

#	Ch	From Page	From Line	To Page	To Line	Comment
1	8	0	0	0	0	Mico climate possibilties and adaptation/mitigation of improving micro climate should be included and focused on it (Matzarakis, Andreas, Albert-Ludwigs-University Freiburg)
2	8	0	0	0	0	Thermal bioclimate conditions in cities should be addressed (Matzarakis, Andreas, Albert-Ludwigs-University Freiburg)
3	8	0	0	0	0	Thera are lot of studies who deal with the topic of improving urban climate and mitigating UHI in cities esp. For micro climate (Matzarakis, Andreas, Albert-Ludwigs-University Freiburg)
4	8	0	0	0	0	Also to be given urban planning and micro climate measures - focused more on quantitative results and less in qualitative assessments (Matzarakis, Andreas, Albert-Ludwigs-University Freiburg)
5	8	0	0	0	0	Adaptation and mitigation measures should be given in terms of number - see Matzarakis and Endler (2010) (Matzarakis, Andreas, Albert-Ludwigs-University Freiburg)
6	8	0	0	0	0	If required several papers/studies can be provided (Matzarakis, Andreas, Albert-Ludwigs-University Freiburg)
7	8	0	0	0	0	General: In this chapter the inclusion of examples from Latin America (not from the Caribbean) is equal to other parts of the world. Overall most of the other chapters show lack of information in this region. Information from this chapter could actually be used in the other chapters (Lacambra Segura, Carmen, Grupo La era)
8	8	0	0	0	0	General Comments on Chapter 8. Urban Areas: Very strong chapter which presents how the climate change will impact on urban centers and their populations and enterprises. Also, measures which can be taken to adapt to these changes and prtect the vulnerable groups. Table 8-1 is very impressive which presents the distribution of world's urban population by region from 1950 through 2010 with projection to 2030 and 2050. Table 8-2 presents too the large spectrum of the capacity of urban centers to adapt to climate change. This chapter presents the vulnerability and resilience to climate change and the new issues raised in AR5 rater than AR4. This chapter presents the urbanization processes, climate change risksand impacts. The transportation and telecommunication part is new and impressive using updated refrences. Also, the extreme events probabilities. The heart of this chapter is the adaptation of urban areas which is very impressiveand updated than what was published before especially the adaptation of key sectors part. The green and white roofs is impressive and involves new information and data. (Labib, Mounir Wahba , Third National Communication (TNC) Project)
9	8	0	0	0	0	(1) The whole chapter is builded on a “climate change” that is not defined in its scope or intensity, and a link between climate change and “extreme weather events” that is even less defined. This base seems much too weak to proceed to conclusions; (2) Even if the scientific base was sound and solid, to proceed to conclusions (adverses effects for men of these changes) supposes value judgments, <u>which should be formulated, not only implied.</u> (Godefridi, Drieu, Cogito)
10	8	0	0	0	0	This is a very good account on adaptation and cities. All aspects of the topic are covered in a comprehensive and interesting manner. There is a little overlap with chapter 23 (settlements, land use etc) where these topics are covered rather epidemically and in fragments. Therefore, in my opinion, it is important that all relevant parts of chapter 23 should be deleted and maintained only in chapter 8. (Dimitris Stathakis, Urban and Regional Planning, University of Thessaly, Greece) (GREECE)
11	8	0	0	0	0	Studies on indoor environmental conditions during heat waves have to be mentioned. In particular, the impact of high urban temperatures on indoor environmental conditions in low income citizens has been studied recently and the results are spectacular. (Matheos Santamouris, Department of Physics, National University of Athens, Greece) (GREECE)
12	8	0	0	0	0	The impact of economic crisis in many countries on the energy consumption of low income urban citizens has to be discussed. Some studies have been published on this topic. (Matheos Santamouris, Department of Physics, National University of Athens, Greece) (GREECE)
13	8	0	0	0	0	Indoor air quality problems in poor urban areas have to be discussed. (Matheos Santamouris, Department of Physics, National University of Athens, Greece) (GREECE)

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14	8	0	0	0	0	Techniques to cool cities and improve local microclimates have been well developed, tested and used in many real case projects. More information has to be given. (Matheos Santamouris, Department of Physics, National University of Athens, Greece) (GREECE)
15	8	0	0	0	0	The energy and environmental impact of heat island on low income population and not only, has to be discussed. Many studies are available. (Matheos Santamouris, Department of Physics, National University of Athens, Greece) (GREECE)
16	8	0	0	0	0	The new available data on the intensity and strenght of heat island has to be discussed. (Matheos Santamouris, Department of Physics, National University of Athens, Greece) (GREECE)
17	8	0	0	0	0	The chapter provides an important view of the challenges for urban adaptation plans and describes the steps for developing adequate adaptation plans in cities. However the chapter needs enhancement in terms of the role of drivers of climate change in urban areas, such as land use/land cover changes, surface albedo, land surface temperature and the extent and intensity of urban heat island. A discussion on urban sprawl, i.e. current state in different regions, trends, impacts and mitigation/adaptation measures is missing. The relationship between the size of the urban area on the one hand and the impacts/risks/vulnerabilities of the urban areas would be beneficial. The chapter does not provide adequate attention to urban climatology aspects as influenced by climate change or having the potential to impose changes in local climate. In addition, it carries a rather poor description of energy issues in urban areas, especially with respect to mitigation plans. Further information on thermal comfort in urban areas should be provided, especially with respect to impacts to health. Sections 8.2.4.5 and 8.2.4.6 should be expanded. Chapter 8.3 is well balanced and provides important information on the ways and methodologies to develop an adaptation plan for urban areas; a distinction of the elements of such a plan depending on the size of the urban area should be made. (Constantinos Cartalis, Environmental Physics, University of Athens, Greece) (GREECE)
18	8	0	0	0	0	There is not even a single reference to active solar thermal systems for heating, domestic hot water and solar air-conditioning. Similarly for building integrated photovoltaics. (Costas Balaras, Institute for Environmental Research and Sustainable Development, National Observatory of Athens, Greece) (GREECE)
19	8	0	0	0	0	The chapter deals with the role of urban environment to the climate change. It merges all significant aspects of urban life, i.e. people, water, energy, transport, health. The chapter needs editing in order to avoid repetitions in various paragraphs. Although the chapter covers the problems and potential solutions for adaptation of urban environment in climate change, in the overall analysis, the European initiatives for Smart Cities and Urban Environment are not mentioned. (Denia Kolokotsa, Environmental Engineering Department, Technical University of Crete, Greece) (GREECE)
20	8	0	0	0	0	General Remark: In the chapter is really nothing new with respect to the adaptation part in cities, apart from strengthening the earlier arguments with respect to need to adaptation and the planning institutions at city scale responsible to take care of future resilience. There is a need to quantify, specially for cities, the impacts of synergies between mitigation and adaptation. Cities are the perfect test-bed to achieve ambitious climate protection goals and social integrity and safety. This should become much clearer. There are still research gaps, i.e. although more regional climate model have been developed in the past the climate impacts on concrete on regional/local planning and existing infrastructure is still quite vague. Recent achievements making the link clear between lifestyles and basic needs in cities were not taken up (cf. Bettencourt et al. (2007) Growth, innovation, scaling, and the pace of life in cities. Proc Nat Acad Soc 104:7301–7306 or Dodman D (2009) Blaming cities for climate change? Environ Urban 21(1):185–201) This work would provide insight how city growth might affect livelihood and ambitious climate protection targets. Here a perfect link can be made in terms of reconciliation of climate protection, adaptation and sustainable development. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)

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21	8	0	0	0	0	General comment: there appears to be little focus on the cross-scale resource dependence of large cities across regiones but in particular national and continental boundaries. These can effectively shift some of the impacts of local climate change to other countries/regions able to export their resources, labour etc to countries with the greatest need and able to pay the highest import price at local ports. The final balance of winners and losers then becomes highly complex. The regulation of such flows beyond market mechanisms may be problematic in some areas, resisted in other respects, and in any case undertaken at the risk of perverse outcomes. This feeds into what resilient development may mean in practice? Is there a risk in this chapter of an over-focus on 'the city' to the exclusion the impacts of their cross-scale linkages? (Bunce, Matthew, Institute of Marine Engineering, Science and Technology)
22	8	0	0	0	0	The Executive Summary is too long (Suarez, Avelino, Institute of Ecology and Systematic, Cuban Environmental Agency)
23	8	0	0	0	0	The chapter has 611 references, out of which 107 (18%) are from the chapter authors. (INDIA)
24	8	0	0	0	0	Out of these 611 references, only 53 (9%) are on developing countries. It is suggested that a more balanced approach could be adopted. (INDIA)
25	8	0	0	0	0	A quick check on the total universe of articles in peer-reviewed journals since AR4 (2007) indicates that there are almost 31000 in journals of Science Direct, 379 in Francis and Taylor, 12000 in Springer, 560 in sage, around 50000 in Wiley and around 7000 in JSTOR totaling to around 100000 articles in all on topic covered in this chapter. The chapter has captured almost 0.61% of existing literature. (INDIA)
26	8	0	0	0	0	Out of total 100000 articles mentioned as above, almost 17000 are on developing countries (around 17%) and issues related to them. It indicates that there is a large enough pool of articles to be picked up on developing countries to be cited in this chapter. The authors may like to take a look at it. (INDIA)
27	8	0	0	0	0	Some paragraphs are more like literature review, such as 8.2.4,page26, line 1-4, while in some paragraphs, onle a few reference to support the argument. I suggest the authors to pay attention to these. (zheng , yan, Chinese Academy of Social Sciences (CASS))
28	8	0	0	0	0	a clear definition on Local, urban, city would be helpful in this chapter. (zheng , yan, Chinese Academy of Social Sciences (CASS))
29	8	0	0	0	0	In the table 8-2 and P4 line38/46, P13 line41, P15 line45..., it seems similar terms like "bounce forward", "bounce back", "recovery"..., what's the difference about the meaning with "coping capacity", "adaptive capacity" and "resilience"? I suggest to make these informal terms clarified or consistent with the terminology of IPCC. (zheng , yan, Chinese Academy of Social Sciences (CASS))
30	8	0	0	0	0	There has 5 levels in the chaper categorios, such as 8.3.3.1.1?8.3.3.1.2?may I suggest to reduce the levels to the 4th one and also make the text concise? (zheng , yan, Chinese Academy of Social Sciences (CASS))
31	8	0	0	0	0	Imbalance of the pages length between sub-sections. (zheng , yan, Chinese Academy of Social Sciences (CASS))
32	8	0	0	0	0	inconsistence of the using of "confidence, evidence and agreement", please note this especially in each key statement of the ES. (zheng , yan, Chinese Academy of Social Sciences (CASS))
33	8	0	0	0	0	This chapter includes various kinds of impacts and adaptation measures. It is recommended to add a table or figure of summary to grasp the whole picture. (Shimoda, Yoshiyuki, Osaka University)
34	8	0	0	0	0	This chapter does not seem to be conform with the plenary approved outline. Please ensure completeness and consistency. The reference list is incomplete to a point that feasibility of a thorough review is challenged. The chapter is also severely overlength and very text heavy. We strongly recommend to shorten and focus discussion in this important chapter, with a view to include all items of the plenarv approved outline. (GERMANY)

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35	8	0	0	0	0	The chapter is highly relevant and emphasises the urgently needed urban focus. However, it is very long (much longer than most other chapters). Hence, it is recommended to shorten the chapter in general. Particularly the points in the executive summary could/should be more concise -- also to make them more contingent with the format used in the other chapters and to increase their chances of being read by decision makers etc. (Garschagen, Matthias, United Nations University)
36	8	0	0	0	0	Some parts of the chapter read less like a review but rather like an original conceptual paper, i.e. providing extended paragraphs without many (or any) citations (e.g. the first paragraphs of 8.1.4 or 8.3.2.2). The chapter later on makes reference to a large number of review papers published in the literature. Key findings from these papers could be used as introduction to these early sections of chapter 8. (Garschagen, Matthias, United Nations University)
37	8	0	0	0	0	Inconsistency in hyphenation of 'low-'/ 'low'/'middle-'/ 'middle income countries'. Suggest consistent use of hyphen in all cases. (da Silva, Jo, Arup)
38	8	0	0	0	0	Inconsistency in use of 'ibid.' - in some places it appears in italics, but in others in regular text. (da Silva, Jo, Arup)
39	8	0	0	0	0	Inconsistency in use of inverted commas/speech marks for quotes and/or terms used throughout the chapter (da Silva, Jo, Arup)
40	8	0	0	0	0	It would be of benefit in the name of clarity if cities mentioned could be included with mention of where they are (i.e. which country), particularly the first time they are referred to in the chapter, for example, the first mention of Chittagong on page 27. (da Silva, Jo, Arup)
41	8	0	0	0	0	Inconsistency in hyphenating 'community based/community-based' and other terms using 'based / -based'. (da Silva, Jo, Arup)
42	8	0	0	0	0	Inconsistent reference to New York / New York City. Use New York City throughout unless referring to the state (da Silva, Jo, Arup)
43	8	0	0	0	0	Sec 8.2: is only mentioned once as a reference in the SPM (p5, L34) and two times more in the TS; This is surprising as it bears the "policy relevant" and important title: "Urbanization Processes, Climate Change Risks, and Impacts", and furthermore contains about 20 pages of text. We wonder whether it could be referenced more often in SPM.\n\n (NETHERLANDS)
44	8	0	0	0	0	Adaptation and resilience seem to be mixed/conflated in the chapter - perhaps include definitions at the beginning of chapter and give examples specific to the urban context. (UNITED STATES OF AMERICA)
45	8	0	0	0	0	At various points in the chapter green infrastructure appears conflated with ecosystem services. The two are very related in that many green infrastructure projects provide some ecosystem services. In some cases, green infrastructure projects include ecosystems and therefore their services. However, in many cases, green infrastructure projects consists of plant material selected for particular purposes that do not support habitat values or large ecosystem function and greater ecosystem services. (UNITED STATES OF AMERICA)
46	8	0	0	0	0	Definitions for vulnerability, sensitivity, exposure, and adaptation capacity as they relate to urban areas should be included at the beginning of the chapter, with examples from an urban context. (UNITED STATES OF AMERICA)
47	8	0	0	0	0	Green infrastructure is mentioned a lot but is not really defined until Page 48, Lines 8-11. Consider providing a glimpse of a definition of GI earlier in the chapter when it first starts to appear. (UNITED STATES OF AMERICA)
48	8	0	0	0	0	In many places there are speculative statements -- the use of the words "may", "could" "potential" should be avoided unless based on some modeled projection of the future. (UNITED STATES OF AMERICA)
49	8	0	0	0	0	In many places, the text is too western- or developed-country centric in perspective - what may work in developed settings may not work in developing settings. Differences should be elaborated upon a little with lessons learned / best practices that may be universally applied. (UNITED STATES OF AMERICA)
50	8	0	0	0	0	Is UHI defined anywhere in the chapter? It is referred to several times. (UNITED STATES OF AMERICA)

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51	8	0	0	0	0	Much is said about the need and value of integrating mitigation and adaptation, adaptation and sustainable development, adaptation and sustainable development goals, and integration of disaster risk reduction and adaptation, in addition to calling for improved governance, community input, private sector involvement etc....Realistically however, which cities are capable of doing all of this and doing it well? It strikes me as a very western-centric or developed country-centric view that is likely out of context in many mid and low income cities and settlement. (UNITED STATES OF AMERICA)
52	8	0	0	0	0	The acronym for urban heat island effect should be "UHIE" (UNITED STATES OF AMERICA)
53	8	0	0	0	0	The authors note that there are different and conflicting definitions of urban areas and the term city. However, these are core terms used in the chapter so the authors really should identify at least one definition that they will be using so that readers understand the context in which these terms are used. (UNITED STATES OF AMERICA)
54	8	0	0	0	0	The authors present the term "accumulated resilience" but the concept could use further substantiation. (UNITED STATES OF AMERICA)
55	8	0	0	0	0	The authors should consider adding this text: A summary of the state of adaptation planning in urban areas included at the beginning of the chapter would be very useful. This section could draw from the following research: Carmin, JoAnn, Nikhil Nadkarni, and Christopher Rhie. 2012. Progress and Challenges in Urban Climate Adaptation Planning: Results of a Global Survey. Cambridge, MA: MIT. (UNITED STATES OF AMERICA)
56	8	0	0	0	0	The chapter does not seem to have a clear audience in mind. It is not likely well suited for policymakers or non technical person as it is too densely written. (UNITED STATES OF AMERICA)
57	8	0	0	0	0	The chapter is overly long and dense, with uneven coverage of key topics, e.g., urban climate impacts are given short shrift in general, while community-based adaptation is overly long.\nDespite the length, the data and evidence supporting the main points of the chapter are weak.\nFigures and tables are not effective in general and need rigorous attention to improve them.\nShortening and sharpening the chapter will help to highlight the main point regarding the need for 'transformation' in urban settings that integrates adaptation, mitigation, and sustainable development. (UNITED STATES OF AMERICA)
58	8	0	0	0	0	The chapter makes excessive reference to New York City. While NYC is doing great work, there are a lot of other US cities that can be referenced. Consider, for example: Chula Vista, CA; Lewes, DE; Chicago, IL; S.E. Florida Climate Compact; Flagstaff, AZ; Tucson, AZ; the Western Adaptation Alliance; San Francisco; Grand Rapids, MI. (UNITED STATES OF AMERICA)
59	8	0	0	0	0	The chapter presents a lot of very useful information but one glaring omission is the importance of acknowledging different world views and belief systems in adaptation action. The authors assert that having more and better information will lead to better urban adaptation...but this hasn't proven universally true. What we know is that adaptation activities need to respect existing world views and belief systems. This omission of these concepts is a notable gap in the chapter. (UNITED STATES OF AMERICA)
60	8	0	0	0	0	The concept of intentionality could strengthen this chapter. In other words, effective adaptation planning is not coincidental and 'good development' does not inherently result in climate change adaptation planning. Instead, deliberate actions to address climate change impacts must be taken. National Wildlife Federation has produced a Quick Guide to Adaptation that discussed intentionality. It can be found here: http://www.nwf.org/~media/PDFs/Global-Warming/Climate-Smart-Conservatio... (UNITED STATES OF AMERICA)

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61	8	0	0	0	0	The Executive Summary is far too long, is repetitive, has contradictory statements, contains statements that are not well supported, and contains a level of detail inappropriate for an ES. As Examples: "City governments are slowly learning from climate change adaptation implementation experience" and "The process of city-based climate adaptation learning is slow, complex and fraught with multiple interlinked challenges" -- repetitive; "Cities are complex inter-dependent systems with potential synergies that could be leveraged to support climate change adaptation" is either contradicted by the following text or not supported by it (governance and coordinating institutions are not systems); "Successful global climate change adaptation depends centrally on what is done in urban areas" -- not supported by following text. (UNITED STATES OF AMERICA)
62	8	0	0	0	0	The Executive summary should use lower level sections for citation to facilitate tracing of statements (UNITED STATES OF AMERICA)
63	8	0	0	0	0	The style of writing is inappropriate for a scientific assessment in many sections. In many cases there are statements without evidence presented or citations. In some cases there are several paragraphs with not citations (i.e., as though this was a book expressing the author's views). For example, on page 9 it states "Furthermore, the level of funding needed for urban adaptation exceeds the capacities of local and national governments and international agencies." While this may be true, a better formulation is "Several recent studies [citation 1, citation 2, citation 3] have concluded that the level of funding needed ..." (UNITED STATES OF AMERICA)
64	8	0	0	0	0	The text of this chapter utilizes too much jargon - making it relatively inaccessible to the non-expert. (UNITED STATES OF AMERICA)
65	8	0	0	0	0	There are a lot of references listed at the end of the document but there could be more referencing in the text. There are a lot of great statements that can be enhanced by linking them to their supporting references. (UNITED STATES OF AMERICA)
66	8	0	0	0	0	There are a lot of run on sentences that bury content and make the chapter hard to read. It's unfortunate because a lot of good meanings get lost in the sheer confusion of trying to navigate the text. (UNITED STATES OF AMERICA)
67	8	0	0	0	0	There are lots of locations in the text that aren't supported by citations. While this reads better than most chapters, it could be compressed by eliminating explanatory discussion, particularly areas where citations are not present. (UNITED STATES OF AMERICA)
68	8	0	0	0	0	There are several places in the chapter where the authors go well beyond policy relevance and are policy prescriptive. For example, the construction "This will need..." should be replaced with "Recent studies [citation, citation, citation] have found the following components are needed to adapt to...." As a specific example, "Effective urban governments will also need to work with a range of government and civil society institutions at local and supra-local levels and to get support and enabling frameworks from higher levels of government." This prescribes that urban governments get frameworks for higher levels of government when in fact this may not be needed.. And won't ineffective urban governments need to do this as well? A better formulation is "Recent studies [citation, citation, citation] have found that working with a range of government and civil society institutions at local and supra-local levels increase the effectiveness of urban government adaptation efforts; support and enabling frameworks from higher levels of government were also found to be helpful." (UNITED STATES OF AMERICA)
69	8	0	0	0	0	There is a fair degree of disorganization especially in the jumping from high income cities to medium income cities and low income cities. Suggest reorganizing chapter around these 3 categories (UNITED STATES OF AMERICA)
70	8	0	0	0	0	There is a lack of clarity and inconsistencies in use of confidence measures and likelihood etc.. (UNITED STATES OF AMERICA)
71	8	0	0	0	0	There is a need to define the key terms in this chapter. Adaptation, resilience, vulnerability, etc. Also, the authors need to consistently use these terms. Frequently it appears that the authors use adaptation and resilience interchangeably. (UNITED STATES OF AMERICA)

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72	8	0	0	0	0	There was no mention of climate services in the text as a potential tool and service. Was this intended? (UNITED STATES OF AMERICA)
73	8	0	0	0	0	This chapter is much too long, and can be shortened in a number of places (especially the Intro and the Exec Summary). Suggestions are provided below for reorganizations and cuts to streamline the chapter. Also, citations are spotty throughout, with evidence and conclusion statements in some sections well-cited, some poorly cited, and in a few cases, whole sections with barely any citations at all (e.g., 8.1, especially 8.1.1, 8.1.4, 8.2.3.6, 8.3.3.8). In fact, where statements are unsupported by the literature, it might be best to cut them. All conclusion statements should be based on the literature, e.g., "Studies suggest that...", with citations, rather than assertions of the authors. Policy statements or calls for actions/changes (e.g., in the finance section) should be avoided. (UNITED STATES OF AMERICA)
74	8	0	0	0	0	This chapter is too long and needs substantial reduction. The length of the chapter detracts from the very important message that given the reality of rapidly urbanizing world, urban areas are a prime target and opportunity for making significant headway on reducing GHG emissions, providing opportunities and incentives as well as education to adjust and adapt continually to climate change (especially climate variability-related) risks and hazards. Also the other important message that governance at urban and local scales is much more productive and effective in fostering societal practices aimed at fostering adaptation and resilience. (UNITED STATES OF AMERICA)
75	8	0	0	0	0	Too many instances of equating adaptation potential and good adaptation with capacity to engage in a multiplicity of coordination at a variety of levels and scales, and engage in massive levels of complex integration. This appears detached from the realities of cities on the ground and specially cities in developing countries - notably medium and low income cities. (UNITED STATES OF AMERICA)
76	8	0	0	0	0	A general comment: Over and above reviewing building codes, it may be more the climate data info which the codes refer to that need to be revised along with the ways to interpret this info (or how to apply codes in the face of an evolving risk). This does not appear clearly in text but is a major issue. For example, the whole notion of "return periods" for designing infrastructure does not make sense in a changing climate (work by Engineers Canada and the Public infrastructure engineering vulnerability committee - see www.pievc.ca). (Larrivee, Caroline, Ouranos inc.)
77	8	0	0	0	0	The notion of infrastructure deficit should include the lack of proper maintenance and rehabilitation which is mostly a problem in higher-income nations but a major source of vulnerability to climate change. See Engineers Canada, 2008, Adapting to Climate Change: Canada's First National Engineering Vulnerability Assessment of Public Infrastructure, Engineers Canada, 76 p. See also Engineers Canada, 2011, PIEVC Engineering Protocol for Infrastructure Vulnerability Assessment and Adaptation to a Changing Climate. (Larrivee, Caroline, Ouranos inc.)
78	8	0	0	0	0	For defining "wicked problem" and also dealing with uncertainty of climate change scenarios, add reference: Gardner, S. and D. Noble eds. 2008, Stepping up to the climate change challenge: Perspectives on local government leadership, policy and practice in Canada, Municipal Knowledge Series, Municipal World. (Larrivee, Caroline, Ouranos inc.)
79	8	0	0	0	0	Chapters 8 and 9 could be still better coordinated. Even though in chapter 8 there are a few references to rural areas and urban-rural interaction, theories and mechanisms of interaction are not elaborately discussed, apart from local urban-rural interaction (i.e. near the urban fringe) in the context of urban (expansion) planning, e.g. on page 12. On the other hand in chapter 9 on rural development there is more attention for the urban-rural interaction (at several scales) and the term 'urban' appears clearly more often in Ch.9 (approx. 50x) than 'rural' in Ch.8 (approx. 35x). Chapter 8 deals especially with challenges of (future) larger cities and mega cities and takes urbanization as given. Probably nobody denies the strong urbanization ahead, but there is some policy leeway to shape the process in terms of how much urbanization concentrates on one or a few cities only or alternatively a gentler distribution of more (medium sized) cities is aspired. Nowhere theories of optimal city size in conjunction with a country's city size hierarchy are discussed, not the empirical tests. (Perreels, Adriaan, Finnish Meteorological Institute FMI)

