sure that these statements are relevant in this chapter. (Jones, Richard, Met Office Hadley Centre)
165	2	3	4	53	9	A better decision is one where the process of decision-making is judged to produce more acceptable outcomes.... This is practically tautological. More useful than this paragraph would be a discussion of how one evaluates adaptation decisions (specifically). (UNITED STATES OF AMERICA)
166	2	3	9	3	9	what are "transitional arrangements?" (UNITED STATES OF AMERICA)
167	2	3	9	3	10	This statement is incomprehensible. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
168	2	3	9	3	10	Please expand on the statement in bold, as was done for the other major points in the Executive Summary. (UNITED STATES OF AMERICA)
169	2	3	9	3	10	The content of "transformation" in Executive Summary is not easy to understand, it needs enrichment. Transformation is critical and point a new direction for adaptation. But here need more explanation for transformation in order to make it more specific and easy to understand, which can refer to P.38 line 20-25. (PAN, Jiahua, Chinese Academy of Social Sciences)
170	2	3	9	3	10	It would be beneficial to expand this key finding to ensure clarity for the reader, through addition of non-bold supporting text and also through more precise wording within the finding itself. For example, what is meant here through "transitional arrangements"--transitioning from what to what, arrangements in what sense, etc.? Additionally, "difficult to control" for whom and in what sense? (Mach. Katharine. IPCC WGII TSU)
171	2	3	9	3	10	These points are not really expressed in this way in section 2.4.3. That section could also use a stronger conclusion. Please consider explaining these points more clearly in the text, perhaps as a conclusion to 2.4.3. (Mastrandrea, Michael, IPCC WGII TSU)

#	Ch	From Page	From Line	To Page	To Line	Comment
172	2	3	13	0	0	Section 2.1 The introduction is very long and provides a very general overview on decision-making that seems nearly irrelevant to the reader. ie: "decision-makers range from individuals", or "the study of human reasoning has a long history" page 4, " I suggest to cut much of this out, or make specific links to how that information would be relevant later in the chapter. (Coughlan, Erin, Red Cross / Red Crescent Climate Centre)
173	2	3	17	3	17	see my comment for Chapter 2 as a whole - what about resilience to current climatic conditions and variability? It's not just about climate change. (Hewitt, Chris, Met Office)
174	2	3	21	3	21	It seems that "scenario-driven" should be removed from this sentence. It appears to refer to historical planning approaches (linear approaches) and not more recent scenario-type approaches (Toman, Eric, The Ohio State University)
175	2	3	24	3	26	where something of human value is at stake - I found the inter-changeability of this definition and its subsequent abbreviation to 'value' and 'values' a little disconcerting. While the definition of values (p16, lines 28-29) was helpful, I struggle with 'values' being the same as 'something of value'. May simply reflect my physical sciences / engineering background (Soste, Leon, Department of Primary Industries, Victoria, Australia)
176	2	3	24	3	31	Despite efforts to understand the description, the "three-tier hierarchy" was unclear both in the text and in the corresponding figure 2-1. Moreover, the discussion of this three-tiered concept appears to terminate in this section. Suggest that the authors reconsider this concept and its presentation and, if used, use it consistently through the subsequent discussions. (UNITED STATES OF AMERICA)
177	2	3	26	3	36	Should read the "chapter's overall approach is risk management" (Orcherton, Dan F., PACE-Pacific Centre for Environment and Sustainable Development )
178	2	3	28	3	34	Figure 2.1 (p. 61) does not portray a "three-tier hierarchy for decision-making", but rather sets the context for risk management and the definitions relevant to the chapter. There is a mismatch between the text and the Figure, further compounded by the introduction of definitions in the fourth Figure column. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
179	2	3	28	3	34	I do not understand this hierarchy nor the figure. Please clarify. (Jones, Richard, Met Office Hadley Centre)
180	2	3	31	3	31	Although "tools" are referred to here, it is not clear where the reader should be finding depiction of such tools within figure 2-1. (Mach, Katharine, IPCC WGII TSU)
181	2	3	33	3	34	Figure 2-1: The "classifications" of approach, methodology and method and subsequent details are confusing and their relevance is not clear. (Jones, Richard, Met Office Hadley Centre)
182	2	3	33	3	34	Figure 2-1 is not a stand-alone figure; a reader can not look at this figure and understand what it is trying to communicate. (Ebi, Kristie, ClimAdapt, LLC)
183	2	3	36	3	42	I personally agree with the view that it is possible to encompass other methodologies within a larger risk management process, but note that this is not consistent with views expressed elsewhere eg Chapter 15 page 3 lines 47-48. We should note that even within the adaptation 'profession' there are very different mental models of what 'risk management' is and many (I think incorrectly) see it as a quite constrained tool, not appreciating that it can be as broad as you like depending on how broadly you express the 'objectives at risk' - which is a framing issue. (Webb, Bob, Australian National University)
184	2	3	37	3	37	what about opportunities in addition to risk? (Hewitt, Chris, Met Office)
185	2	3	39	3	39	The sentence that runs through this line is not clear as written (UNITED STATES OF AMERICA)
186	2	3	40	3	42	Evaluating or managing risk within the larger risk management process, should read "main fact be analyzing evaluating or managing risk within a larger risk management process (Orcherton, Dan F., PACE-Pacific Centre for Environment and Sustainable Development )

#	Ch	From Page	From Line	To Page	To Line	Comment
187	2	3	47	3	47	Insert "can" before "also" now reads. A risk management framework CAN also facilitate.. There is no guarantee that applying a risk management framework will automatically lead to mainstreaming climate information into decision making. (Toman, Eric, The Ohio State University)
188	2	3	47	3	47	Please remove the jargon "mainstreaming of climate-centric decision-making". I assume you mean "makes it easier to integrate into general decision-making" which would be clearer. (Jones, Richard, Met Office Hadley Centre)
189	2	3	49	3	51	Pattern analysis constitutes a new approach to assess vulnerability quantitatively (Sietz et al. 2011 and Sietz et al. 2012). Vulnerability patterns reveal similarities in the vulnerability of socio-ecological systems as shown for the example of drylands and smallholder systems. They provide useful insights into a transfer of adaptation strategies following the hypothesis that regions or systems with similar properties require comparable strategies (Sietz et al. 2011). The validation of results is a major task to strengthen the credibility and suitability of findings for decision-making pertaining to the reduction of vulnerability. Validation has received particular attention in investigating smallholder vulnerability at the household level in the Peruvian Altiplano (Sietz et al. 2012) REFERENCES: Sietz, D., Lüdeke, MKB. and Walther, C. (2011) Categorisation of typical vulnerability patterns in global drylands. Global Environmental Change 21(2): 431-440. ; Sietz, D., Mamani Choque, SE. and Lüdeke, MKB. (2012) Typical patterns of smallholder vulnerability to weather extremes with regard to food security in the Peruvian Altiplano. Regional Environmental Change 12(3): 489 - 505. (sietz, diana, Wageningen University)
190	2	3	52	4	4	I find the definition of a good decision ('where the outcomes sought' ... Etc) doesn't sit comfortably with the later acknowledgment (several times in the chapter) that multiple criteria may be applied to this question, including those relating to legitimate processes. Also, what is the 'life of a decision'? (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
191	2	3	53	3	53	should read "One other risk management aims is to make better decisions" (Orcherton, Dan F., PACE-Pacific Centre for Environment and Sustainable Development )
192	2	3	53	3	53	A major aim of risk management is to make better decisions. This sounds silly. (UNITED STATES OF AMERICA)
193	2	3	53	3	53	It would seem that the major aim of risk management is to manage risk. Assuming that making better decisions is inherent in managing risk seems circular. (UNITED STATES OF AMERICA)
194	2	3	53	4	9	The issue of time scale is an important nuance; when is it decided that a decision relevant to a climate change policy, decision, or measure was "better"? And how does this figure into an iterative risk management approach? (Ebi, Kristie, ClimAdapt, LLC)
195	2	4	1	4	2	More acceptable by whom? In what context? (Street, Roger B, Oxford University)
196	2	4	2	4	2	Here a "better" decision is defined to be one that produced better outcomes than "previous" decisions made under similar circumstances. But would not a better standard of comparison be other decisions that could have been made in the case at hand? (UNITED STATES OF AMERICA)
197	2	4	2	4	3	Delete this sentence "It may be highly precautionary, designed to avoid the worst possible outcomes (Hansson, 2006; Malik et al., 2010)." A better decision may be a lot of things, including a precautionary approach. However, if only one example is given, the report seems to elevate a precautionary approach over others as a better approach. (Toman, Eric, The Ohio State University)
198	2	4	4	4	5	The sentence is difficult to read (had to read it several times). Maybe change into: Elwyn and Miron-Shatz argue that process be given more weight than outcomes, especially under uncertain futures where many outcomes are possible.\n\n (NETHERLANDS)
199	2	4	11	4	12	agree, and could add that another factor that distinguishes CCA decision making is the pervasiveness of impacts and responses into so many natural and societal systems even at the local level, which puts extra and new demands on managing interdependencies and trade offs (Webb, Bob, Australian National University)



#	Ch	From Page	From Line	To Page	To Line	Comment
200	2	4	14	4	14	Should read "in norms and values across and within generations" (Orcherton, Dan F., PACE-Pacific Centre for Environment and Sustainable Development )
201	2	4	17	4	21	Citations should be provided to support these statements. (Mach, Katharine, IPCC WGII TSU)
202	2	4	19	0	0	Descriptive theories may also be referred to as 'positive'. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
203	2	4	19	4	25	It isn't clear where the distinction between problem-oriented and solution-oriented decisions originates in relevant literature. Some references are needed. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
204	2	4	21	4	21	Insert "perceived" before scenarios - Now will read "...framed by aspirations and goals and informed by perceived scenarios..." (Toman, Eric, The Ohio State University)
205	2	4	23	2	23	Are these sentences meant to compare the "study of human reasoning" with "research describing actual processes of human decision-making"? It seems as such given the current text. (Toman, Eric, The Ohio State University)
206	2	4	23	4	30	Recommend including mention of Berkes (2009) Evolution of Co-Management Role of Knowledge Generation, bridging organizations and social learning. In Journal of Environmental Management. 9(5): 1692-1702 - primarily re: knowledge translation and learning networks (Ramos Castillo, Ameyali, United Nations University - Institute of Advanced Studies)
207	2	4	23	4	41	About non rational decision making: this is a very important notion. I wonder if this shouldn't be expanded somewhat into the literature on experiential learning and about advances in our understanding of how the brain works (conscious versus subconscious decision making, immediate versus slower responses, ...) (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)
208	2	4	24	4	25	There is something wrong with this sentence, its meaning is unclear as written. (UNITED STATES OF AMERICA)
209	2	4	25	4	28	On line 25, to what degree are normative aspects contingent on the values and goals embodied by the decision-maker? Should the role of values and goals be reflected on this line, in addition to the mention on lines 28-30? Additionally, should the example on lines 26-28 be qualified further--"may" come to believe that they should, instead of "would"? (Mach, Katharine, IPCC WGII TSU)
210	2	4	28	4	29	I think this is an accurate statement, but the wording is unclear. What is meant by "a particular formal analysis"? How are "values and goals not well represented in that analysis"? (Toman, Eric, The Ohio State University)
211	2	4	28	4	29	It is not clear what the authors mean by "People may also act inconsistently with a particular formal analysis." (UNITED STATES OF AMERICA)
212	2	4	38	4	38	To date the social cultural and cognitive or behavioral aspects of CCAV" (Orcherton, Dan F., PACE-Pacific Centre for Environment and Sustainable Development )
213	2	4	40	4	40	Clarify what is meant by "these factors." These sentences are making a good point, but the clarity could be improved. (Toman, Eric, The Ohio State University)
214	2	4	40	4	41	Is this last statement a conclusion of the author team, based on their assessment of the literature? Please clarify if so, and consider expressing as a finding. (Mastrandrea, Michael, IPCC WGII TSU)
215	2	4	49	0	0	Section 2.1.2. It would be good to include references to chapters within the report that use these concepts, particularly the 5 types of risk identified on p6. (Wright, David, University of Ottawa)
216	2	4	49	5	25	Seems useful to differentiate sectors with different decision horizons in this section on iterative risk management to make clear that for some sectors the iterative risk management cycle of assessment-action-reassessment-response is relatively short (e.g. agriculture), for other sectors relatively long (e.g. forestry, built infrastructure). (Grothmann, Torsten, Carl von Ossietzky University of Oldenburg)

#	Ch	From Page	From Line	To Page	To Line	Comment
217	2	4	51	4	51	This first sentence is unclear; what is meant by "complexity is an important attribute for framing and implementing decision-making processes"? (Toman, Eric, The Ohio State University)
218	2	4	51	4	51	Complexity is an important attribute for framing and implementing decision-making processes (this sentence does not make much sense). Perhaps he can be re-written as: "Framing and implementing decision-making processes is highly complex and considered an important attribute for iterative risk management" (Orcherton, Dan F., PACE-Pacific Centre for Environment and Sustainable Development )
219	2	4	51	4	51	Unclear how an "attribute" can "frame" a process, consider rephrasing. (Jones, Richard, Met Office Hadley Centre)
220	2	4	53	4	53	The term "wicked problems" appears here and is used subsequently through the document. A formal definition of this expression would be helpful. (UNITED STATES OF AMERICA)
221	2	4	53	4	53	Is this the right platform to introduce a term such as 'wicked' problems? This terminology is confusing. (Nair, Malini, Indian Institute of Science)
222	2	4	53	4	53	Wicked does not seem an appropriate word to be used. New jargon is not required when there are perfectly good plain English words that could be used. Please replace with "Highly complex" or something similar. (Jones, Richard, Met Office Hadley Centre)
223	2	5	0	0	0	Figure 2-2 This appears somewhat inconsistent with the preceeding discussion of Rittel and Webber in that the initial stages of 'Identify problem and objectives' and 'Establish decision making criteria' are put forward as (apparently) simple steps rather than as complex iterative processes - something which is captured in the other elements of the Figure (Soste, Leon, Department of Primary Industries, Victoria, Australia)
224	2	5	2	5	2	deep uncertainty - hopefully not being overly pendantic - we use 'deep uncertainty' here to describe Rittel and Webber's highlighting the complexity of different issue framing, plurality of objectives etc - and then use it again on p8, line 15 to refer to our ability to quantify probability distributions. To me, one pertains to a social construct, the other pertains to a mathematical construct - can we have deep uncertainty in both - judgement call (Soste, Leon, Department of Primary Industries, Victoria, Australia)
225	2	5	3	5	4	should read "Another important attribute of complex systems is reflexivity..." (Orcherton, Dan F., PACE-Pacific Centre for Environment and Sustainable Development )
226	2	5	5	5	5	For the statement on this line, it would be helpful to clarify further the reasons risks will change--due to climate change, socioeconomic development, etc. versus reflexivity? (Mach, Katharine, IPCC WGII TSU)
227	2	5	5	5	5	In the last sentence here, it is not clear what the referenced changes in risk that the author team has in mind will be due to. Do you mean simply the evolution of climate change in the absence of risk management? Is what is meant distinct from the reflexivity mentioned in the previous sentence? Further clarity would be useful here. (Mastrandrea, Michael, IPCC WGII TSU)
228	2	5	15	5	15	three not two levels? (Webb, Bob, Australian National University)
229	2	5	15	5	15	Should read" iterative risk management processes are generally at two levels" (Orcherton, Dan F., PACE-Pacific Centre for Environment and Sustainable Development )
230	2	5	15	5	16	The first sentence of this paragraph should start "Three levels of..." instead of "Two levels of..." since there are then three levels discussed. (UNITED STATES OF AMERICA)
231	2	5	15	5	20	The notation of 'two levels' is confusing. Do the authors mean 'two loops', as shown in Fig2.2? Or do they mean two types (internal/external)? Or do they mean something else? In any case, we think clarification is desirable.\n\n (NETHERLANDS)

#	Ch	From Page	From Line	To Page	To Line	Comment
232	2	5	15	5	25	The discussion of this figure, the figure itself and its caption are very difficult to follow and internally inconsistent. For example, "Two levels of iteration" appears to refer to "two internal and one external". Further, the figure does not distinguish between internal and external processes. Is the "assessment state on line 16 the same as the "assessment process" on line 23? The same question is raised for "management stage" and "risk management stage". The "scoping phase" mentioned in line 20, does not appear in the figure. (UNITED STATES OF AMERICA)
233	2	5	15	5	25	The description here is very confusing, as there are three loops depicted in Figure 2-2, at two levels (internal and external). Please clarify both the description here and the figure caption. (Mastrandrea, Michael, IPCC WGII TSU)
234	2	5	16	5	20	This description should be refined so that the reader is able to understand, much more easily, the relationship between the description and figure 2-2. (Mach, Katharine, IPCC WGII TSU)
235	2	5	28	7	2	This section provides a good deal of non-contextualized information on risk at the beginning, and then mentions climate-related risk at the end. I suggest to integrate climate from the beginning, to contextualize the information that is being provided. (Coughlan, Erin, Red Cross / Red Crescent Climate Centre)
236	2	5	30	5	30	Should read "and complex systems".... (Orcherton, Dan F., PACE-Pacific Centre for Environment and Sustainable Development )
237	2	5	30	5	35	If possible, we would prefer that some time indication is added to this section. When did the change from technocratic expert advice to more participatory processes start? (NETHERLANDS)
238	2	5	31	5	31	Do "actors and institutions" referred to here correspond to institutions and individuals as discussed on page 4 (line 17)? (UNITED STATES OF AMERICA)
239	2	5	34	5	34	Is there an understanding as to why the process is 'proceeding slowly'? It would help to include some explanation. (Street, Roger B, Oxford University)
240	2	5	37	5	37	Here the authors provide a fourth definition of risk (see comments for page 2, line 16). It is difficult to understand which definition is being used when the authors subsequently refer to "risk". (UNITED STATES OF AMERICA)
241	2	5	39	5	39	VAR methods have been abandoned by finance after the crisis of 2007. How is it applicable in estimating climate risk? (Nair, Malini, Indian Institute of Science)
242	2	5	47	5	47	Should read " different traditional and modern epistemologies, or ways of knowing, exist for risk...." (Orcherton, Dan F., PACE-Pacific Centre for Environment and Sustainable Development )
243	2	5	50	5	50	Suggest using an alternative word for "nominated". Perhaps say "noted" (Toman, Eric, The Ohio State University)
244	2	6	0	0	0	Figure 2-3 I like this - for me it captures the separateness but overlap within and between different perspectives of risk - nicely done (Soste, Leon, Department of Primary Industries, Victoria, Australia)
245	2	6	1	6	1	Suggest using an alternative word for "nominated". Perhaps say "recognized" (Toman, Eric, The Ohio State University)
246	2	6	1	6	12	Also risk associated with various adaptation measures and strategies. Where does this fit in with this typology? (Street, Roger B, Oxford University)
247	2	6	1	6	12	It would be helpful to clarify how these types of risk should be interpreted with respect to figure 2-1. How is an epistemological construct different from a definition, for example, and how do these constructs relate to the categories within the figure? (Mach, Katharine, IPCC WGII TSU)
248	2	6	5	6	7	calculated risk - general comment on model-based risk calculations - it may be worth clarifying at some point that the quantification of risk usually refers to a specific model output - eg a particular flood stage at a given location with associated damage estimates. We usually do that reasonably well. However, while this provides an essential input to subsequent socio-economic impact analysis, the real challenge is how that biophysical risk information is propagated thru' the wider system - ie we have a differential capability in providing systemic 'risk' assessments. (Soste, Leon, Department of Primary Industries, Victoria, Australia)

#	Ch	From Page	From Line	To Page	To Line	Comment
249	2	6	8	6	10	As defined here, "subjective" risk and "perceived" risk seem awfully similar. If they are truly different concepts then these definitions should be improved. Of they are not, then combine. (UNITED STATES OF AMERICA)
250	2	6	11	6	12	Wording unclear - should it read something like "This may be used to update conceptualizations of future risks."? (Toman, Eric, The Ohio State University)
251	2	6	11	6	12	The text states that observed risk will update "conceptualization of future risks." Is this statement intend to state that observed risk affects risk types 1-4? If so, perhaps the text could be amended to explicitly make that statement. Otherwise, I am not sure what "conceptualization of risk" means precisely. (UNITED STATES OF AMERICA)
252	2	6	11	6	12	There may be an extra word.Perhaps the phrase "update to conceptualization" can be replaced with "update conceptualization". (UNITED STATES OF AMERICA)
253	2	6	11	6	12	The second sentence is not clear, please rephrase. (Jones, Richard, Met Office Hadley Centre)
254	2	6	11	6	12	Given the potentiality embedded in most definitions of risk, I find the term "observed risk" somewhat confusing. It appears that what is being referenced here is really observed impacts when risk is realized. (Mastrandrea, Michael, IPCC WGII TSU)
255	2	6	14	6	23	We could add the factor of the increasing perception of risk and climate change due to the major number of news and editorial comments in newspapers and media (see for instance Llasat et al, 2009). On the other hand, there is a recent paper that shows an overview about how people interpret risks: Eiser et al, 2012. References: Llasat, M.C., M. Llasat-Botija and L. López, 2009. A press database on natural risks and its application in the study of floods in northeastern Spain. Nat. Hazards Earth Syst. Sci., 9, 2049–2061, www.nat-hazards-earth-syst-sci.net/9/2049/2009/; Eiser, J.R., Bostrom, A., Burton, I., Johnston, D.M., Mc Clure, J., Paton, D., Van der Pligt, J., White, M.P., 2012. Risk interpretation and action: A conceptual framework for responses to natural hazards, International Journal of Disaster Risk Reduction 1 (2012) 5–16 (Llasat, Maria-Carmen, University of Barcelona)
256	2	6	19	6	19	Difficult sentence to read. Suggestion: change 'social and cultural influences' into 'social and cultural norms/values/beliefs/context'.\n\n (NETHERLANDS)
257	2	6	25	6	29	Figure 2-3: I do not see how the caption relatesd to the figures. Also, in the figure the circles need explaining and their links to the tables and the difference between complicated and complex. (Jones, Richard, Met Office Hadley Centre)
258	2	6	25	6	29	This figure needs to be clear on what is meant by methodologies,approach, methods, and tools. (Ebi, Kristie, ClimAdapt, LLC)
259	2	6	25	6	29	This caption does not seem to match the figure. (Mastrandrea, Michael, IPCC WGII TSU)
260	2	6	26	6	29	Figure 2.3 caption: Figure 2.3 shows different cases of risk managed by decision makers and not a hierarchy of decision makers (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
261	2	6	34	6	35	Should read" the science always situates itself within a broader social setting, often....." (Orcherton, Dan F., PACE-Pacific Centre for Environment and Sustainable Development )

#	Ch	From Page	From Line	To Page	To Line	Comment
262	2	6	40	6	42	medium confidence - while I wholeheartedly agree with the use of socially mediated processes in CCIIV, there is an interesting tension here. We have 'high confidence' that 'good scientific and technical information alone is rarely sufficient ..' (p7, lines 27-8) yet, despite the preceeding discussion on complexity embedded in social contexts (Rittel and Webber), the discussion on social aspects of risk construction (subjective and perceived risk) and the excellent discussion on social context in decision making (Section 2.2.3), we have only 'medium confidence' that engaging stakeholders in risk assessment is an appropriate vehicle for providing those elements of the decision making process which science alone cannot provide. So - there appears to be some inconsistency here. There also appears to be 2 systems operating in parallel - high or medium confidence (without a recommendation per se), while other strategies (eg for dealing with uncertainty) are recommended (p8, lines 19-20), yet without confidence attached. Does one system carry more weight than the other, or ..? (Soste, Leon, Department of Primary Industries, Victoria, Australia)
263	2	6	41	6	42	But require socially mediated processes should read "socially and culturally mediated processes" (Orcherton, Dan F., PACE-Pacific Centre for Envionment and Sustainable Development )
264	2	6	44	6	44	The authors list five important constructs for risk at the top of this page and here add a sixth construct: "socially constructed risk" suggesting that this is not an important construct? (UNITED STATES OF AMERICA)
265	2	6	48	6	48	should perhaps be about 'engaging' with stakeholders not just communicating (Webb, Bob, Australian National University)
266	2	6	49	6	49	Suggest including the following citation here: \nNational Research Council. 2009. Informing Decisions in a Changing Climate. Panel on Strategies and Methods for Climate-Related Decision Support, Committee on the Human Dimensions of Global Change. Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press. (Toman, Eric, The Ohio State University)
267	2	6	51	6	52	Please change ii) to: "establishes self-agency, explaining what the recipient can do with the information and ways to make decisions under uncertainty (e.g. precautionary principle, iterative risk-management etc.)" (Grothmann, Torsten, Carl von Ossietzky University of Oldenburg)
268	2	6	51	6	52	What is meant by "self agency"? (UNITED STATES OF AMERICA)
269	2	7	7	0	0	Section 2.2: There is no balance among the sub-sections (i.e. 2.2.1 ~7 pages, 2.2.2 ~2 pages, 2.2.3 ~7.5pages). Sections 2.2.31 & 2.2.3.2 could be merged, as values are determined and influenced by cultural aspects. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
270	2	7	9	7	9	Organizational and cultural psychological contexts, should read " organizational and cultural/behavioral and psychological contexts of decision-making" (Orcherton, Dan F., PACE-Pacific Centre for Envionment and Sustainable Development )
271	2	7	13	7	13	This title is good if the chapter includes climate variability as well as climate change. If not then I suggest "...Climate change-related decisions" if this chapter is only about climate change (see my comment for Chapter 2 as a whole) (Hewitt, Chris, Met Office)

#	Ch	From Page	From Line	To Page	To Line	Comment
272	2	7	13	14	16	Please add new section 2.2.1.4 on "Stakeholder involvement", because this is a central method/tool/process for climate-related decisions and there have been many publications since the AR4 stressing particularly the importance of stakeholder involvement in adaptation decision-making (e.g. Lebel et al. 2010), several publications proposing/discussing specific methods for stakeholder involvement (e.g. Debels et al. 2009, Salter et al. 2010) and some papers reflecting concrete experiences with stakeholder involvement in CCAV assessments and adaptation processes (e.g. de la Vega-Leinert et al. 2008, various publications by project "CLIMAS-Climate Assessment of the South-West", publications on "community-based-adaptation"). Adding such a new section would give this important method/tool/process a higher visibility in chapter 2. \nLebel et al. (2010) differentiate six advantages of social learning and stakeholder involvement for adaptation to climate change. These advantages relate strongly to chapters 2.2.1.1 to 2.2.1.3. \n1. Stakeholder involvement can reduce informational uncertainty. Informational uncertainty refers to deficits in knowledge about future developments. By involving stakeholders and local experts that have knowledge about a studied system uncertainties regarding potential climate change impacts, vulnerabilities and feasible adaptation options can be reduced. (links well to 2.2.1.1 and "learning" in 2.2.1.3) \n2. Stakeholder involvement reduces normative uncertainty. Normative uncertainty refers to uncertainty about goals and actions and also relates to perceptions of acceptable risk. For example, strong stakeholder participation in a water-sensitive region can clarify priorities (for instance on tourism) and acceptable risks (for instance agricultural losses). (links well to 2.2.1.1, "valuation" in 2.2.1.2 and "learning" in 2.2.1.3) \n3. Stakeholder involvement helps to build consensus on criteria for monitoring and evaluation, which are essential elements of adaptive management and adaptive governance schemes often used to adapt to climate change. (links well to 2.2.1.3) \n4. Stakeholder involvement can empower stakeholders to influence adaptation and take appropriate actions themselves by sharing knowledge and responsibility in participatory processes. \n5. Stakeholder involvement can reduce conflicts and identify synergies between adaptation activities of various stakeholders, thus improving overall chances of success. Coordination is crucial to overcome fragmentation across sectors, regions and decision levels. \n6. Stakeholder involvement can improve the likely fairness, social justice and legitimacy of adaptation decisions and actions by addressing the concerns of all relevant stakeholders. Deliberative processes bring together alternative perspectives and forms of knowledge reducing the likelihood that collective responses are based solely on relative influence and power of the actors involved. (links well to 2.2.1.2 and 2.2.3.4) \nReferences: \nDebels, P., Szlafsztein, C., Aldunce, P., Neri, C., Carvajal, Y., Quintero-Angel, M., Celis, A., Bezanilla, A., & Martínez, D. (2009). IUPA: a tool for the evaluation of the general usefulness of practices for adaptation to climate change and variability. Natural Hazards, 50, 211-233. \nde la Vega-Leinert, Anne Cristina, Dagmar Schröter, Rik Leemans, Uta Fritsch, and Jacomijn Pluimers. 2008. A stakeholder dialogue on European vulnerability. Regional Environmental Change 8 (3): 109-124. \nLebel, L., Grothmann, T., B. Siebenhüner. 2010. The role of social learning in adaptiveness: Insights from water management. International Environmental Agreements: Politics, Law and Economics 10/4: 333-353. \nSalter, Jonathan, John Robinson, and Arnim Wiek. 2010. Participatory methods of integrated assessment - a review Climate Change 1 (5): 697-717. \n(Grothmann, Torsten, Carl von Ossietzky University of Oldenburg)
273	2	7	15	7	16	Hopefully researchs will also consider drawing on this experience! (Street, Roger B, Oxford University)
274	2	7	27	7	28	We would suggest to use this statement in the summary. We think it legitimizes and summarizes very concisely the core message of chapter 2. \n\n (NETHERLANDS)



#	Ch	From Page	From Line	To Page	To Line	Comment
275	2	7	27	7	28	I recommend adding a reference for the statement "Extensive evidence from the decision sciences shows that good scientific and technical information alone is rarely sufficient to result in better decisions." Without a reference, readers may question the validity of this important statement. (UNITED STATES OF AMERICA)
276	2	7	27	7	28	Insert reference(s) to support the statement. (Jones, Richard, Met Office Hadley Centre)
277	2	7	27	7	32	Decisions also need value-judgments, by definition (ought to be). (Godefridi, Drieu, Cogito )
278	2	7	27	7	32	This paragraph seems important enough that it should be included in the Executive Summary. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
279	2	7	30	7	32	whilst many methods, tools etc are available this does not mean that they are well used or useful. Many factors mean that in practice there is a significant gap between the availability and use by decision-makers and their advisers - see for example 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 <a href="http://www.nccarf.edu.au/publications/leading-adaptation-practices-and-support-strategies">http://www.nccarf.edu.au/publications/leading-adaptation-practices-and-support-strategies</a> .\n (Webb, Bob, Australian National University)
280	2	7	30	7	32	Insert reference(s) to support the statement. (Jones, Richard, Met Office Hadley Centre)
281	2	7	30	7	32	The linkage of "may" and "medium confidence" here is confusing. Would changing "may" to "is" express the view of the author team? (Mastrandrea, Michael, IPCC WGII TSU)
282	2	7	42	7	42	I think the phrase "or a choice" is intended to be "of a choice". If that is not the intended phrasing, that sentence is somewhat confusing. (UNITED STATES OF AMERICA)
283	2	7	50	0	0	Section 2.2.1.1. The chapter team should strive to make the logic of this more theoretical section as accessible and clear to the reader as possible. As part of this, the section should be shortened. (Mach, Katharine, IPCC WGII TSU)
284	2	7	50	9	31	in Section 2.2.1.1, among other approaches and tools, I expect some references on Monte Carlo simulation which is extensively used to model impacts and responses to future climate changes. (Danae Diakoulaki, Chemical Engineering, NTUA, Greece) (GREECE)
285	2	8	1	8	3	trade-offs and synergies, especially in the case of interdependencies (Street, Roger B, Oxford University)
286	2	8	3	0	0	Please include studies by Budescu here: \nBudescu, David V., Steven B. Broomell & Han-Hui Por (2009): Improving communication of uncertainty in the reports of the Intergovernmental Panel on Climate Change. In: Psychological Science 20, p. 299-308.\nBudescu, David V., Han-Hui Por & Steven B. Broomell (2012): Effective communication of uncertainty in the IPCC reports. In: Climatic Change 113(2), p. 181-200. \n (Grothmann, Torsten, Carl von Ossietzky University of Oldenburg)
287	2	8	13	8	18	While it would be interesting to work through this characterization further, the levels of confidence have not been described in this way. I would recommend presenting this as a possible interpretation if retained. (Mastrandrea, Michael, IPCC WGII TSU)
288	2	8	17	8	18	This statement must be clarified. The levels of confidence do not provide one-to-one correspondence with the categories described here. (Mach, Katharine, IPCC WGII TSU)
289	2	8	18	0	0	Mastrandrea et al 2010 is not in the biblio (Soste, Leon, Department of Primary Industries, Victoria, Australia)
290	2	8	18	8	20	(Mastrandrea et al., 2010) is referenced twice. This reference is not provided in the reference section. (UNITED STATES OF AMERICA)
291	2	8	18	8	20	Chapter 1 provides extensive and careful introduction to the uncertainties guidance, and here it would be preferable to simply cross reference the relevant sections of chapter 1. (Mach, Katharine, IPCC WGII TSU)