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80	8	0	0	0	0	A listing of adaptation interventions across regions is missing (Nair, Malini, Indian Institute of Science)
81	8	0	0	0	0	General comment to the whole chapter: It is very technical and in many cases the papers chosen present very local problems without relations to other regions. (POLAND)
82	8	0	0	0	0	Conclusions: Transport not included in the summary for the policy makers. Resiliency is only qualitative, would be helpful to have it also in some way measured. In energy all energy saving is measured. That is obviously very good, but more and more in the future the peak power demand becomes crucial in respect to emissions. Thus more emphasis should be highlighted to the peak demand reduction and peak shifting (e.g. by demand control). Energy efficiency together with good indoor climate should be emphasized more. Energy efficiency is usually also giving better quality on indoor air and thermal comfort. (Airaksinen, Miimu, VTT Technical Research Centre of Finland)
83	8	0	0	0	0	The tone of the chapter should be policy relevant and not policy prescriptive. (Chatterjee, Monalisa, IPCC WGII TSU)
84	8	0	0	0	0	The chapter has rich discussions on several interdependent topics. For FGD preparation, authors may wish to synthesize key messages in tables or in form of other synthetic elements as 'finding rich capsules' that people can use from this assessment. (Chatterjee, Monalisa, IPCC WGII TSU)
85	8	0	0	0	0	Considerable amount of synthesis is required to condense the chapter. Moreover, it would be very useful if the chapter findings find ways of contributing to the emerging messages of WGII assessment. (Chatterjee, Monalisa, IPCC WGII TSU)
86	8	0	0	0	0	Chapter needs easily accessible synthesized climate change impact on urban areas findings. (Chatterjee, Monalisa, IPCC WGII TSU)
87	8	0	0	0	0	1) Shortening the chapter -- In developing the final draft of the chapter, the author team is strongly encouraged to prioritize shortening of the chapter. The effectiveness of the assessment would be greatly enhanced if length were ambitiously reduced--from the current 76 pages of text in the main body of the chapter, down to approximately 35 pages. Such tightening and condensing of the chapter would be beneficial in a number of senses. 1st, a shorter chapter will be read in its entirety by many more readers. 2nd, a chapter without overlap among sections provides greater focus on the key findings of the assessment. (Mach, Katharine, IPCC WGII TSU)
88	8	0	0	0	0	2) Highlighting key findings -- To shorten and tighten the assessment, the chapter team is encouraged to 1st clearly identify the key, non-overlapping assessment findings of its assessment. This 1st step could be achieved by reducing the executive summary to 2 pages, clearly articulating the key messages. 2nd, the subsections of the chapter should be reduced with the key messages in mind. Overlap should largely be eliminated, and the reader should understand how each section is distinct from the others. Each key message should emerge in the chapter clearly, traceably, and just once, rather than partially emerging a number of times. (Mach, Katharine, IPCC WGII TSU)
89	8	0	0	0	0	3) Comprehensive, traceable assessment -- In final revisions, the chapter team should ensure that citations are provided in clear and direct support of all statements in the chapter. (Mach, Katharine, IPCC WGII TSU)
90	8	0	0	0	0	4) Coordination across Working Group II -- In developing the final draft of the chapter, the author team should continue to ensure coordinated assessment, both in the chapter text and at the level of key findings. As appropriate, cross-references to the specific relevant sections of other chapters and/or their assessment findings should be used, continuing to ensure that overlaps are reduced and assessment harmonized. (Mach, Katharine, IPCC WGII TSU)
91	8	0	0	0	0	5) 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)

#	Ch	From Page	From Line	To Page	To Line	Comment
92	8	0	0	0	0	6) Policy neutrality -- Given the mandate to provide a policy relevant, but not policy prescriptive assessment, the chapter team is encouraged to further consider the formulation of statements across the chapter. For example, the word "need" is frequently used, and in some places readers could potentially interpret the statements as prescriptive. The chapter team should explore opportunities to provide more information rich statements that avoid potential interpretations of prescription. (Mach, Katharine, IPCC WGII TSU)
93	8	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 approval, before final copyediting has occurred. Thus the chapter team is encouraged to continue with careful attention to refined syntax and perfected referencing. (Mach, Katharine, IPCC WGII TSU)
94	8	0	0	0	0	8) Characterization of future risks -- In characterizing future risks for urban areas, to the degree appropriate the chapter team should indicate the extent to which risks (or key risks) can be reduced through mitigation, adaptation, development, poverty reduction, etc. That is, is it possible to indicate how risks may increase as the level of climate change increases or, potentially, to indicate the relative importance of changes in mean conditions, as compared to changes in extreme events, as compared to potential non-linear changes associated with biome shifts or tipping points? And then, how much can risks be reduced through adaptation or development, in the near-term and in the long-term? How are factors or stressors that multiply risks relevant in this context? As supported by its assessment of the literature, the author team should consider communicating risks for the era of climate responsibility (the next few decades, for which projected temperatures do not vary substantially across socioeconomic/climate scenarios) and for the era of climate options (the 2nd half of the 21st century and beyond). As might be helpful to the chapter, the framing of table SPM.4 could be considered in the characterization of future risks, along with the key and emergent risk typology of chapter 19. (Mach, Katharine, IPCC WGII TSU)
95	8	0	0	0	0	9) 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 developing concise and distinct key findings, continuing to use calibrated uncertainty language effectively. 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 extreme events have demonstrated adaptation deficits and vulnerabilities to date and may relate to future risks, how limits to adaptation may be relevant in the context of this chapter, how multidimensional inequality is relevant in the context of climate change, how adaptation experience has been observed to date, and how interactions among mitigation, adaptation, and sustainable development may occur. (Mach, Katharine, IPCC WGII TSU)
96	8	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. Currently, the chapter text (and the executive summary) are much too long and must be reduced substantially. There are clear opportunities to do this because both the text and the executive summary cover the same ground multiple times. When considering the suite of review comments, please look for all opportunities to hone and focus the text in revision, reducing length significantly. In addition, avoid policy-prescriptive formulations such as "need" and "require" throughout. (Mastrandrea, Michael, IPCC WGII TSU)
97	8	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 8, this includes presentation of observed impacts and vulnerabilities in section A.i, adaptation experience in section A.ii, principles for effective adaptation in section B.ii, and sectoral and regional risks in section C.i, as well as related figures and tables. Are there opportunities for presenting chapter findings and material in a way that further supports broad themes highlighted in the summary products and that facilitates additional cross-chapter synthesis in specific findings or figures/tables? Do the existing summary product drafts suggest additional coordination that should occur between Chapter 8 and other chapters at LAM4? (Mastrandrea, Michael, IPCC WGII TSU)

#	Ch	From Page	From Line	To Page	To Line	Comment
98	8	0	46	0	0	does not find an increase in UHI in the 2050's this seems misleading to me. Indeed, no increase in UHI does not mean at all that that there will be no increase in heatwave risk. Readers could therefore misunderstand this sentence. (Viguié, Vincent, CIRED)
99	8	0	51	0	52	Here again, I find that this sentence is misleading. It would seem clearer to me too write that "Another warming of about 0.5°C is projected due to an increase in UHI caused by possible land-use change". Also, it seems strange to me to focus, as it is done in this paragraph, on the average value of UHI during a whole day, because UHI amplitude varies strongly during the day. UHI has its most adverse impact at night, when it is stronger and prevents air temperature to decrease as much as in the countryside. During the day, its effect is much smaller and of less practical importance. Focusing on an average between day and night therefore does not give the reader a good description of the phenomenon and of its amplitude. (Viguié, Vincent, CIRED)
100	8	1	0	0	0	More attention needs to be given in this chapter to the importance of early warning systems and timely disaster prevention actions based on short-term risk information. Currently, the emphasis is almost entirely on long-term risk reduction, not giving due attention to the establishment of systems to monitor forecasts of heightened risk (ie: rainfall forecast) and trigger disaster prevention actions on an ongoing basis. Such early warning systems are important to deal with changing and uncertain risks due to climate change, and particularly effective in cities. (Coughlan, Erin, Red Cross / Red Crescent Climate Centre)
101	8	2	12	0	0	Executive Summary: As mentioned in my general comments, please refine the focus and clarity of the executive summary as you revise the chapter--it is currently too long and repetitive, and the key findings are not easy to determine. Each paragraph should present one key finding (in the bold sentence), with the subsequent nonbold sentences providing additional support and context to the bold finding. In addition, please carefully check and ensure the clear traceability of all executive summary statements to the underlying chapter text. Cite specific subsections of the chapter wherever possible, rather than major sections (unless the full section is intended as support). Finally, please use calibrated uncertainty language consistently throughout the executive summary, as currently a mixture of confidence, agreement/evidence, and confidence based on agreement/evidence are used. (Mastrandrea, Michael, IPCC WGII TSU)
102	8	2	29	0	0	Suggest to change the term "Urban Government" to "Municipality", which has direct equivalence to most national jurisdictions. The term "Urban Government" is never used in TS or SPM. Further explanation in Proposition 9 of the review. Idem page 6, line 31 and 39, page 7, line 52, etc.\n\n (NETHERLANDS)
103	8	3	0	0	0	This chapter covers all the main issues related to urbanisation and climate change reasonably well but in places it makes broad statements and generalisations that could be easily refuted and do not seem to be backed by robust evidence. Given the level of criticism that previous ARs have been subjected to (even if often unfounded) it would be wise to avoid these altogether or at least reduce them to a minimum. I have some examples of such statements below. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)
104	8	3	1	9	28	The entire executive summary could be better organized; currently it is a mixture of many kinds of information and the result is that it is very difficult to follow- possible groupings/headings of information include the following: overview, climate impacts in urban areas, key strengths and weaknesses of urban areas; strategies to reduce risk and develop adaptation activities and plans (eg., ecosystem-based adaptation). Even further, the adaptation strategies could be grouped together - eg., all economic strategies in one place, all strategies related to human and institutional capacity are together, etc. (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
105	8	3	1	9	28	The executive summary does not characterize the full range of climate impacts in urban areas, but it should. Although sea level rise and coastal and riverbank flooding are included, stormwater flooding, drought and increasing aridity, and wildfires are not mentioned to the extent that they should be. For example, the section on microclimate (p 4, line 32) mentions stormwater, but increased stormwater runoff is NOT a result of changes to urban microclimates. (UNITED STATES OF AMERICA)
106	8	3	4	3	4	The word "good" is probably "sustainable".\nUrban practices may be more usefully described and characterized in terms other than good, bad, right or wrong which often implies moral, ethical or regulatory argumentation. If that is not scope of the assessment, other characterization can better assist. Further explanation in Proposition 6 of the review.\nWords like good, bad, right or wrong are never used in TS or SPM.\n\n (NETHERLANDS)
107	8	3	12	0	0	Taking into account 8.1.4.2, page 5 line 23-43; page 6, line 28-29; and page 7, line 49-51, it is suggested to insert an additional conclusion into its ES to describe how developing and developed countries are different from each other in adapting to climate change at city level. (CHINA)
108	8	3	12	0	0	Executive Summary -- In revising the executive summary, the chapter team could consider 3 priorities. 1st, the executive summary should be reduced to 2.5 pages--maximum--to allow the reader to readily understand the key conclusions of the chapter. 2nd, per my overall comment on characterization of risks, the executive summary could more clearly highlight key risks for urban areas and the degree to which these risks can be reduced through proactive adaptation. 3rd, repetition across paragraphs in the executive summary should be reduced to a minimum, so that each key conclusion emerges clearly--in only one paragraph. (Mach, Katharine, IPCC WGII TS II)
109	8	3	12	3	12	The summary is very long. It's verbose too. You can cut 75% of the words without loss of information (Tol, Richard S.J., Vrije Universiteit Amsterdam)
110	8	3	12	9	28	The cited sections in the ES should be more indicative and traceable, such as 8.1.4 or 8.1.4.1, not only 8.1. (zheng , yan, Chinese Academy of Social Sciences (CASS))
111	8	3	12	9	28	Executive Summary is far too long. Select at maximum the 10 major points to cover in two pages maximum, or group the points into several sections with sub-points. (UNITED STATES OF AMERICA)
112	8	3	14	2	14	The word "centrally" reflects an overstatement. (Constantinos Cartalis, Environmental Physics, University of Athens, Greece) (GREECE)
113	8	3	14	3	15	Trite. Cities are important 'cause that's where people live. The countryside is important because that's where food is grown. Chairs are important because that's what we sit on. (Tol, Richard S.J., Vrije Universiteit Amsterdam)
114	8	3	14	3	15	this argument can be improved by adding "because it is not only a major GHGs emitter but also suffers most from its increasing exposure to climate change risk" after it. I also suggest to replace the "very high confidence" as "high confidence" here. (zheng , yan, Chinese Academy of Social Sciences (CASS))
115	8	3	14	9	28	This executive summary is way too long, contains points that seem to be redundant, seems to lack a progression in terms of the order of the points, and inconsistently addresses uncertainty. With respect to uncertainty first, looking at the first three points on page 3, the first bullet addresses agreement and evidence, the second bullet addresses confidence, and the third bullet addresses agreement and evidence. The fourth bullet (page 4, line 1) is "medium confidence, characterized by high agreement and medium evidence." With respect to redundancy, one example is the redundancy of point number 3 (page 3, line 27) with point number 19 (page 8, line 14). Suggested cuts on these points will be made with respect to specific points below, but I suggest an entire reordering that progresses from points about the essential role cities play in adaptation, to difficulties in playing that role, to what they can do despite those difficulties, and finally to ways their capacity to adapt can be increased. (UNITED STATES OF AMERICA)
116	8	3	15	3	15	The sentence "Urban areas house more than half the world's populations ..." is not clear (POLAND)

#	Ch	From Page	From Line	To Page	To Line	Comment
117	8	3	18	3	19	The sentence "projections for the next few decades suggest that it is in and around urban areas that almost ..." is not clear (POLAND)
118	8	3	19	3	19	Change word "increment" to "increase" (UNITED STATES OF AMERICA)
119	8	3	24	3	25	medium evidence' should be added as majority of evidence are from developed countries while very few evidence exists for the developing countries most espically in Africa (Sanni, Maruf, National Centre for Technology Management)
120	8	3	24	3	35	Although this paragraph represents important introduction to the chapter, as the executive summary is shortened, this text could be maintained in an introductory section, rather than as a core finding of the chapter. (Mach, Katharine, IPCC WGII TSU)
121	8	3	26	3	26	...initial responses to adaptation; shouldn't this really be "initial responses to climate change." (UNITED STATES OF AMERICA)
122	8	3	27	3	28	social scientists should be added to the list of professionals (Sanni, Maruf, National Centre for Technology Management)
123	8	3	28	3	31	The claim that shifting from urban adaptation to building resilience "supports the capacity to withstand unexpected impacts, flexibility, redundancy, and planning for 'safe failure'" seems to be at odds with the vast amount of literature on adaptation. These concepts are well known and considered to be key, important characteristics of adaptation. As it is currently written, section 8.1.4 does not support this statement, and it is one of the sections most in need of citations. (UNITED STATES OF AMERICA)
124	8	3	30	3	30	In the list of 'resilience characteristics', the authors include the concept of redundancy. There has been growing controversy over whether or not redundancy is really an important component of resilience. In fact, in many cases, redundancy can reduce resilience and lead to cascading effects. Would consider replacing redundancy with something like modularity. This is also a comment for consideration later in the document when redundancy is listed as a key concept. Consider replacing there as well. (UNITED STATES OF AMERICA)
125	8	3	31	3	34	This sentences uses adaptation twice which makes the sentence hard to navigate. Also, the authors present the idea of transformative adaptation but don't really discuss what transformative adaptation is and how it differs from more traditional incremental adaptation. (UNITED STATES OF AMERICA)
126	8	3	34	3	35	Another sentence on the fact that there are some discussions on how private sectors could be intergrated in urban climate change adaptation strategies should be added (Sanni, Maruf, National Centre for Technology Management)
127	8	3	35	0	0	There should be reference to literature concerning " Carrying capacity & limits to growth ", it is affected by climate variability / change (Bharat, Alka, M.A.National Institute of technology)
128	8	3	37	0	0	This part is mentioned as "low evidence". My opinion is that the executive smmary needs to be rephrased in that point to reflect the "low evidence" stated. (Denia Kolokotsa, Environmental Engineering Department, Technical University of Crete, Greece) (GREECE)
129	8	3	37	3	38	The term "bounce forward" is introduced and needs a very brief definition here. MBC (UNITED STATES OF AMERICA)
130	8	3	37	3	52	The header mischaracterizes the information in the paragraph. Reading the supporting paragraph, a better header might be "Cities have complex inter-dependent systems that complicate adaptation". If point 19 is kept, it could follow this point and lines 48-52 of this point could be deleted, starting with "Thus raising urban adaptive capacity..." (UNITED STATES OF AMERICA)
131	8	3	38	3	38	The uncertainty qualification should read "limited evidence" (instead of "low evidence") for consistency with the rest of the report. (Min, Erik, Royal Netherlands Meteorological Institute (KNMI))
132	8	3	38	3	38	Following the uncertainties guidance for authors, "limited evidence" is the summary term that should be used here in place of "low evidence." (Mach, Katharine, IPCC WGII TSU)

#	Ch	From Page	From Line	To Page	To Line	Comment
133	8	3	42	3	44	this section mentions "a few cities,"and then provides a refence to section 8.3, but when you look at section 8.3.3.5 Adapting Electric Power and Energy Systems, there are no examples of cities that have adaptation initiatives underway. Somewhere in the document there should be explicit mention of which cities have initiatives underway. Also, if this section includes energy systems as the example given to illustrate why cities are inter-dependent cities with synergies , there needs to be better explanation. (UNITED STATES OF AMERICA)
134	8	3	47	3	47	This sentence uses the term "adapting well". What does this mean? One of the biggest research needs constantly articulated is the need to understand what successful adaptation means. As such, consider altering this sentences or providing more description of what is needed. (UNITED STATES OF AMERICA)
135	8	3	48	0	0	[after resilience (8.5)] :specific sectors like energy , infrastructure (water , sewer lines) should be specified . Rise in temperature is a major issue for solid waste (Bharat, Alka, M.A.National Institute of technology)
136	8	3	48	3	48	This statement could be interpreted as policy prescriptive, and rewording the statement to show the benefits of multi-level governance may be preferable. (Mach, Katharine, IPCC WGII TSU)
137	8	3	48	3	52	(Same as chp. 8, page 3, line 48) This is evidence that there is no advantage or interest in making "urban executive" capacity autonomous within the Municipality. \n\n (NETHERLANDS)
138	8	3	49	3	49	The term "end-of-pipe" is used but not defined. A self-explanatory term would serve better. (UNITED STATES OF AMERICA)
139	8	3	50	0	0	(after adaptation measures) : sample for understanding adaptation measures should be mentioned . (Bharat, Alka, M.A.National Institute of technology)
140	8	3	50	3	53	The authors should consider modifying the text to read: "Although adaptation strategies can reinforce land-use management patterns around a cities that supports livelihoods while protecting ecosystem services in peri-urban or nearby rural areas, there are few global examples of this approach in practice." (UNITED STATES OF AMERICA)
141	8	3	51	0	0	(after encouraged) : at Regional level (strategywise) and implimented at urban , Rurban and Rural levels) (Bharat, Alka, M.A.National Institute of technology)
142	8	4	1	4	2	The phrase "imperative for adaptation" could be interpreted as policy prescriptive, and rewording the statement would thus be beneficial. (Mach, Katharine, IPCC WGII TSU)
143	8	4	1	4	3	The authors should consider modifying the text to read: "Although the scale and concentration of urban climate risk is acknowledged and there is a growing imperative for adaptation activities, the risk is still poorly understood and the development of strategies to reduce risk is rare" (UNITED STATES OF AMERICA)
144	8	4	2	4	3	Following the uncertainties guidance for authors, it would be preferable to use a phrase such as "based on" rather than "characterized by" in communicating the summary terms for evidence and agreement that serve as the basis for and underpin the assigned level of confidence. (Mach, Katharine, IPCC WGII TSU)
145	8	4	7	4	7	but responses...need more clarification of "responses to what" (UNITED STATES OF AMERICA)
146	8	4	8	0	0	(after awareness) : capacity and institutional building) (Bharat, Alka, M.A.National Institute of technology)
147	8	4	8	0	9	The terms "awareness building, etc." are too general. How these are linked with the specific subject about the climate risk? (Denia Kolokotsa, Environmental Engineering Department, Technical University of Crete, Greece) (GREECE)
148	8	4	8	4	8	The authors list things that will enable urban adaptation. Consider including something that mentions the alleviation of legal and institutional barriers since these are critical barriers that often impede action. (UNITED STATES OF AMERICA)
149	8	4	9	4	10	Given that infrastructure can be very expensive, it could be helpful to clarify what is meant by "low-cost interventions" here. (Mach, Katharine, IPCC WGII TSU)
150	8	4	10	4	11	This last sentence is confusing the way it's crafted. The part after the comma implies that institutional and ecological adaptation with long-term resilience building potential is a matter of concern. But so is infrastructural adaptation. The way the sentence is crafted its trying to contrast infrastructural efforts with all others but the sentence doesn't achieve that goal. (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
151	8	4	13	4	15	high agreement' with 'medium evidence' should be added (Sanni, Maruf, National Centre for Technology Management)
152	8	4	20	0	0	Separate words "urban and" (Ambulkar, Archis, Brinjac Engineering Inc.)
153	8	4	20	4	22	In ExSum, the non linear increase in vulnerability has been attributed in general to coastal cities, particularly in Asia. While in Section 8.3.3.1 (page 39, lines 20-23), only India and China are mentioned. \n\n (NETHERLANDS)
154	8	4	22	4	23	Text states flooding caused by heavy rainfall is common in some urban centres, but Chapter 4, section 4.3.3.5.4, page 53, lines 10-13 says that the evidence for this is limited. These two statements need to be rephrased so they do not partially contradict each other. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
155	8	4	23	4	43	This key message is much less developed than the others. It was hard to navigate and in the end, it wasn't clear what the authors wanted to the reader to walk away with. (UNITED STATES OF AMERICA)
156	8	4	24	0	0	(after properties) : leads to failure of water supply and sewer infrastructure (Bharat, Alka, M.A.National Institute of technology)
157	8	4	24	4	25	Another sentence on the urban poor who stays in vulnerable coastal low lying areas should be added. The fact that their livelihood (such as fishing and crop farming) may be affected should also be mentioned (Sanni, Maruf, National Centre for Technology Management)
158	8	4	27	4	35	This statement is not fully supported by the section it references. There are not any references to support a city's ability to affect the region's climate. Also, surface run-off is not a climate effect. (UNITED STATES OF AMERICA)
159	8	4	28	0	0	(after large cities) : reduction of forest areas (Bharat, Alka, M.A.National Institute of technology)
160	8	4	28	4	28	Following the uncertainties guidance for authors, "robust evidence" is the summary term that should be used in place of "high evidence." (Mach, Katharine, IPCC WGII TSU)
161	8	4	29	0	0	(after energy consumption) : rise in temperature due to anthropogenic activities like industrialisation , traffic (Bharat, Alka, M.A.National Institute of technology)
162	8	4	31	4	32	Run off is not a city microclimate nor is it a localized region's climate. Why is it here? (UNITED STATES OF AMERICA)
163	8	4	32	0	0	Separate words "include the" (Ambulkar, Archis, Brinjac Engineering Inc.)
164	8	4	32	0	0	(after runoff) : changed wind character and wind speed (Bharat, Alka, M.A.National Institute of technology)
165	8	4	32	0	35	collated words (Denia Kolokotsa, Environmental Engineering Department, Technical University of Crete, Greece) (GREECE)
166	8	4	32	4	34	There is no spacing between the 'include' and 'the' on line 32. Likewise for 'mesoscale' and 'changes' in line 33 as well as the words 'inturn' 'modifying' and 'the' in line 34. (INDIA)
167	8	4	33	0	0	Separate words "mesoscale changes" (Ambulkar, Archis, Brinjac Engineering Inc.)
168	8	4	34	0	0	Separate words "in turn modifying the" (Ambulkar, Archis, Brinjac Engineering Inc.)
169	8	4	37	4	38	I don't know what this means. In my experience, cities don't bounce in any direction. (Tol, Richard S.J., Vrije Universiteit Amsterdam)
170	8	4	37	4	49	The meaning of the term "bounce forward" is unclear. Could this header be rephrased to say something like "Increasing city resilience to climate change and building adaptive capacity [aside: which includes having adequate resourcing] could enable cities to improve their quality of life even in the face of climate change events." (UNITED STATES OF AMERICA)
171	8	4	38	4	38	The uncertainty qualification should read "limited evidence" (instead of "low evidence") for consistency with the rest of the report. (Min, Erik, Royal Netherlands Meteorological Institute (KNMI))