#	Ch	From Page	From Line	To Page	To Line	Comment
292	2	8	18	8	20	Not always, as the quantitative likelihood scale is recommended when the available evidence warrants its use. All of this is covered in Chapter 1, so please cross-reference that discussion and consider overlap. (Mastrandrea, Michael, IPCC WGII TSU)
293	2	8	20	8	20	To whom is this use of qualitative confidence recommended? (UNITED STATES OF AMERICA)
294	2	8	20	8	23	Do the authors consider aleatory and epistemic uncertainty to be a part of the conceptual model uncertainty? If not, I recommend adding these concepts to this paragraph. I understand that uncertainty is thought of in many different ways, and I have seen model uncertainty treated separately from aleatory and epistemic uncertainty. Hence, this comment seeks to ensure the authors' intentions are captured. (UNITED STATES OF AMERICA)
295	2	8	20	8	23	This statement should be supported with a citation. (UNITED STATES OF AMERICA)
296	2	8	25	8	29	The chapter team should not add new material in the final draft that goes substantially beyond material reviewed within the second-order draft. Thus, the appropriateness of adding this box should be very carefully considered. (Mach, Katharine, IPCC WGII TSU)
297	2	8	25	8	29	If this material does not exist already in the SOD, the time is past for addition of new topics (Mastrandrea, Michael, IPCC WGII TSU)
298	2	8	31	9	5	In these two paragraphs, the authors appear to be contrasting the 2 cycles shown in Figure 2-2. However, the use of the same cycle description "assess risks, identify options, evaluate trade-offs loop" in both paragraphs is confusing. (UNITED STATES OF AMERICA)
299	2	8	31	9	31	There is much in this section that is both interesting and useful. But there are some strange gaps too. I would argue that the problem of uncertainty varies fundamentally by the type of problem, the temporal and spatial scale of intervention, the category of decision maker, and (in some cases) the object of interest. I would argue that the longevity of water infrastructure combined with both the need of engineers for accurate, precise information, in combination with the lack of confidence in being able to project future states of the water cycle over the operational lifetime mean that there are severe problems in some key aspects water resources management and, by extension, economic development (Kundzewicz and Stakhiv 2010, Matthews/Wickel/Freeman 2011). Large hydropower and major urban utilities should be really worried. But water generally is associated with extremely high levels of uncertainty in future projections. Stationarity may be simply be a reasonable assumption for temporal scales under 10 years, for instance. I think the implication should be that for many communities of practice there needs to be a self-defined conversation that can describe the tolerance of risk and uncertainty and who (climate modelers, for instance) who be involved in defining that risk. (Matthews, John, Conservation International)
300	2	8	50	8	53	The Kirshen et al. example is unclear how this differs from the previous method of including uncertainty (assess risks, identify options, evaluate trade-offs). It seems that the example uses existing science from organizationally independent organizations (sea level rise model) to look at impacts and then the policy makers can interpret possible decisions. From the description of the "context-first" approach, the example should frame the question from the point of view of certain decisions that could be made, and then find the appropriate information needed to decide between those options. (Coughlan, Erin, Red Cross / Red Crescent Climate Centre)
301	2	9	1	9	2	Go beyond to co-production and co-dissemination (Street, Roger B, Oxford University)
302	2	9	1	9	5	Are "information providers" and "producers" the same group? This is very difficult to follow. (UNITED STATES OF AMERICA)
303	2	9	21	0	0	Also see Howard Kunreuther, Geoffrey Heal, Myles Allen, Ottmar Edenhofer, Christopher B. Field and Gary Yohe, "Risk Management and climate change" in Nature Climate Change. 24 March 2013. (Coughlan, Erin, Red Cross / Red Crescent Climate Centre)

#	Ch	From Page	From Line	To Page	To Line	Comment
304	2	9	31	9	31	What is meant by "set-based characterizations of uncertainty"? (UNITED STATES OF AMERICA)
305	2	9	34	11	7	Scenarios subsection: The description of types of scenarios and the logical flow of this section require refinement, particularly in the description of reflexive scenarios on p. 10. (Mastrandrea, Michael, IPCC WGII TSU)
306	2	9	36	9	37	Suggest using the definition of scenario from AR4 WG2: \n"Scenario: A plausible and often simplified description of how the future may develop, based on a coherent and internally consistent set of assumptions about driving forces and key relationships. Scenarios may be derived from projections, but are often based on additional information from other sources, sometimes combined with a 'narrative storyline'." (Toman, Eric, The Ohio State University)
307	2	9	36	9	37	It seems strange to assign confidence to what is essentially a definition - and the authors should delete the confidence. (UNITED STATES OF AMERICA)
308	2	9	37	9	37	The "very high confidence" qualifier does not seem relevant for this sentence. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
309	2	9	40	9	41	What is meant here should be clarified. Is the author team indicating that scenarios have more extensively reflected socioeconomics, not just climate, in assessing topics related to climate change, or is the author team indicating that use of scenarios in non-climate-change applications has increased? (Mach, Katharine, IPCC WGII TSU)
310	2	9	48	3	4	This paragraph is unclear. The current organization seems contradictory regarding the number/definition of scenario typologies. (Toman, Eric, The Ohio State University)
311	2	9	48	10	4	The purpose of this description of scenario typologies is not evident. (UNITED STATES OF AMERICA)
312	2	9	54	9	54	The authors describe the "major groupings" of typologies, then immediately discuss a fourth (Exploratory). (UNITED STATES OF AMERICA)
313	2	10	6	10	10	These sentences are unclear and do not seem to be tied together by any type of common thread. How does a reflexive scenario "work with wicked problems"? How are these similar/different from problem, solution, or actor-based scenarios? (Toman, Eric, The Ohio State University)
314	2	10	6	10	10	The text here is not clear, perhaps a figure would help. (Jones, Richard, Met Office Hadley Centre)
315	2	10	6	10	14	This entire paragraph is unclear in terms of meaning. (UNITED STATES OF AMERICA)
316	2	10	6	10	14	Given the opening sentence of the paragraph, it would be helpful to clarify further how these are reflexive scenarios. (Mach, Katharine, IPCC WGII TSU)
317	2	10	10	10	11	Suggestion: Several generations of scenarios produced by IPCC assessments, and national climate scenarios in the UK and Australia, indicate this...\n\n (NETHERLANDS)
318	2	10	13	10	14	Is "the new scenario matrix" the RCPs? (UNITED STATES OF AMERICA)
319	2	10	16	10	18	These sentences are unclear. (Toman, Eric, The Ohio State University)
320	2	10	16	10	22	The text here is not clear, perhaps a figure would help. (Jones, Richard, Met Office Hadley Centre)
321	2	10	16	10	22	Citations should be provided for these statements, and it would be helpful to clarify their logic with respect to the previous 2 paragraphs. (Mach, Katharine, IPCC WGII TSU)
322	2	10	18	10	19	Should read "in methodological terms ", " (Orcherton, Dan F., PACE-Pacific Centre for Environment and Sustainable Development )
323	2	10	24	10	24	Should read" within a standard research methods applied to access CCIAM, scenarios occupy a relatively uncomfortable position" (Orcherton, Dan F., PACE-Pacific Centre for Environment and Sustainable Development )
324	2	10	24	10	24	It would be helpful to specify further what is meant by "uncomfortable place" in this sentence. (Mach, Katharine, IPCC WGII TSU)
325	2	10	24	10	24	Why uncomfortable? Please clarify. (Mastrandrea, Michael, IPCC WGII TSU)

#	Ch	From Page	From Line	To Page	To Line	Comment
326	2	10	29	10	31	Is this tension necessary / constructive? Is it a tension reated by the separate communities? (Street, Roger B, Oxford University)
327	2	10	29	10	36	This paragraph describes the tension between science and policy. We think it would be helpfull if this is made explicit, mainly because these type of issues are adressed in the literature as science-policy issues. \n\n (NETHERLANDS)
328	2	10	29	10	36	The idea of a "tension" is surprising and requires fuller explanantion than is given here. (UNITED STATES OF AMERICA)
329	2	10	30	10	53	There is often a distinction made between prediction and projection in the context of scenarios and scenario development that is not included in this section, where prediction is used. Please consider word choice or explaining the distinction. (Mastrandrea, Michael, IPCC WGII TSU)
330	2	10	32	10	32	It would be helpful to clarify further what is meant by "theoretical application." (Mach, Katharine, IPCC WGII TSU)
331	2	10	33	10	33	For the statement "scenarios can fill that gap," can they do so fully? Would further qualification be more accurate? (Mach, Katharine, IPCC WGII TSU)
332	2	10	35	10	35	Replace "may also be" with "will generally". (Jones, Richard, Met Office Hadley Centre)
333	2	10	41	10	41	For the statement on this line, are dangerous climate change and sustainability ever directly predicted, for example following from the challenges characterized in the previous sentence? (Mach, Katharine, IPCC WGII TSU)
334	2	10	41	10	43	Insert reference(s) to support the statement. (Jones, Richard, Met Office Hadley Centre)
335	2	10	42	10	42	Participatory process' of whom? Of citizens? Stakeholders? \n\n (NETHERLANDS)
336	2	10	46	10	49	Please quote some examples from at least distantly related literature (Nair, Malini, Indian Institute of Science)
337	2	10	47	10	48	It would be useful to clarify what is meant by "robust to uncertainty" here for clarity. (Mastrandrea, Michael, IPCC WGII TSU)
338	2	10	49	10	49	What is meant by "priors"? (Toman, Eric, The Ohio State University)
339	2	11	1	11	1	The terms "tame" and "wicked" as used here may be unfamiliar to readers and should be defined. (UNITED STATES OF AMERICA)
340	2	11	1	11	1	Please replace "tame and wicked" with plain English terms. (Jones, Richard, Met Office Hadley Centre)
341	2	11	1	11	2	The separation into tame and wicked seems simplified. Several typologies/taxonomies address multiple types of problems. See for example, Pielke 2007, Weiss 2003, and Hisschemoller and Hoppe 2001.\n\n (NETHERLANDS)
342	2	11	1	11	7	The idea of tame risks was not discussed previously. If include here, should introduce in more depth earlier (when wicked problems first introduced). (Toman, Eric, The Ohio State University)
343	2	11	2	11	2	In place of "moderate" the term "medium" should be used given the uncertainties guidance for authors. (Mach, Katharine, IPCC WGII TSU)
344	2	11	2	11	7	For these statements, either further calibrated uncertainty language should be provided, or citations should be provided. (Mach, Katharine, IPCC WGII TSU)
345	2	11	3	0	0	Add?: However, even for wicked problems, it is possible to delineate unacceptable risks (low probability, but inordinate consequence) to prioritize decision-making. (Backus, George, Sandia National Laboratories)
346	2	11	3	11	3	Is it just illustrating alternative solutions or also assessing these solutions? (Street, Roger B, Oxford University)
347	2	11	3	11	3	Please replace "wicked" with plain English term. (Jones, Richard, Met Office Hadley Centre)
348	2	11	4	11	4	What is unique about "wicked problems" that requires thorough scoping? Do tame problems not require thorough scoping? (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
349	2	11	7	11	20	Do the "process and goal-oriented methods" mentioned on line 7 correpond to the "outcomes-based" and "process-based" methods described on lines 19-20? The similar terminology is confusing if these are different concepts. (UNITED STATES OF AMERICA)
350	2	11	10	0	0	Section 2.2.1.2. This section should be substantially further coordinated with chapter 17 especially. Overlap should be reduced, and assessment harmonized appropriately. (Mach, Katharine, IPCC WGII TSU)
351	2	11	10	0	0	Section 2.2.1.2: Please coordinate this discussion with other chapters covering similar topics, including Chapter 17. (Mastrandrea, Michael, IPCC WGII TSU)
352	2	11	12	12	33	In Section 2.2.1.2, the focus is only on how to identify relevant criteria and not on methods and tools used to generate judgements taking into account competing criteria and conflicting points of view. The title of this section might change to better reflect its content (e.g. decision criteria). (Danae Diakoulaki, Chemical Engineering, NTUA, Greece) (GREECE)
353	2	11	15	11	16	It would be good to make these and linkages back to Chapter 2 explicit in other Chapters as mentioned in previous comment, as they are (mostly) not there at the moment (Webb, Bob, Australian National University)
354	2	11	24	11	38	The purpose of this paragraph is not clear. (UNITED STATES OF AMERICA)
355	2	11	24	11	46	Suggestion: exchange paragraphs (line 24-38) and (line40-46) to structure the section according to the way the criteria's are introduced in the paragraph on lines 18-22.\n\n (NETHERLANDS)
356	2	11	34	11	35	Please insert example(s) of "utilitarian-based ethical frameworks". (Jones, Richard, Met Office Hadley Centre)
357	2	11	40	12	2	Citations should be provided for these statements. (Mach, Katharine, IPCC WGII TSU)
358	2	11	50	11	50	Cost-effectiveness criteria (give simple example) (Orcherton, Dan F., PACE-Pacific Centre for Envionment and Sustainable Development )
359	2	11	50	11	51	This sentence seems nonsensical. How can cost-effectiveness criteria be useful when one cannot quantify benefits? (UNITED STATES OF AMERICA)
360	2	12	6	12	6	How is modern portfolio theory applicable in such a vast literature as climate science? Please provide an example in at least a sentence (Nair, Malini, Indian Institute of Science)
361	2	12	11	12	20	Examples? (Nair, Malini, Indian Institute of Science)
362	2	12	14	12	14	It would be usef to provide an example of when uncertainties are well-characterised. (Street, Roger B, Oxford University)
363	2	12	17	12	17	Should "low regrets" approaches be mentioned here in place of or in addition to "no regrets"? (Mach, Katharine, IPCC WGII TSU)
364	2	12	22	12	33	robustness and resilience - many good definitions in the chapter - a glossary would make a useful contribution (Soste, Leon, Department of Primary Industries, Victoria, Australia)
365	2	12	23	12	23	What does a "satisfying criteria" mean here? Please explain. (Jones, Richard, Met Office Hadley Centre)
366	2	12	23	12	26	The second sentence of this paragraph is potentially confusing. Is "satisficing" the correct word or is there a typo? If it is a typo, perhaps correcting that word will clarify the sentence. (UNITED STATES OF AMERICA)
367	2	12	38	12	30	The phrase "is sure to surprise us" could be clarified. (Mach, Katharine, IPCC WGII TSU)
368	2	12	38	12	38	Learning ( as a cognitive tool for development, is a crucial aspect of CCIIV... (Orcherton, Dan F., PACE-Pacific Centre for Envionment and Sustainable Development )
369	2	12	38	12	38	Should say "climate change is "likely" to surprise us (high confidence). (UNITED STATES OF AMERICA)
370	2	12	38	12	47	Section 2.2.1.3, paragraph 1: it would be useful to add in text about using forecasts here, including weather forecasting, medium-range forecasts and seasonal forecasts (Hewitt, Chris, Met Office)

#	Ch	From Page	From Line	To Page	To Line	Comment
371	2	12	38	14	16	The section focuses on learning approaches and adaptive management. Important aspects on the elicitation of preferences, cognitive approaches, willingness to adapt etc are not clearly described. (Danae Diakoulaki, Chemical Engineering, NTUA, Greece) (GREECE)
372	2	12	44	12	44	Suggest changing "shocks" to "disturbances." (Toman, Eric, The Ohio State University)
373	2	12	49	12	49	Should read "the concepts of adaptive management (learning by doing)... (Orcherton, Dan F., PACE-Pacific Centre for Environment and Sustainable Development )
374	2	12	49	13	4	adaptive management - I wonder whether AM (particularly passive AM as defined here) might also include the consideration and creation of flexibility in both systems and individual options - an area of research which has not yet received a great deal of consideration across different disciplines (Soste, Leon, Department of Primary Industries, Victoria, Australia)
375	2	12	50	12	53	The glossary could be cross-referenced for this statement. (Mach, Katharine, IPCC WGII TSU)
376	2	13	0	0	0	Figure 2-4 participants to decisions define 'objectives' not 'objections'. (Soste, Leon, Department of Primary Industries, Victoria, Australia)
377	2	13	0	0	0	Please add the very important issues of heat - health action plans, which have now been implemented in 18 European Member States. (Bittner et al, under publication, WHO Bulletin). It represents a very important story of multisectoral decision making and planning, including long term and short term - including early warning. Further PUBS: 2. WHO (2011) Public health advice on preventing health effects of heat. New and updated information for different audiences. WHO Regional Office for Europe, Copenhagen. (available at: <a href="http://www.euro.who.int/__data/assets/pdf_file/0007/147265/Heat_information_sheet.pdf">http://www.euro.who.int/__data/assets/pdf_file/0007/147265/Heat_information_sheet.pdf</a> ; accessed 18 October 2012)\n\n4. WHO (2009a) EuroHEAT: Improving public health responses to extreme weather events /heat-waves; Summary for policy makers.WHO Regional Office for Europe, Copenhagen. (available at: <a href="http://www.euro.who.int/__data/assets/pdf_file/0009/95913/E92473.pdf">http://www.euro.who.int/__data/assets/pdf_file/0009/95913/E92473.pdf</a> ; accessed 19 October 2012)\n\n5. WHO (2009b). EuroHEAT: Improving public health responses to extreme weather events /heat-waves; Technical summary.WHO Regional Office for 8. Lowe D, Ebi KL, Forsberg B. Heatwave early warning systems and adaptation advice to reduce human health consequences of heatwaves. Int J Environ Res Public Health. 2011;8(12):4623-4648\n\n13. Morabito M, Profili F, Crisci A, Francesconi P, Gensini GF, Orlandini S. Heat-related mortality in the Florentine area (Italy) before and after the exceptional 2003 heat wave in Europe: an improved public health response? Int J Biometeorol. 2012;56(5):801-810 \n\n (Menne, Bettina, WHO)
378	2	13	0	13	0	Will there be a discussion of the limits of adaptive management (e.g., when confronted with need for transformational adaptation, especially when urgency will tax small adjustments)? (Street, Roger B, Oxford University)
379	2	13	1	13	54	Section should provide more concrete examples from the Pacific island countries and territories (PICTs) (Orcherton, Dan F., PACE-Pacific Centre for Environment and Sustainable Development )
380	2	13	12	13	12	(Hertzlner, 2007) reference is not listed in the reference section. (UNITED STATES OF AMERICA)
381	2	13	36	12	39	In text and Figure 2-4 replace "participants to a decision" with "participants in a decision" (Jones, Richard, Met Office Hadley Centre)
382	2	13	46	13	53	Important to note that another barrier is the need to balance learning outcomes with the mindset that governments need to be able to show on the ground outcomes and value for the expenditure of public funds. (AUSTRALIA)



#	Ch	From Page	From Line	To Page	To Line	Comment
383	2	14	19	0	0	Section 2.2.2 on Institutional Context defines institutions quite clearly, but does not clearly define governance. It also does not indicate how these two concepts, which are often used interchangeably, are interlinked or differentiated within the conceptual framework being utilized. As such it is unclear to reader how exactly good governance provides "key institutional settings for addressing problems" line 40 p. 15. For good overview of these issues, see Dover, S. and Hezri, A. 2010. Institutions and policy processes: the means to the ends of adaptation. WIREs Climate Change 1(1): 212-231. (Granderson, Ainka, University of Melbourne)
384	2	14	19	0	0	Section 2.2.2. The first sentence is a great motivator. But the section does not tell us in what way institutions can be effective in CCIAV. The last sentence says that institutions need to be updated but it is not clear in what way. I suggest this section should provide more concrete advice or be deleted. If it is retained, the various subsections should have references to other chapters which use the concepts discussed here. (Wright, David, University of Ottawa)
385	2	14	25	15	33	This section is confusing. Capacity building is hardly mentioned, and it deals mostly with institutions without a clear conclusion. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
386	2	14	27	14	30	In defining "institutions," the glossary should be cross-referenced. (Mach, Katharine, IPCC WGII TSU)
387	2	14	31	14	32	The sentence "The strength ..." is not clear, please rephrase or elaborate. (Jones, Richard, Met Office Hadley Centre)
388	2	14	40	14	40	Need to be clear as to the context in which adaptation is a local issue. It can also play out at the national and regional levels with all levels having implications for the others. Inconsistencies across these levels can lead to maladaptation (Street, Roger B, Oxford University)
389	2	14	43	14	43	Ambiguous statement "identified institution is one of the key determinants of adaptive capacity" (what institutional proponents are determinants of adaptive capacity)? (Orcherton, Dan F., PACE-Pacific Centre for Environment and Sustainable Development )
390	2	14	53	14	53	Presence alone is not sufficient. Institutions themselves need to be effectively functioning and accept they have a role in reducing vulnerability. They also need the capacity to take action to reduce vulnerability. (AUSTRALIA)
391	2	14	53	14	53	What does a "uniform presence" mean here? Please explain. (Jones, Richard, Met Office Hadley Centre)
392	2	15	0	31	0	The chapter clearly shows the link between water availability and the observed and projected climate change worldwide. (Some, Leopold, Centre National de la Recherche Scientifique Technologique)
393	2	15	1	15	1	suggest "... Long-term responses to climate change and climate variability" (Hewitt, Chris, Met Office)
394	2	15	6	15	6	I do not agree that "Climate change is a development issue", it is an issue for development. Please rephrase. (Jones, Richard, Met Office Hadley Centre)
395	2	15	6	15	7	Strong claim. Climate change does not specifically/only impact sustainable development in developing countries, right? Maybe rephrase the sentence into "Climate change is a development issue and the risks from climate change could, amongst others, significantly impact sustainable development in developing countries'." (NETHERLANDS)
396	2	15	6	15	10	This text supports the usefulness of taking into account current climatic conditions and climate variability (Hewitt, Chris, Met Office)
397	2	15	6	15	12	Some evidence suggest that organisations with responsibilities for DRR, those for planning and other for CCA do not necessarily work in concert with negative implications (Street, Roger B, Oxford University)
398	2	15	8	15	8	The wording here could be adjusted to ensure the statement is not interpreted as prescriptive. (Mach, Katharine, IPCC WGII TSU)

#	Ch	From Page	From Line	To Page	To Line	Comment
399	2	15	11	0	0	Please add "Multilateral... and bilateral...institutions are responding to these challenges. You could use SEI, 2009 as a source: <a href="http://www.sei-international.org/mediamanager/documents/Publications/Climate-mitigation-adaptation/bilateral-finance-institutions-climate-change.pdf">http://www.sei-international.org/mediamanager/documents/Publications/Climate-mitigation-adaptation/bilateral-finance-institutions-climate-change.pdf</a> (Harnisch, Jochen , KfW)
400	2	15	17	15	17	Please explain "organised field building", this is not clear. (Jones, Richard, Met Office Hadley Centre)
401	2	15	23	15	31	This paragraph introduces two concepts "Discursive frame analysis" and "Analytic Deliberation" with very little explanation and no apparent purpose. (UNITED STATES OF AMERICA)
402	2	15	25	15	28	Sentence beinning "frame structure,..." conveys no meaning. (UNITED STATES OF AMERICA)
403	2	15	27	15	28	Unclear sentence. Suggestion: Discursive frame analysis helps to understand how various issues are described, what actors are involved, and their methods of organization.'\n\n (NETHERLANDS)
404	2	15	27	15	28	Discursive frame analysis that understands how various issues are described, the actors involved and their methods of organisation. This is an incomplete sentence. Interesting section, please fix or expand. (UNITED STATES OF AMERICA)
405	2	15	27	15	28	The sentence "Discursive ..." is either incomplete or needs rewording. (Jones, Richard, Met Office Hadley Centre)
406	2	15	34	0	0	This section is very theoretical. Some of the literature cited is rather old. There are statements that are quite obvious. The importance of governance for adaptation is not duly highlighted. Some examples of governance schemes and systems in different adaptation strategies would have been very helpful. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
407	2	15	36	0	0	The governance concept has been introduced in political science as a differentiation from government concept. Government is top-down, governance is bottom-up. (Grothmann, Torsten, Carl von Ossietzky University of Oldenburg)
408	2	15	39	15	39	The purpose of the distinction between governanace and good governance is not clear. (UNITED STATES OF AMERICA)
409	2	15	39	15	40	What is the difference between governance and good governance. This sentence previous only describes governance. Perhaps suggestion would be to add what good governance is (Orcherton, Dan F., PACE-Pacific Centre for Envionment and Sustainable Development )
410	2	15	40	15	40	Use of "requires" could be reconsidered to ensure a policy neutral formulation. (Mach, Katharine, IPCC WGII TSU)
411	2	15	40	15	41	An obvious statement about adaptation and mitigation requiring governance, don't build on the potential differences and specificities of adaptation governance versus mitigation governance. This could have been one of the key axes of this chapter. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
412	2	15	41	15	44	The key findings of chapters 19 and 20 should be cross-referenced here. (Mach, Katharine, IPCC WGII TSU)
413	2	15	43	15	43	increase with increasing - this is confusing. Maybe change the second one into 'progressing/growing or the like'.\n\n (NETHERLANDS)
414	2	15	54	15	54	Is the use of "very likely" here meant to follow WG2 conventions? If so, clarify by italicizing both words and possibly include a definition in parentheses. (Toman, Eric, The Ohio State University)
415	2	15	54	15	54	Is "very likely" being used in an "IPCC sense"? Also, the sentence does not end. (Jones, Richard, Met Office Hadley Centre)
416	2	15	54	15	54	Casual usage of "very likely" should be avoided, as it is a reserved likelihood a term. To characterize its degree of certainty in the statement, the author team may wish to consider instead a level of confidence. (Mach, Katharine, IPCC WGII TSU)

#	Ch	From Page	From Line	To Page	To Line	Comment
417	2	16	0	0	0	Non economic perspective should be added when addressing 'value' in the social context pg.16 or 'assessing damage' within future scenarios of cc pg. 29. (Corendea, Cosmin, United Nations University Institute for Environment and Human Security )
418	2	16	0	16	0	Figure 2.1 could be simplified to make it more understandable (Some, Leopold, Centre National de la Recherche Scientifique Technologique)
419	2	16	1	16	2	What are the implications from a governance or legal dimension perspective? (Street, Roger B, Oxford University)
420	2	16	1	16	8	It would be good to link this paragraph to climate services (Hewitt, Chris, Met Office)
421	2	16	2	16	2	Where Chapter 6 is cross-referenced, it would be preferable to indicate the specific relevant sections. Additionally, chapter 28 could be cross-referenced here. (Mach, Katharine, IPCC WGII TSU)
422	2	16	3	0	0	Suggest adding a reference for "...may result in new territorial claims". (CANADA)
423	2	16	3	16	0	The phrase "Runoff changes ... precipitation" implies seasonal precipitation will reduce which is incorrect in general and so this needs rephrasing. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
424	2	16	3	16	4	The phrase "Runoff changes ... precipitation" implies seasonal precipitation will reduce which is incorrect in general and so this needs rephrasing. (Jones, Richard, Met Office Hadley Centre)
425	2	16	5	16	0	As with the runoff statement above, "Addition food insecurity" is quoted as a "given" and without supporting references. Please rephrase and/or add references. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
426	2	16	5	16	5	As with the runoff statement above, "Addition food insecurity" is quoted as a "given" and without supporting references. Please rephrase and/or add references. (Jones, Richard, Met Office Hadley Centre)
427	2	16	11	0	0	Section 2.2.3. This section details differences in ethics, decision making, risk perception etc. among different cultures and societies, but does not tell us how those differences affect climate change adaptation. I suggest in each subsection addressing the question: "Given that there are these differences what should we do about them in order to adapt most effectively to climate change?" (Wright, David, University of Ottawa)
428	2	16	11	0	0	Section 2.2.3. Throughout this section, the chapter team should coordinate its assessment with chapters 14-17 as much as possible. Cross-references to specific relevant sections should be made, with chapter 16 especially relevant, and overlap should be reduced. (Mach, Katharine, IPCC WGII TSU)
429	2	16	11	23	25	Section 2.2.3 seems particularly ineffective. Many statements are made which are no doubt true. However, no logic to the organization of the section is apparent. Also, if there are key messages for the reader, these are not apparent either. (UNITED STATES OF AMERICA)
430	2	16	32	17	14	This is currently a weak section, considerably shorter than other sections (e.g. the one on psychology), the ultimate point of which needs to be clearer. I rather disagree with the opening sentence. Certainly in academia at least, governance is no longer viewed in this way. However, government is indeed still the major actor in many contexts. Other sources on the subject of climate change governance could be consulted/ referenced, e.g. Ostrom E. Polycentric systems for coping with collective action and global environmental change. Global Environmental Change 2010, 20: 550–557. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
431	2	16	38	0	38	The apparent suggestion that mitigation cannot be complementary with adaptation contradicts what has been said in section 1.2.5. This reinforces the need to make a better job of introducing the links in Ch 1. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)

#	Ch	From Page	From Line	To Page	To Line	Comment
432	2	16	40	16	41	Though there may be a paucity of case studies or theoretical models dealing with the effect of values on contemporary adaptive decision-making, there are numerous historical, archaeological, and anthropological studies that explicitly address the effect of cultural and social values on adaptation and adaptive capacity. Perhaps this is an area where further consideration of historical examples could make up for the current dearth of contemporary information. See: Karl Butzer & Georgina Endfield, special issue of PNAS, 109.10 (2012) including their introductory piece "Critical perspectives on historical collapse." pgs. 3628-3621. (Sundberg, Adam, University of Kansas)
433	2	16	43	16	43	Should read " the importance of cultural values and traditions in decision-making related to climate change... " (Orcherton, Dan F., PACE-Pacific Centre for Environment and Sustainable Development )
434	2	16	43	16	45	The second point here is unclear and the text does not seem to return to it below. (Toman, Eric, The Ohio State University)
435	2	17	1	17	2	Evidence suggests that there is a diversity of values within a given community (not a homogeneous entity) and that these values can change over time (as the community evolves). Not sure whether there is literature on this diversity or evolution. (Street, Roger B, Oxford University)
436	2	17	1	17	8	This paragraph is a good example of a key weakness of this chapter. Statements are made here which are not tied to anything that comes before or after in the chapter. So why does the reader need to know this? There's no logical sequence of thoughts; just a lot of disconnected blocks of material. (UNITED STATES OF AMERICA)
437	2	17	1	17	52	It is unclear how these different ideas relate to each other. As currently written, this section feels like a collection of unrelated concepts. (Toman, Eric, The Ohio State University)
438	2	17	7	17	40	Lines 7-8 and 35-40 overlap, and it would be useful to clearly present the linkage between them. (Mastrandrea, Michael, IPCC WGII TSU)
439	2	17	22	17	24	This is vague. What is "local" and "comprehensive" information processing? (UNITED STATES OF AMERICA)
440	2	17	22	17	24	It would be helpful to indicate more specifically what is meant by "local information processing" versus "more comprehensive information processing." (Mach, Katharine, IPCC WGII TSU)
441	2	17	29	17	29	Readers could usefully be directed to a definition of maladaptation somewhere in the document. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
442	2	17	31	18	9	On monitoring and evaluation, see also: Haris E. Sanahuja (2011). Tracking Progress for Effective Action A Framework for Monitoring and Evaluating Adaptation to Climate Change. Global Environment Facility. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
443	2	17	32	17	32	See also Orlove et al. (2010) Indigenous Climate knowledge in southern Uganda: the multiple components of a dynamic regional system. In Climatic Change 100(2): 243-265 and (Ramos Castillo, Ameyali, United Nations University - Institute of Advanced Studies)
444	2	17	35	17	37	Should overlap with the value orientations on lines 7-8 be acknowledged? (Mach, Katharine, IPCC WGII TSU)
445	2	17	35	17	40	We think it is a bit confusing that not the standard groups of the cultural theory are used. We guess the authors chose Kahan's terminology on purpose. Maybe a bit more explanation on this terminology is warranted?\n\n (NETHERLANDS)