#	Ch	From Page	From Line	To Page	To Line	Comment
172	8	4	38	4	38	Following the uncertainties guidance for authors, it would be preferable to use a phrase such as "based on" rather than "supported by" in communicating the summary terms for evidence and agreement that serve as the basis for and underpin the assigned level of confidence. Additionally, the phrase "limited evidence" should be used in place of "low evidence." (Mach, Katharine, IPCC WGII TSU)
173	8	4	40	0	41	the sentence does not make sense (Denia Kolokotsa, Environmental Engineering Department, Technical University of Crete, Greece) (GREECE)
174	8	4	49	0	0	(after intervention) : on basis of risk study , preventive measures could be made integral part of physical planning options (Bharat, Alka, M.A.National Institute of technology)
175	8	4	51	0	0	What is meant by "sound development"? Be precise. (Denia Kolokotsa, Environmental Engineering Department, Technical University of Crete, Greece) (GREECE)
176	8	4	51	4	52	Widespread assumption? This is an awkward construction. More importantly, there is no evidence that sound development is not both necessary and sufficient. A lack of evidence does not mean that the conclusion has been demonstrated. (UNITED STATES OF AMERICA)
177	8	4	51	4	52	Following the uncertainties guidance for authors, it would be preferable to use a phrase such as "based on" rather than "supported by" in communicating the summary terms for evidence and agreement that serve as the basis for and underpin the assigned level of confidence. (Mach, Katharine, IPCC WGII TSU)
178	8	4	51	5	7	This header statement is unsupported by the text below and seems to be at odds with some of the other points (e.g., point 12 on page 6, lines 5-6 and point 13 on page 6, lines 18-19). Also, the text below is quite hard to follow logically. It would be more accurate to have the header say "More research is needed to understand the full role that sound development plays in promoting urban climate resilience." (UNITED STATES OF AMERICA)
179	8	4	51	5	7	This section is missing a key point - although providing infrastructure, like access to water and sanitation services, can help reduce the vulnerability of some human populations, we need to also increase the resilience of that infrastructure, otherwise it is vulnerable to climate threats and will not help the populations that it is intended to serve. (UNITED STATES OF AMERICA)
180	8	5	3	0	0	(aftermitigation with) : vulnerable sectors and areas (Bharat, Alka, M.A.National Institute of technology)
181	8	5	10	5	10	Following the uncertainties guidance for authors, it would be preferable to use the phrase "based on" and to not additionally use the phrase "supported by." (Mach, Katharine, IPCC WGII TSU)
182	8	5	12	0	0	(after storm surge) :variation n wind character and rainfall pattern (Bharat, Alka, M.A.National Institute of technology)
183	8	5	13	5	13	The term "novel compound" is used. It is not clear from the context what this means and it should be explained or replaced with a more common or self-evident term. (UNITED STATES OF AMERICA)
184	8	5	14	0	15	Consider revising. Sentence too long, etc. (Denia Kolokotsa, Environmental Engineering Department, Technical University of Crete, Greece) (GREECE)
185	8	5	18	5	21	Sentence clumsy. Could be reworked (Sanni, Maruf, National Centre for Technology Management)
186	8	5	18	5	21	Do you have any evidence that implementation of disaster risk reduction will be insufficient? (UNITED STATES OF AMERICA)
187	8	5	18	5	21	This sentence needs clarification and perhaps would benefit from becoming two sentences. The second half would be clearer if the subject is restated, such as: "Such a foundation would then target the convergence of development and disaster risk reduction policies..." (UNITED STATES OF AMERICA)
188	8	5	20	0	0	Separate words "investment mobilisation" (Ambulkar, Archis, Brinjac Engineering Inc.)
189	8	5	20	5	20	No spacing between words 'inventment' and 'mobilization' in line 20 (INDIA)

#	Ch	From Page	From Line	To Page	To Line	Comment
190	8	5	21	0	0	(after goals) : Hyogo Framework for Action (HFA , by UNISDR is a ten year plan 2005 - 2015 to make the world safer from natural hazards . Guidelines should be followed to achieve resilient city (Bharat, Alka, M.A.National Institute of technology)
191	8	5	23	5	23	The term "agglomeration economies" is introduced and would benefit from having a brief definition following it here. (UNITED STATES OF AMERICA)
192	8	5	23	5	43	Text was mostly incomprehensible and especially likely to be so for most executives for whom this is written. Avoid jargon such as "agglomeration" (UNITED STATES OF AMERICA)
193	8	5	23	5	43	This point has many problems, one of them being the phrase "agglomeration." This term should be defined, or another term used whose meaning is clear to the reader without having to define it. Also, the paragraph itself needs to be rewritten to be clearer. Lines 39-43 could be deleted, as they are not central to the point being made. (UNITED STATES OF AMERICA)
194	8	5	24	5	24	The uncertainty qualification should read "limited evidence" (instead of "low evidence") for consistency with the rest of the report. (Min, Erik, Royal Netherlands Meteorological Institute (KNMI))
195	8	5	24	5	24	Following the uncertainties guidance for authors, the phrase "limited evidence" is the summary term that should be used here in place of "low evidence." (Mach, Katharine, IPCC WGII TSU)
196	8	5	29	0	0	(after lack) : proper planning concerns , low quality or absence of basic infrastructure (Bharat, Alka, M.A.National Institute of technology)
197	8	5	31	0	0	(after safer sites) :have vulnerable section of society (Bharat, Alka, M.A.National Institute of technology)
198	8	5	31	5	31	The comment that sites are settled because residents can't afford access to safer sites is misleading and partial. In many cases residents choose such sites because of proximity to work, access to key services, etc. Literature following the Asian Tsunami and the reluctance of coastal dwellers (particularly fishermen) to relocate inland should be available. (UNITED STATES OF AMERICA)
199	8	5	34	0	0	(after economic activity) :all these factors should be incorporating while suggesting long term planning proposal (Bharat, Alka, M.A.National Institute of technology)
200	8	5	39	0	0	Remove word "take" so that the sentence is "There is also the need to recognize potential..." (Ambulkar, Archis, Brinjac Engineering Inc.)
201	8	5	39	0	0	(afterbetween the) :preventive (Bharat, Alka, M.A.National Institute of technology)
202	8	5	42	5	42	cross thresholds of acceptable biodiversity change might better read "correspond to changes in biodiversity that exceed thresholds of ecological community resilience". (UNITED STATES OF AMERICA)
203	8	5	45	0	0	How does "ecosystem-based adaptation" differ from normal adaptation? The paragraph here does not make that clear; no matter where people live they will need ecosystem services, and the current list of examples including "sustainable water management" just seem to use "ecosystem-based adaptation" as a synonym for sustainability approaches. How does this "type" of adaptation really differ in process or outcome? (Coughlan, Erin, Red Cross / Red Crescent Climate Centre)
204	8	5	45	5	46	land-use management' should be added as part of the foci for ecosystem-based adaptation (Sanni, Maruf, National Centre for Technology Management)
205	8	5	45	5	54	The conclusion seems not well supported when "There are considerable knowledge gaps in determining...other adaptation measures." (UNITED STATES OF AMERICA)
206	8	5	47	0	0	Separate words "more cost-effective" (Ambulkar, Archis, Brinjac Engineering Inc.)
207	8	5	47	5	47	No spacing between words 'more' and 'cost-effective' in line 47 (INDIA)
208	8	5	52	0	0	Join words to "wastewater" (Ambulkar, Archis, Brinjac Engineering Inc.)

#	Ch	From Page	From Line	To Page	To Line	Comment
209	8	5	54	0	0	(after measures) :knowledge of relation between built up and open space to be achieved (Bharat, Alka, M.A.National Institute of technology)
210	8	6	2	0	0	Separate words "events on" (Ambulkar, Archis, Brinjac Engineering Inc.)
211	8	6	5	6	16	I suggest emphasizing heat waves further in this paragraph, particularly noting the structural adjustments that can reduce vulnerability to heat waves and the locational considerations to enable access to cooling shelters or parks. (Coughlan, Erin, Red Cross / Red Crescent Climate Centre)
212	8	6	5	6	29	This two paragraphs can be integrated and concise as one. (zheng , yan, Chinese Academy of Social Sciences (CASS))
213	8	6	6	6	6	The uncertainty qualification should read "robust evidence" (instead of "high evidence") for consistency with the rest of the report. (Min, Erik, Royal Netherlands Meteorological Institute (KNMI))
214	8	6	6	6	19	On lines 6 and 19, it would be preferable to use the phrase "based on" rather than "supported by," given the framing of the uncertainties guidance for authors. Additionally, the phrase "robust evidence" should be used in place of "high evidence," following the same guidance for authors. (Mach, Katharine, IPCC WGII TSU)
215	8	6	7	6	8	Remove extra "and" so the sentence is "appropriate health, safety and climate-resilient building..." (Ambulkar, Archis, Brinjac Engineering Inc.)
216	8	6	11	0	0	Separate words "effective land-use" (Ambulkar, Archis, Brinjac Engineering Inc.)
217	8	6	11	0	0	(after loses and damages) :relation between builtup and openspaces should be balanced to achieve comfortable microclimatic conditions (Bharat, Alka, M.A.National Institute of technology)
218	8	6	12	0	0	(after children) : aged and poor persons (Bharat, Alka, M.A.National Institute of technology)
219	8	6	13	0	0	Word "interventions" seem to be repeating - the sentence need to be revised. (Ambulkar, Archis, Brinjac Engineering Inc.)
220	8	6	17	0	0	Also include the National Wildlife Federation's Climate-Smart Communities Program (US-focused). The Urban Sustainability Director's Network in another entity that could be included (US-focused). EU Cities Adapt is European program that could also be included. (UNITED STATES OF AMERICA)
221	8	6	18	6	29	This section is very similar to and can be combined with p4 line 51 ("Sound Development is Necessary, but not sufficient") (UNITED STATES OF AMERICA)
222	8	6	18	6	29	The role of redundancy in infrastructure could be mentioned here, particularly in reducing the risk of disaster. (Coughlan, Erin, Red Cross / Red Crescent Climate Centre)
223	8	6	19	6	19	The uncertainty qualification should read "robust evidence" (instead of "high evidence") for consistency with the rest of the report. (Min, Erik, Royal Netherlands Meteorological Institute (KNMI))
224	8	6	27	6	29	The authors should incude a reference to the literature. (UNITED STATES OF AMERICA)
225	8	6	31	0	0	For all conclusions, please be consistent and state the "level of confidence" (UNITED STATES OF AMERICA)
226	8	6	31	6	31	high confidence' 'low evidence' (Sanni, Maruf, National Centre for Technology Management)
227	8	6	31	6	43	Could this point be combined with the first point on page 3, lines 14-22? (UNITED STATES OF AMERICA)
228	8	6	35	6	35	Consider adding maintenance to this list. It's not just about development planning and new investments, its also about integrating the concept into regular maintenance efforts. In fact, this is one of the more affordable ways to integrate climate considerations into local efforts. (UNITED STATES OF AMERICA)
229	8	6	41	6	43	This is a confusing sentence, consider reworking. (UNITED STATES OF AMERICA)
230	8	6	45	6	50	This is a very generic statement. The reality of facts in many cities around the world however is much more varied and a large number of cities (most of which are in developing countries) do not have in place any of the measures described. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)
231	8	6	45	7	3	Could this point be combined with point 16 on page 7, lines 5-22? (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
232	8	6	45	7	22	This section could be combined into one finding - there is much overlap. (UNITED STATES OF AMERICA)
233	8	6	49	6	50	The process has been modelled in existing literature and coined as "learning alliances" concerning the development of interpretation among stakeholders (understand why they need to engage with adaptation) and "learning active alliances" concerning developing intervention with stakeholders (initiate measures). Ashley, R., Blanskby, J., Newman, R., Gersonius, B., Poole, A., Lindley, G., Smith, S., Ogden, S., Nowell, R., 2012. Learning and action alliances to build capacity for flood resilience. Journal of Flood Risk Management 5, 14 - 22. Van Herk, S., Zevenbergen, C., Ashley, R., Rijke, J., 2011. Learning and Action Alliances for the integration of flood risk management into urban planning: a new framework from empirical evidence from The Netherlands. Environmental Science & Policy 14, 543 - 554. (NETHERLANDS)
234	8	7	2	0	0	(after risk management) : achieving resilience (Bharat, Alka, M.A.National Institute of technology)
235	8	7	5	7	6	high confidence' 'low evidence' (Sanni, Maruf, National Centre for Technology Management)
236	8	7	22	0	0	(after adaptation action) :Adaptation in strategy , policy , institutional structure and governance (Bharat, Alka, M.A.National Institute of technology)
237	8	7	24	7	28	Repetitive. Also, how do we know there are adaptation plans and data are important when information and assessment is generally lacking? (UNITED STATES OF AMERICA)
238	8	7	28	0	0	national and international standards can and do account for local conditions. For example see ASCE 7-10, Minimum Design Loads of Buildings and Other Structures (http://www.asce.org/codes-standards/ASCE7-10/) (Wright, Richard, Retired, U.S. National Institute of Standards and Technology)
239	8	7	29	0	0	Separate words "often rooted" (Ambulkar, Archis, Brinjac Engineering Inc.)
240	8	7	29	7	30	actions are often rooted in local circumstances, involve multiple stakeholders, are cross-sectoral, multi scalar and multi-synchronous, and include a high level of uncertainty. [8.5]. Here the high level of uncertainty implies no clear reason for extrapolation. (NETHERLANDS)
241	8	7	38	0	0	Separate words "projections both" (Ambulkar, Archis, Brinjac Engineering Inc.)
242	8	7	42	7	43	Improved feedback, monitoring and reporting capacity Lacks the distinction between positive and negative feedbacks, i.e. those that bring systems beyond tipping points (positive feedbacks) and therefore have a negative impact and those that have capacity to restore equilibriums (negative feedback) and therefore have a positive impact . (NETHERLANDS)
243	8	7	47	0	0	(after recommended) :factor of dynamism in terms of population and demand and also vulnerability in terms of demography , physical components and economics should be part of basic concerns (Bharat, Alka, M.A.National Institute of technology)
244	8	7	49	8	12	The header is difficult to understand as worded. A better title would be "Poverty reduction and enabling community-led adaptation can make low-income households and vulnerable communities more resilient to climate change." (UNITED STATES OF AMERICA)
245	8	7	49	8	12	In addition, local community groups are essential for urban disaster risk reduction, in light of the increasing risk of climate-related disasters. Local community-based disaster risk reduction groups are first responders to disaster risk. (Coughlan, Erin, Red Cross / Red Crescent Climate Centre)
246	8	7	52	7	52	Unable or unwilling ? (UNITED STATES OF AMERICA)
247	8	7	53	7	53	Use of the word "necessary" here could be reconsidered and potentially reworded, as it could perhaps be interpreted as prescriptive. (Mach, Katharine, IPCC WGII TSU)
248	8	8	6	8	6	Casual usage of the word "unlikely" should be avoided, as it is a reserved likelihood term. (Mach, Katharine, IPCC WGII TSU)
249	8	8	10	0	0	(after leadership) :importance and priority of issues (Bharat, Alka, M.A.National Institute of technology)

#	Ch	From Page	From Line	To Page	To Line	Comment
250	8	8	11	0	0	Urban communities do differ from rural communities; urban programming for adaptation needs to take this into account. (Coughlan, Erin, Red Cross / Red Crescent Climate Centre)
251	8	8	14	8	14	Use of the word "requires" here could be considered, with potential rewording, as it could be interpreted as prescriptive. (Mach, Katharine, IPCC WGII TSU)
252	8	8	15	8	15	Given the framing of the uncertainties guidance for authors, it would be preferable to present the summary terms for evidence and agreement in parallel as "medium agreement, medium evidence." (Mach, Katharine, IPCC WGII TSU)
253	8	8	23	8	23	Use of the word "requiring" here could be considered, with potential rewording, as it could be interpreted as prescriptive. (Mach, Katharine, IPCC WGII TSU)
254	8	8	29	0	0	Separate words "impacts which" (Ambulkar, Archis, Brinjac Engineering Inc.)
255	8	8	30	0	0	(after attention) : microclimatic variations at local level due to climatic variations causes discomfort and should be addressed (Bharat, Alka, M.A.National Institute of technology)
256	8	8	33	0	0	Separate words "improve outcomes" (Ambulkar, Archis, Brinjac Engineering Inc.)
257	8	8	45	8	46	low evidence' (Sanni, Maruf, National Centre for Technology Management)
258	8	8	46	8	46	Given the framing of the uncertainties guidance for authors, it would be preferable to present the summary terms for evidence and agreement in parallel as "high agreement, medium evidence." (Mach, Katharine, IPCC WGII TSU)
259	8	8	50	0	0	Add "early warning systems" after "land-use planning". (Coughlan, Erin, Red Cross / Red Crescent Climate Centre)
260	8	8	54	0	0	It is also important to avoid subsidization of urban development, transport, electrification, or other services that increase movement into highly vulnerable areas. (UNITED STATES OF AMERICA)
261	8	9	0	33	0	The chapter currently discusses observed and anticipated (future) impacts of climate change, general sensitivity to weather, climate extremes, and other environmental factors, as well as vulnerability to various conditions alongside each other, without a clear structure. This makes the chapter very hard to read, and the information scattered and hardly accessible. we recommend the use of tables to summarize, e.g., observed impacts, or outcomes of studies of projected future impacts. (GERMANY)
262	8	9	1	0	2	The sentence needs editing and revision. (Denia Kolokotsa, Environmental Engineering Department, Technical University of Crete, Greece) (GREECE)
263	8	9	3	0	0	Remove extra "and" so the sentence is "domestic, external public and private sources." (Ambulkar, Archis, Brinjac Engineering Inc.)
264	8	9	3	9	3	The uncertainty qualification should read "limited evidence" (instead of "low evidence") for consistency with the rest of the report. (Min, Erik, Royal Netherlands Meteorological Institute (KNMI))
265	8	9	10	0	11	The private funding is mentioned that it will be the most promising source of funding for adaptation. What about public funding which is mentioned later on? The overall summary of the finance section is poorly written. (Denia Kolokotsa, Environmental Engineering Department, Technical University of Crete, Greece) (GREECE)
266	8	9	15	9	15	Use of the words "needed" and "need" here could be considered for potential rewording, as they could be interpreted as prescriptive. (Mach, Katharine, IPCC WGII TSU)
267	8	9	31	0	0	Section 8.1. In revising the section, the chapter team should aim to reduce its length by more than 50%. (Mach, Katharine, IPCC WGII TSU)
268	8	9	33	10	16	It would be worth including a definition of urban resilience in the key issues section: this is very definitely a key issue and the term is used throughout the rest of the chapter, however there is no definition of this term offered. (da Silva, Jo, Arup)
269	8	9	35	9	35	How do we define successful adaptation? Unless more support for successful adaptation can be defined and substantiated, consider removing. (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
270	8	9	35	9	36	Support for this statement should be clarified, either through citations or through line-of-sight references to supporting chapter sections (paired with calibrated uncertainty language). (Mach, Katharine, IPCC WGII TSU)
271	8	9	35	10	16	Need better support (evidence and citations) for the conclusions in this section -- currently, there are none. (UNITED STATES OF AMERICA)
272	8	9	36	0	0	It might help to add "As section 8.4 emphasizes..." (Ambulkar, Archis, Brinjac Engineering Inc.)
273	8	9	37	9	37	Use of the word "needs" here could be considered for potential rewording, as it could be interpreted as prescriptive. (Mach, Katharine, IPCC WGII TSU)
274	8	9	38	0	0	Separate words "impacts of" (Ambulkar, Archis, Brinjac Engineering Inc.)
275	8	9	38	0	0	Correct sentence as it is collated. (Denia Kolokotsa, Environmental Engineering Department, Technical University of Crete, Greece) (GREECE)
276	8	9	38	9	38	No spacing between words 'impacts' and 'of' in line 38 (INDIA)
277	8	9	39	9	41	Support for this statement should be clarified, either through citations or through line-of-sight references to supporting chapter sections (within chapter 8 or in the working group 3 contribution). (Mach, Katharine, IPCC WGII TSU)
278	8	9	40	0	0	Separate words "especially future" (Ambulkar, Archis, Brinjac Engineering Inc.)
279	8	9	45	9	47	The two sentences are contradictory. If investments come from small-scale decisions, how can level of funding needed exceed the capacities of local, national, and international entities. (UNITED STATES OF AMERICA)
280	8	9	45	9	54	It would be preferable to provide more specific line-of-sight references to the sections within 8.4 that support these statements, also presenting calibrated uncertainty language to characterize the chapter team's degree of certainty in the statements. Additionally, the sentences on lines 45-46 and 49-50 are seemingly a bit contradictory, which could be clarified. (Mach, Katharine, IPCC WGII TSU)
281	8	9	45	10	16	Points made in final paragraph of section are contradictory to the points made in the second paragraph. (UNITED STATES OF AMERICA)
282	8	9	46	9	48	This sentence is not very clear in the context of the rest of the chapter which seems to suggest quite the opposite. If it's a statement that the chapter aims to disprove it should be clearly signposted thus. (da Silva, Jo, Arup)
283	8	9	47	0	0	Remove extra "and" so the sentence is "local, national governments and international agencies." (Ambulkar, Archis, Brinjac Engineering Inc.)
284	8	9	54	0	0	(after services) :and systems (Bharat, Alka, M.A.National Institute of technology)
285	8	10	2	10	9	Line 2 asserts that 2 key conclusions will be presented, but the text that follows does not clearly articulate the conclusions. It would be preferable to further emphasize conclusions, with calibrated uncertainty language and line-of-sight references, given the framing of the paragraph. Also, use of the word "requires" on line 8 could be interpreted as prescriptive; rewording to avoid such interpretation would be preferable. (Mach, Katharine, IPCC WGII TSU)
286	8	10	3	0	0	(after depends on) :resources available , demographic character (Bharat, Alka, M.A.National Institute of technology)
287	8	10	7	0	0	(after importance) :institutional structure and governance system (Bharat, Alka, M.A.National Institute of technology)
288	8	10	21	13	21	Many more citations are needed here. Where the text is descriptive, using a source such as UN report is OK. However, there are a number of places where conclusions are drawn and citations are needed. (UNITED STATES OF AMERICA)
289	8	10	23	0	0	Provide space i.e. "this. Both..." (Ambulkar, Archis, Brinjac Engineering Inc.)
290	8	10	23	10	23	Use of the word "needed" here could be interpreted as prescriptive, and rewording to avoid this interpretation would be beneficial. (Mach, Katharine, IPCC WGII TSU)

#	Ch	From Page	From Line	To Page	To Line	Comment
291	8	10	28	10	48	There is far too much discussion about the difficulty associated with a lack of agreement on the definition of an urban area. If this is a material issue, there should be a discussion of how this affect the evaluation of climate change risks, impacts, and adaption of urban area. Other than noting the size cutoff and level of urbanization varies, not much more is needed. (UNITED STATES OF AMERICA)
292	8	10	28	10	48	In some European countries cities are defined by speciallaw declaration (status), independently on number of citizens or city area. (POLAND)
293	8	10	28	10	48	It would be helpful to clarify if all of the statements in this paragraph are directly supported by the citation provided on lines 28 and 32. (Mach, Katharine, IPCC WGII TSU)
294	8	10	28	13	21	This whole section should be reduced to a page (UNITED STATES OF AMERICA)
295	8	10	33	0	0	Sentence needs to be improved gramatically "Many nations define as urban centres all..." (Ambulkar, Archis, Brinjac Engineering Inc.)
296	8	10	46	10	48	Maybe it would be more appropriate to say that 'what constitutes 'a city' has been debated for many years, however no single definition is commonly applied.' Would it also be worth adding some definition to be used in this chapter for the sake of clarity? (da Silva, Jo. Arup)
297	8	10	53	0	0	Separate words "living in" (Ambulkar, Archis, Brinjac Engineering Inc.)
298	8	10	54	0	0	Separate words "world's urban" (Ambulkar, Archis, Brinjac Engineering Inc.)
299	8	11	3	0	0	Avoid word "within" twice, may be revise sentence as "It is within urban centres of most nations..." (Ambulkar, Archis, Brinjac Engineering Inc.)
300	8	11	3	11	4	it is within urban centers within most nations and globally that most GDP is generated and most new invesment has concentrated. I would ommit "globally" and change investement has to "investements have"\n\n (NETHERLANDS)
301	8	11	4	0	0	Provide space i.e. "2010). Clearly..." (Ambulkar, Archis, Brinjac Engineering Inc.)
302	8	11	5	11	6	Use of "needs" here could be interpreted as prescriptive, and rewording the sentence would be preferable. Additionally, citations for the sentence could be clarified. (Mach, Katharine, IPCC WGII TSU)
303	8	11	6	0	0	(after attention) :reference to growth rate of urban centres and urbanisation will be helpful in giving a more realistic scenario (Bharat, Alka, M.A.National Institute of technology)
304	8	11	12	11	13	Fast growing countries like BRIC,BASIC can be mentioned here as a specific group since their increasing economic importance and prominent process of urbanization. Some literatures relevant: (1)Virmani, A. (2012). Accelerating And Sustaining Growth: Economic and Political Lessons, 2012 International Monetary Fund, IMF Working Paper. http://www.imf.org/external/pubs/ft/wp/2012/wp12185.pdf . (2) World Bank, 2012, "Global Economic Prospects: Managing growth in a volatile world", (3) Adapting to climate change in urban areas: possibilities and constraints in low and middle income countrirs, Satterthwait 2007,2008. (zheng , yan, Chinese Academy of Social Sciences (CASS))
305	8	11	13	0	0	Term "ibid" is used for the first time in this chapter here, so should be defined. (Ambulkar, Archis, Brinjac Engineering Inc.)
306	8	11	14	0	0	Does the sentence mean "Most of the world's largest cities are their largest economies..." (Ambulkar, Archis, Brinjac Engineering Inc.)
307	8	11	14	11	15	This sentence implies that wealthy countries have invested in adaptation because they have greater economic success. But is this really the case? (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
308	8	11	14	11	18	Shanghai is a typical vulnerable megcities in China, some references like: (1) Balica et al, 2012, A flood vulnerability index for coastal cities and its use in assessing climate change impacts, Natural Hazards. (2)Pan,Zheng and Markandya,2011,Adaptation Approaches to Climate Change in China: An Operational Framework”, Economia Agrariay recursos naturales, and also other coastal developing cities about flooding vulnerability. (zheng , yan, Chinese Academy of Social Sciences (CASS))
309	8	11	15	11	15	ibid. Does it refer to World Bank 2008, or to Satterthwaite et al 2010, both of which are on line 4? (NETHERLANDS)
310	8	11	22	11	24	How are 'economically successful' cities defined? (da Silva, Jo, Arup)
311	8	11	23	11	28	Is there any reference to this statement? (Real, Marcia, Universidade Federal Fluminense)
312	8	11	27	11	27	Of the world's cities with. The total number of cities is missing. (NETHERLANDS)
313	8	11	37	0	0	Statement needs a reference citation. (UNITED STATES OF AMERICA)
314	8	11	39	11	44	It is worth mentioning here that the accelerated growth of many large cities in emerging economies has been driven by the concentrated manufacturing of export goods (UNITED STATES OF AMERICA)
315	8	11	41	0	0	add: Low lying coastal cities are most at risk (8.2.3.4) as is critical infrastructure found in these areas. (UNITED STATES OF AMERICA)
316	8	11	42	0	0	Provide space i.e. "exchange). One..." (Ambulkar, Archis, Brinjac Engineering Inc.)
317	8	11	43	0	0	Sentence needs to be revised as "Another is that many large cities are now centre..." (Ambulkar, Archis, Brinjac Engineering Inc.)
318	8	11	46	11	52	Sentence is too long to comprehend. Please split it into more than one sentence. (Ambulkar, Archis, Brinjac Engineering Inc.)
319	8	11	46	11	52	Overlong sentence - meaning is lost! (da Silva, Jo, Arup)
320	8	11	50	11	51	What kind of transformation is expected? (Real, Marcia, Universidade Federal Fluminense)
321	8	11	52	0	0	The description of Table 8.2 and the typology the chapter develops need to be sharpened. (UNITED STATES OF AMERICA)
322	8	12	8	0	0	(after population) :demographic and social character (Bharat, Alka, M.A.National Institute of technology)
323	8	12	9	0	0	(after human development) :physical and infrastructure development of urban settlement (Bharat, Alka, M.A.National Institute of technology)
324	8	12	18	10	18	You write "Greenhouse gas emissions per person vary by more than 100" - what units you thinking about. It seems the sentence is shortered. (POLAND)
325	8	12	20	0	0	Provide space i.e. "tourism). There..." (Ambulkar, Archis, Brinjac Engineering Inc.)
326	8	12	24	0	0	(after government) :and institutional structure (Bharat, Alka, M.A.National Institute of technology)
327	8	12	26	0	0	Separate words "the world's" (Ambulkar, Archis, Brinjac Engineering Inc.)
328	8	12	26	12	26	The authors should consider revising the text to read: Recent analyses of disaster impacts show that a high proportion of the world's population most affected by extreme weather events is concentrated in urban centres.." (UNITED STATES OF AMERICA)
329	8	12	27	0	0	Change to "mostly affected by..." (Ambulkar, Archis, Brinjac Engineering Inc.)
330	8	12	29	0	0	Change to "are needed to do so." (Ambulkar, Archis, Brinjac Engineering Inc.)
331	8	12	36	12	36	Is "successful" needed here? It seems that all urban centers have to adapt or cope, irrespective of the degree to which they have been successful in various metrics. (Mach, Katharine, IPCC WGII TSU)