#	Ch	From Page	From Line	To Page	To Line	Comment
446	2	17	41	0	0	Section 2.2.3.1 Value setting has a major gap. It talks about value setting and talks about interesting theories such as cultural theory of risk perception, but entirely misses the subject of indigenous values and perceptions of climate change. I think it needs a paragraph, perhaps at about line 41 on p. 17, on this topic, using such references as: Huntington, H.P., S. Fox, F. Berkes, I. Krupnik et al. 2005. The changing Arctic: Indigenous perspectives. Chapter 3, Arctic Climate Impact Assessment (ACIA). Cambridge Salick, J. and N. Ross. 2009. Traditional peoples and climate change [Introduction to Special Issue]. Global Environmental Change 19: 137-139. Eicken, H. 2010. Indigenous knowledge and sea ice science: What can we learn from indigenous ice users? Pages 357- 376, in: Krupnik, I.; Aporta, C.; Gearheard, S.; Laidler, G.J.; Kielsen Holm, L. Eds. 2010. SIKU: Knowing Our Ice: Documenting Inuit Sea Ice Knowledge and Use. Springer. Marin, A. 2010. Riders under storms: contributions of nomadic herders' observations to analysing climate change in Mongolia. Global Environmental Change 20: 162-176. Nakashima, DJ, Galloway, K, McLean, M, Thrulstrup, HD, Ramos Castillo, A, Rubis, J Weathering Uncertainty: Traditional Knowledge for Climate Change Assessment and Adaptation. UNESCO, Paris, 2012 (Berkes, Fikret, University of Manitoba)
447	2	17	42	17	45	Paragraph is unclear. How does it relate to the others here? What does this paragraph add? (Toman, Eric, The Ohio State University)
448	2	17	42	17	45	Suggest omitting this paragraph. (UNITED STATES OF AMERICA)
449	2	17	51	17	52	In place of "moderate confidence," the phrase "medium confidence" should be presented in italics. (Mach, Katharine, IPCC WGII TSU)
450	2	18	0	18	0	Something is wrong with the two headings on this page. The heading "Psychological factors"(line 39) is not numbered; I assume it is supposed to be 2.2.3.3. But if this heading is on the same level as heading 2.2.3.2. (Cultural Determinants and Psychology, line 1) then psychology shouldn't be part of both. I suggest you use 2.2.3.2. Cultural Determinants and 2.2.3.3. Psychological Factors. (Böhm, Gisela, University of Bergen)
451	2	18	4	18	5	The statement "Decision making in climate science cannot be described as rational" is highly debatable. First, I am not sure what "cannot be described as" means - do you mean that some evidence shows that decisions often deviate from rationality? Second, the term rational is contentious. You cannot say that decisions are not rational without specifying what you mean with rational. Usually rationality refers to adherence to the rationality axioms, which is a very specific sense. Research does not warrant such a strong statement as yours in such generality. (Böhm, Gisela, University of Bergen)
452	2	18	4	18	5	The meaning of the sentence beginning "Decision-making" is unclear. (UNITED STATES OF AMERICA)
453	2	18	9	18	14	This seems to be a lot of space dedicated to one paper that describes one approach to describe how people may make decisions relating to ecological issues. I suggest reducing substantially and emphasizing the literature on decision-making in general and related to climate change. Where it makes sense, the writing can also bring in well developed concepts from other areas but I would suggest against relying too heavily on individual papers or research into ecological decision-making versus those from other relevant areas (e.g., health, transportation, etc.). (Toman, Eric, The Ohio State University)
454	2	18	16	18	17	As above, the connection to climate change decision making seems tenuous here. (Toman, Eric, The Ohio State University)
455	2	18	20	18	20	what is "a gift economy?" (UNITED STATES OF AMERICA)
456	2	18	23	18	23	Consider the terms "associative", "similarity" and "contiguity" for the glossary. (Jones, Richard, Met Office Hadley Centre)
457	2	18	30	18	32	Would help to indicate what that influence is on complex problem-solving or to provide an example. (Street, Roger B, Oxford University)

#	Ch	From Page	From Line	To Page	To Line	Comment
458	2	18	34	18	36	What do you mean that policy makers' knowledge is less important than journalists'? Important for what? What Sundblad et al. showed is that politicians know less about climate change causes, consequences, and the state of the climate system than journalists. (Böhm, Gisela, University of Bergen)
459	2	18	34	18	36	The term 'cultural knowledge' is inappropriate in this context. All knowledge, even scientific knowledge, is ultimately cultural (the history of science documents the origins of science in Occidental culture, and even though the practice of science has been adopted by a wide variety of other socio-cultural groups, the cultural specificities of scientific thought persist). A more appropriate term in the context of this paragraph would be 'indigenous and local knowledge'. ALSO SUGGEST ADDING TO THE END OF THIS PARAGRAPH: Recent reviews of the scientific literature on the relevance of local, traditional or indigenous knowledge for CCAV include: Roncoli, C., Crane, T. and Orlove, B. 2009. Fielding climate change in cultural anthropology. In: S.A. Crate and M. Nuttall (eds.) Anthropology Climate Change From Encounters to Actions. Left Coast Press, pp. 87–115 [citing 192 sources]; Crate, S.A. 2011. Climate and culture: anthropology in the era of contemporary climate change. Annual Review of Anthropology, 40, 175–94 [citing 136 sources]; Nakashima, D.J., Galloway McLean, K., Thulstrup, H.D., Ramos Castillo, A. and Rubis, J.T. 2012. Weathering Uncertainty: Traditional Knowledge for Climate Change Assessment and Adaptation. Paris, UNESCO, and Darwin, UNU, 120 pp. [citing 305 sources]. (Nakashima, Douglas, UNESCO)
460	2	18	39	18	39	The subsection title "Psychological factors" is apparently missing a subsection number. Perhaps it is supposed to be 2.2.3.3. (UNITED STATES OF AMERICA)
461	2	18	39	19	41	Particularly in this section on psychological factors, which is my own expertise, I notice that the wording is often strange. The sentences often just do not seem quite right. It is difficult to tell whether the concepts are used correctly. I assume that much of this ambiguity and confusion is solved when the chapter is proof read by an English native speaker. (Böhm, Gisela, University of Bergen)
462	2	18	39	19	41	The section is strongly underrepresenting the many psychological publications on factors influencing climate change perception and responses. A good overview is given in APA, 2010. \nMajor psychological theories for describing and explaining adaptation decisions and behavior are not mentioned: Protection Motivation Theory (PMT; Rogers, 1983; Rogers and Prentice-Dunn, 1997), Person-relative-to-event (PrE) model (Mulilis and Duval, 1997) , Protective Action Decision Model (PADM) (Lindell and Perry, 1992; Lindell and Perry, 2012).\nParticularly factors dealt with in social psychological research on climate change (group norms, ideologies, learning by observation etc.) are strongly underrepresented.\n\nReferences:\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.\nLindell, M. K. and Perry, R. W.: Behavioral foundations of community emergency planning. Hemisphere, Washington, DC, 1992.\nLindell, M. K. and Perry, R. W.: The Protective Action Decision Model: Theoretical Modifications and Additional Evidence. RISK ANAL 32 (4): 616–632, 2012.\nMulilis, J. P. and Duval, T. S.: The PrE model of coping and tornado preparedness: Moderating effects of responsibility. J APPL SOC PSYCHOL, 27 (19): 1750–\n1766, 1997.\nRogers, R. W.: Cognitive and physiological processes in fear appeals and attitude change: a revised theory of protection motivation, in: Cacioppo, B. L. and Petty, L. L. (eds.), Social Psychophysiology: A Sourcebook. Guilford, London, 153-176, 1983.\nRogers, R. W. and Prentice-Dunn, S.: Protection motivation theory, in: Gochman, D. S. (ed.), Handbook of Health Behaviour Research. I: Personal and Social Determinants. Plenum Press, New York, 113-132, 1997\n\n(Grothmann, Torsten, Carl von Ossietzky University of Oldenburg)
463	2	18	41	19	41	This section is extremely vague and difficult to read. What are the take-away messages? (UNITED STATES OF AMERICA)



#	Ch	From Page	From Line	To Page	To Line	Comment
464	2	18	44	18	45	That some psychological models "integrate even more psychological factors" than other psychological models sounds strange; what do you mean? (Böhm, Gisela, University of Bergen)
465	2	18	48	18	50	It seems odd to characterize social dilemmas as "Psychological factors". I do think the discussion of such dilemmas could be expanded elsewhere in this chapter. (Toman, Eric, The Ohio State University)
466	2	18	48	18	50	The first 3 sentences in this paragraph jump from one thought to another in a disconnected way. What does it mean to say "decision making can also be realized without thinking?" Is this simply stating that it is possible to put no thought into a decision? If so, the thought can be deleted: it tells us nothing we do not already know. (UNITED STATES OF AMERICA)
467	2	18	50	18	50	What does "Decision-making can be realized without thinking" mean? Please clarify. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
468	2	18	50	18	50	What does "Decision-making can be realized without thinking" mean? Please clarify. (Jones, Richard, Met Office Hadley Centre)
469	2	18	51	18	52	trade-offs between utility and probability is wrong; you trade off different qualities of an option (e.g., different consequences or the combinations of utility and probability for different options, for example when trading off a large damage of low probability with a smaller damage of higher probability); but utility and probability are not traded off. (Böhm, Gisela, University of Bergen)
470	2	19	4	19	14	Memory is an important, unexamined dimension of the cultural and value-based assessment of risk and decision making and may be a useful subcategory of the psychological factors in this section. Memory studies can refer to individualistic memory (explicit psychological element here), collective/cultural memory (which is less psychological and has more sociological implications), or both. Most work on "collective memory" can be traced back to Maurice Halbwachs On Collective Memory (Chicago: University of Chicago Press, 1992), whereas cultural memory is usually derived from the work of Jan and Aleida Assman and has more of an emphasis on cultural production. (Astrid Erll and Ansgar Nünning, Cultural Memory Studies: An International and Interdisciplinary Handbook (Berling: Walter De Gruyter, 2009). Both concepts are crucial elements in understanding the connections between individual experience of environmental change and their social manifestations. Recent work in anthropology and history underscores the importance of repeated, communal experience and memory in disaster learning processes. [Christian Pfister, "Learning from Nature-induced Disasters," in Natural Disasters, Cultural Responses: Case Studies Toward a Global Environmental History, Christian Pfister and Christof Mauch eds. (New York: Lexington Books, 2009) pgs. 17-40.] [Pfister, The Monster Swallows You: Disaster Memory and Risk Culture in Western Europe, 1500-2000. Rachel Carson Center Perspectives vol. 1 (2003) pgs. 1-23.] It should be noted that much of this work deals with disasters (of which many are linked to climate), but I have yet to see any that explicitly deal with "memory of climate change." (Sundberg, Adam, University of Kansas)
471	2	19	11	19	12	Unclear as to where this statement (Natural variation in the world's climate is a low risk) actually comes from. It is an interesting statement considering recent events (droughts, heat waves, flooding, etc.) and that some countries identify these risks as significant at the national level. (Street, Roger B, Oxford University)
472	2	19	21	19	23	The results of research in general and our publication in particular is not correctly described here. Please change text as follows "Cognitions influence people's adaptive decisions and actions. Grothmann and Patt (2005) develop and test a socio-cognitive model of proactive private adaptation to climate change. They show, for instance, the importance of perceptions of adaptive capacities in addition to perceptions of risk. If a high perceived climate change risk is combined with low perceived adaptive capacities the response is fatalism, denial and wishful thinking." (Grothmann, Torsten, Carl von Ossietzky University of Oldenburg)

#	Ch	From Page	From Line	To Page	To Line	Comment
473	2	19	34	19	36	Here, a single study is used to give a sweeping statement about policy makers. This gives a false impression and is an incorrect representation of the true situation, and the statement should therefore be deleted. (Sjostrom, Asa, Swedish Meteorological and Hydrological Institute)
474	2	19	34	19	36	This single study is used to give a sweeping statement about policy makers, which gives a false impression and is an incorrect representation of the true situation. It should be rewritten or deleted. (SWEDEN)
475	2	19	34	19	36	Not clear what this sentence means. Less important according to whom? By what standard? (UNITED STATES OF AMERICA)
476	2	19	34	19	36	The final sentence does not seem relevant, consider removing. (Jones, Richard, Met Office Hadley Centre)
477	2	19	35	19	36	In what sense is importance meant here? (Mastrandrea, Michael, IPCC WGII TSU)
478	2	20	8	20	9	I would suggest that resilience is also a key examples (Street, Roger B, Oxford University)
479	2	20	24	20	24	should read "Cultural anthropological and linguistic studies from different countries (name...), Conclude the dictionary definitions are inadequate for communicating the complex framings..." (Orcherton, Dan F., PACE-Pacific Centre for Environment and Sustainable Development )
480	2	20	29	20	30	The use of italics here is unclear and could be avoided. (Mach, Katharine, IPCC WGII TSU)
481	2	20	44	20	45	In complex situations, problem risk.... This sentence is complicated and awkward (Orcherton, Dan F., PACE-Pacific Centre for Environment and Sustainable Development )
482	2	20	44	20	48	This entire paragraph is awkward. Consider removing (Orcherton, Dan F., PACE-Pacific Centre for Environment and Sustainable Development )
483	2	20	50	20	50	Bad grammar: "Language is but not the only tool" (UNITED STATES OF AMERICA)
484	2	21	6	21	23	Suggest omitting these 3 paragraphs. Hard to know what important information they convey. (UNITED STATES OF AMERICA)
485	2	21	11	21	11	specialist knowledge is undefined. (Orcherton, Dan F., PACE-Pacific Centre for Environment and Sustainable Development )
486	2	21	16	21	16	See also Brugnach et al. (2008) Toward a Relational Concept of Uncertainty: about Knowing Too Little, Knowing Too Differently and Accepting Not to Know. In Ecology and Society 13(2): 30. (Ramos Castillo, Ameyali, United Nations University - Institute of Advanced Studies)
487	2	21	17	21	17	The phrase "narratives that inform these narratives" is not clear, please rephrase. (Jones, Richard, Met Office Hadley Centre)
488	2	21	20	21	23	Suggest that the sentence stating "narratives of risk and vulnerability demotivate indigenous people where scientific... narratives... promote resilience" could be supplemented by further text that describes the value of traditional knowledge or early polar explorers who survived due to cooperation with Inuit and FN. See "The Earth is Faster Now" (eds Krupnik and Jolly 2002, ARCUS) . (CANADA)
489	2	21	26	0	0	Section 2.2.3.4. The chapter team should consider further cross-references to relevant working group 3 chapter sections, aside from the broad reference at the end of the section. The effectiveness of the very short subsection approach could also be considered. (Mach, Katharine, IPCC WGII TSU)
490	2	21	26	0	0	Section 2.2.3.4: Ensure that the range of views in the literature is clearly presented in each subsection. Currently it is not clear this is being done. (Mastrandrea, Michael, IPCC WGII TSU)
491	2	21	36	21	37	Is this not also the case at the national and local levels? This point also refers to the role of social justice and ethics and the national and local scales. (Street, Roger B, Oxford University)
492	2	21	37	21	44	It would seem preferable to integrate and assess the quotes provided on these lines. Additionally, further citations ideally should be provided for lines 37-40. (Mach, Katharine, IPCC WGII TSU)