#	Ch	From Page	From Line	To Page	To Line	Comment
332	8	12	42	0	0	In chapter 8.1. (p. 12, row 42), with regard to the incidence of urbanized land, it is stated that "only in Western Europe did they cover more than 1 per cent" of the land surface. The CORINE land cover figure (http://www.eea.europa.eu/data-and-maps/figures/corine-land-cover-types-2006) is 4.4%, which by the way may be a rounded down one because of the pixel dimension; the actual figure is around 5%. <u>excluding dispersed settlements.</u> (ITALY)
333	8	12	42	0	0	This figure is certainly higher than 1% (as the report states), but not implying that it is much higher may induce the reader to underestimate the European data. It is therefore suggested to report that in Western Europe urbanized land has a nearly 5% incidence. (ITALY)
334	8	12	42	0	43	The sentence does not make sense or it gives the opposite sense than the one tha should be given. (Denia Kolokotsa, Environmental Engineering Department, Technical University of Crete, Greece) (GREECE)
335	8	12	44	12	45	After "decline in the share of wild and semi natural areas from about 70 per cent to under 50 oer cent of the land area" the authors should add something about the fragmentation that is happening to much of the remaining natural areas "with considerable fragementation of the remaining natural areas, which compromises the self-regenerating abilities of the ecological community and ecosystem". (UNITED STATES OF AMERICA)
336	8	12	50	0	0	Provide full stop i.e. (...16083)." (Ambulkar, Archis, Brinjac Engineering Inc.)
337	8	12	50	12	50	Clarify the text to read: as well as increasing the exposure of population and assets to higher levels of risk (UNITED STATES OF AMERICA)
338	8	13	1	0	3	Rephrase 1st paragraph. Very poorly written. (Denia Kolokotsa, Environmental Engineering Department, Technical University of Crete, Greece) (GREECE)
339	8	13	2	0	0	Change to "also provide potential..." (Ambulkar, Archis, Brinjac Engineering Inc.)
340	8	13	13	13	21	In this section there is a speculation "...and these may rely on supply chains that climate change will disrupt." Provide a citation or drop this sentence -- equally true is that "these may not rely...". The last sentence is not demonstrated, nor is any citation/evidence provided, i.e., it is an assertion. The authors should drop it unless evidence or citations are provided. (UNITED STATES OF AMERICA)
341	8	13	19	0	0	Separate words "of a..." (Ambulkar, Archis, Brinjac Engineering Inc.)
342	8	13	26	16	30	Need more citations. (UNITED STATES OF AMERICA)
343	8	13	30	0	0	(after impacts) :or economic level like poors are more vulnerable to risk (Bharat, Alka, M.A.National Institute of technology)
344	8	13	36	13	37	The issue of adaptation in one place having negative impact on another place/its inhabitants appears to be overlooked here. Suggest mentioning this to provide balance. For example, 'Whilst adaptation in a particular area or settlement may have clear benefits for the inhabitants in this location, it should be noted that adaptation activities can have knock-on effects on the wellbeing of inhabitants in other areas. For example, whilst diverting a river course may prevent flooding in one location, flooding may then occur in another location instead ' (da Silva, In Arun)
345	8	13	39	13	39	Although there are many definitions of vulnerability (see for instance Füssel 2007), these agree that it centers on an..... We would rephrase it to ", the consensus is that vulnerability centers on an". \n\n (NETHERLANDS)
346	8	13	39	13	44	The definiton of vulnerability included here is not quite accurate. IPCC defines vulnerability as "The degree to which a system is susceptible to, or unable to cope with, adverse effects of climate change, including climate variability and extremes. It is a function of the sensitivity of a particular system to climae changes, its exposure to those changes, and its capacity to adapt to those changes." IPCC. 2007a. Climate Change 2007: Synthesis Report. Contribution of Working Groups I, II, and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Core Writing team, R.K. Pachauri, and A. Reisinger (eds.) Intergovernmental Palnel on Climate Change, Geneva, Switzerland. Indeed, the Glossary to the WG2 report has a different definition, as well. (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
347	8	13	39	14	5	The vulnerability of natural systems/ecosystems (eg., mangroves, coastal wetlands, urban tree canopy, etc.) should also be included as systems that can be vulnerable to the impacts of climate change. At the same time, if the adaptive capacity of these systems is increased, they can provide natural protection from the impacts of climate change in urban areas (eg., from coastal flooding, urban heat, stormwater flooding, etc.) (UNITED STATES OF AMERICA)
348	8	13	42	13	44	this statement is dependent on the definition/conceptualisation of resilience assumed. 'Ecological resilience' thinking would support a movement forwards, whilst 'engineering resilience' would assume a return to an existing equilibrium. See Davoudi (2012) 'Resilience: A bridging concept or a dead end?' Planning Theory & Practice 13(2), pp.299-307 for further details. (da Silva, Jo, Arup)
349	8	13	42	13	44	Mixing definition of vulnerability with a statement about adaptation. Consider deleting the last sentence. (UNITED STATES OF AMERICA)
350	8	13	46	0	0	Separate words "include food..." (Ambulkar, Archis, Brinjac Engineering Inc.)
351	8	13	46	0	0	Collated words. This is a problem that appears in various areas of the document. (Denia Kolokotsa, Environmental Engineering Department, Technical University of Crete, Greece) (GREECE)
352	8	13	46	13	46	No spacing between words 'include' and 'food' in line 46 (INDIA)
353	8	13	48	0	0	Separate words "tourism is sensitive..." (Ambulkar, Archis, Brinjac Engineering Inc.)
354	8	13	48	13	48	No spacing between words 'tourism' 'is' and 'sensitive' in line 48 (INDIA)
355	8	13	49	13	50	Consider removing the sentence "oil price changes will affect travel costs". It doesn't make sense where it currently is and just confuses the reader. (UNITED STATES OF AMERICA)
356	8	13	49	13	50	What do "oil prices affecting travel costs" have to do with this paragraph? (UNITED STATES OF AMERICA)
357	8	13	52	13	53	Certain types of infrastructure on which urban centres rely are more at risk: e.g. most transport, drainage and electricity transmission systems and many water supply abstraction and treatment work. We have 3 comments here. First, they are more at risk compared to what? Second, at risk from what? From floods, droughts? extreme weather events in general? Thirdly, who says so? Where is the reference to support this claim? \n\n (NETHERLANDS)
358	8	14	1	0	0	Increased intensity, frequency, and duration of extreme events, as climate change becomes more extensive, means that adaptation based only on recent experience or extrapolation of historical trends could be largely ineffective. [15.3.2.2] (Backus, George, Sandia National Laboratories)
359	8	14	1	14	1	It might help to qualify what "increase reserve margins" specifically refers to here. (UNITED STATES OF AMERICA)
360	8	14	2	14	5	The last sentence is inconclusive. We would rephrase it, adding a conclusion or recommendation. For example "cities as complex (...) systems are vulnerable to intersectoral connections (...) (Solecki 2012a) and adaptation should therefore take these intersecotral connections into consideration"\n\n (NETHERLANDS)
361	8	14	10	0	14	Consider revising the 1st paragraph of 8.1.4.1 The meaning is lost due to poor English. (Denia Kolokotsa, Environmental Engineering Department, Technical University of Crete, Greece) (GREECE)
362	8	14	10	14	12	The statement that urban centres where "virtually all buildings meet health and safety standards" is rather misleading. The entire sentence should be edited / revised for clarification. (Costas Balaras, Institute for Environmental Research and Sustainable Development, National Observatory of Athens, Greece) (GREECE)
363	8	14	10	14	26	This section has no citations. It must have them, or delete this entirely. (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
364	8	14	10	14	26	Although this section describes some aspects of the realities of urban life it does ignore some important ones. More specifically it tends to divide urban centres between those where there is universal provision of infrastructure and basic services and those where there is not. This is a very simplistic and inaccurate picture of vulnerability to the effect of climate change in urban areas and there are a number of factors different scenarios that are not considered. For examples urban contexts such as those of Hong Kong or Singapore which have highly developed economies and a good provision of basic services but contain sections of the population that are high vulnerable to climate extreme (especially heat) because of overcrowding and inadequate housing supply due to speculation. Similar scenarios are to be found in some major cities in OECD countries (e.g. London) where uncontrolled speculation in the housing sector is rapidly deteriorating the living conditions of many vulnerable people putting them at risk during the occurrence of climate extremes episodes. This was tragically confirmed in 2003 when the summer heatwave in Europe caused an unprecedented number of death (mostly in OECD countries with highly developed economies and public services delivery systems). (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)
365	8	14	10	14	26	Supporting citations for all statements in these paragraphs must be provided. (Mach, Katharine, IPCC WGII TSU)
366	8	14	12	14	14	Sentence "Although low-income.....to climate change", needs a reference. It is quite a strong statement and should be supported by at least a study conducted that proves this.\n\n (NETHERLANDS)
367	8	14	14	14	16	The way that the term "exposure" is used is not accurate, as vulnerability includes sensitivity, exposure, and adaptive capacity. More accurate would be: "typically the larger the deficit in infrastructure and service provision, the larger the differentials in sensitivity and adaptive capacity to most climate impacts by impact group." The exposure to climate impacts, however, would likely be the same across income levels. (UNITED STATES OF AMERICA)
368	8	14	22	0	0	Provide space i.e. "8.4). Here..." (Ambulkar, Archis, Brinjac Engineering Inc.)
369	8	14	24	14	26	It is unclear who/what 'Their effectiveness' refers to (similarly 'they recognize' in the next paragraph) (da Silva, Jo, Arup)
370	8	14	24	14	26	Sentence "Their effectiveness depends on understanding the specific vulnerabilities, needs and priorities of different income-groups, age groups and groups that face discrimination, including that faced by women and by particular social or ethnic group". We would either delete the last part of the sentence since "groups that face discriminations" is not limited to these categories listed here (it could be disabled people, LGBT, religious minorities etc), or at least reference it.\n\n (NETHERLANDS)
371	8	14	31	14	31	Reference not listed at the end of chapter-Reid and Vogel 2006.\n\n (NETHERLANDS)
372	8	14	32	14	33	This paragraph could be stronger with inclusion of a sentence about cascading risks in urban context, as illustrated by the recent (2011) Japan experience (UNITED STATES OF AMERICA)
373	8	14	34	0	0	The paragraph 8.1.4.2 needs revising and editing by a native English speaker. The reader cannot follow the meaning and understand clearly the statements. (Denia Kolokotsa, Environmental Engineering Department, Technical University of Crete, Greece) (GREECE)
374	8	14	34	14	36	All sources cited are not listed at References (Real, Marcia, Universidade Federal Fluminense)
375	8	14	34	16	30	The section needs to be edited. Writing style is rather awkward and even confusing some times. (Costas Balaras, Institute for Environmental Research and Sustainable Development, National Observatory of Athens, Greece) (GREECE)
376	8	14	36	16	30	'accumulated resilience' is an odd phrase, not much used in resilience theory or practice literature; this is because much resilience thinking places the emphasis on resilience being a process, a continual evolution, rather than an end point or an asset in itself, as this section vaguely suggests. If it is to be used here it needs to appear with a clear definition. (da Silva, Jo, Arup)

#	Ch	From Page	From Line	To Page	To Line	Comment
377	8	14	38	14	39	The authors claim that resilience is the opposite of vulnerability but there is a lot of research demonstrating that this is not true. In fact, the vast majority of new research points that this concept is way too simplistic. Encourage the authors to think critically about whether they want to portray resilience and vulnerability as complete opposites. (UNITED STATES OF AMERICA)
378	8	14	47	0	0	Rosenzweig et al., 2009 is not identified at References (Real, Marcia, Universidade Federal Fluminense)
379	8	14	47	14	47	that were noted above. Should clearly indicate where "above" is. In this case "that were noted above (see section 8.1.4)"\n\n (NETHERLANDS)
380	8	14	51	0	0	Provide space i.e. "seasons). During..." (Ambulkar, Archis, Brinjac Engineering Inc.)
381	8	14	51	14	54	All sources cited are not listed at References (Real, Marcia, Universidade Federal Fluminense)
382	8	14	52	14	53	Rephrase "energy-efficient building materials"; not evident what this refers to. "Passive design technologies" probably refers to "passive design principles". Altogether, these are difficult, if not imposible, to implement in existing cities. Reference to active solar thermal systems for heating, domestic hot water and even solar air-conditioning, are ignored. (Costas Balaras, Institute for Environmental Research and Sustainable Development, National Observatory of Athens, Greece) (GREECE)
383	8	14	53	16	30	Define 'bounce back' more succinctly and give concrete examples throughout this section. (UNITED STATES OF AMERICA)
384	8	14	53	16	30	Define 'bounce back' more succinctly and give concrete examples with citations throughout this section. (UNITED STATES OF AMERICA)
385	8	15	1	0	0	Provide space i.e. "2012). The..." (Ambulkar, Archis, Brinjac Engineering Inc.)
386	8	15	1	15	53	This is a long and rambling page that could be substantially shortened. (UNITED STATES OF AMERICA)
387	8	15	5	16	30	Very few citations are in this section, with many statements that must be supported by citations. (UNITED STATES OF AMERICA)
388	8	15	7	0	0	reduce rural demand for urban services' - the link between this and the earlier statement in the sentence is unclear. How is this linked to slow onset impacts which may be outside the jurisdiction of urban govts? (da Silva, Jo, Arup)
389	8	15	7	15	7	It's unclear what is meant at the end of this sentence (reduce rural demand for urban services). Consider clarifying or removing. (UNITED STATES OF AMERICA)
390	8	15	9	15	11	Statement that cities in high-income nations and many middle-income nations have become more resilient to extreme weather is too generic and is not indicative of specific conditions in the field. Also it is not backed by evidence and would be easily contradicted by reality on the ground (i.e. there are still a surprisingly large number of cities that are highly vulnerable to extreme weather and still lagging behind in their efforts to adapt. A glaring example was the city of Rome, which recently grinded to a halt because of a cold winter spell that generated very unusual amounts of snow). (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)
391	8	15	15	0	0	Provide space i.e. "Argentina). What..." (Ambulkar, Archis, Brinjac Engineering Inc.)
392	8	15	15	15	16	the quality of buildings (homes and workplaces). We would delete "(homes and workplaces)". What about other type of buildings, like schools, hospitals, train stations?\n\n (NETHERLANDS)
393	8	15	16	15	17	Consider adding to "the effectiveness of land-use planning and regulation to control development in flood-prone and other high risk areas" the following: "and maintain ecosystems that support settlements". (UNITED STATES OF AMERICA)
394	8	15	20	0	0	What is after Please use etc. (Denia Kolokotsa, Environmental Engineering Department, Technical University of Crete, Greece) (GREECE)
395	8	15	26	0	0	Most developing country construction standards for formal sector structures are not of the same quality as those in developed countries or the standards are not enforced. Informal sector structure quality is extremely poor. (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
396	8	15	28	15	32	It should be noted here that measurement of resilience is a key challenge which a range of actors is currently exploring; from civil society organisations and NGOs to urban governments. The challenge lies in the identification of proxy indicators which can be used to measure the multiple characteristics (of a city or a community etc.) which help operationalise or demonstrate resilience in practice. (da Silva, Jo. Arup)
397	8	15	28	15	53	Supporting citations for all statements in these paragraphs must be provided. (Mach, Katharine, IPCC WGII TSU)
398	8	15	31	0	32	Structural adaptation for earthquake damage protection is very effective and governments can have a role in making this a requirement. (UNITED STATES OF AMERICA)
399	8	15	31	15	32	City governments cannot reduce earthquake hazards but can reduce exposure to such risks, and can certainly contribute to reducing GHG emissions, beyond global action (UNITED STATES OF AMERICA)
400	8	15	32	15	32	Earthquakes here is not a good example. The magnitude range and frequency of earthquakes can be predicted based on historic data. This is all that it is important in order to establish adequate building standards. Enforcement of building standards can be achieved via spatial planning and that way resilience can be built. Earthquakes are not random events that we can do nothing about.(Dimitris Stathakis. Urban and Regional Planning. University of Thessaly. Greece) (GREECE)
401	8	15	34	0	35	The sentence does not make any sense. What the authors are stating? What are those components? What is the web of institutions and finance? (Denia Kolokotsa, Environmental Engineering Department, Technical University of Crete, Greece) (GREECE)
402	8	15	35	0	0	Laquian 2011 is not identified at References (Real, Marcia, Universidade Federal Fluminense)
403	8	15	44	0	0	Provide space i.e. "change. They..." (Ambulkar, Archis, Brinjac Engineering Inc.)
404	8	15	45	0	47	Insert references. (Denia Kolokotsa, Environmental Engineering Department, Technical University of Crete, Greece) (GREECE)
405	8	15	45	15	45	The term "bounce forward" is used again and would benefit from a very brief definition here. (UNITED STATES OF AMERICA)
406	8	15	45	15	47	Not sure why the strategies listed are framed as transformative actions as opposed to incremental actions? (UNITED STATES OF AMERICA)
407	8	15	50	0	0	There is something wrong with this source (OTHER REF Hoornweg et al 2011) (Real, Marcia, Universidade Federal Fluminense)
408	8	16	1	16	14	Supporting citations for all statements in these paragraphs must be provided. (Mach, Katharine, IPCC WGII TSU)
409	8	16	3	0	3	The term resilience as a process should be explained in detail. (Denia Kolokotsa, Environmental Engineering Department, Technical University of Crete, Greece) (GREECE)
410	8	16	4	0	0	Provide space i.e. "this). For..." (Ambulkar, Archis, Brinjac Engineering Inc.)
411	8	16	12	0	0	Change to "an increase in price of..." (Ambulkar, Archis, Brinjac Engineering Inc.)
412	8	16	12	16	14	The last part of the sentence says "and thus hunger and reduced capacity to work and to resist infections". We believe this whole sentence needs rephrasing as to become more coherent. For example, how is reduced capacity to work linked to the capacity to resist infections? \n\n (NETHERLANDS)
413	8	16	19	16	21	Perhaps an example of an NGO or community where this has occurred. Gram Vikas of Orissa, India comes to mind as a perfect example, led by Joe Madiath. (UNITED STATES OF AMERICA)
414	8	16	20	0	0	Change to "grassroot organizations..." (Ambulkar, Archis, Brinjac Engineering Inc.)
415	8	16	22	16	22	The concept of resilience to transformation is presented - but what does this mean? The authors discuss transformative adaptation but this sentence seems to imply that there is a hierarchy of adaptation. Is this the point the authors are trying to convey? Regardless, consider reworking. (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
416	8	16	22	16	22	This notion of "shift from resilience to transformation" is lofty and would benefit from some unpacking in situ. (UNITED STATES OF AMERICA)
417	8	16	24	0	0	Change to "In each case, it..." (Ambulkar, Archis, Brinjac Engineering Inc.)
418	8	16	24	16	30	Introducing the concepts of anticipatory vs reactive adaptation could strengthen this section, and there is literature to draw from, including IPCC Fourth Assessment Report: Climate Change 2007/ 17.2.2 Examples of adaptation practices (UNITED STATES OF AMERICA)
419	8	16	28	0	0	Provide space i.e. "adaptation. For..." (Ambulkar, Archis, Brinjac Engineering Inc.)
420	8	16	33	0	0	Seto et al., 2012 is not identified at References (Real, Marcia, Universidade Federal Fluminense)
421	8	16	33	0	0	Section 8.1.5: Why is such a long statement about AR4 necessary? Suggest shorten this considerably. (UNITED STATES OF AMERICA)
422	8	16	33	0	0	Section 8.1.5. For all statements communicating conclusions from the 4th assessment report, specific chapter references (using the recommended citation format from the 4th assessment report) should be provided, along with calibrated uncertainty language where it is relevant. Where possible, reference to specific chapter sections should be provided. And especially in the introductory text, spanning from page 16, line 35, through page 17, line 19, the text originating from the 4th assessment report as compared to framing for this chapter should be clarified, statement by statement. (Mach, Katharine, IPCC WGII TSU)
423	8	16	33	16	33	Which are the new issues raised by this chapter? They are not clearly identified (UNITED STATES OF AMERICA)
424	8	16	39	16	39	The temporal framing for "not dominant issues" should be clarified--historically, currently, or in the future across possible levels of climate change? (Mach, Katharine, IPCC WGII TSU)
425	8	17	1	17	19	This section is really choppy and hard to tie together. (UNITED STATES OF AMERICA)
426	8	17	7	17	8	This statement requires clarification, e.g. what is meant by "current access to finance" in this context? (GERMANY)
427	8	17	22	0	0	Section 8.1.5.1. It is not clear whether these key uncertainties and research priorities were conclusions of the 4th assessment report, or if they reflect the judgment of this author team. If they are associated with the current assessment in chapter 8, these key uncertainties should be moved the end of the chapter, so that the entirety of the chapter's assessment can support their assertions. (Mach, Katharine, IPCC WGII TSU)
428	8	17	22	17	35	Section 8.1.5.1. is misplaced (as it notes uncertainties and priorities from recent literature); perhaps this should be interchanged with section 8.1.5.2? (UNITED STATES OF AMERICA)
429	8	17	24	17	25	Consider reviewing & citing this publication on barriers to adaptation: Moser, S. C. and Julia Ekstrom. (2010). A framework to diagnose barriers to climate change adaptation, PNAS, 107 (51): 22026-22031, DOI:10.1073/pnas.1007887107 (UNITED STATES OF AMERICA)
430	8	17	24	17	35	Consider adding metrics of success to the list of key uncertainties and research priorities. (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
431	8	17	25	0	0	Chapter 8.1. starts the discussion on the difficulty in estimating climate change at a local scale, and the theme is resumed in other passages (i.e. p. 17, row 49; para 8.2.5.1.). The theme of the downscaling of climate projections is deemed extremely important for each urban area, because knowing in more detail how climate change will probably occur will be useful not only in order to decide what actions need to be taken, but also to inform citizens.\nAs downscaling of climate models implies scientific skills that are not available in every city, one could add a reference to the role of countries or international scientific organisations in making this information available.\nChapter 8.1. (p. 17, row 25) starts the discussion on the difficulty in estimating climate change at a local scale, and the theme is resumed in other passages (i.e. p. 17, row 49; para 8.2.5.1.). The theme of the downscaling of climate projections is deemed extremely important for each urban area, because knowing in more detail how climate change will probably occur will be useful not only in order to decide what actions need to be taken, but also to inform citizens.\nAs downscaling of climate models implies scientific skills that are not available in every city, one could add a reference to the role of countries or international scientific organisations in making this information available.\n (ITALY)
432	8	17	31	0	0	(after geophysical) : hydrological , geographical , demographic (Bharat, Alka, M.A.National Institute of technology)
433	8	17	36	0	0	Additional bullet: - Inadequate knowledge on vulnerability of the built enviroment, buildings, building components and builoding materials to changes in wheather induced actions (Aagaard, Niels-Jørgen, Danish Building Research Institute)
434	8	17	40	17	43	Whenever a statement is made that there is larger, more diverse, new, emerging, etc. literature on a topic, it needs to be supported with some example citations. This section needs example citations to support the statements. (UNITED STATES OF AMERICA)
435	8	17	40	17	43	The support for these statements should be clarified. Did the chapter team complete literature searches for relevant key terms, can references to studies of the available literature be provided, etc.? (Mach, Katharine, IPCC WGII TSU)
436	8	17	44	17	45	Same comment as above -- need example citations to support this statement. (UNITED STATES OF AMERICA)
437	8	17	45	0	0	Change to "books that focus specifically on climate..." (Ambulkar, Archis, Brinjac Engineering Inc.)
438	8	17	45	0	0	Insert 'assessment and' before books, and describe ARC3 assessment process. (UNITED STATES OF AMERICA)
439	8	17	46	17	47	Another book that is worth mentioning is the state-of-the-art review on "Impacts of climate change on rainfall extremes and urban drainage systems". It has a focus on urban areas and includes an adapation chapter. Ref: • Willems, P., Olsson, J., Arnbjerg-Nielsen, K., Beecham, S., Pathirana, A., Bülow Gregersen, I., Madsen, H., Nguyen, V-T-V. (2012), 'Impacts of climate change on rainfall extremes and urban drainage', IWA Publishing, 252p., Paperback Print ISBN 9781780401256; Ebook ISBN 9781780401263 (Willems, Patrick, KU Leuven)
440	8	17	47	17	47	This statement could be reconsidered. The goal of the chapter should be to provide a comprehensive and concise assessment. (Mach, Katharine, IPCC WGII TSU)
441	8	17	49	0	0	(after process) :parameters , indicators (Bharat, Alka, M.A.National Institute of technology)
442	8	17	49	17	49	Sentence should read as "A more detailed understanding of key urban climate processes, including drivers of climatic change in urban areas, and improved. (Constantinos Cartalis, Environmental Physics, University of Athens, Greece) (GREECE)
443	8	17	49	18	13	referring to previous comment: More detailed understanding of urban drainage related risks, such as sewer flow risks (as opposed to river flood risks) (Willems, Patrick, KU Leuven)
444	8	17	49	18	13	The specific chapter section supporting these statements should be indicated through line-of-sight references. (Mach, Katharine, IPCC WGII TSU)