#	Ch	From Page	From Line	To Page	To Line	Comment
493	2	21	44	21	47	In th sentence starting "The main ethical concerns include:É," one of the ethical concerns is simply "low". The issue is that the concerns need to be seperated by semicolons instead of commas, and one of the concerns has a comma in it. (UNITED STATES OF AMERICA)
494	2	21	45	21	45	economic is a lone adjective in a list of nouns. (UNITED STATES OF AMERICA)
495	2	21	54	21	54	(United Nations, 1992) is not listed in the references. (UNITED STATES OF AMERICA)
496	2	22	2	22	2	The sentence begins "Scheider and Lane (2006) distinguish three fields:..." The term "fields" was not previously defined or discussed and is a bit confusing. I suggest tying this important concept into the previous discussions. If the term "fields" must be used, then introduce the term somehow. (UNITED STATES OF AMERICA)
497	2	22	3	22	3	Write out "Fourth" and "Fifth" (UNITED STATES OF AMERICA)
498	2	22	5	0	0	geo-engineering' should be spelt 'geoengineering' to be consistent with the rest of the report. (Vivian, Chris, IMAREST)
499	2	22	5	0	0	geo-engineering' should be spelt 'geoengineering' to be consistent with the rest of the report. (Vivian, Chris, IMAREST)
500	2	22	11	22	17	A more nuanced disussion of inter-country issues is advised. Sppecifically, a distinction should be made between emissions that occurred before CO2 was known to be harmful (ca 1990) and those that occurred after that time. (UNITED STATES OF AMERICA)
501	2	22	21	22	21	From what literature are the 3 characteristics drawn? (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
502	2	22	24	22	25	A balanced presentation of this information, reflecting the full range of scientific views, should be ensured. (Mach, Katharine, IPCC WGII TSU)
503	2	22	27	22	27	For this statement, it would seem more balanced to also provide alternative arguments that exist. (Mach, Katharine, IPCC WGII TSU)
504	2	22	31	22	34	This a somewhat of a run-on sentence. Needs better punctuation, at a minimum. (UNITED STATES OF AMERICA)
505	2	22	40	22	42	Rather than citing one pre-AR4 study to support this statement, it would be preferable to cross-reference the discussion of this literature in Chapter 4 and relevant conclusions. (Mastrandrea, Michael, IPCC WGII TSU)
506	2	22	45	22	45	3 should read "Who should make such decisions ..." (Jones, Richard, Met Office Hadley Centre)
507	2	22	53	23	3	Another useful reference is Ackerly and Vanderbergh (2007) Climate Change Justice: The Challenge for Global Governance. In Geo Invironemntal Law Review 553. Also, perhaps useful to include mention of specific examples (Ramos Castillo, Ameyali, United Nations University - Institute of Advanced Studies)
508	2	23	0	0	0	Box 2-2 is beautiful. It highlights that the engagement of stakeholder perspectives and knowledge in the adaptation planning process is feasible and can be eminently succesful (Soste, Leon, Department of Primary Industries, Victoria, Australia)
509	2	23	1	0	0	This section seems to be the most important and clearest of the chapter. It could provide more input to the summaries. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
510	2	23	1	23	24	Suggest that there are other social justice issues that should be highlighted (ssee some of the more recent Joseph Roundtree Foundation literature) (Street, Roger B, Oxford University)
511	2	23	5	0	0	The section title does not correspond to the content (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
512	2	23	11	23	18	This paragraph is a lot of vague generalities. (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
513	2	23	33	0	0	Section 2.3.1: Please consider ways to improve the logical structure of this section, as well as considering overlap with previous sections of the chapter. One direction could be to more explicitly organize the section and discussion around Figures 2-5 and 2-6 and their components, which are currently presented at the end of the section but could be introduced earlier. Please also ensure clear referencing of material presented to the underlying literature, as currently, several paragraphs have no references at all. (Mastrandrea, Michael, IPCC WGII TSU)
514	2	23	35	23	37	The specification of the 3 elements of decision support appears quite positivistic and somewhat out of step with the empathy in the preceeding discussion. For instance - 'products' does not refer to the intangibles of different perspectives, insights, understanding and local knowledge brought into the decisional process by the more inclusive approaches advocated in the preceeding sections (Soste, Leon, Department of Primary Industries, Victoria, Australia)
515	2	23	35	23	41	This is a good summary of the decision support elements and could be moved to the Executive Summary and SPM. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
516	2	23	45	23	45	Please replace "wicked" with plain English term. (Jones, Richard, Met Office Hadley Centre)
517	2	23	47	23	48	In what sense is this a 'hierarchy' of agents? If it is, why are individuals at the top? (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
518	2	24	2	24	19	This paragraph is a good example of the sort of material this chapter needs more of. Why? Because a case study gives readers lessons they can learn and examples they can use as models for their own actions. (UNITED STATES OF AMERICA)
519	2	24	14	24	19	This should indicate (if it was the case) the role of climate change risks in this decision-making process. (Street, Roger B, Oxford University)
520	2	24	23	24	28	also see Webb and Beh 2013 (reference at previous comment page 7, line 30) which includes a framework, process and criteria for assessing decision support products, including identification of a set of 'adaptation principles' and then applies these to a wide range of support products (including international products) and translates this to the Australian adaptation decision support context and strategy. (Webb, Bob, Australian National University)
521	2	24	23	24	51	This is excellent - it provides both the framework and specific guidance for information generation feeding into the risk management decision making process. Suggest linking this (and adaptive management?) more strongly to the process summary captured in Figure 2-5 would be useful (Soste, Leon, Department of Primary Industries, Victoria, Australia)
522	2	24	27	0	0	CITE = ? although the points illucidated from line 28 to line 43 are excellent. (Gurung, Tek, Freelance consultant)
523	2	24	31	24	31	Casual usage of "likely" should be avoided. (Mach, Katharine, IPCC WGII TSU)
524	2	24	31	24	32	While process does have value in its own right, it seems questionable to assign it higher value than outcomes. At a minimum, different actors will have a different perspective on this. It would be more defensible to say that development of sound processes should itself be a priority. (UNITED STATES OF AMERICA)
525	2	24	45	24	46	agree, and to support different needs in different contexts see also for example Webb and Beh 2013 (reference at earlier comment) which identifies such differentiation as critical (e.g. at Figure 3.4) whilst also recognising some common needs. (Webb, Bob, Australian National University)
526	2	25	3	25	3	What is meant by 'better' decisions? I would also suggest that such decisions need to be capable of being monitored and evaluated. (Street, Roger B, Oxford University)
527	2	25	3	25	3	What is meant in the opening sentence of this paragraph should be further clarified and specified. (Mach, Katharine, IPCC WGII TSU)
528	2	25	3	25	21	Citations must be provided for all statements in these paragraphs. (Mach, Katharine, IPCC WGII TSU)

#	Ch	From Page	From Line	To Page	To Line	Comment
529	2	25	7	25	9	This sentence implies that there is a need to take account of current climate as well as climate change (Hewitt, Chris, Met Office)
530	2	25	11	25	12	If these statements are conclusions of the chapter, calibrated uncertainty language could be used to characterize the chapter team's degree of certainty in the finding. (Mach, Katharine, IPCC WGII TSU)
531	2	25	11	25	21	Redundancy of these paragraphs with earlier material in the chapter could be considered and reduced. (Mach, Katharine, IPCC WGII TSU)
532	2	25	11	26	39	this very useful summary of some of the prerequisites of good decisions could perhaps be augmented by summary insights from 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) which includes a common set of challenges from a wide range of local/regional projects and also identifies some of the interdependencies between the challenges, and by the set of 'good adaptation principles' in Webb and Beh 2013 (see reference earlier - especially Section 3.1) which can be seen as part of framing a response to these challenges (Webb, Bob, Australian National University)
533	2	25	16	25	16	Casual usage of "likely" should be avoided, as it is a reserved likelihood term. (Mach, Katharine, IPCC WGII TSU)
534	2	25	35	25	35	If this statement is a conclusion of that chapter, calibrated uncertainty language could be used to characterize the chapter team's degree of certainty in the finding. (Mach, Katharine, IPCC WGII TSU)
535	2	25	35	26	27	How are these concepts different from those described earlier? In particular, much time is previously devoted to institutions. I suggest considering how these concepts relate to the underlying issue of decision support and make this connection clearer in the paragraphs here. Currently, this reads as very disconnected from the rest of the section on decision support. (Toman, Eric, The Ohio State University)
536	2	25	42	25	42	Consider the terms "normative" and "positivist" for the glossary. (Jones, Richard, Met Office Hadley Centre)
537	2	25	45	25	46	Please clarify the phrase "via management lens through how innovations" as this does not make sense. (Jones, Richard, Met Office Hadley Centre)
538	2	25	48	25	50	The 3 styles presented in this sentence could be indicated more clearly. (Mach, Katharine, IPCC WGII TSU)
539	2	25	52	26	4	Citations should be provided for all statements in this paragraph. (Mach, Katharine, IPCC WGII TSU)
540	2	26	0	0	0	Figure 2-5 provides an excellent synthesis of the overall decisional process - well done to the developer. Suggestions for consideration - the decision scoping / decision making box might make reference to incorporating stakeholder values. The decision analysis / governance box combines technical expertise, management plans and policies but not stakeholder knowledge. The decision analysis / CCIIV box refers to analysis of risks and testing of adaptation options but not to final option selection or specification of the rationale underlying why that option was chosen. We simply jump to decision implementation (Soste, Leon, Department of Primary Industries, Victoria, Australia)
541	2	26	5	26	25	Figure 2-6 could be better explained and linked to the text. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
542	2	26	6	0	0	Boundary institutions: can examples of this kind of institution be added? Is the European Environment Agency a boundary institution? (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
543	2	26	8	26	11	The glossary should be referenced for this definition. In addition, the chapter team could replace the definition here with a reference to the glossary. (Mach, Katharine, IPCC WGII TSU)

#	Ch	From Page	From Line	To Page	To Line	Comment
544	2	26	19	26	19	In the sentence "Knowledge is a cultural resource that people can draw from and may also be generated for specific decisions....", here knowledge defined as "cultural resource" is a narrow sense, and inconsistent with knowledge transfer. SUGGESTION: change "Knowledge is a cultural resource that people can draw from and may also be generated for specific decisions." as "Knowledge covers scientific, technological, cultural and institutional resources that people can draw from and may also be generated for specific decisions." (PAN, Jiahua, Chinese Academy of Social Sciences)
545	2	26	19	26	27	An initial challenge is access, but there is also a need for knowledge integration and mobilisation (refer to knowledge exchange literature, including stakeholder engagement). I would also suggest that knowledge exchange that reflects the two-way flow of evidence and knowledge is more appropriate than knowledge transfer. (Street, Roger B, Oxford University)
546	2	26	23	26	23	One cannot have "information transfer" as a "knowledge challenge". Please rephrase. (Jones, Richard, Met Office Hadley Centre)
547	2	26	30	26	31	The climate services element of the figure is not mentioned in the text. Also it would be good to include a reference to the WMO's Global Framework for Climate Services (GFCS) here. (Jones, Richard, Met Office Hadley Centre)
548	2	26	32	26	35	These statements should be clarified, as the 1st sentence indicates that most effort is placed within the scoping and analysis stages, while the 2nd sentence seems to perhaps be adopting a different definition of the "analysis stage"? (Mach, Katharine, IPCC WGII TSU)
549	2	26	37	26	39	Figure 2-5: I am not sure that the text boxes in the "Climate services" line reflect how these services are relevant. Suggest referring to the GFCS documents for guidance on this (and referring to them in the text). (Jones, Richard, Met Office Hadley Centre)
550	2	27	11	30	8	While the information provided in this subsection (2.3.2) is certainly important, it is unclear how it is linked to decision support (the larger section within which it is located). This subsection should be more explicitly linked to decision support. Alternatively, it may be best to move 2.3.2 to after subsection 2.3.3. Climate Information and Services. (Toman, Eric, The Ohio State University)
551	2	27	13	27	13	It could be helpful to indicate further the relevant context/scale here--whose goal? Also, is it possible to make a more nuanced opening statement? (Mach, Katharine, IPCC WGII TSU)
552	2	27	13	27	14	Omit the first sentence of this paragraph. (UNITED STATES OF AMERICA)
553	2	27	13	27	14	First sentence is obvious and thus unnecessary, please remove. (Jones, Richard, Met Office Hadley Centre)
554	2	27	13	27	15	I would suggest that progress is also dependent on our understanding of adaptation and decision making in the context of uncertainties and complex systems. (Street, Roger B, Oxford University)
555	2	27	13	27	26	For the past 2.5 years, the World Bank and Conservation International have led a water resources management boundary organization focused on operational approaches to water as a "theme" rather than as a sector, bridging divides in expertise between engineering, ecology, hydrology, governance, economics, finance, and climate science. The Alliance for Global Water Adaptation (AGWA; <a href="http://alliance4water.org">http://alliance4water.org</a> ) is, among other things, actively working to create a "meta tool" for mainstreaming resilience tools and best practices into water management. AGWA has been evolving into a kind of technical voice of water and climate change. The Adaptation Committee recently requested AGWA to comment on the use of climate models for adaptation purposes, particularly for water management, for instance. A number of governments, many development banks, many NGOs, and the private sector are engaged in AGWA. Development bank AGWA members alone represent more than 20 billion USD in annual water investments, and AGWA products and tools are being used as the basis of core investment, operations, and management strategies for organizations ranging from the World Bank to the US Army Corps of Engineers. (Matthews, John, Conservation International)



#	Ch	From Page	From Line	To Page	To Line	Comment
556	2	27	16	27	20	It is not clear how these programmes relate to the assessment. Either expand on this or remove this text. (Jones, Richard, Met Office Hadley Centre)
557	2	27	29	27	29	Assessing impacts: I am surprised that there was no discussion here of impact models - hydrology, crops, ..., of the growing use for decision support systems and complex systems models (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)
558	2	27	29	28	49	Section should also mention the development of Participatory Integrated Assessments (PIA, cf. Salter et al. 2010) to assess impacts, especially at regional and local scales (links back to my comment on better representation of stakeholder involvement methods in chapter 2, page 7, line 13)\nReferences:\nSalter, Jonathan, John Robinson, and Arnim Wiek. 2010. Participatory methods of integrated assessment - a review Climate Change 1 (5): 697-717.\n (Grothmann, Torsten, Carl von Ossietzky University of Oldenburg)
559	2	27	31	27	31	Climate impact assessment does not necessarily "draw on interdisciplinary studies". Please rephrase. (Jones, Richard, Met Office Hadley Centre)
560	2	27	35	27	36	Short-term adjustments can also lead to less ideal long-term outcomes, for example through maladaptation. Should this be acknowledged? (Mach, Katharine, IPCC WGII TSU)
561	2	27	39	27	39	The last word in this line should be "they," not "it." (UNITED STATES OF AMERICA)
562	2	27	42	27	42	Colloquialism "muddling through" seems unnecessary. It's not at all clear what is meant by it without reading the cited reference. A short explanation instead would be much better. (UNITED STATES OF AMERICA)
563	2	27	47	27	48	The description "Scenarios of ... atmospheric conditions" is too simplistic and should provide more detail. (Jones, Richard, Met Office Hadley Centre)
564	2	28	12	0	0	Surprising not to see reference to the EU's new 'Clearing House', or platform, launched earlier this year. See <a href="http://www.eea.europa.eu/themes/climate/european-climate-adaptation-platform-climate-adapt">http://www.eea.europa.eu/themes/climate/european-climate-adaptation-platform-climate-adapt</a> (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
565	2	28	16	28	16	The wrong section numbers are given. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
566	2	28	26	28	40	This section should cite the special issue of JESP which is full of case studies on Integrated Assessments and Management Projects in the Americas due to climate change.\n <a href="http://www.sciencedirect.com/science/journal/14629011/26/supp/C">http://www.sciencedirect.com/science/journal/14629011/26/supp/C</a> (UNITED STATES OF AMERICA)
567	2	28	31	28	33	For this projected outcome, the relevant scenario of climate change should be specified. (Mach, Katharine, IPCC WGII TSU)
568	2	29	0	0	0	Non economic perspective should be added when addressing 'value' in the social context pg.16 or 'assessing damage' within future scenarios of cc pg. 29. (Corendea, Cosmin, United Nations University Institute for Environment and Human Security )
569	2	29	1	0	0	Assessing vulnerabilities and risks is central to adaptation action. This section is very poor describing the kinds of processes for vulnerability assessments, and instead it jumps from the early paragraphs to evaluate adaptive capacity, adaptation deficit, etc. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)

#	Ch	From Page	From Line	To Page	To Line	Comment
570	2	29	1	30	8	Section should also mention the new concepts for assessments of adaptive capacities that have been developed since the AR4: \nFor example\nGupta, J., Termeer, K., Klostermann, J., Meijerink, S., van den Brink, M., Jong, P., Nooteboom, S., and Bergsmaa, E.: The Adaptive Capacity Wheel: a method to assess the inherent characteristics of institutions to enable the adaptive capacity of society, Environ Sci Pol, 13(6), 459-471, 2010.\nGrothmann, T., Grecksch, K., Wings, M., and Siebenhüner, B. (2013). Assessing institutional capacities to adapt to climate change – integrating psychological dimensions in the Adaptive Capacity Wheel. Nat. Hazards Earth Syst. Sci. Discuss., 1, 793-828.\nHuntjens, P., Lebel, L., Pahl-Wostl, C., Camkin, J., Schulze, R., Kranz, N.: Institutional design propositions for the governance of adaptation to climate change in the water sector. Global Environ Chang, 22(1), 67-81, 2012.\nKuhlicke, C. Steinführer, A., Begg, C. et al.: Perspectives on social capacity building for natural hazards: outlining an emerging field of research and practice in Europe, ENVIRON SCI POLIC, 14, 804-814, 2011.\nOstrom, E.: A General Framework for Analyzing Sustainability of Social-Ecological Systems, Science, 325, 419-422, 2009.\nPahl-Wostl, C.: A conceptual framework for analysing adaptive capacity and multi-level learning processes in resource governance regimes, Global Environ Chang, 19, 354-365, 2009.\n\nEventually, it makes sense to include these assessment concepts for adaptive capacities in a new section 2.3.2.3 titled "Assessing Adaptive Capacities and Adaptation" to give these newly developed concepts since the AR4 a higher visibility in the table of contents and also include the various concepts on assessing adaptation options in this section (unfortunately, many of these have not been published in scientific journals). Since CCIARV also includes an A for adaptation, a new section 2.3.2.3 on assessments of adaptation seems necessary. Certainly, this section can strongly refer to chapters "14.5 Adaptation Assessments" and chapter 17 analysing the costs of adaptation \nAdaptation assessment concepts are for example:\nDebels, P., Szlafsztajn, C., Aldunce, P., Neri, C., Carvajal, Y., Quintero-Angel, M., Celis, A., Bezanilla, A., & Martínez, D. (2009). IUPA: a tool for the evaluation of the general usefulness of practices for adaptation to climate change and variability. Natural Hazards, 50, 211-233.\nVan Ierland, E.C., De Bruin, K., Dellink, R.B., Ruijs, A. (2007): A qualitative assessment of climate change adaptation options and some estimates of adaptation costs. Wageningen, 155 pp.\nWatkiss, P., Hunt, A., Horrocks, L. (2009): Scoping Study for a National Climate Change Risk Assessment and Adaptation Economic Analysis. Defra Study, pp. 98.\n(Grothmann, Torsten, Carl von Ossietzky University of Oldenburg)
571	2	29	6	29	11	Please compare this description with that in Chapter 19, as it currently reads as closer to the AR4 formulation than the AR5 presentation. (Mastrandrea, Michael, IPCC WGII TSU)
572	2	29	9	29	10	This statement should be further clarified, with more precise indication of the point being made. (Mach, Katharine, IPCC WGII TSU)
573	2	29	11	0	0	This entire section seems to be written from a social sciences context. Can it be revised in places to additionally include a climate service provider perspective? (Hewitt, Chris, Met Office)
574	2	29	18	29	18	suggest "... Information from global to regional to national and local levels;..." (Hewitt, Chris, Met Office)
575	2	29	26	29	27	The existence of an adaptation deficit may not only be as a result of hampered effective decision-making and therefore may to some degree explain why and observed hurricane or other events can have this impact (Street, Roger B, Oxford University)
576	2	29	28	29	29	The phrase "insufficient adaptation" implies that adaptation should be expected to avoid all impacts, but there are limits to the extent to which this is possible in various contexts. (Mastrandrea, Michael, IPCC WGII TSU)
577	2	29	30	29	31	It would be preferable to specify which chapter within the special report is meant here, through use of the recommended citations for chapters. (Mach, Katharine, IPCC WGII TSU)

#	Ch	From Page	From Line	To Page	To Line	Comment
578	2	29	31	29	34	I don't think many countries have established regional climate services and I don't think there is much literature describing it. Also, the sentence is a bit confusing mixing up national and regional climate services. I suggest "While some countries have already established national climate services or are on the way to do so (for example, Austria <a href="http://ccca.boku.ac.at/">http://ccca.boku.ac.at/</a> , China <a href="http://www.cma.gov.cn/en/">http://www.cma.gov.cn/en/</a> , the UK <a href="http://www.metoffice.gov.uk/climate-service-uk">http://www.metoffice.gov.uk/climate-service-uk</a> ), there are differences in the evolution, organization and practice in different countries. The development of regional climate services in North America, Europe and Eastern Asia are relatively well documented, with an increasing focus on stakeholder engagement, communication and decision support (Ebinger et al., 2010; Hewitt et al., 2013)". The new reference would be Hewitt, C. D., C. Buontempo, P. C. Newton, 2013: Using climate predictions to better serve society's needs. Eos, 94, 105--107, DOI:10.1002/2013EO110002. I'm not sure what other references there are, but there must be some for North America. (Hewitt, Chris, Met Office)
579	2	29	35	29	25	By "parsing" do you mean "separating", if so then please say so. (Jones, Richard, Met Office Hadley Centre)
580	2	29	48	29	50	Another example in vulnerability assessment in a regional scale for Mexico (municipalities) can be found in Monterroso Rivas A.I., Conde Álvarez C., Gay García C., Gómez Díaz J.D., y López J. 2013. Two methods to assess vulnerability to climate change in the Mexican agricultural sector. Mitigation and Adaptation Strategies for Global Change. doi: 10.1007/s11027-012-9442-y [see supporting material "Mexico-Vulnerability.pdf"] (Monterroso, Alejandro, Universidad Autonoma Chapingo)
581	2	30	1	30	4	It would be preferable to provide more specific reference to the treatment in chapter 19 and relevant findings. (Mach, Katharine, IPCC WGII TSU)
582	2	30	1	30	8	Again, please compare this description with that in Chapter 19, as this does not seem completely in line with the characterization of emergent risks there. (Mastrandrea, Michael, IPCC WGII TSU)
583	2	30	13	30	14	"CLIMATE SERVICES ARE THE LINK BETWEEN GENERATION AND APPLICATION OF CLIMATE KNOWLEDGE". There should be a specific reference for this quotation. (Orcherton, Dan F., PACE-Pacific Centre for Environment and Sustainable Development )
584	2	30	13	30	52	This section does not define/explain what a 'climate service' is, and there is a missing link between climate service to mitigation. The description at Pg 32, line 16 could be used to describe a climate service but needs to be in this beginning section. (AUSTRALIA)
585	2	30	25	30	27	Maybe support with Webb and Beh 2013 (reference at previous comment page 7, line 30) as the problem of over-fragmentation of support was a major finding (Webb, Bob, Australian National University)
586	2	30	27	30	27	After "weak", suggest adding some references, e.g. case studies in WMO's Climate Exchange. (Jones, Richard, Met Office Hadley Centre)
587	2	30	27	30	29	Insert "much" before "more" and then add more factors into the sentence such as "communications channels", "building understanding at community and stakeholder levels" etc. (Jones, Richard, Met Office Hadley Centre)
588	2	30	29	30	29	case specific communication, engagement and knowledge exchange skills. (Street, Roger B, Oxford University)
589	2	30	31	30	31	on the way to do so should be "on the way to doing so." (UNITED STATES OF AMERICA)
590	2	30	34	30	34	can an example of such literature be provided?\n\n (NETHERLANDS)
591	2	30	34	30	38	The European Climate Adaptation Platform, Climate-ADAPT, is an initiative of the European Commission, and is managed jointly by the Commission and the EEA. European Data Centres are usually maintained by the EEA, but they are the result of joint effort by the Commission and the Agency. They are not EEA's own initiatives. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)

#	Ch	From Page	From Line	To Page	To Line	Comment
592	2	30	39	30	42	I'm not sure those examples are correct. The German example doesn't acknowledge the role of the German Weather Service DWD. For Sweden the reference is for a regional climate modelling programme which doesn't sound like a national climate service. For the UK, the UK Climate Impacts Programme is part of a wider picture involving the likes of the UK's Met Office. If my previous comment (for lines 31-34) is accepted then I suggest deleting these sentences and examples will be listed in lines 31-34. (Hewitt, Chris, Met Office)
593	2	30	44	30	45	Some mention of Regional Climate Outlook Forums (RCOFs) would be appropriate here. (Jones, Richard, Met Office Hadley Centre)
594	2	30	48	30	48	Add reference Jones et al., 2004 after "PRECIS". Jones, R. G., M. Noguer, D. Hassell, D. Hudson, S. Wilson, G. Jenkins, and J. Mitchell (2004) Generating high resolution climate change scenarios using PRECIS, report, Met Office Hadley Centre, Exeter, UK. (Jones, Richard, Met Office Hadley Centre)
595	2	31	1	31	1	Climate information systems: history and concepts. I am surprised not to see any discussion in here of the regional climate centres in Africa and of the growing use of climate models in regional climate outlook forums. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)
596	2	31	1	31	28	This sub-section (and several of the following ones) seems to be written from a particular perspective (a social sciences perspective perhaps?). This is valid but doesn't include much representing a climate service provider's perspective. I'm not sure what to suggest specifically, but would just like to note this in case the authors can make revisions (Hewitt, Chris, Met Office)
597	2	31	3	31	13	The sort of history referred to in this paragraph is interesting and useful and should be expanded upon; specifically, more of the history should be spelled out in the text as opposed to only being contained in cited references. More space in the chapter should be devoted to material of this nature instead of the vague generalities that are so dominant. (UNITED STATES OF AMERICA)
598	2	31	15	31	22	There should be some mention of Regional Climate Outlook Forums here. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
599	2	31	15	31	22	There should be some mention of Regional Climate Outlook Forums here. (Jones, Richard, Met Office Hadley Centre)
600	2	31	24	31	27	Is communication sufficient? I suggest not as engagement and knowledge exchange are also required. (Street, Roger B, Oxford University)
601	2	31	24	31	38	This paragraph currently reads as the preference of the authors for a specific perspective in the literature, rather than expert judgment regarding the literature support for various perspectives. Please consider the framing here, and make explicit where the judgment of the author team is being expressed and how it is supported by the literature. (Mastrandrea, Michael, IPCC WGII TSU)
602	2	31	30	31	30	Given that this sub-section is the history of climate services, it seems strange to omit recent history. I suggest something like the following additional paragraph: "In 2009 the World Climate Conference-3 brought together Heads of States, government ministers, representatives from industry, and technical and scientific experts to discuss the needs for climate services and improved coordination (World Climate Conference-3 Conference Statement (WCC3, 2009); <a href="http://go.nature.com/bEqMA6">http://go.nature.com/bEqMA6</a> ). A High-Level Taskforce was subsequently created (World Meteorological Organization Climate Knowledge for Action: A Global Framework for Climate Services — Empowering the Most Vulnerable Report No. 1065 (WMO, 2011)) to initiate the development of a Global Framework for Climate Services to coordinate and strengthen existing activities and develop new infrastructure where needed. This Global Framework for Climate Services was endorsed by governments in October 2012 and is now being implemented, with a focus on developing countries, and priority being given to agriculture and food security, water resources, health and disaster risk reduction (Hewitt et al, 2012) (Hewitt, Chris, Met Office)

#	Ch	From Page	From Line	To Page	To Line	Comment
603	2	31	31	0	0	Demand is essential for the concept of climate services. Sectoral specific demands and providing solutions to bridge the resolution gap of information appear as fundamental for successful climate services. This should be duly highlighted. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
604	2	31	31	0	0	The multiple definitions of climate services should be assessed to identify common elements. (Ebi, Kristie, ClimAdapt, LLC)
605	2	31	31	32	27	This section makes no mention of downscaling, and yet that is one of the key products demanded of Regional Climate Services by users. It would be useful to refer both to the need for downscaling to inform decision making but also refer to earlier sections of this chapter regarding the importance of using (downscaled) scenarios in a risk assessment context. (UNITED STATES OF AMERICA)
606	2	31	33	32	1	Maybe support with Webb and Beh 2013 (reference at previous comment page 7, line 30) as the framework and analysis in that study is grounded in more effectively matching user demand with product supply. (Webb, Bob, Australian National University)
607	2	31	35	31	35	It would be preferable to use calibrated uncertainty language to characterize the "intense discussion" mentioned here. (Mach, Katharine, IPCC WGII TSU)
608	2	31	38	31	40	Since this section is likely to be of utmost interest to climate change stakeholders, it would be helpful to use less academic language than this sentence which is very difficult to parse. (UNITED STATES OF AMERICA)
609	2	32	1	32	14	Again, this text reads as the preference of the authors. Please clearly present what represents the judgment of the author team based on their assessment of the literature, and how those conclusions are supported by the literature. (Mastrandrea, Michael, IPCC WGII TSU)
610	2	32	3	32	7	This is not how all regional climate services (RCS) operate. It should be made clear that, by their very nature, RCS vary worldwide and indeed even in nearby regions. While some groups may focus on linking users and producers this is not an accurate way to characterize all RCS'. Indeed some do begin with users' needs and see their mandate as being defined by addressing them. (UNITED STATES OF AMERICA)
611	2	32	4	32	5	What was meant was institutions should continue to exist, not that they can not be modified as needs and conditions change. (Ebi, Kristie, ClimAdapt, LLC)
612	2	32	4	32	5	Is this statement supported by the literature or a perspective of the author team? Careful distinction between these categories should be ensured here and throughout the chapter. (Mach, Katharine, IPCC WGII TSU)
613	2	32	4	32	7	if NRC is referring to stability of institutions who are support providers (like UK CIP) as opposed to institutions in general then they have a point - Australia for example has suffered from no continuity and cumulative learning and improvement, and ongoing services, in its support approaches (see Webb and Beh 2013 - reference at previous comment page 7, line 30) (Webb, Bob, Australian National University)
614	2	32	9	21	14	The material in this paragraph should be supported by references. (Jones, Richard, Met Office Hadley Centre)
615	2	32	9	32	14	Should this be dealt with in the specific section on capacity building which now deals only with institutions? (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
616	2	32	13	32	14	Although in this case communications may be right, this can only be developed through knowledge exchange and engagement (Street, Roger B, Oxford University)
617	2	32	16	32	18	Good that this section is included in this chapter. Climate communications may be made a separate chapter (Nair, Malini, Indian Institute of Science)

#	Ch	From Page	From Line	To Page	To Line	Comment
618	2	32	16	32	23	Another important factor that is require but which is not mentioned here is that capacity building is required on both (all) sides of the communication (chain). (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
619	2	32	16	32	23	Another important factor that is require but which is not mentioned here is that capacity building is required on both (all) sides of the communication (chain). (Jones, Richard, Met Office Hadley Centre)
620	2	32	25	32	27	Is this statement an assessment finding? If so, calibrated uncertainty language should be used to characterize the author team's degree of certainty in the conclusion. (Mach, Katharine, IPCC WGII TSU)
621	2	32	30	32	30	The geo-polotical dimension of climate services is a strange topic to focus a sub-section on. What about other topics such as government, industry, the public? (Hewitt, Chris, Met Office)
622	2	32	32	32	44	Is it really necessary for each country to have its own climate model? It would be helpful to understand how to decide where climate models have sufficient skill (and understanding the criteria for sufficient) that projections can be used in adaptation planning. (Ebi, Kristie, ClimAdapt, LLC)
623	2	32	35	32	35	Univerisities are only one example. I suggest "Decision support tools are developed in climate research centres, operational service providers and universities, such as the climate model PRECIS from the UK's Met Office..." (Hewitt, Chris, Met Office)
624	2	32	35	32	37	The PRECIS climate model should not be described as a "decision support tool" or as an "earth systems model." It is neither; just a climate model. (UNITED STATES OF AMERICA)
625	2	32	35	32	38	Suggest removing phrase "global south" and "global North", change "universities" to "institutes", replacing "Earth system models such as PRECIS" (which it is not) with "This" and removing "direction to". (Jones, Richard, Met Office Hadley Centre)
626	2	32	37	32	37	PRECIS isn't an Earth system model. I suggest "Regional climate models such as PRECIS contribute to building the capacities and capabilities for regional and national climate change management through training, sustained support, technology transfer and generation and provision of climate change information." (Hewitt, Chris, Met Office)
627	2	32	46	33	13	Presumably the term "indigenous knowledge" here means knowledge possessed by indigenous peoples. But in fact everything that is said in this section applies to the specialized knowledge that ANY affected stakeholder has about their effacted system. For example, an experienced water resource manager has "indigenous knowledge" about his/her own watershed that is invaluable in designing effective adaptation. It would be good in this discussion to make it clear that the points made apply to specialized knoledge held by all stakeholders, not just indigenous peoples. (UNITED STATES OF AMERICA)
628	2	32	46	33	22	See also Russell-Smith et al. (In Press) Can savanna burning projects deliver measurable greenhouse emissions reductions, and sustainable livelihood opportunities for indigenous and local communities, in fire-prone settings? In Journal of Climatic Change Special Issue on Climate Change Mitigation and Adaptation with Local Communities and Indigenous Peoples (Ramos Castillo, Amevali. United Nations University - Institute of Advanced Studies)
629	2	32	54	0	0	*Observation: New co-produced knowledge is not limited to oral histories, but incorporates a broad range of tranditional knowledge experties\n\n*Suggested text: This increased attention to oral histories and other traditional knowledge is leading to new experiments in which these are compared or combined... (Galloway McLean, Kirsty, United Nations University - Institute of Advanced Studies)
630	2	33	5	33	21	These two paragraphs provide strange examples. Are there not some additional, or more appropriate, examples that could be included? (Hewitt, Chris, Met Office)
631	2	33	10	33	10	Is the sentence on this line an overgeneralization? Should any circumstances in which adaptation is appropriate at other-than-local scales be acknowledged? (Mach, Katharine, IPCC WGII TSU)