#	Ch	From Page	From Line	To Page	To Line	Comment
445	8	17	53	17	53	"nations" and "countries" are used in all the chapter as if their meaning is the same. But it is not. Only countries have an explicit geographic reference. A county can built resilience for example because it has the jurisdiction in its territory. A nation can sometimes be spread in several countries. Not easy to built resilience. I would only use "countires" in the text. (Dimitris Stathakis, Urban and Regional Planning, University of Thessaly, Greece) (GREECE)
446	8	18	1	18	10	Lines 1-10: this repeats material already covered earlier. We recommend deletion (UNITED STATES OF AMERICA)
447	8	18	6	18	6	What is 'blue' infrastructure? (UNITED STATES OF AMERICA)
448	8	18	13	0	0	Add more info on UNFCCC Durban Adaptation Charter (UNITED STATES OF AMERICA)
449	8	18	14	0	0	many countries are making stringent Acts / rules for environment protection , signing treaties and are becoming parties to many international treaties & agreements (Bharat, Alka, M.A.National Institute of technology)
450	8	18	16	0	0	A small table to synthesize key messages on impacts of climate change on urban areas would be most effective. At present these findings are buried in the text of different sections. (Chatterjee, Monalisa, IPCC WGII TSU)
451	8	18	16	0	0	Section 8.2. In preparing the final draft of the chapter, the chapter team should aim to reduce the length of this section by more than 50%. (Mach, Katharine, IPCC WGII TSU)
452	8	18	22	0	0	Separate words "may lead..." (Ambulkar, Archis, Brinjac Engineering Inc.)
453	8	18	30	18	30	We can never say 'will' when referring to model projections - no model is perfect and we cannot verify projections. Better to say 'is likely to' or something similar. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
454	8	18	35	18	44	Lines: 35-44: this paragraph reads like a dump from a contributing author inserted at this location. Also, reference Landsberg, 1970 is mis-quoted here as it is not a modeling study; in any case, this reference is not listed in the reference list. The authors should consider deleting this. (UNITED STATES OF AMERICA)
455	8	18	40	0	0	Authors should consider condensing this section considerably and placing summary findings on how urban processes interact with climate processes and produce unique climate change and variability risks. (Chatterjee, Monalisa, IPCC WGII TSU)
456	8	18	40	18	40	One aspect of urban centres that should be discussed here is the effect it has on downwind locations, such as raising temperatures and on air quality. A key reference is: Bohnenstengel, S. I., Evans, S., Clark, P. A. and Belcher, S. E. (2011) Simulations of the London urban heat island. Quarterly Journal of the Royal Meteorological Society, 137 (659). pp. 1625-1640 (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
457	8	18	45	18	45	The ability of low income groups to afford food wasn't discussed explicitly earlier - and is this statement a little off-track for this chapter? (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
458	8	19	2	0	0	Separate words "to regional..." (Ambulkar, Archis, Brinjac Engineering Inc.)
459	8	19	3	0	0	Separate words "Given the..." (Ambulkar, Archis, Brinjac Engineering Inc.)
460	8	19	7	19	8	Add numbers on urban growth rates in various developing regions. Also, how do the urbanization rates compare to the population growth rates in these countries? (UNITED STATES OF AMERICA)
461	8	19	12	19	13	Urban heat islands do not necessarily intensify with the climate change (see the first comment above) (Trusilova, Kristina, Deutscher Wetterdienst)

#	Ch	From Page	From Line	To Page	To Line	Comment
462	8	19	12	19	24	This section should more explicitly mention how urbanization has altered temperateres, for example, "the conversion of once-natural spaces to urban areas has created a high percentages of impervious and artificial surfaces in cities (i.e. buildings, roads, railways) retain more of the sun's energy, raising temperatures. The high energy usage in cities also produces waste heat. Climate change is exacerbating the higher temperatures in urban areas, which are likely to experience dangerous, record-setting temperatures with increased frequency in years to come. " (UNITED STATES OF AMERICA)
463	8	19	18	19	19	The sentence "Climate change can influence the dynamic of the microclimate associated with a given city ... " is not clear (POLAND)
464	8	19	18	19	24	Spell out UHI and provide citations for these statements. (UNITED STATES OF AMERICA)
465	8	19	19	19	24	References are needed for these statements - I'd be very surprised if an urban centre could really alter the position of a synoptic-scale high pressure system. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
466	8	19	21	0	0	UHI' is used here without explanation - the first appearance of this term in the chapter should be with the acronym for clarity throughout the chapter. (da Silva, Jo, Arup)
467	8	19	22	19	23	An appropriate scientific paper(s) should be cited here to ensure the description of this part "modifying synoptic scale meteorology (e.g. changes in the position of high pressure systems in relation to UHI events". Otherwise, it is recommended to remove this part. (JAPAN)
468	8	19	30	19	30	Ichinose et al.(1999) is not listed in the reference of this chapter. (JAPAN)
469	8	19	32	0	0	Ten degrees of urban heat island effect is quite large. What are the assumptions and has this statement been validated by other studies? (UNITED STATES OF AMERICA)
470	8	19	32	19	32	There must be considered the range of UHI. The term "large city" is not precise. The value of 10 deg Celsjus can occur in city with 1 mln population and with city of 8-10 mln population. It depend on the location of the city in specific climate region as well as on air mass, which bring clear sky and weak winds, e.g. in central Europe the highest UHI effect is observed in subtropical air mass. (POLAND)
471	8	19	32	19	41	Some reference cited is too early, such as 1970, 1982. (Liu, Luliu, National Ciamte Center, CMA)
472	8	19	35	0	35	Define megacities in terms of population and/or size. (Denia Kolokotsa, Environmental Engineering Department, Technical University of Crete, Greece) (GREECE)
473	8	19	35	19	37	In a review of relationships between coastal megacities and environmental change, Grimmond (2011) found increasing evidence that cities can influence weather (e.g. rainfall, lightning) through complex urban land use weather climate feedbacks\nLacks the distinction between positive and negative feedbacks, i.e. those that bring systems beyond tipping points (positive feedbacks) and therefore have a negative impact and those that have capacity to restore equilibriums (negative feedback) and therefore have a positive impact .\n\n (NETHERLANDS)
474	8	19	44	0	0	Trusilova et al. 2008 is missing in the list of references (pp. 78). (GERMANY)
475	8	19	46	19	47	Most studies that found some rain intensification in the lee of cities were conducted in the USA. Does the same hold for Europe and other regions? References needed here. (Trusilova, Kristina, Deutscher Wetterdienst)
476	8	19	46	19	48	The sentence refers to a "positive impact," however, the positive nature of the impact was not established yet. To rectify this, the first sentence could have added to the end [rainfall over large cities, "which can help ameliorate some of the heat effect". This would require a careful balance, however, so as not to imply incorrectly that climate change is beneficial in this regard. (UNITED STATES OF AMERICA)
477	8	19	47	19	47	It is not true that additional warming only marginally increase rainfall over the cities. The increase is significant. (POLAND)

#	Ch	From Page	From Line	To Page	To Line	Comment
478	8	19	47	19	48	I don't understand this sentence. Is there a way to clarify what is meant? Which positive effect is meant? (Hebblinghaus, Heike, North-Rhine Westphalian State Agency for Nature, Environment and Consumer Protection)
479	8	19	47	19	49	The statement "The replacement of 48 vegetation with urban surface outweighs this positive impact to reduce the overall land carbon sink (Grimmond, 49 2011)" is unclear. In particular "this positive impact" does not seem to refer to any previously mentioned positive impact. Also, there is no talk of "the overall land carbon sink" before in the text. Please clarify the relationship of this sentence with the surrounding text or correct it so that it connects with the rest. (Min, Erik, Royal Netherlands Meteorological Institute (KNMI))
480	8	19	54	0	0	Provide space i.e. "runoff (Hamdi..." (Ambulkar, Archis, Brinjac Engineering Inc.)
481	8	19	54	0	0	Urbanization and climate change also will lead to other ... increased levels of surface runoff: add ref. Willems, P., Olsson, J., Arnbjerg-Nielsen, K., Beecham, S., Pathirana, A., Bülow Gregersen, I., Madsen, H., Nguyen, V-T-V. (2012), 'Impacts of climate change on rainfall extremes and urban drainage', IWA Publishing, 252p., Paperback Print ISBN 9781780401256; Ebook ISBN 9781780401263 (Willems, Patrick. KU Leuven)
482	8	20	5	20	7	These two sentences would perhaps work better as the following "The spatial pattern of urban settlement is a critical factor in the interactions among urbanization, climate-related risks, and vulnerability. One aspect of this is the density of urban development, which ranges from concentrated to dispersed, with most planned urban settlements decreasing in population density with distance from the core (refs)." (UNITED STATES OF AMERICA)
483	8	20	5	20	43	This section (8.2.2.2) seems the best placed to elaborate on urban - rural interaction and the consequences of alternative rank size curves of city sizes in a country. (Perrels, Adriaan, Finnish Meteorological Institute FMI)
484	8	20	19	20	20	Uni-polarity and multi-polarity would benefit from context; it is not evident what these terms refer to. (UNITED STATES OF AMERICA)
485	8	20	28	0	0	Separate words "Water allocation..." (Ambulkar, Archis, Brinjac Engineering Inc.)
486	8	20	28	0	30	The last sentence of the paragraph needs a reference, as otherwise it is an unsubstantiated assertion. (UNITED STATES OF AMERICA)
487	8	20	28	20	28	No spacing between words 'water' and 'allocation' in line 28 (INDIA)
488	8	20	28	20	30	No references for the case of Beijing and Delhi. (zheng , yan, Chinese Academy of Social Sciences (CASS))
489	8	20	37	0	0	you could cite here Burby, R. J., A. C Nelson, D. Parker, et J. Handmer. 2001. « Urban Containment Policy and Exposure to Natural Hazards: Is There a Connection? » Journal of Environmental Planning and Management 44 (4): 475–490. and Burby, R.J., E. L Birch, et S. M Wachter. 2006. « The problems of containment and the promise of planning. » In Rebuilding urban places after disaster: lessons from Hurricane Katrina. University of Pennsylvania Press.\n (Viguié, Vincent, CIRED)
490	8	20	43	0	0	you could also cite here Viguié and Hallegatte 2012 (Viguié, Vincent, CIRED)
491	8	20	46	0	0	Add "and" to the title as "Slow Onset and Production Cycles" (Ambulkar, Archis, Brinjac Engineering Inc.)
492	8	21	1	0	3	The authors should consider deleting the sentence concerning sub-Saharan Africa as it is not ascribed to any reference. This statement could be challenged as in sub-Saharan Africa, non-urbanized human population may also face increasing exposure to risks and hazards related to climate change. (UNITED STATES OF AMERICA)
493	8	21	3	0	0	Would be good to add a chart or graph of urbanization projections for various future years by region. (UNITED STATES OF AMERICA)
494	8	21	6	0	0	Separate words "worsens as..." (Ambulkar, Archis, Brinjac Engineering Inc.)
495	8	21	6	0	0	Provide space i.e. "2007). Overlaying..." (Ambulkar, Archis, Brinjac Engineering Inc.)
496	8	21	6	21	6	No spacing between words 'worsens' and 'as' in line 6 (INDIA)

#	Ch	From Page	From Line	To Page	To Line	Comment
497	8	21	13	21	20	An study by Trusilova et al, 2008 analyses the urbanization-induced disturbances of the carbon cycle in Europe through the land use change, local climate modification, and atmospheric pollution. This study shows that urban effects spread far beyond the city boundaries and trigger complex feedbacks/responses in the biosphere. (Citation: Trusilova, K. and Churkina, G.: The response of the terrestrial biosphere to urbanization: land cover conversion, climate, and urban pollution, Biogeosciences, 5, 1505-1515, doi:10.5194/bg-5-1505-2008, 2008.) (Trusilova, Kristina, Deutscher Wetterdienst)
498	8	21	13	21	20	This paragraph would benefit from the addition of "Urbanization changes land use cover, generally reducing the amount of ecologically intact land and causing fragmentation of the remaining land, which reduces habitat value and increases the likelihood of further ecological degradation." MBC (UNITED STATES OF AMERICA)
499	8	21	13	21	30	Seems somewhat duplicative of section 8.2.2.4 -- can these be combined? (UNITED STATES OF AMERICA)
500	8	21	18	0	0	Provide space i.e. "2006) and..." (Ambulkar, Archis, Brinjac Engineering Inc.)
501	8	21	20	0	0	The authors should add: 'Urban environments can reap multiple benefits by integrating ecological systems and biodiversity into their planning and development; and doing so, strive towards greater sustainability of natural habitats and essential urban resources.' Secretariat of the Convention on Biological Diversity (2012) Cities and Biodiversity Outlook. Montreal, 64 pages. (UNITED STATES OF AMERICA)
502	8	21	30	21	30	This paragraph would benefit from the addition at the end with the following sentence or something to this effect: "Changes in precipitation, temperatures, and extremes will also further strain ecological systems in many parts of the globe [NEED REF]." (UNITED STATES OF AMERICA)
503	8	21	31	0	0	The authors should add: The use of green infrastructure and ecosystem applications offers mitigation and adaptive benefits to address the climate challenges of urban flooding and heat island effects. Natural processes like evaporation, infiltration, and plant transpiration, generated by rain gardens, bioswales, street trees, can complement traditional "grey" infrastructure by providing more effective stormwater systems often overwhelmed during periods of high precipitation. Similarly, green roofs, facades and city parks are other green infrastructure applications that can provide natural cooling and water retention benefits. Banking on Green: A Look at How Green Infrastructure Can Save Municipalities Money and Provide Economic Benefits Community-wide A Joint Report by American Rivers, the Water Environment Federation, the American Society of Landscape Architects and ECNorthwest April 2012 (UNITED STATES OF AMERICA)
504	8	21	35	0	0	Not very informative to just mention "diverse challenges" without specifying some key ones. (UNITED STATES OF AMERICA)
505	8	21	52	0	0	Explain how adaptation has improved in Latin America. (UNITED STATES OF AMERICA)
506	8	22	1	22	10	Lines 1-10: Introductory stuff that does not belong here and not relevant to the header for the section. (UNITED STATES OF AMERICA)
507	8	22	7	0	8	The authors should add/change the text: "they often have less access to transport modes and resources." and consider deleting: "e.g., women.... physically weak" (UNITED STATES OF AMERICA)
508	8	22	13	0	0	Change "occurrences and intensity" to "frequency, intensity, and duration?" (Backus, George, Sandia National Laboratories)
509	8	22	13	0	0	Section 8.2.3. In addition to expected changes in urban temperatures and UHIs it should be mentioned that changes in heat load experienced by city dwellers have to be based on bioclimatic indices such as the Physiological Equivalent Temperature (PET, Höppe 1999, Int. J. Biometeorol. 43, 71-75) or Perceived Temperature (PT, Staiger et al. 2011, Int. J. Biometeorol., DOI 10.1007/s00484-011-0409-6). (GERMANY)
510	8	22	13	22	13	The distinction between primary and secondary impacts is not clear in the section (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
511	8	22	13	30	40	Impacts of urban heat island can be used to predict air temperature increase impact by global warming. There are many cause-effect chains from urban heat island to various kinds of impact. (Shimoda Y. Narumi D., Mizuno M., 2005: Environmental Impact of Urban Heat Island Phenomena -Cause-effect chain and evaluation in Osaka City, Journal of Life Cycle Assessment, Japan Vol 1, No.2 pp.144-148) This paper will be sent as supporting material "ShimodaPaper.pdf". There are cross relationships between impacts. For example, tap water use in Osaka City is increased by air temperature increase since water is consumed by water-cooled chillers. (Shimoda, Yoshiyuki, Osaka University)
512	8	22	13	30	40	These sections could be combined so that the discussion impacts is integrated with exposure and sensitivity and discussed by sector -- urban temperature, heat island, drought, flooding, and air pollution impacts would be discussed by sector where relevant. This has the benefit of removing any overlapping discussion between the two sections, making the flow clearer to the reader (e.g., the reader may not understand the distinction between "impacts" and "exposure and sensitivity" and find it confusing to have those separated; or may not understand why there are two health sections). (UNITED STATES OF AMERICA)
513	8	22	15	0	0	CC will lead to increased occurrence.... give the level of confidence. (GERMANY)
514	8	22	15	22	15	It would be more accurate to use "and/or" here instead of "and," given the findings of the special report on extremes, as well as the working group 1 contribution to the 5th assessment report. (Mach, Katharine, IPCC WGII TSU)
515	8	22	15	22	16	Although SREX is now referenced, no specific calibrated language for listed projected changes is applied. Reference to WGI AR5 missing still. Make sure wording/likelihood is consistent with the findings of SREX Ch3 and WGI AR5 for each extreme listed in the opening sentence. Avoid general, overarching statements that are not supported by the underlying physical science. (Plattner, Gian-Kasper, IPCC WGI TSU)
516	8	22	15	22	20	Lines 15-20: Some of the references quoted assume that the occurrence and severity of extreme weather events will change rather than demonstrating that this will be so (e.g., Romero-Lankao and Dodman, 2011)! Also this paragraph repeats previous material already stated earlier. (UNITED STATES OF AMERICA)
517	8	22	16	22	16	The reference "Campbell-Lendrum and Corvalán, 2007" is missing in the reference list. (GERMANY)
518	8	22	17	22	18	The sentence reads "Physical factors....typically differentiate variations..." should be reworded. Consider writing instead "Physical factors...typically influence" or something that otherwise clarifies the intended idea. (UNITED STATES OF AMERICA)
519	8	22	23	22	32	8.2.3.1 is overlapping with other subsections (8.2.3.2 and 8.2.3.6) without providing any significant new insight. The part of it referring to air pollution is not relevant and could be removed altogether. The remaining should be expanded or integrated into 8.2.3.2. (Dimitrios Melas, Department of Physics, Aristotle University of Thessaloniki, Greece) (GREECE)
520	8	22	25	0	0	Section 8.2.3.1 Simulated trends in future temperature threshold exceedance for the area of Frankfurt by Früh et al. (2011, J. Appl. Meteorol. Climatol., DOI: 10.1175/2010JAMC2377.1) showed no significant differences between the city and the rural surroundings. E.g. the yearly number of days with maximum temperature exceeding 25°C will increase by the same amount inside and around the city. (GERMANY)
521	8	22	25	22	25	Line 25: The authors should reword as "heatwaves and warm spells will exacerbate urban heat island effects..." (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
522	8	22	25	22	27	It is strange to mention "increased air pollution" before "heat-related health problems", in particular as the section is titled "Urban Temperature Variations: Means and Extremes". My suggestion is to either move the "increased air pollution" to second position (yielding: "Heat waves and warm spells will connect with urban heat island effects to cause heat-related health problems (Hajat et al., 2010; see also 8.2.3.7) and may result in increased air pollution (Blake et al., 2011; Campbell-Lendrum and Corvalan, 2007)") or leave it out of this section entirely. (Min, Erik, Royal Netherlands Meteorological Institute (KNMI))
523	8	22	25	22	28	Section 8.2.3.1 Besides reduced energy demand for heating in the cold season it should be mentioned that in a warming climate many regions will also have an increase of energy demand for cooling in the warm season. Changes in energy demand for Paris (cold and warm season) have been presented by Lemonsu et al. (2012, Climatic Change, DOI 10.1007/s10584-012-0521-6). (GERMANY)
524	8	22	25	22	32	Several research from Central Europe reports human thermal comfort in the cities, e.g. Blazejczyk K., 2011, Mapping of UTCI in local scale (the case of Warsaw), Prace i Studia Geograficzne WGSR UW, 47, p. 275-283. (POLAND)
525	8	22	26	0	0	Reference Campbell-Lendrum and Corvalan 2007 is missing. Possibly doi: 10.1007/s11524-007-9170-x (Parker, David, Met Office Hadley Centre)
526	8	22	26	22	26	Campbell-Lendrum and Corvalan (2007) is missing in the references. (Dimitrios Melas, Department of Physics, Aristotle University of Thessaloniki, Greece) (GREECE)
527	8	22	27	22	27	Cold waves is not a common term and would benefit from the brief defining contrast at first appearance of "cold waves, periods of very cold weather" or something to that effect. (UNITED STATES OF AMERICA)
528	8	22	28	22	29	This sentence is confusing. The addition of the text on thermal comfort level muddles the sentence. (UNITED STATES OF AMERICA)
529	8	22	31	0	0	Give reference to the chapters. (GERMANY)
530	8	22	31	22	32	Oleson report is discussed in next paragraph. The sentence can be deleted here. (UNITED STATES OF AMERICA)
531	8	22	31	22	32	This statement is contradicted by the paragraph that follows, lines 37-52 (UNITED STATES OF AMERICA)
532	8	22	32	0	0	The exact same idea (and the same citation: Oleson et al.) is repeated in lines 32 and 38 (Viguié, Vincent, CIRED)
533	8	22	32	22	38	Oleson et al. 2012 should probably be Oleson 2012. (Parker, David, Met Office Hadley Centre)
534	8	22	33	22	33	Line 33: The authors should insert a sentence about important changes (increases) in night time minimum temperatures that will impact health, energy, and food production. (UNITED STATES OF AMERICA)
535	8	22	35	0	0	Why is section 8.2.3.2 "Urban heat islands" separated from section 8.2.3.1 "urban temperature variation"? to my sense, urban heat islands are not an impact per se, they are simply a local effect that contributes to making heatwaves have a bigger impact in cities than in the surrounding countryside (especially since it increases night temperature). I would rather say that the important point, here, is the increase in the number and the intensity of heatwaves, magnified by the existence of urban heat islands in cities. Focusing during one whole subsection on whether urban heat islands will be increased or not therefore does not seem particularly relevant to me. I would rather focus more on the increase in heatwaves risk. (Viguié, Vincent, CIRED)
536	8	22	35	23	12	State reasons for urban heat island results and explain differences. (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
537	8	22	37	0	0	Urban heat islands are not difficult to quantify; as a matter of fact surface urban heat islands can be easily detected in medium and large scale urban areas with the use of satellite data (see Stahopoulou, M. and C. Cartalis, 2007:Use of Satellite Remote Sensing in Support of Urban Heat Island Studies, Advances in Building Energy Research, 1(1), 203-212). In addition valuable information and findings on heat islands may be found in: Santamouris M., 2007: Heal island Research in Europe: The State of the Art, 1(1), 124-150; Mihalakakou, G., M. Santamouris, N. Papanikolaou, C. Cartalis and A. Tsangrassoulis, 2004: Simulation of the Urban Heat Island Phenomenon in Mediterranean Climates, Pure and applied geophysics, 161(2), 429-451). (Constantinos Cartalis, Environmental Physics, University of Athens, Greece)\n (GREECE)
538	8	22	37	22	38	The first sentence says that defining and quantifying UHI is still debated. The second sentence states that studies indicate that UHI will decrease. Perhaps add some segue such as "Despite [this lack of agreement], results from studies that have looked at UHI suggest that...." (UNITED STATES OF AMERICA)
539	8	22	37	23	12	The organization of this section is confusing. Recommend keeping London content together as opposed to breaking it up like it currently is. Also, in one part of this section you say that UHI in London by 2050 won't change, but then later, the text says it will. It's quite confusing. (UNITED STATES OF AMERICA)
540	8	22	38	0	0	Section 8.2.3.2 The unclear trend in future UHIs is a very important statement, but the citation of studies finding positive, negative or no trend in UHIs should be accompanied by the major (physical) reasons for the findings. For example Lemonsu et al. (2012, Climatic Change, DOI 10.1007/s10584-012-0521-6) calculated that the UHI of Paris will slightly weaken because longer or more pronounced dry summer spells will lead to very low soil moisture content and therefore to stronger heating of the lower atmosphere in rural areas. (GERMANY)
541	8	22	38	0	0	Explain why Oleson argues that urban heat island effect will decrease or remain constant, rather than increasing. (UNITED STATES OF AMERICA)
542	8	22	38	22	38	I don't think that the conclusions of the study by Oleson (2012) are interpreted correctly. This study shows mixed results about the intensity of the UHI and the main conclusion is that the unique aspects of the urban environment should be considered when making projections about the effects of climate change on UHI intensity. (Dimitrios Melas, Department of Physics, Aristotle University of Thessaloniki, Greece) (GREECE)
543	8	22	38	22	45	Unclear whether Oleson and Oleson et al are the same references. If so, lines 44-45 contradict line 38. (UNITED STATES OF AMERICA)
544	8	22	48	23	6	Not only intensity of UHI will change. Growing cities produce also spatial extent of areas where UHI is significantly manifested. (POLAND)
545	8	22	49	0	0	GCM term is not defined or elaborated in this chapter prior to being used in this sentence (Ambulkar, Archis, Brinjac Engineering Inc.)
546	8	22	51	22	52	Adachi et al. 2012 project the UHI intensity to increase from 1.0°C to 1.5°C, not from 1.5°C to 2.0°C. (Parker, David, Met Office Hadley Centre)
547	8	22	51	22	52	As a result, total UHI intensity is projected to increase from 1.5 C to 2.0 C through the 2070s (Adachi et al., 2012). the figures on the statement do not generate this cumulative conclusion.\n\n (NETHERLANDS)
548	8	23	15	23	15	This section does not refer to the very important issue of water resources allocation to different user groups, while evidence from many countries shows the dominance of urban over rural usage, which does to a large extent offset the overall water scarcity (UNITED STATES OF AMERICA)
549	8	23	19	23	19	Line 19: It is unclear how droughts (lack of water) can lead to an increase in water-related diseases\n (UNITED STATES OF AMERICA)
550	8	23	21	0	0	Separate words "changing scenarios..." (Ambulkar, Archis, Brinjac Engineering Inc.)
551	8	23	22	0	0	Explain where the additional 100 million are located. (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
552	8	23	25	23	45	Term "ibid" is referred in italics and non-italics in these sentences on lines 25 and 45. Please use same format unless any specific reasons - and also throughout the chapter wherever it is referred. (Ambulkar, Archis, Brinjac Engineering Inc.)
553	8	23	26	23	31	Lines 26-31: Not relevant to urban context as this is purely national level information. Suggest delete. (UNITED STATES OF AMERICA)
554	8	23	30	23	31	over the 40 years should be "over the next 40 years". Also, we don't think this study by Backus et al (2012) is very relevant with the sub-chapter that deals with Droughts and Water Scarcity, or if it is, the connection is not clearly conveyed to the reader. \n\n (NETHERLANDS)
555	8	23	34	24	5	Local relative sea level is the only basis for local planning. Global sea level, particular when based on models is largely irrelevant. No mention of any actual measurements of relative sea level. It mentions only isostasy as one of the many reasons why past measurements are unreliable. You should also mention measures to change local level, such as harbour development, dredging and erosion, changes in land level from buildings, removal of ground water and minerals, and changes in equipment from storm damage and inaccuracies in levelling. Only brecent measurements with GPS levelling could be used for assessing "trends" and most of these show that sea level is not currently rising in many places (Gray, Vincent, Climate Consultant)
556	8	23	36	24	5	The effect that Superstorm Sandy had on the NE coast of the United States should be referenced here, including the costs, number of people impacted, etc. (UNITED STATES OF AMERICA)
557	8	23	43	23	44	What are the current populations of Lagos, Mumbai, Mombasa, and Shanghai living in low-lying areas? (UNITED STATES OF AMERICA)
558	8	23	45	23	46	Add example here? Dhaka for e.g. (da Silva, Jo, Arup)
559	8	23	51	0	52	The specific statement is not clear. (Denia Kolokotsa, Environmental Engineering Department, Technical University of Crete, Greece) (GREECE)
560	8	23	54	0	54	Insert reference for the specific statement. (Denia Kolokotsa, Environmental Engineering Department, Technical University of Crete, Greece) (GREECE)
561	8	24	1	24	5	What are the current populations and asset values at risk in these locations? (UNITED STATES OF AMERICA)
562	8	24	1	24	5	While recognizing the importance of that study, the accuracy of its results are mitigated by the lack of Digital Elevation Models for many of the cities, which makes its flooding predictions unreliable. We were able to check that on Alexandria. (UNITED STATES OF AMERICA)
563	8	24	4	0	5	Revise sentence. (Denia Kolokotsa, Environmental Engineering Department, Technical University of Crete, Greece) (GREECE)
564	8	24	8	0	0	Remove extra "and" i.e. "Inland Flooding, Hydrological and Geo-Hydrological..." (Ambulkar, Archis, Brinjac Engineering Inc.)
565	8	24	8	24	8	This section should also refer to glacial lake outburst as significant risk to some cities such as Khatmandu and other Himalayan cities. (UNITED STATES OF AMERICA)
566	8	24	8	24	20	Section 8.2.3.5. Weak paragraph that could be deleted without detracting from the rest of the message. (UNITED STATES OF AMERICA)
567	8	24	8	25	6	Paragraphs on this page appear to be cobbled together from inputs from several contributors and lack coherence. Please revise to improve the flow of the document and provide a consistent voice.\n\n\n (UNITED STATES OF AMERICA)
568	8	24	10	24	20	This section should be broken out to discuss flooding along rivers and in floodplains as one kind of flooding and then stormwater flooding as another kind of inland flooding. Currently, flooding along rivers and in flood plains is missing, but it is a significant impact for many cities. (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
569	8	24	20	0	0	Add: "The review on the world-wide impacts of climate change on rainfall extremes and urban drainage by Willems et al. (2012) has shown that typical increases in rainfall intensities at small urban hydrology scales range between 10% and 60% from historical control periods in the recent past (typically 1961-1990) up to 2100. These climate change impacts on extreme short-duration rainfall events may have significant impacts in terms of surcharge of urban drainage systems and pluvial flooding. Results so far indicate more problems with sewer surcharging, sewer flooding and more frequent CSO spills. o Extreme rainfall changes in the range 10-60% may lead to changes in flood and CSO frequencies and volumes in the range 0-400% depending on the system characteristics. This is because floods and overflows are due to exceedance of runoff or sewer flow thresholds and react to rainfall (changes) in a highly non-linear way (Willems et al., 2012). Ref: Willems, P., Olsson, J., Arnbjerg-Nielsen, K., Beecham, S., Pathirana, A., Bülow Gregersen, I., Madsen, H., Nguyen, V-T-V. (2012), 'Impacts of climate change on rainfall extremes and urban drainage', IWA Publishing, 252p., Paperback Print ISBN 9781780401256; Ebook ISBN 9781780401263 (Willems, Patrick, KU Leuven)
570	8	24	20	0	0	Other references are: • Willems, P. (2013). 'Revision of urban drainage design rules after assessment of climate change impacts on precipitation extremes at Uccle, Belgium', Journal of Hydrology, 10.1016/j.jhydrol.2013.05.037 • Willems P., Vrac M. (2011), 'Statistical precipitation downscaling for small-scale hydrological impact investigations of climate change', Journal of Hydrology, 402, 193–205 • Arnbjerg-Nielsen, K., Willems, P., Olsson, J., Beecham, S., Pathirana, A., Bülow Gregersen, I., Madsen, H., Nguyen, V-T-V. (2013). 'Impacts of climate change on rainfall extremes and urban drainage systems: a review', Water Science and Technology, doi: 10.2166/wst.2013.251 (Willems, Patrick, KU Leuven)
571	8	24	21	0	0	Check this paragraph for collated words. (Denia Kolokotsa, Environmental Engineering Department, Technical University of Crete, Greece) (GREECE)
572	8	24	23	24	33	What are these "effects"? On health, damage to buildings via acid rain etc? This section is too brief and needs expanding. Should also mention changes in urban morphology on air quality - larger numbers of high-rise buildings may change rate of dispersal of pollutants. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
573	8	24	23	24	33	Section 8.2.3.6. Weak paragraph that could be deleted without detracting from the rest of the message. Lines 28-30 make a general statement that is not urban-context specific. (UNITED STATES OF AMERICA)
574	8	24	25	0	0	Separate words "with implications..." (Ambulkar, Archis, Brinjac Engineering Inc.)
575	8	24	25	24	27	No spacing between words 'with' and 'implications' in line 25; similarly between 'and' & 'transportation' in line 27 (INDIA)
576	8	24	25	24	33	Effects on air pollution are very important and are barely touched on in this short paragraph. This needs to be expanded. (UNITED STATES OF AMERICA)
577	8	24	27	0	0	Separate words "and transportation..." (Ambulkar, Archis, Brinjac Engineering Inc.)
578	8	24	27	24	27	Since transportation is more important than industry as a source of air pollution in most urban areas, it is recommended to replace "air pollution from industry and transportation" by "air pollution from transportation and industry". (GERMANY)
579	8	24	28	0	0	Separate words "around structures..." (Ambulkar, Archis, Brinjac Engineering Inc.)
580	8	24	28	24	28	Air quality can be adversely affected by limited ventilation within and around structures: It is not clear how this statement is connected to climate change. If there are good reasons to assume that future urban planning is associated with efforts to increase ventilation to mitigate the UHI this should be stated here. The increased ventilation will than reduce local air pollution. (GERMANY)

#	Ch	From Page	From Line	To Page	To Line	Comment
581	8	24	28	24	31	No reference is given to support this statement. The following recent studies could be used for Europe and USA, respectively:\nKatragkou E., P. Zanis, I. Kioutsoukis, I. Tegoulas, D. Melas, B.C. Krüger, E. Coppola, Future climate change impacts on surface ozone from regional climate-air quality simulations over Europe, Journal of Geophysical Research, 116, D22307, doi:10.1029/2011JD015899, 2011.\nLam, Y.F., Fu, J.S. , Wu, S., Mickley, L.J., Impacts of future climate change and effects of biogenic emissions on surface ozone and particulate matter concentrations in the United States, Atmospheric Chemistry and Physics, Volume 11, Issue 10, Pages 4789-4806, 2011.\n (Dimitrios Melas, Department of Physics, Aristotle University of Thessaloniki, Greece) (GREECE)
582	8	24	28	24	31	Needs a citation to support this statement. (UNITED STATES OF AMERICA)
583	8	24	34	0	0	The authors should consider adding:\nThe transportation sector has a huge impact on natural resource consumption as well as quality of life and health. Air pollution is set to become the world's top environmental cause of premature mortality, overtaking dirty water and lack of sanitation. Air pollution concentrations in some cities, particularly in Asia, already far exceed World Health Organization safe levels, and they are projected to deteriorate further to 2050 (OECD 2012). Promoting transit systems such as BRT (bus rapid transit) can be an important positive contribution to growing cities, particularly in the developing world. (UNITED STATES OF AMERICA)
584	8	24	36	25	6	Cite Ligeti and Barata, et al. in ARC3. (UNITED STATES OF AMERICA)
585	8	24	38	0	49	This whole paragraph is about heat stress: it could be moved to section 8.2.3.1 (Viguié, Vincent, CIRED)
586	8	24	45	0	0	Suggest reword to avoid repetition of 'high': 'In urban settings where child mortality is high, extreme temperatures...' (da Silva, Jo, Arup)
587	8	24	45	24	46	Line 45: fix poor English "In urban settings where child mortality is high..." should be reworded simply as "in urban areas high and low temperatures..." (UNITED STATES OF AMERICA)
588	8	24	51	25	4	These air pollution issues should be regrouped under section 8.2.3.6 (UNITED STATES OF AMERICA)
589	8	24	53	25	11	The word "affected" is used repeatedly without indicating whether expected changes are increases or decreases. (UNITED STATES OF AMERICA)
590	8	25	4	25	5	Might want to add a sentence about Urbanisation and malaria with a citation to Tatem et al. Malaria Journal 2013, 12:133 (Lunde, Torleif Markussen, University of Bergen)
591	8	25	20	0	0	The authors should delete/add at end to read: services and "people" (UNITED STATES OF AMERICA)
592	8	25	28	25	31	Quantify the economic effects of the supply chain disruption vs. other economic costs. (UNITED STATES OF AMERICA)
593	8	25	30	0	0	Provide space i.e. "2012). Urban..." (Ambulkar, Archis, Brinjac Engineering Inc.)
594	8	25	34	0	0	The authors should consider adding: "Of the Low Elevation Coastal Zones (LECZ) approximately 50% are in urban areas with a population of 360 million inhabitants, of which 15 percent are the urban poor of least development countries. " (UNITED STATES OF AMERICA)
595	8	25	38	25	40	Consider adding communications to the list of systems that are effected by climate change (UNITED STATES OF AMERICA)
596	8	25	39	0	0	Separate words "transport sectors..." (Ambulkar, Archis, Brinjac Engineering Inc.)
597	8	25	39	25	39	No spacing between 'transport' and 'sector' in line 39 (INDIA)
598	8	25	49	0	49	since without this, making the short to long-term trade-off to improve resilience is difficult I do not understand this sentence very well (Viguié, Vincent, CIRED)
599	8	25	51	25	53	This sentence argues that it is more difficult for cities such as New York with dense aging infrastructure to withstand stresses from climate change. While true, these cities also have an opportunity when the aging infrastructure will be replaced to integrate climate considerations into the new infrastructure decision making processes. This potential opportunity isn't acknowledged. (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
600	8	25	52	0	0	Separate words "projected strains..." (Ambulkar, Archis, Brinjac Engineering Inc.)
601	8	25	53	0	0	(after Faris, 2010) : lots of economic and livelihood activities also get damaged and disrupted which have long lasting or never ending effect on society (Bharat, Alka, M.A.National Institute of technology)
602	8	26	0	28	0	A significant number of parts of 8.2.4 are repeated elsewhere. (Denia Kolokotsa, Environmental Engineering Department, Technical University of Crete, Greece) (GREECE)
603	8	26	3	26	4	What unit/metric has been used to calculate this? (da Silva, Jo, Arup)
604	8	26	5	26	6	All sources cited are not listed at References (Real, Marcia, Universidade Federal Fluminense)
605	8	26	10	0	0	Provide space i.e. "balance (Gober..." (Ambulkar, Archis, Brinjac Engineering Inc.)
606	8	26	11	0	0	Provide space i.e. "2008). Among..." (Ambulkar, Archis, Brinjac Engineering Inc.)
607	8	26	12	0	0	The same impacts are mentioned over and over again. The overall chapter needs restructuring to avoid repetitions. (Denia Kolokotsa, Environmental Engineering Department, Technical University of Crete, Greece) (GREECE)
608	8	26	15	0	0	Provide space i.e. "2011). Local..." (Ambulkar, Archis, Brinjac Engineering Inc.)
609	8	26	17	0	0	(after 2008) :two major effects ; one rise in temperature reducing water availability and other raised demand of water due to population growth & development should be taken in consideration , simultaneously (Bharat, Alka, M.A.National Institute of technology)
610	8	26	24	0	0	Braman et al., 2010 is not identified at References (Real, Marcia, Universidade Federal Fluminense)
611	8	26	26	0	0	Separate words "rapidly developing..." (Ambulkar, Archis, Brinjac Engineering Inc.)
612	8	26	26	26	26	No spacing between 'rapidly' and 'developing' in line 26 (INDIA)
613	8	26	31	0	0	The reduction of rainfalls now is considered a problem. The overall analysis is very poor and confuses the reader. Is it possible to have phenomena that the one cancels the effect of the others? This should be underlined. (Denia Kolokotsa, Environmental Engineering Department, Technical University of Crete, Greece) (GREECE)
614	8	26	33	0	0	Pelling 2012 is not identified at References (Real, Marcia, Universidade Federal Fluminense)
615	8	26	33	26	39	Lines 33-39: contains assertions that are either presumptions in the reference quoted (de Sherbin et al, 2007:60), or presumption that wealth means greater adaptive capacity. This is not so for Shanghai and many other major urban zones where the poor have no access to the so-called greater wealth enjoyed by a few. (UNITED STATES OF AMERICA)
616	8	26	38	26	39	Which cities? What was the magnitude of the effect? (UNITED STATES OF AMERICA)
617	8	26	39	0	0	Ford et al. 2010 is not identified at References (Real, Marcia, Universidade Federal Fluminense)
618	8	26	40	0	0	McLeman and Hunter 2010 is not identified at References (Real, Marcia, Universidade Federal Fluminense)
619	8	26	48	0	0	Provide space i.e. "2012). Floods..." (Ambulkar, Archis, Brinjac Engineering Inc.)
620	8	27	9	0	0	not just where there is 'no waste collection service' but where there is 'inadequate waste collection' (da Silva, Jo, Arup)
621	8	27	10	27	12	Which countries? What is the population of people in cities without drains or sewers? (UNITED STATES OF AMERICA)
622	8	27	28	27	29	Awkward and confusing sentence. Suggest removing or reworking the content around "often flood protection measures." (UNITED STATES OF AMERICA)
623	8	27	37	27	40	Quantify. (UNITED STATES OF AMERICA)
624	8	27	38	27	40	This sentence is confusing: is efficiency of cooling really dropping?? Rather are not power systems becoming more technologically efficient, yet overwhelmed by demand for power, eg: AC units, etc. increasing in Europe and with growing middle class worldwide. (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
625	8	27	48	27	48	I am thinking that not only "climate change will alter the patterns of urban energy consumption" but also the patterns of energy production will change predominantly in the light of photovoltaic systems (and also wind and other). Perhaps a mention of the most essential statistics in this sector would provide another dimension needed in this section. (Dimitris Stathakis, Urban and Regional Planning, University of Thessaly, Greece) (GREECE)
626	8	27	53	28	2	Comparison between cooling energy increase and heating energy decrease by global warming strongly depending on the climate of the city. Energy consumption for hot water use is also affected by global warming since the temperature of tap water depends on outdoor air temperature. (Shimoda, Yoshivuki, Osaka University)
627	8	28	0	29	0	It should be interesting to include in "8.2.4.3 Transportation and telecommunications" a reference to the following review paper: \nUherek, T., T. Halenka, J. Borken-Kleefeld, Y. Balkanski, T. Berntsen, C. Borrego, M. Gauss, P. Hoor, K. Juda-Rezler, J. Lelieveld, D. Melas, K. Rypdal and S. Schmid (2010): Transport Impacts on Atmosphere and Climate: Land Transport. Atmospheric Environment Volume 44, Issue 37, Pages 4772-4816.\nThis review includes both urban and regional scale impacts and is highly relevant to the aforementioned section. For example, section "5.5. Scenarios of future road transport exhaust emissions" of the review paper includes very interesting material to support the AR.\n (Dimitrios Melas, Department of Physics, Aristotle University of Thessaloniki, Greece) (GREECE)
628	8	28	5	0	0	Separate words "change reduces..." (Ambulkar, Archis, Brinjac Engineering Inc.)
629	8	28	15	0	0	Provide space i.e. "conditioning, resulting..." (Ambulkar, Archis, Brinjac Engineering Inc.)
630	8	28	16	0	0	Provide space i.e. "2007). Cities..." (Ambulkar, Archis, Brinjac Engineering Inc.)
631	8	28	18	28	20	The structure of this sentence makes it extremely hard to understand. Consider reworking. (UNITED STATES OF AMERICA)
632	8	28	19	0	0	Provide space i.e. "poor, increased..." (Ambulkar, Archis, Brinjac Engineering Inc.)
633	8	28	25	29	27	Recommend including information on U.S. Department of Transportation funded projects with several state departments of transportation, metropolitan planning organizations, and public transportation agencies to study impacts of climate change on transportation. See http://www.fhwa.dot.gov/environment/climate_change/adaptation/ongoing_and_current_research/vulnerability_assessment_pilots/index.cfm and www.fta.dot.gov/adaptation (UNITED STATES OF AMERICA)
634	8	28	25	29	27	The authors should consider including:\nSea level rise and storm surge significantly impact transportation infrastructure. For instance, in the Gulf Coast region of the United States, 27 percent of the major roads, 9 percent of the rail lines, and 72 percent of the ports are at or below 122 cm (4 ft) in elevation. With storm surge at 7 m (23 ft), more than half of the area's major highways (64 percent of Interstates; 57 percent of arterials), almost half of the rail miles, 29 airports, and virtually all of the ports are subject to flooding. CCSP, 2008: Impacts of Climate Change and Variability on Transportation Systems and Infrastructure: Gulf Coast Study, Phase I. A Report by the U.S. Climate Change Science Program and the Subcommittee on Global Change Research [Savonis, M. J., V.R. Burkett, and J.R. Potter (eds.)]. Department of Transportation, Washington, DC, USA, 445 pp. (UNITED STATES OF AMERICA)
635	8	28	25	29	27	The title of this section is "Transportation and Telecommunications", but the section currently only covers transportation, and does not provide any information on telecommunications. Recommend deleting telecommunications from the title. If the chapter authors do want to cover telecommunications, suggest covering transportation and telecommunications in separate sections, since it is not clear that they are directly related or would have similar impacts. (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
636	8	28	25	29	27	This section does not currently but definitely should summarize the main impacts of climate change on transportation:\n\tFlooding of road, rail, port, airport, and transit facilities from increases in intense rainfall, storm surge, and sea level rise.\n\tTrack buckling, road rutting, materials degradation, and worker and passenger safety and comfort issues from increases in very hot days and heat waves\n\tWind damage and debris from increases in hurricane intensity\n- Landslides from increases in heavy precipitation and rain on snow events\n\tInterruptions to river barge traffic due to decreases in water levels during droughts or increases during floods\n\tPermafrost thaw at far northern latitudes undermining road beds\n\tOpening of Arctic shipping routes (UNITED STATES OF AMERICA)
637	8	28	28	28	28	Include tunnels. (UNITED STATES OF AMERICA)
638	8	28	28	28	29	Remove extra "and" i.e. "data sensors, wire and wireless networks..." (Ambulkar, Archis, Brinjac Engineering Inc.)
639	8	28	34	28	49	Page 28 line 34 to Page 28 Line 49. This paragraph states that there has not been much literature on transportation adaptation. It neglects to mention significant work that has been completed since AR4. This section should cite key findings from transportation adaptation literature new since the AR4, including:\nCCSP, 2008: Impacts of Climate Change and Variability on Transportation Systems and Infrastructure: Gulf Coast Study, Phase I. A Report by the U.S. Climate Change Science Program and the Subcommittee on Global Change Research [Savonis, M. J., V.R. Burkett, and J.R. Potter (eds.)]. Department of Transportation, Washington, DC, USA, 445 pp.\nhttp://www.fhwa.dot.gov/environment/climate_change/adaptation/ongoing_and_current_research/gulf_coast_study/index.cfm\nTransportation Research Board (TRB), Special Report 290: Potential Impacts of Climate Change on U.S. Transportation, 2008. http://onlinepubs.trb.org/onlinepubs/sr/sr290.pdf\nFederal Highway Administration, Climate Change and Extreme Weather Vulnerability Assessment Framework, December 2012. http://www.fhwa.dot.gov/environment/climate_change/adaptation/resources_and_publications/vulnerability_assessment_framework/index.cfm\nMeyer, Michael, "Design Standards for U.S. Transportation Infrastructure: The Implications of Climate Change," 2011. http://onlinepubs.trb.org/onlinepubs/sr/sr290Meyer.pdf\nFederal Transit Administration, "Flooded Bus Barns and Buckled Rails: Public Transportation and Climate Change Adaptation," 2011. http://www.fta.dot.gov/documents/FTA_0001_-_Flooded_Bus_Barns_and_Buckled_Rails.pdf\nIn particular, recommend authors include key points from the executive summaries of the first two citations. (UNITED STATES OF AMERICA)
640	8	28	42	28	42	The formulation here with "it will be necessary" could be interpreted as prescriptive, and rewording the sentence accordingly would be beneficial. (Mach, Katharine, IPCC WGII TSU)
641	8	28	44	0	0	Separate words "weather related..." (Ambulkar, Archis, Brinjac Engineering Inc.)
642	8	28	44	28	44	Two papers to appear in Climatic Change assess climate change effects on UK rail network: "Future projections of temperature-related climate change impacts on the railway network of Great Britain", EJ Palin et al., and "Projections of the future frequency of flooding affecting the rail network of Great Britain", H.T. Thornton et al. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
643	8	28	51	29	2	This paragraph would fit better under 8.3.3.5, adapting electric power and energy systems (UNITED STATES OF AMERICA)
644	8	28	52	0	0	Separate words "larger and..." (Ambulkar, Archis, Brinjac Engineering Inc.)
645	8	28	52	0	0	Provide space i.e. "cities. For..." (Ambulkar, Archis, Brinjac Engineering Inc.)
646	8	29	0	30	0	82.4.4 Title should be revised. Moreover a lot of different aspects, buildings, recreation and heritage are discussed in one paragraph. These can be separated and analysed. (Denia Kolokotsa, Environmental Engineering Department, Technical University of Crete, Greece) (GREECE)
647	8	29	2	0	0	you could also cite here Viguié and Hallegatte 2012 (Viguié, Vincent, CIRED)
648	8	29	13	0	0	Separate words "transport are..." (Ambulkar, Archis, Brinjac Engineering Inc.)