#	Ch	From Page	From Line	To Page	To Line	Comment
632	2	33	10	33	11	Adaptation (particularly adaptation actions) to be implemented locally and to address local needs should be locally identified, but should also be informed by larger scale (e.g., national) adaptation measures (e.g., policies and directions) (Street, Roger B, Oxford University)
633	2	33	19	33	19	takes should be "take" (UNITED STATES OF AMERICA)
634	2	33	24	0	0	Section 2.3.4. The chapter team should coordinate further with chapters 14-15 in revising the section. Specific relevant key findings and sections of those chapters should ideally be cross-referenced. (Mach, Katharine, IPCC WGII TSU)
635	2	33	26	33	39	It would be preferable to provide relevant introductory citations for these paragraphs. (Mach, Katharine, IPCC WGII TSU)
636	2	33	28	33	30	Water quality also in an important requirement. (Ebi, Kristie, ClimAdapt, LLC)
637	2	33	34	33	34	Why restrict this paragraph to climate change. I suggest "Climate change and climate variability could influence..." (Hewitt, Chris, Met Office)
638	2	33	41	33	48	I will discuss this in more detail in my comments on chapter 3 (I am a freshwater adaptation specialist), but IWRM is not by itself necessarily a means of doing climate adaptation. IWRM can just as easily make adaptation harder or less effective as make it easier, and most cases globally suggest that it is making adaptation harder. The most general statement possible about adaptation and IWRM is that IWRM might relieve some external pressures on water management in a very passive way; but this does not constitute an active climate adaptation program. Sustainability as defined by IWRM is largely a stationary definition, and stakeholder engagement is widely variable in definition and implementation. It is more accurate to say that IWRM looks more at negotiating tradeoffs between powerful interests, such as manufacturing, energy, etc. At least one of the authors you cite here has an active program promoting IWRM in this way, but this is a narrow, minority perspective, and not substantiated by the evidence. Environmental flows as a movement may be somewhat more applicable. But as someone who has been working in this area since 2007 I think the IWRM references here are parochial, inaccurate, dated, and potentially embarrassing to the IPCC. (Matthews, John, Conservation International)
639	2	34	7	34	16	More vague generalities! Make this concrete or get rid of it. (UNITED STATES OF AMERICA)
640	2	34	10	34	10	Please consider exchanging "some" for "many" to generate "... depletion of many populations..." (NORWAY)
641	2	34	10	34	12	The relevant key findings of chapter 6 should be cross-referenced here. (Mach, Katharine, IPCC WGII TSU)
642	2	34	16	34	16	In place of the chapters referenced here, chapters 5, 6, 7, and 30 would be a more logical set of chapters to reference. (Mach, Katharine, IPCC WGII TSU)
643	2	34	18	34	47	It would be more efficient to direct the reader to chapter 14, where these issues are discussed in detail. (Ebi, Kristie, ClimAdapt, LLC)
644	2	34	19	34	19	Where "must" is asserted here, it would be preferable to specify by which criteria or perspectives this requirement is seen. (Mach, Katharine, IPCC WGII TSU)
645	2	34	35	34	39	Opportunities and threats to implementation of NAPs extend beyond problems with funding and the GEF process to include the reservations that countries like Haiti have with requirements to update/upgrade their older NAPAs. This could present an opportunity for boundary organizations to bring project expertise to align NAPs with MDGs, Hyogo Framework for Action and other global initiatives for 2015 and post 2015. (Wilson, Lynn, SeaTrust Institute)
646	2	34	41	34	47	This paragraph may also want to cite EEA Report 3/2013 "Adaptation in Europe" ( <a href="http://www.eea.europa.eu/publications/adaptation-in-europe">http://www.eea.europa.eu/publications/adaptation-in-europe</a> ) (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)

#	Ch	From Page	From Line	To Page	To Line	Comment
647	2	35	3	0	0	Again (like the equivalent section in chapter 1), the discussion of linkages between mitigation and adaptation lacks much depth, feels as though it has been tacked on at the end of the chapter. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
648	2	35	12	35	13	The assertion that "An evaluation suggests these plans are underdeveloped" needs a citation. (UNITED STATES OF AMERICA)
649	2	35	25	35	26	This paragraph is something that the EUPORIAS project will explore and develop. I suggest revising the sentence to be "These factors allow new strategies to be explored and implemented (Shepherd et al., 2006; Hewitt et al., 2013) (Hewitt, Chris, Met Office)
650	2	35	25	35	26	These factors allow new strategies to be explored, implemented and evaluated, I would suggest that evaluation should be added. (Street, Roger B, Oxford University)
651	2	35	36	35	36	Reference Black et al is missing. (Jones, Richard, Met Office Hadley Centre)
652	2	35	48	0	0	These issues are discussed in detail in chapter 20; please condense and refer the reader to that chapter. (Ebi, Kristie, ClimAdapt, LLC)
653	2	35	48	36	20	AR5 is supposed to provide new findings, and not simply a summary of AR4. Some analysis would have been expected on how countries are combining adaptation and mitigation within their climate action policies, the potential for shared decision frameworks, the current knowledge status of adaptation-mitigation policies' tradeoffs for particular sectors, or how decision-making processes for adaptation and mitigation relate to each other. Finally this section does not offer anything. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
654	2	35	52	35	53	Should read "AR4 for substantiated this by concluding that a lack of information made it difficult to assess these synergies" (Orcherton, Dan F., PACE-Pacific Centre for Environment and Sustainable Development )
655	2	35	52	36	6	This section requires more details/ clarity on the synergies and trades-offs between adaptation and mitigation. (AUSTRALIA)
656	2	36	1	36	20	Beyond the cross-references provided, is it possible to provide assessment here of new literature now available and findings of chapter 2? (Mach, Katharine, IPCC WGII TSU)
657	2	36	3	36	4	The reduced rates of economic growth are at what scale (regional, local national and / or global)? (Street, Roger B, Oxford University)
658	2	36	23	0	0	The essential linkage between sustainable development and adaptation seems to be insufficiently developed here despite the long text provided. The confusion with the term resilience does not help provide an understanding of the linkage. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
659	2	36	25	36	25	Is "should" the most preferable word to use here--could the benefits of such integration be articulated more precisely? (Mach, Katharine, IPCC WGII TSU)
660	2	36	39	36	40	Sentence does not make sense, please rephrase. (Jones, Richard, Met Office Hadley Centre)
661	2	36	49	37	10	Resilience concept poorly exemplified in very local case studies (e.g.: King County, Seattle, WA) when linkage between sustainable development and resilience could be argued with more relevant examples (e.g.: SE Asia) (Corendea, Cosmin, United Nations University Institute for Environment and Human Security )
662	2	36	49	37	17	The discussion on resilience and adaptation is somewhat confusing. Line 49 on page 36 appears to imply that resilience is a subcomponent of adaptation. But line 11 on page 37 implies the opposite. The text would benefit from a statement that explicitly states where the two concepts fit, relative to each other. (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
663	2	36	51	36	54	It would be good to relate these examples to the frameworks that were introduced earlier in the chapter. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
664	2	36	51	36	54	It would be good to relate these examples to the frameworks that were introduced earlier in the chapter. (Jones, Richard, Met Office Hadley Centre)
665	2	37	11	37	11	eliminate comma (UNITED STATES OF AMERICA)
666	2	37	11	37	11	I would suggest that good communication is not sufficient. Knowledge exchange is what is required (Street, Roger B, Oxford University)
667	2	37	11	37	17	This discussion seems in places to be about sustainable adaptation, and in other places to be about sustainable development. These of course are very different things. Please figure out which you want to discuss and stick to that. Any discussion of sustainable adaptation might be merged with the earlier discussion of synergies between mitigation and adaptation. (UNITED STATES OF AMERICA)
668	2	37	23	37	26	Shale gas may be a cleaner alternative to other fossil fuels, but this is the additional extraction to what fossil fuel reserves were already known. Media reports from the United States suggest that public concerns about contamination of ground and surface waters are ignored. (Gupta, Himangana, Panjab University, Chandigarh, India)
669	2	37	51	37	51	In place of this generic reference, it may be more helpful to the reader to provide specific cross-references to relevant sections of Chapter 15 in the preceding paragraphs. (Mach, Katharine, IPCC WGII TSU)
670	2	38	9	0	0	The concept of transformational adaptation is absolutely unclear, both here and in the rest of the report. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
671	2	38	9	0	0	Section 2.4.3. This section focuses on transformative adaptation, and the chapter team should consider assessment in chapter 16 and 20 that suggests that transformative adaptation and transformation are not synonymous. It would seem preferable to also consider transformation more broadly within this section, beyond the somewhat weak final paragraph. Specific cross-references to relevant sections of chapters 16 and 20 should be provided. (Mach, Katharine, IPCC WGII TSU)
672	2	38	9	0	0	Section 2.4.3: Please consider and cross-reference the discussions in Chapters 16 and 20 on these topics. Transformative adaptation and transformation are not used interchangeably, for example. In addition, as mentioned in the context of the executive summary, the section ends fairly abruptly, and the ES finding associated with this section is not really presented here. An explanation of that finding could make a useful conclusion to this section. (Mastrandrea, Michael, IPCC WGII TSU)
673	2	38	12	38	12	In the sentence "..., particularly in the context of a world where the global temperature target of 2°C is exceeded.", the tense "is" is inappropriate, SUGGESTION: "is" should be altered as "would be". (PAN, Jiahua, Chinese Academy of Social Sciences)
674	2	38	13	38	13	Casual usage of "likely" should be avoided, as it is a reserved likelihood term. (Mach, Katharine, IPCC WGII TSU)
675	2	38	15	38	16	Please make clear, if and how incremental adaptation is different from iterative risk management promoted in 2.1.2 (Grothmann, Torsten, Carl von Ossietzky University of Oldenburg)
676	2	38	20	38	20	Should read" adaptation that is transformative (comma), marks a shift towards... (Orcherton, Dan F., PACE-Pacific Centre for Environment and Sustainable Development )
677	2	38	30	38	33	Would a figure to represent the differences described be useful here? (Jones, Richard, Met Office Hadley Centre)
678	2	38	35	38	35	There is something wrong with the last phrase of this sentence, as written it is unclear. (UNITED STATES OF AMERICA)
679	2	38	38	38	41	Very important point/insight! (NORWAY)

#	Ch	From Page	From Line	To Page	To Line	Comment
680	2	38	43	38	43	If appropriate, I suggest including a summary here to tie the wide variety of concepts examined in this paper together. (Toman, Eric, The Ohio State University)
681	2	46	8	46	8	Is this supposed to be Hertzler reference? In any case he reference is incomplete. (UNITED STATES OF AMERICA)
682	2	49	42	0	0	Lempert, R., 2012. reference needs a volume number to be complete. (UNITED STATES OF AMERICA)
683	2	51	36	0	0	*Observation: Incorrect reference details\n\n*Reference should read: 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. (Galloway McLean, Kirsty, United Nations University - Institute of Advanced Studies)
684	2	51	36	51	36	Incorrect reference: correct reference should be: 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. (Ramos Castillo, Ameyali, United Nations University - Institute of Advanced Studies)
685	2	51	36	51	39	Incorrect reference: correct reference should be: 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. (Ramos Castillo, Ameyali, United Nations University - Institute of Advanced Studies)
686	2	56	43	0	0	Year: American Economics Review...\nincomplete reference. (UNITED STATES OF AMERICA)
687	2	58	47	58	48	The citation for Vugrin and Turnquist can be updated. The report was previously published as a technical report, but it recently was published in a journal. The reference can be replaced with the following: Turnquist, M., and E. Vugrin, "Design for resilience in infrastructure distribution networks," Environment, Systems, and Decisions, 33(1), pp. 104-120. (UNITED STATES OF AMERICA)
688	2	61	0	0	0	Figure 2-1: This figure is uninformative and unhelpful. If the purpose is to define important terms, then a table would be a better way to do that. (UNITED STATES OF AMERICA)
689	2	61	0	0	0	Figure 2-2: The point of this figure is obscure, but perhaps it could be clarified. There seems to be a concrete point to be made; it's just not clear what that is. (UNITED STATES OF AMERICA)
690	2	61	0	0	0	Figure 2.1: not sure what this figure is telling me (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)
691	2	61	0	0	0	Figure 2-1: It is hard to tell how the concepts are organized in rows and/or in columns which makes it difficult to understand the main message of this figure. The caption says that risk is portrayed as an approach... but I did not see that this figure was about risk at all. It needs a significant revision in order to be a valuable visual aid to your chapter; else I would suggest deleting it. (Estrada, Yuka, IPCC WGII TSU)
692	2	61	0	0	0	Figure 2-2: This figure could benefit from clear labeling and further explanation in the caption so that it can stand alone with a clear message(s). For instance, which parts are internal and which one is external? Can the two red circles be labeled so that audience would know immediately which one is assessment stage and which one is management stage? (Estrada, Yuka, IPCC WGII TSU)
693	2	61	0	0	0	Figure 2-1. This figure needs a longer caption to further clarify interpretation for the reader. Additionally, the logic of the graphic should be ensured, for example with respect to the different definitions of risk discussed within the chapter. As is, the graphic is somewhat cryptic for the reader to interpret--the meaning of each cell in the interactions across the various cells should be much clearer for the reader. Additionally, the chapter team should ensure that the final definitions provided within the rightmost cells match the final wording within the glossary of the report (and within chapter 19). (Mach, Katharine, IPCC WGII TSU)

#	Ch	From Page	From Line	To Page	To Line	Comment
694	2	61	0	0	0	Figure 2-2. The discussion of "loops" within the figure caption and the chapter text should be carefully clarified. One option would be to number the loops within the graphic, most especially because the caption describes 2 loops and the chapter text describes 3 iterations, which is somewhat unclear for the reader. (Mach, Katharine, IPCC WGII TSU)
695	2	62	0	0	0	Figure 2-3: There is something wrong with this figure/caption. The figure labeled as 2-3 does not appear to be a "schema for the chapter" (UNITED STATES OF AMERICA)
696	2	62	0	0	0	Figure 2-3: This figure conveys no information. Suggest deleting it. (UNITED STATES OF AMERICA)
697	2	62	0	0	0	Figure 2-4: Both boxes: the bullets are not needed. (UNITED STATES OF AMERICA)
698	2	62	0	0	0	Figure 2-4: In the left box; "objections" should be "objectives," presumably. (UNITED STATES OF AMERICA)
699	2	62	0	0	0	Figure 2-3: This figure poses more questions than providing a visual aid to your paragraph. First, the caption does not help to interpret the figure. It is not clear how "a hierarchy" of decision makers is shown or how the decision-making environment is depicted here. How are adaption, mitigation and sustainable development, the methods and tools illustrated? In terms of figure presentation, overlapping circles are hard to read, and it is not clear what the positions of each circle represent. Also, further description is needed to explain how the circles and tables are related to each other. (Estrada, Yuka, IPCC WGII TSU)
700	2	62	0	0	0	Figure 2-4: It is not clear if this figure provides enough value as a visual aid. As I understand, the deliberation with analysis is an iterative process but with a clear beginning. However, this figure may suggest an infinite loop, and thus no clear starting point. (Estrada, Yuka, IPCC WGII TSU)
701	2	62	0	0	0	Figure 2-3. This figure requires a very careful caption to ensure its interpretation is clear. As is, the wrong figure caption seems to be provided. For complicated and complex risks, it should be clarified why multiple bubbles have the same labels--because different actors have different perceived risks, for example? (Mach, Katharine, IPCC WGII TSU)
702	2	63	0	0	0	Figure 2.6. This seems to be too high level to be useful. Planners would need something more practical than this. (Wright, David, University of Ottawa)
703	2	63	0	0	0	Figure 2-5: The value that this figure brings to the discussion is obscure (Fig. 2-5). Suggest deletion. (UNITED STATES OF AMERICA)
704	2	63	0	0	0	Figure 2-6: The meaning of the graphic images in the bottom half of this figure is not apparent. (UNITED STATES OF AMERICA)
705	2	63	0	0	0	Figure 2-6: This is not a particularly helpful figure (Fig. 2-6); the authors should consider deleting it. (UNITED STATES OF AMERICA)
706	2	63	0	0	0	Figure 2-5: This figure has the potential to provide a good summary of the decision making process, but it may be better presented to convey the main message. The boxes make each element compartmentalized and give the audience an impression that they are all independent from each other and stand alone. If authors wish to retain the format, a table may be a better option. Also, I am not clear on some of the row headers in the left column. For instance, what are exactly "climate services" in the context of the decision making process? Also, "decision making process" on the third row seems to be the same thing as the top row (column headings). \n\n (Estrada, Yuka, IPCC WGII TSU)
707	2	63	0	0	0	Figure 2-6: This figure, especially the bottom half is confusing and its caption is not particularly helpful for interpreting it. There are too many fragmented and unlabeled elements and it is not clear for the audience how to interpret each component. For instance, what exactly is the line representing in this chart? From the text (P 26 Line 41), one is given the impression that x-axis is showing a "time" element, but in the mid panel, horizontal arrows are labeled differently. It needs a significant revision in order to be a valuable visual aid to the paragraph. (Estrada, Yuka, IPCC WGII TSU)

#	Ch	From Page	From Line	To Page	To Line	Comment
708	2	63	0	0	0	Figure 2-6. The thresholds mentioned within the caption are presumably the horizontal dotted lines within the figure, but it would be very helpful to clarify this. (Mach, Katharine, IPCC WGII TSU)
709	2	64	0	0	0	Figure 2-7 is difficult to understand. It is suggested to make it easier and clearer. (CHINA)
710	2	64	0	0	0	Figure 2-7: Once again, any takeaway message from this figure is obscure. (UNITED STATES OF AMERICA)
711	2	64	0	0	0	Figure 2-7: The author team should further develop the caption for this figure to provide a guide for the reader in interpreting the concepts and processes depicted here; for instance, what exactly are the processes depicted in each triangle? How does geographical scale fit to the bottom-up triangle? (Estrada, Yuka, IPCC WGII TSU)
712	2	65	1	0	0	The content of the quadrants of Figure 2.8 is not self-explanatory and there is mismatch between the different aspects treated in each quadrant. For example, expansion in the use of renewable energy sources (other than hydropower) is missing from the bottom-right quadrant, as well as improved energy use efficiency. A link between "coastal zone defence" and "increase of emissions" is also not evident. It is recommended to revise the figure substantially, addressing few key sectors in terms of mitigation and adaptation in a consistent way. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)