#	Ch	From Page	From Line	To Page	To Line	Comment
649	8	29	14	29	16	Compare some numbers for direct effects vs. indirect costs. (UNITED STATES OF AMERICA)
650	8	29	21	0	0	Provide space i.e. "Boston). Implementing..." (Ambulkar, Archis, Brinjac Engineering Inc.)
651	8	29	22	0	0	This quote needs a page number in the reference in line 23 (da Silva, Jo, Arup)
652	8	29	30	0	0	Remove extra "and" i.e. "Built Environment, Recreation and Heritage Sites" (Ambulkar, Archis, Brinjac Engineering Inc.)
653	8	29	30	0	0	This is an odd juxtaposition of built environment with recreation and heritage sites. (UNITED STATES OF AMERICA)
654	8	29	31	0	0	It will be better " Latin American regions " instead of nations (Real, Marcia, Universidade Federal Fluminense)
655	8	29	32	29	32	I believe that the definition of what "good quality housing" means in the context of this section should be given. This definition perhaps should be extended to include the thermal properties of the housing that are linked to energy demands. Not just good quality in the conventional meaning (stability, endurance etc). (Dimitris Stathakis, Urban and Regional Planning, University of Thessaly, Greece) (GREECE)
656	8	29	36	29	38	The link here is unclear - clarify how these two things (displacement and disruption of household income) are related (da Silva, Jo, Arup)
657	8	29	38	0	0	The authors should consider adding: Proper siting of residential and permanent structures is fundamental to minimizing exposure and risk to climate changes. Land use planning and building codes based on climate data and coupled with proper enforcement can help increase resiliency of the built environment and local populations. (UNITED STATES OF AMERICA)
658	8	29	46	0	0	What was the relatively modest increase in wind speeds and how was the increased damage compared to the counterfactual or baseline? (UNITED STATES OF AMERICA)
659	8	29	52	0	0	Why are parks and playgrounds defined as critical infrastructure? (UNITED STATES OF AMERICA)
660	8	30	2	30	9	The authors should consider whether the risks to urban cultural heritage deserve more detailed coverage. (UNITED STATES OF AMERICA)
661	8	30	12	30	24	Green infrastructure needs to be defined earlier in the chapter - Although there is a definition on p 48, it is referenced earlier in the chapter and so either a definition should be included earlier or this section should point to page 48. (UNITED STATES OF AMERICA)
662	8	30	12	30	24	Section 8.2.4.5. This material is at best a weak "assessment" rather than just reporting what is contained in the references cited. Shouldn't the IPCC report attempt an assessment of whether the material in the references have validity and a measure of confidence could be ascribed to the references? (UNITED STATES OF AMERICA)
663	8	30	12	30	24	Green infrastructure also plays an important role in urban water management; see previous comment (Willems, Patrick, KU Leuven)
664	8	30	14	30	14	The authors should consider deleting this first sentence. (UNITED STATES OF AMERICA)
665	8	30	14	30	16	Needs a citation to support these statements. (UNITED STATES OF AMERICA)
666	8	30	15	30	15	The phrase "ecosystem functions" does not serve very effectively as an umbrella for all of the examples that follows. The phrase could be revised, or an insertion could be made: "ecosystem functions affected by changes in temperature and precipitation regimes..." (Mach, Katharine, IPCC WGII TSU)
667	8	30	16	30	17	After "air quality", the authors should consider adding: Similarly, it will accentuate the need and value of ecosystems services and green infrastructure can bring to adaptation measures. (UNITED STATES OF AMERICA)
668	8	30	23	0	0	Explain what is meant by the idea of an ecosystem "migrating". (UNITED STATES OF AMERICA)
669	8	30	27	0	0	Add Ligeti and Barata et al. in ARC3 to health and social services section. (UNITED STATES OF AMERICA)
670	8	30	27	30	27	There is an overlap with section 8.2.3.7. (UNITED STATES OF AMERICA)
671	8	30	37	30	37	Should this read "the very old and children" or is it correct the way it's worded? (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
672	8	30	40	0	0	Provide full stop i.e. (...Chapter 11)." (Ambulkar, Archis, Brinjac Engineering Inc.)
673	8	30	43	0	0	Chapter should coordinate with other chapters like 11, 13, covering related topics. Cross refering to some of their discusiion could assist in reducing text in this chapter. (Chatterjee, Monalisa, IPCC WGII TSU)
674	8	30	43	33	32	Since the subsections under 8.2.5 are about factors that enable transitioning to resilience and sustainability, it might be good to make that connection more clear by making the titles of these subsections be more active, e.g., "Incorporate uncertainty and surprise"; Address extreme event probability; Plan for transitions, etc. (UNITED STATES OF AMERICA)
675	8	30	48	0	0	Separate words "by heightening..." (Ambulkar, Archis, Brinjac Engineering Inc.)
676	8	30	48	30	48	No spacing between 'long' and 'standing' in line 48 (INDIA)
677	8	31	0	28	0	The title of the paragraph "extreme event probability" is preparing the reader to see the work performed to anticipate the extreme events and not the plans of various cities that integrate possible actions to face different extreme conditions. This can be "elaboration of adaptation plans"? (Denia Kolokotsa, Environmental Engineering Department, Technical University of Crete, Greece) (GREECE)
678	8	31	5	0	0	Berger 2003 is not identified at References (Real, Marcia, Universidade Federal Fluminense)
679	8	31	5	0	7	Planning and design has so far been based on historical data, in the light of climate changes we will have to plan and design based on expectations for the future, thereby introducing a new degree of uncertainty. (Aagaard, Niels-Jørgen, Danish Building Research Institute)
680	8	31	9	0	0	Mcgranahan, Balk and Anderson 2007 is not identified at References (Real, Marcia, Universidade Federal Fluminense)
681	8	31	11	31	12	Consider citing the work of Mattias Ruth on the costs of action versus inaction (UNITED STATES OF AMERICA)
682	8	31	12	31	13	obvious' is a bit strong here! This sentence could do with further explanation of why this is such a key issue. (da Silva, Jo, Arup)
683	8	31	12	31	13	Explain more on the risks associated with urban waste repositories. (UNITED STATES OF AMERICA)
684	8	31	13	0	0	Separate words "repositories around..." (Ambulkar, Archis, Brinjac Engineering Inc.)
685	8	31	18	31	19	Use of "will need" and "need" could be interpreted as prescriptive here, and rewording could be beneficial. (Mach, Katharine, IPCC WGII TSU)
686	8	31	20	31	24	Define the terms "no-regret" and "soft adaptation".\nAlso, urban areas will be encroaching on agricultural areas. (UNITED STATES OF AMERICA)
687	8	31	24	31	25	There is the need to also dicuss about making decision under climate uncertainties by Dessai and Hulme (Sanni, Maruf, National Centre for Technology Management)
688	8	31	33	0	0	Increased intensity, frequency, and duration of extreme events, as climate change becomes more extensive, means that adaptation based only on recent experience or extrapolation of historical trends could be largely ineffective. [15.3.2.2] (Backus, George, Sandia National Laboratories)
689	8	31	35	0	0	Separate words "Conversely Jakarta..." (Ambulkar, Archis, Brinjac Engineering Inc.)
690	8	31	35	31	35	No spacing between 'Conversely' and 'Jakarta' in line 35 (INDIA)
691	8	31	38	0	0	Fergutz at al. 2011 is not identified at References (Real, Marcia, Universidade Federal Fluminense)
692	8	31	46	31	46	Are they really climate extremes or are they weather extremes? (UNITED STATES OF AMERICA)
693	8	31	50	0	0	sde Sherbini et al. 2007 is not identified at References (Real, Marcia, Universidade Federal Fluminense)
694	8	32	7	0	0	Mcgranahan, Balk and Anderson 2007 is not identified at References (Real, Marcia, Universidade Federal Fluminense)
695	8	32	11	0	0	Mcgranahan, et al 2007 is not identified at References (Real, Marcia, Universidade Federal Fluminense)

#	Ch	From Page	From Line	To Page	To Line	Comment
696	8	32	13	0	15	The statement should be accompanied with an example. The examples that are used in this paragraph deal mainly with the disasters and not normal situations, while the specific statement can refer to any city that does not suffer from an extreme event. (Denia Kolokotsa, Environmental Engineering Department, Technical University of Crete, Greece) (GREECE)
697	8	32	14	0	0	Mcgranahan, Balk and Anderson 2007 is not identified at References (Real, Marcia, Universidade Federal Fluminense)
698	8	32	19	0	0	Separate words "context of..." (Ambulkar, Archis, Brinjac Engineering Inc.)
699	8	32	21	0	0	the paradigm shift towards resilience focusses far more on adaptation than mitigation; the bracket here confuses the rest of the sentence (da Silva, Jo, Arup)
700	8	32	28	0	0	Ahmed et al. 2007 is not identified at References (Real, Marcia, Universidade Federal Fluminense)
701	8	32	31	0	0	Cohen and Garrett,2011 is not identified at References (Real, Marcia, Universidade Federal Fluminense)
702	8	32	34	0	0	What are McGranahan's definitions of sanitary city and sustainable city? (UNITED STATES OF AMERICA)
703	8	32	36	0	0	Separate words "human security (Siddiqi..." (Ambulkar, Archis, Brinjac Engineering Inc.)
704	8	32	37	32	38	Climate change could potentially contribute to violent conflicts and spur mitigation. Spur mitigation from where to where? Mitigation irrespectively of income-level of country/urban center?\n\n (NETHERLANDS)
705	8	32	48	0	0	Tacoli, 2003 is not identified at References (Real, Marcia, Universidade Federal Fluminense)
706	8	33	6	6	54	I understand that this is a hot topic currently but I do not see how privatization will by itself advantage some groups. I don't see why a private management system can not built resilience whereas a community-based will builds resilience by default. I would say that public or private can fail if badly managed. This statement may constadict the notion of mobilizing the private secotor mentioned latter in this chapter. (Dimitris Stathakis, Urban and Regional Planning, University of Thessaly, Greece) (GREECE)
707	8	33	10	0	0	There is an emerging body of research on the social dynamics of urban areas and their relationship to resilience to climate change. A study was done in eight cities of the United States with the aim of determining the relationship between social aspects of the urban population and their resilience to climate change. Results indicate that there is a positive relationship between the level of cultural diversity, social capital, open-minded thinking, and risk-taking attitude of people in the cities and performance on climate change issues in those cities, considering city actions on both, mitigation and adaptation to climate change (Saavedra, Budd,& Lovrich, 2012). Full citation:Casilda Saavedra, William Budd, and Nicholas Lovrich. 2012. Assessing Resilience to Climate Change in US Cities. Urban Studies Research, Volume 2012, Article ID458172, doi:10.1155/2012/458172. Alternatively, you may directlty access the article at: http://www.hindawi.com/journals/usr/2012/458172/ (PANAMA)
708	8	33	15	33	23	The impacts of the urban heat island have been obvious in many cities in the world. Impacts of air temperature increase by global warming can be predicted by observing existing urban heat island impacts. (Shimoda Y., 2003: Adaptation measures for climate change and urban heat islands in Japan, Building Research and Information Vol. 31 No.3-4, pp.222-230) (Shimoda, Yoshiyuki, Osaka University)
709	8	33	16	0	0	Soares et al, 2010 is not identified at References (Real, Marcia, Universidade Federal Fluminense)
710	8	33	18	0	0	Revi, 2009 is not identified at References (Real, Marcia, Universidade Federal Fluminense)
711	8	33	29	33	30	It states that well governed cities demonstrate capacity to learn from crises? Does this mean that less well governed cities or badly governed cities are doomed to having no adaptive capacity and not learn from crises, as might be the case for many mid income and perhaps all low income cities? (UNITED STATES OF AMERICA)
712	8	33	35	0	0	Chapter should coordinate with chapter 14, 15, 16 and 20 to coordinate on framings of policy options, planning experience, constraints and limits and climate resilient pathways. (Chatterjee, Monalisa, IPCC WGII TSU)
713	8	33	35	0	0	Section 8.3. In developing the final draft of the chapter, the chapter team should strive to reduce the length of this section by more than 50%. (Mach, Katharine, IPCC WGII TSU)

#	Ch	From Page	From Line	To Page	To Line	Comment
714	8	33	37	0	0	Cite ARC3 in introduction to urban adaptation. (UNITED STATES OF AMERICA)
715	8	33	39	33	44	the relationship between resilience and adaptation (discussed in the second type of literature) needs to be more clearly explained here (da Silva, Jo, Arup)
716	8	33	47	33	48	most climate models function at a lower resolution than most cities'; what does this actually mean? Unclear (da Silva, Jo, Arup)
717	8	34	6	34	7	The framing of this sentence could be interpreted as prescriptive, and rewording it would be beneficial. (Mach, Katharine, IPCC WGII TSU)
718	8	34	7	0	0	Melbourne 2009 is not identified at References (Real, Marcia, Universidade Federal Fluminense)
719	8	34	20	34	21	Where are the good examples in developed and developing countries of controlling development in vulnerable areas? What were the contexts that allowed this to happen? (UNITED STATES OF AMERICA)
720	8	34	21	0	0	The authors should consider adding: A better understanding of the the increasing number of natural disasters, such as Hurricane Sandy in the NY metro area, that generate high economic losses may result in new prioritization of development patterns based on regulatory and/or market forces. (UNITED STATES OF AMERICA)
721	8	34	29	0	0	Separate words "adaptation implementation..." (Ambulkar, Archis, Brinjac Engineering Inc.)
722	8	34	29	34	29	No spacing between 'adaptation' and 'implementation' in line 29 (INDIA)
723	8	34	32	0	0	Change to term "socio-ecological" (Ambulkar, Archis, Brinjac Engineering Inc.)
724	8	34	38	34	38	This statement is contradicted by the ones on page 35, lines 15 and 29: there is either a growing literature, or a lack of detailed attention, but not both. (UNITED STATES OF AMERICA)
725	8	34	38	34	54	Listing a whole slew of references without summarizing any important information is uninformative. (UNITED STATES OF AMERICA)
726	8	34	38	34	54	The citations in this paragraph are good but would be more effective if they were cited in relation to key points made elsewhere in the text that aren't supported by citations. In many areas the authors give only one citation on an issue or point that could be supported by several other citations (including many listed in this paragraph). Clustering citations around general issues dilute's the impact of the points they each make individually. (UNITED STATES OF AMERICA)
727	8	34	54	34	54	It's not clear which nations are "these nations" in this sentence. Are we referring to each of the countries in all of the continents described in the above paragraph, or only certain ones that are alluded to after the first few sentences. The fact the most of the paragraph consists of citations in brackets makes it difficult to follow. (CANADA)
728	8	35	15	35	27	The argument that the lack of attention to urban adaptation is related to national policy gaps misses the point that this gap relates to deeper factors including:(1) the relatively obvious and immediate implications of climate change for agriculture; (2) the traditional focus of most development agencies on rural areas; and (3) the fact that CC has been conventionally classified as an environmental issue and located, as a result, within environment ministries - most of which evolved from ministries that historically were focused on forests or water issues. As a result, the rural bias at the policy level reflects a long history of orientation for the organizations involved. (UNITED STATES OF AMERICA)
729	8	35	27	0	0	(after 2011) :prevention and adaptation concerns should be in built in policies , planning and governance (Bharat, Alka, M.A.National Institute of technology)
730	8	35	28	0	0	Major et al 2011 is not identified at References (Real, Marcia, Universidade Federal Fluminense)
731	8	35	29	35	30	some reference make comparable analysis on city level, See: Broto V C, Harriet Bulkeley, (2012) A survey of urban climate change experiments in 100 cities, Global Environmental Change, 23(1), 92-102. (zheng , yan, Chinese Academy of Social Sciences (CASS))
732	8	35	54	0	0	Adaptation efforts will need to consider the increased intensity, frequency, and duration of extreme events due to future climate change, or else such efforts will have limited benefit. (Backus, George, Sandia National Laboratories)

#	Ch	From Page	From Line	To Page	To Line	Comment
733	8	36	8	0	0	UNDP's conclusion is flawed by multicollinearity. It is probably not urbanization, but incomes, that is responsible for lower extreme weather mortality. (UNITED STATES OF AMERICA)
734	8	36	40	0	0	what does 'these' refer to here? Unclear (da Silva, Jo, Arup)
735	8	37	3	0	0	ISDR term is not defined or elaborated in this chapter prior to being used in this sentence (Ambulkar, Archis, Brinjac Engineering Inc.)
736	8	37	3	37	4	the network referred to should be referred to as the Making Cities Resilient campaign network, not the 'Resilient City network'. There is also inconsistency throughout the chapter in referring to UN ISDR / UNISDR / ISDR - the organisation should be referred to consistently throughout. (da Silva, Jo, Arup)
737	8	37	4	0	0	ICLEI term is not defined or elaborated in this chapter prior to being used in this sentence (Ambulkar, Archis, Brinjac Engineering Inc.)
738	8	37	7	37	15	This is not necessarily the case in the US - cities that create hazard mitigation plans can access federal emergency relief funds from FEMA (Federal Emergency Management Agency) and cities, like Baltimore, MD, are creating hazard mitigation and adaptation plans. (UNITED STATES OF AMERICA)
739	8	37	9	0	0	Local governments do not get recognition for the disasters their programmes prevented'; unclear. Suggest rephrase thus 'Local government efforts which lead to reduced disaster impacts are seldom recognised' (da Silva, Jo, Arup)
740	8	37	19	0	0	Separate words "Tegucigalpa and..." (Ambulkar, Archis, Brinjac Engineering Inc.)
741	8	37	26	0	0	Chapter should coordinate with chapters 10 and 7 to coordinate and cross refer and reduce text in this section. (Chatterjee, Monalisa, IPCC WGII TSU)
742	8	37	26	37	26	This critical section fails to include an assessment of adaptation measures related to coastal defense infrastructure, such as dikes, sea-walls, barriers, erosion and storm surge protections. Having stated in section 8.2.3.4. that SLR is one of the primary impacts it is surprising that the possible responses to it are not assessed. Ports are not even mentioned under 8.3.3.6. adapting transport and telecommunication systems (UNITED STATES OF AMERICA)
743	8	37	26	47	22	The chapter is far too long in general. Is it possible to reduce much of this section to a table and cut 9 pages in the process? (UNITED STATES OF AMERICA)
744	8	37	34	37	34	The reference Vugrin and Turnquist is missing in the bibliography (UNITED STATES OF AMERICA)
745	8	37	43	0	0	Huang 2008 is not identified at References (Real, Marcia, Universidade Federal Fluminense)
746	8	37	53	0	0	Fankhauser 2009 is not identified at References (Real, Marcia, Universidade Federal Fluminense)
747	8	38	8	0	22	If adaptation incorporates greenfield sites around urban regions then the biophysical properties of these sites will change and anthropogenic heat will be released. This will exacerbate the urban heat island mentioned. (Denia Kolokotsa, Environmental Engineering Department, Technical University of Crete, Greece) (GREECE)
748	8	38	10	38	10	Please add at the end of the para: "As existing settlements represent large investments of the past into buildings and infrastructures which can't be given up without considerable financial losses, it is of utmost importance to find intelligent strategies and not to expensive measures to adapt as many existing settlements to climate change as possible. In general it might be easier to adapt settlements to rising temperatures than to rising flood risks. Before using valuable Greenfield sites for climate adaptation, the use of existing Brownfield sites, which often have infrastructure available, is to be studied." reference: German Adaptation Strategy to Climate Change (2008), p.49. http://www.bmu.de/service/publikationen/downloads/details/artikel/deutsche-anpassungsstrategie-an-den-klimawandel/?tx_ttnews%5BbackPid%5D=216 (GERMANY)
749	8	38	14	0	0	Bioregional and London Sustainable Development Commission 2010 is not identified at References (Real, Marcia, Universidade Federal Fluminense)
750	8	38	37	0	0	Regmi and Hanaoka 2011 is not identified at References (Real, Marcia, Universidade Federal Fluminense)

#	Ch	From Page	From Line	To Page	To Line	Comment
751	8	38	37	0	0	Discussion on the importance of "green economy" should be enhanced. Successful examples from cities around the world should be provided along with related details. (Constantinos Cartalis, Environmental Physics, University of Athens, Greece) (GREECE)
752	8	38	37	38	39	The sentence does not make sense: "green economy", "green infrastructure" are non-defined concepts. They are vague and political, not scientific, concepts. Besides, the notion of "global ecological and resources limits" can not be defined or measured, and proceeds from a Malthusian assumption, which is ideological, not scientific. (Godefridi, Drieu, Cogito)
753	8	38	45	0	0	Jollands et al.2007 is not identified at References (Real, Marcia, Universidade Federal Fluminense)
754	8	38	50	39	2	In cities of 1m population or more, waste to energy systems can offer significant benefits for both energy production, waste management and environmental protection. OECD cities such as Vienna, Copenhagen, Osaka have implemented waste-energy models, whereby household waste is incinerated for heat production. The authors should consider reflecting this fact - if lessons can be translated to developing cities. as well. (UNITED STATES OF AMERICA)
755	8	39	8	0	0	Lindgren et al.2009 is not identified at References (Real, Marcia, Universidade Federal Fluminense)
756	8	39	11	39	13	Worth clarifying that this is the CURRENT situation - Rio has not always been focussed on this hosting issue, and it will not be once these events are over. (da Silva, Jo, Arup)
757	8	39	11	39	13	Lines 11-13: irrelevant information; delete hat sentence as it sounds like unfair finger pointing at a cohort within the urban society. \n (UNITED STATES OF AMERICA)
758	8	39	17	0	0	Unclear what 'They' is referring to (da Silva, Jo, Arup)
759	8	39	19	0	0	inconsistent spelling of 'urbanisation' - elsewhere it appears to be spelt in the American English way (da Silva, Jo, Arup)
760	8	39	26	0	0	Provide full stop i.e. (...Spain)." (Ambulkar, Archis, Brinjac Engineering Inc.)
761	8	39	32	39	33	Compounding the climate change induced flooding risks are the cities rapid coastal construction, destruction of mangrove swamps.\nA possible observation is that Mangroves are generally endangered in urban areas because (1) is easy reclaimed ground and (2) in certain climates, mangroves are found responsible for the spread of dengue and malaria. There is however investigation (Thangam & Kathiresan) that sustains that some mangrove vegetation species have larvicidal activity and are actually mosquito repellent. Apparently in such climates, a stagnated water container on a balcony is potentially a bigger exposure to malaria or dengue infections than living near a mangrove composed of the mosquito repellent vegetation species.\nAt the same time, in urban expansion, ground reclamation initiatives should be restricted to minimum. Floodable spaces are likely to be necessary and needed green spaces are for more suitable in the form of mangroves than conventional gardens and parks on specifically landscaping purposed reclaimed ground. \n\n (NETHERLANDS)
762	8	39	37	40	32	Section 8.3.3.2. Need to include here a statement about urban-rural linkages, especially the role of periurban food production and dissemination/use. In cities within many developing and low income countries, such food systems are a major source of household income, especially for the urban poor and the vitality of this sector is an important matter for adaptation and resilience. (UNITED STATES OF AMERICA)
763	8	39	40	39	40	Montgomery et al. 2004. Reference not listed at the end of chapter. Also, the year is incorrect. The correct reference is: Montgomery, M. R., Stren, R., Cohen, B. and Reed, H. E. (2003). Cities Transformed: Demographic Changes and Its Implications in the Developing World. The National Academics Press.\n\n\n (NETHERLANDS)
764	8	39	43	39	43	Wrong reference year: Cohen and Garrett 2011. The reference year is 2010.\n\n (NETHERLANDS)
765	8	39	44	0	0	Replace "food price inflation" with "real increases in long-term food prices or temporary spikes" associated with disasters. (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
766	8	39	52	39	54	To be added: "...necessitates radical changes in food production, transport chain, storage, processing, distribution, access and to consumers' treatment of food to reduce food waste." (GERMANY)
767	8	40	0	42	0	Research needs; The build environment represents extremely valuable assets to society. These assets are threatened by climate changes in many different ways, clustering into 3 areas: (1) Extreme climate incidents calling for preparedness, (2) changes in day-to-day impact on materials and function calling for revised standards and (3) unpredictability and delays calling for preventing precautions in construction processes. We need knowledge and innovation for both existing and new build environment on Ad (1) local climate changes, magnitude/character of extreme climate incidents, principles for resilient and robust build environment as wells as methods for design of 'controlled disasters' including readiness for reconstruct on after extreme climate incidents and rehabilitation of consequential damage. Ad (2a) the impact of climate changes to every aspect of functions in the build environment; e.g. indoor climate in housing, durability of materials and technical solutions, structural safety, geotechnical conditions as wells as moisture and temperature conditions in the building envelopes; especially if they are highly insulated. Ad (2b) design methods, design criteria and decision support systems based on uncertain forecast/scenarios rather than historical statistical data for impact and response of technical systems. Ad (3a) robust construction methods in terms of precaution methods on building site, independency of weather conditions by increased prefabrication and improved quality management systems/cultures taking account of sudden external climate incidents. Ad (3b) risk management and distribution by financial and insurance related instruments; both public and private. Particular cross-sectional research effort is necessary on (a) Societal cost-benefit of spontaneous adaptation, strategic adaptation or combinations hereof, and (b) adaptation and protection of the cultural heritage part of the build environment against climate changes (Aagaard, Niels-Jørgen, Danish Building Research Institute)
768	8	40	6	40	6	Wrong reference year: Tacoli 2003. The correct reference year is 2009.\n\n (NETHERLANDS)
769	8	40	25	40	25	some would also include vertical farming in this list. (Dimitris Stathakis, Urban and Regional Planning, University of Thessaly, Greece) (GREECE)
770	8	40	28	40	28	Wrong reference year: Lee-Smith 2011. The reference year is 2010.\n\n (NETHERLANDS)
771	8	40	28	40	29	Cheaper food may imply government price controls or monopsonistic buyers that work to the detriment of farmers and reduce local supply incentives. Or, they may be due to on-budget subsidies that are unsustainable and harmful to fiscal deficits. Cash transfers may not translate into increased purchases of foods or the most nutritious alternatives. (UNITED STATES OF AMERICA)
772	8	40	30	40	30	Soares et al 2010: Reference missing at end of chapter. Two references found on internet for Soares et al 2010: 1. Soares, S., Ribas, R. P. and Soares, F.V. (2010). 'Targeting and Coverage of the Bolsa Família Programme: Why Knowing What You Measure Is Important In Choosing the Numbers' in IPC Working Paper Series , No. 71. Brasília, IPC. Available at: < http://www.ipcundp.org/pub/IPCWorkingPaper71.pdf >.\n2. Soares, S., de Souza, P. H. G. F., Osório, R. G. and Silveira, F. G. (2010) 'Os Impactos do Benefício do Programa Bolsa Família Sobre a Desigualdade e Pobreza' in de Castro, J. A. and Modesto, L. (eds), Bolsa Família 2003 –2010: Avanços e Desafios – Volume 2 – Brasília, Inepa – 27–52 \n\n (NETHERLANDS)
773	8	40	31	0	0	What it means at the paragraph beginning? "5: The promotion....." (Real, Marcia, Universidade Federal Fluminense)
774	8	40	37	0	39	Additional areas of importance should be mentioned along with structural integrity; e.g. healthy indoor environment and the importance of maintaining functionality during extreme wheather events (Aagaard, Niels-Jørgen, Danish Building Research Institute)
775	8	40	45	0	0	There is something wrong: The autors are Zhang, Geng and Siu or Zhang, Jeng and Sui as stated at line 7 page 92? (Real, Marcia, Universidade Federal Fluminense)
776	8	40	46	40	47	Can an example of these political challenges be given? (da Silva, Jo, Arup)

#	Ch	From Page	From Line	To Page	To Line	Comment
777	8	40	47	40	47	Costs of adaptation are also likely to be very high. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
778	8	41	1	0	16	Pls see 'Climate and Environment' of City of Copenhagen at http://subsite.kk.dk/sitecore/content/subsites/cityofcopenhagen/subsitefrontpage/livingincopenhagen/climateandenvironment.aspx (Aagaard, Niels-Jørgen, Danish Building Research Institute)
779	8	41	18	0	0	Provide space i.e. "heat: More..." (Ambulkar, Archis, Brinjac Engineering Inc.)
780	8	41	18	41	19	This twostudies are good examples - Matzarakis and Endler is published 2010 (Matzarakis, Andreas, Albert-Ludwigs-University Freiburg)
781	8	41	18	41	51	To protect human health under extreme heat, desemmiation of mechanical cooling system is inevitable for adaptation measure. At least, making public shelters with cooling system shold be planned in city. (Shimoda, Yoshiyuki, Osaka University)
782	8	41	18	41	51	These two sections are an excellent opportunity to integrate mitigation and adaptation considerations further (UNITED STATES OF AMERICA)
783	8	41	20	41	23	The word "needed" on line 20 and 23 could be interpreted as prescriptive, and adopting more information-rich wording would be beneficial. (Mach, Katharine, IPCC WGII TSU)
784	8	41	25	0	0	Provide space i.e. roofs). Chicago's..." (Ambulkar, Archis, Brinjac Engineering Inc.)
785	8	41	36	0	51	In passive cooling extensive discussions are made for the contribution of cool materials (cool roofs and cool pavements) for the reduction of the energy demand as well as for their contribution in the mitgation of urban heat island (see A. Synnefa and M. Santamouris, "Advances on technical, policy and market aspects of cool roof technology in Europe: The Cool Roofs project," Energy and Buildings. 2012.\nand D. Kolokotsa, C. Diakaki, S. Papantoniou, and A. Vlissidis, "Numerical and experimental analysis of cool roofs application on a laboratory building in Iraklion, Crete, Greece," Energy and Buildings, vol. 55, pp. 85–93, 2012.\n (Denia Kolokotsa, Environmental Engineering Department, Technical University of Crete, Greece) (GREECE)
786	8	41	36	41	51	One should also recognize the limitations of passive cooling in an urban environment. (Costas Balaras, Institute for Environmental Research and Sustainable Development, National Observatory of Athens, Greece) (GREECE)
787	8	41	36	41	51	It should be noted that some kinds of passive cooling technologies such as natural ventilateion and night purge lose its effect when outdoor temperature exceeds thermal comfort level. (Shimoda, Yoshiyuki, Osaka University)
788	8	41	38	0	0	Should it be "Passive Haus" (Ambulkar, Archis, Brinjac Engineering Inc.)
789	8	41	41	41	45	clarify that this refers to "natural" or "hybrid" ventilation and replace "promote cooling" with "enhance cooling" (Costas Balaras, Institute for Environmental Research and Sustainable Development, National Observatory of Athens, Greece) (GREECE)
790	8	41	53	0	0	Provide space i.e. "measures: If..." (Ambulkar, Archis, Brinjac Engineering Inc.)
791	8	42	10	42	10	The word "need" could be interpreted as prescriptive, and adopting more information-rich wording would be beneficial. (Mach, Katharine, IPCC WGII TSU)
792	8	42	13	42	13	The word "should" could be interpreted as prescriptive, and rewording would be beneficial. (Mach, Katharine, IPCC WGII TSU)
793	8	42	19	0	0	Chapter should coordinate with regional chapters and reduce text in this section. (Chatterjee, Monalisa, IPCC WGII TSU)

#	Ch	From Page	From Line	To Page	To Line	Comment
794	8	42	19	42	48	Suggestions for additions from Willems et al., 2012: o Urban planners and designers of urban drainage infrastructure can use the projected changes in precipitation and other key input to start accounting for the effects of future climate change. The sections of the urban drainage system with insufficient capacity to convey future design flows can be upgraded over the next few decades as part of a program of routine and scheduled replacement and renewal of aging infrastructure.\no The large uncertainties that currently exist should not be an argument for delaying climate change impact investigations or adaptation actions. Instead, uncertainties should be accounted for and flexible and sustainable solutions aimed at. An adaptive approach has to be established that both provides inherent flexibility and reversibility and also avoids closing off options. This is different from the traditional engineering approach, which is rather static and is often based on design rules set by engineering communities without much public debate.\no This adaptive approach involves active learning, hence recognizing that flexibility is required as understanding increases. (Willems, Patrick, KU Leuven)
795	8	42	19	42	48	Suggestions for additions from Willems & Arnbjerg-Nielsen, 2013: Many highly developed regions already realise that their urban design and planning processes urgently need to incorporate more sustainable approaches. In many cities in the world, the rate of renewal of urban infrastructure is currently low, but this may need to change in the future, in order for communities to cope with deteriorating pipe networks, population growth and climate change. At the same time the changes need to be consistent with an increasing awareness of the environmental stress the end-of-pipe solution puts on the ecosystem of the city. There will be a need for more natural urban drainage approaches and installation of “blue-green” stormwater infrastructure, all of which requires a change in design philosophy. There will be an increasing need to incorporate roads and parks into the active urban drainage system. This may be a new situation within parts of Europe, but this is common practice in tropical regions. It also is fast becoming mainstream practice in Australia, where the concept of rainwater harvesting is a driver for innovation within the urban drainage community. In the presence of climate change induced uncertainty, urban water systems also need to be more resilient and multi-sourced. An adaptive approach has to be established that both provides inherent flexibility and reversibility and also avoids closing off options. This is different from the traditional engineering approach, which is rather static and is often based on design rules set by engineering communities without much public debate and an ever increasing optimization towards achieving the design criteria. Adaptive approaches mainly originate from the ecological sector where high uncertainties in the knowledge of processes and responses are inherent, even beyond the climate change context. In ecology, traditional engineering design approaches are often not applicable because of scientific uncertainties. This also involves challenging modifications to the roles of the water scientist, the water manager and the water engineer, but also of the property owner and user, the insurer, the city and green area planner, the socio-economist and the politician. Adaptive approaches also involves active learning, hence recognizing that flexibility is required as understanding increases and that solutions must be identified that are good for all stakeholders rather than being the optimal solution for just one stakeholder.\nThe higher awareness of future changes hence can be seen as a driver to rethink the concepts of urban drainage. Climate change impacts on precipitation clearly show that a business-as-usual approach is not feasible in many regions of the world. The issues raised here point out that it is in many situations necessary to re-evaluate the entire concept of urban drainage rather than “just” upgrading the technical solutions we have implemented over the last 150 years. It is necessary to establish and maintain hygienic barriers and to build cities that interact with water in a healthy, environmentally friendly, and cost-efficient way. This will in general include the use of sewer systems, but in the future the sewer systems will be part of a greater and more complex infrastructure governing the collection, storage, use, and reuse of water in cities to meet many different objectives that the citizens will all benefit from.\nRef: • Willems, P., Arnbjerg-Nielsen, K. (2013), ‘Climate change as a driver for urban drainage paradigm change’, Water21, February 2013, 23-24 (Willems, Patrick, KU Leuven)

#	Ch	From Page	From Line	To Page	To Line	Comment
796	8	42	36	42	36	Casual usage of "likely" should be avoided, as it is a reserved likelihood term in the guidance for authors. (Mach, Katharine, IPCC WGII TSU)
797	8	42	51	44	35	USA EPA has developed a Climate-Smart Water Utilities guidebook that could be referenced here. Here is a link to the guide: http://water.epa.gov/infrastructure/watersecurity/climate/upload/epa817k... (UNITED STATES OF AMERICA)
798	8	43	2	0	0	Separate words "common place..." (Ambulkar, Archis, Brinjac Engineering Inc.)
799	8	43	4	43	17	On mixed approaches that combine supply and demand side management, you may want to look at the literature on the AMA (active management areas) for Phoenix and other cities in Arizona. These are important examples also because they involve very active management of groundwater and groundwater storage as well as extensive demand side measures. Sustainability Indicators for Long-Term Water Supply: Case Studies of Tucson Active Management Area by Doosun Kang, (Department of Civil Engineering and Engineering Mechanics, The University of Arizona, Tucson, AZ 85721, USA. E-mail: doosun74@email.arizona.edu) and Kevin Lansey, (Department of Civil Engineering and Engineering Mechanics, The University of Arizona, Tucson, AZ 85721, USA. E-mail: lansey@email.arizona.edu) Section: Water Distribution System Modeling Issues, pp. 1270-1278, (doi: http://dx.doi.org/10.1061/41203(425)114). See: Arizona Water Policy: Management Innovations in an Urbanizing, Arid Region, edited by Bonnie G. G. Colby, Katharine L. L. Jacobs. See also: Journal of Water and Climate Change Vol 2 No 4 pp 288-312 © IWA Publishing 2011 doi:10.2166/wcc.2011.017 Water-demand management: assessing impacts of climate and other changes on water usage in Central Arizona, Netra B. Chhetri, School of Geographical Sciences and Urban Planning and Consortium for Science, Policy, Outcomes, Arizona State University, PO Box 875302, Tempe, AZ 85287, USA E-mail: netra.chhetri@asu.edu (UNITED STATES OF AMERICA)
800	8	43	10	0	0	Early warning systems are particularly important, and further work is needed to obtain accurate, reliable, and timely information that is well-disseminated before the possible heat wave. (Coughlan, Erin, Red Cross / Red Crescent Climate Centre)
801	8	43	20	0	0	Separate words "1950s but..." (Ambulkar, Archis, Brinjac Engineering Inc.)
802	8	43	43	0	0	Provide space i.e. 370). Quito's..." (Ambulkar, Archis, Brinjac Engineering Inc.)
803	8	43	51	43	51	The authors may want to cite the extensive literature on water harvesting in urban areas of India. This has been going on in locations such as Ahmedabad as part of urban architecture since the early 1990s. (UNITED STATES OF AMERICA)
804	8	43	51	43	53	The sentence "In Sydney, new houses are required under a 2004 law to save 40% of reticulated water for use in gardens and toilets and subsidies were available to install household roof tanks" is inaccurate and should be replaced with the following sentence: "Since 2004 in New South Wales, Australia, homeowners have been required to ensure that newly built houses use 40% less potable water than an established benchmark level of consumption, through water-saving measures like water-efficient shower heads, dual-flush toilets, rainwater tanks and grey water treatment systems". Suggest deleting the reference to rainwater tank subsidies as these subsidies ceased in 2011. (AUSTRALIA)
805	8	44	5	44	36	Suggestions to add; see previous comment (Willems, Patrick, KU Leuven)
806	8	44	7	0	0	Separate words "the adaptations..." (Ambulkar, Archis, Brinjac Engineering Inc.)
807	8	44	7	44	9	Is there already a sufficient high confidence concerning the precipitation changes due to climate change that it can be said that existing drainage systems "will often need to be increased substantially"? After all, assuming that existing drainage systems are well equipped to deal also with (now) seldom occurring precipitation events, an increase (let alone a substantially one) would only be necessary, if climate change causes stronger precipitation events than ever planned for, e.g. out of the range of expected ones so far. A simple increase in frequency (e. g., how often they occur) would not be cause for adaption in that respect. (Hebblinghaus, Heike, North-Rhine Westphalian State Agency for Nature, Environment and Consumer Protection)

#	Ch	From Page	From Line	To Page	To Line	Comment
808	8	44	7	44	10	The authors may want to look at the publication on "Catalyzing Climate and Disaster Resilience: Processes for Identifying Tangible and Economically Robust Strategies, Final Report of the Risk to Resilience Study Team, ISET, March 2009. Islamabad case. Also working paper 9 in the Risk to Resilience series has tangible cost benefit information on returns from investments in improving urban solid waste management. (UNITED STATES OF AMERICA)
809	8	44	15	0	0	Separate words "measures and..." (Ambulkar, Archis, Brinjac Engineering Inc.)
810	8	44	16	0	0	Provide space i.e. ibid). City..." (Ambulkar, Archis, Brinjac Engineering Inc.)
811	8	44	20	44	20	The phrase "will need" could be interpreted as prescriptive, and rewording the sentence would be preferable. (Mach, Katharine, IPCC WGII TSU)
812	8	44	27	0	0	The authors should consider adding this to the end: "eg: green infrastructure and ecosystem applications. (UNITED STATES OF AMERICA)
813	8	44	32	44	36	Citations should be provided for these statements. Additionally, the phrase "will need" on line 34 could be interpreted as prescriptive, and rewording the sentence would be preferable. (Mach, Katharine, IPCC WGII TSU)
814	8	44	39	45	15	The role of smart grids in urban and regional scale is not included in the paragraph. This should be considered an adaptation technique as creates small networks which are more easily manageable. (Denia Kolokotsa, Environmental Engineering Department, Technical University of Crete, Greece) (GREECE)
815	8	45	1	45	8	The use of "need" on line 1 and line 3, as well as "needed" on line 8, could be interpreted as prescriptive, and alternative wording may be preferable. (Mach, Katharine, IPCC WGII TSU)
816	8	45	4	0	0	This sentence can be replaced as "distributed renewable energy production is an important way to keep the balance of the local energy distribution. " It's positive and feasible in some cases of China's using this technology. See the references: (1)H Ren, W Zhou, K Nakagami, W Gao, Q Wu. (2010).Multi-objective optimization for the operation of distributed energy systems considering economic and environmental aspects? Applied Energy. (2)K Alanne, A Saari. (2006). Distributed energy generation and sustainable development[J]?Renewable and Sustainable Energy Reviews. (3)\nMoné, C.D.; Chau, D.S; Phelan, P.E.(2001). Economic feasibility of combined heat and power and absorption refrigeration with commercially available gasturbines?Energy Conversion and Management, 42(13),1559~1573? (zheng , yan, Chinese Academy of Social Sciences (CASS))
817	8	45	14	0	0	Provide space i.e. undertaken. There..." (Ambulkar, Archis, Brinjac Engineering Inc.)
818	8	45	14	45	15	Suggest expanding on the co-benefits. (CANADA)
819	8	45	20	0	0	Para 8.3.3.6. "adapting transport and telecommunication systems" could be completed with a specific reference to the adaptation demands of ports – which will be affected by sea level rise – in order to highlight that construction of new ports, structures that have a very long lifespan, will necessarily have to take climate change into account. (ITALY)

#	Ch	From Page	From Line	To Page	To Line	Comment
820	8	45	20	46	54	This section currently focuses on climate impacts on transportation (the same topic as section 8.2.4.3) rather than on adapting transport systems to climate change. It should be re-worked to focus on adaptation rather than impacts so as to differentiate it from section 8.2.4.3. Also, recommend separating telecommunications into a separate section since it is not clear why transport and telecom are linked together in this section. Here is information that should be included: State and local governments and private infrastructure providers should incorporate climate change into their long-term capital improvement plans, facility designs, maintenance practices, operations, and emergency response plans. Transportation Research Board Special Report 290 http://onlinepubs.trb.org/onlinepubs/sr/sr290.pdf There are four broad categories of overall adaptation strategies for transportation: maintain and manage, strengthen and protect, enhance redundancy, and abandon infrastructure in extremely vulnerable areas. For examples of transportation adaptation see pp36-39 of Federal Highway Administration, Climate Change and Extreme Weather Vulnerability Assessment Framework, December 2012. http://www.fhwa.dot.gov/environment/climate_change/adaptation/resources_and_publications/vulnerability_assessment_framework/fhwahep13005.pdf Eligibility of Activities to Adapt To Climate Change and Extreme Weather Events Under the Federal-Aid and Federal Lands Highway Program, FHWA, 2012. This memo clarifies that Federal-aid and Federal Lands highway funding may be used for climate change adaptation work. The memo notes that creating a more resilient transportation system is a priority for the FHWA and provides some examples of eligible uses of Federal-aid and Federal Lands highway funds to consider the potential impacts of climate change and extreme weather events and apply adaptation strategies. http://www.fhwa.dot.gov/federalaid/120924.cfm National Cooperative Highway Research Program, Climate Change, Extreme Weather Events and the Highway System: A Practitioner's Guide. (2-12-13) http://onlinepubs.trb.org/onlinepubs/nchrp/docs/NCHRP20-83(05)_AdaptationGuidanceDoc.pdf . (UNITED STATES OF AMERICA)
821	8	45	21	0	0	repetition of 'more' ('more or more') (da Silva, Jo, Arup)
822	8	45	24	45	25	There may be lessons learned from the flooding of New York by Hurricane Sandy which could be useful for climate change adaptation, specifically resilience to flooding risks. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
823	8	45	24	45	25	P45 line 24-25. "Many cities depend on underground electric rail systems which may be at considerable risk from flooding including New York and London." This was probably written before Hurricane Sandy. If you are keeping this sentence, it would make sense to mention, "...as evidenced by storm surge flooding from hurricane Sandy that flooded eight under river subway tunnels, severely impacting mobility and economic activity." (UNITED STATES OF AMERICA)
824	8	45	28	45	29	where is London's food 'imported' from? Does this refer to food coming from beyond the city boundaries or beyond the UK in this case? (da Silva, Jo, Arup)
825	8	45	37	0	0	Provide space i.e. "systems: Cities..." (Ambulkar, Archis, Brinjac Engineering Inc.)
826	8	45	48	0	0	Provide space i.e. "roads: Climate..." (Ambulkar, Archis, Brinjac Engineering Inc.)
827	8	46	31	46	38	May I suggest to add some examples here for clarifying the (potential) vulnerability of transit system in developing countries' urban areas, for example, According to China statistical yearbook 2011, the total length of underground rail system is 1471km distributed in 10 cities by the end of 2010, in which Beijing has 336km, Shanghai has 453km and Guangdong Province has 300km (China Statistical Yearbook 2011) (zheng , yan, Chinese Academy of Social Sciences (CASS))

#	Ch	From Page	From Line	To Page	To Line	Comment
828	8	46	39	46	40	Page 46 lines 39-40. This information is incorrect. Recommend deleting the sentence, "Pumps have been installed throughout the subway system and these helped to cope with severe floods in August 2007 during the morning commute." The pumps have been there for a very very long time and on dry days pump out massive amounts of water that seep into the tunnels. The problem during the August 2007 storm is that extraordinarily heavy downpours (which are becoming more common for the US northeast with climate change) exceeded the pumps' capacity. Metropolitan Transportation Authority, "Appendix 3: Discussion of Storm Impacts, Summary of Findings, prepared by Region II University Transportation Research Center," in August 8, 2007 Storm Report, 2007. http://www.mta.info/mta/pdf/storm_report_2007.pdf Since the 2007 Flood Report: - 25 priority locations addressed - Over 5,300 linear feet of ventilation gratings raised - 30 stair pads installed at entrances - \$89.8 million allocated - Installing check valves to reduce backflow of sewer water into tracks and stations at locations with direct output drain systems Citation: Presentation from NY MTA: http://www.fta.dot.gov/documents/MTA_Ritter.pdf See also: New York State Metropolitan Transportation Authority, MTA Adaptations to Climate Change: A Categorical Imperative, October 2008. http://www.mta.info/sustainability/pdf/Jacob_et%20al_MTA_Adaptation_Final_0309.pdf (UNITED STATES OF AMERICA)
829	8	46	40	0	0	Update with information on NY subway flooding and other impacts of Hurricane Sandy in NY and NJ. (UNITED STATES OF AMERICA)
830	8	47	2	0	0	Provide space i.e. "Telecommunications: 8..." (Ambulkar, Archis, Brinjac Engineering Inc.)
831	8	47	7	48	6	This whole section [8.3.3.7] starts off discussing ecosystem-based adaptation [here, EBA]. The current first paragraph [lines 9-22] do not define the term EBA. However, the first paragraph [lines 28-37] in Box 8-1 has an excellent description of this. Consider modifying this 2nd paragraph (remove the "In Durban") and inserting it after the first sentence [into line 10]. Then introduce the Durban box with "Durban has adopted an ecosystem-based adaptation approach as part of its climate adaptation strategy." Follow with the current Line 39 and onward. (UNITED STATES OF AMERICA)
832	8	47	9	47	10	Consider adding rural and natural to urban and peri-urban areas or perhaps not distinguishing any of these since EBA can apply to all in support of the urban areas they support either nearby or in the distance. (UNITED STATES OF AMERICA)
833	8	47	12	47	12	The term "development co-benefits" is introduced and needs a very brief definition here. (UNITED STATES OF AMERICA)
834	8	48	8	0	0	Please comment green facades also. (Denia Kolokotsa, Environmental Engineering Department, Technical University of Crete, Greece) (GREECE)
835	8	48	8	0	0	The role of green areas in urban areas needs a more quantitative description (for instance cooling effect of parks as a function of distance from parks, influence of green areas in local circulation patterns, impact on urban fluxes and urban metabolism). See Chrysoulakis, N., Lopes, M., San José, R., Grimmond, C.S.B., Jones, M.B., Magliulo, V., Klostermann, J.E.M., Synnefa, A., Mitraka, Z., Castro, E., González, A., Vogt, R., Vesala, T., Spano, D., Pigeon, G., Freer-Smith, P., Staszewski, T., Hodges, N., Mills, G. and Cartalis, C., 2013. Sustainable urban metabolism as a link between bio-physical sciences and urban planning: the BRIDGE project. Landscape and Urban Planning, 112, 100 - 117. (Constantinos Cartalis, Environmental Physics, University of Athens, Greece) (GREECE)
836	8	48	8	0	0	The relationship of climate change in urban areas to energy demand deserves a detailed description. See Cartalis, C, A. Synodinou, M. Proedrou, A. Tsangrassoulis and M. Santamouris (2001), "Modifications in energy demand in urban areas as a result of climate changes: an assessment for the southeast Mediterranean region", Energy Conversion and Management, 42 (14), 1647–1656. See also several publications of H. Akbari and H. Taha. (Constantinos Cartalis, Environmental Physics, University of Athens, Greece) (GREECE)

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837	8	48	8	48	11	Consider modifying: "...transforming the built environment through the use of plants on urban surfaces that will perform photo-remediation..." Consider removing "techniques and by introducing productive landscapes." (UNITED STATES OF AMERICA)
838	8	48	12	0	0	Separate words "address water..." (Ambulkar, Archis, Brinjac Engineering Inc.)
839	8	48	20	48	20	Add "storage" to storm water [storage] capacity. (UNITED STATES OF AMERICA)
840	8	48	26	48	28	Consider adding the bracketed words in this sentence if it is indeed correct: "This includes city ownership of land [outside the city] that allows crucial... To this has been added an ambitious green infrastructure plan [within the city]..." (UNITED STATES OF AMERICA)
841	8	48	29	0	0	Define green and blue roofs. (UNITED STATES OF AMERICA)
842	8	48	30	0	0	Why is 'the Program' capitalised? And which program(me) is this referring to? Unclear (da Silva, Jo, Arup)
843	8	48	39	48	39	Barriers to action included short-term planning horizons probably refers to political office terms. On the other hand models on adaptation suggest short-term plan increments as way to monitor developments and cope with uncertainty (chapter 8, page 31, line 21 TS page 25, line 9). Suggest clarification.\n\n (NETHERLANDS)
844	8	48	43	48	45	It is not clear how a small quarry restoration in Mombasa can have significant climate change adaptation benefits. (UNITED STATES OF AMERICA)
845	8	48	53	0	0	Separate words "forerunners London..." (Ambulkar, Archis, Brinjac Engineering Inc.)
846	8	49	8	0	0	Provide space i.e. "reduced (TEEB..." (Ambulkar, Archis, Brinjac Engineering Inc.)
847	8	49	10	42	11	Suggest that clarification and more detail is needed to convey the breadth and depth of the impact in the following sentence: "Burley et al (2011) review of the wetlands of South East Queensland, Australia indicates that adaptations focused on wetland and biodiversity conservation may impact urban forms in coastal areas". (AUSTRALIA)
848	8	49	11	49	11	Urban form has a particular meaning and it is not clear that this sentence should be using it because the text does not actually specify how the impacts may affect urban form. If "urban form" is used, it should be defined, at least briefly. Consider removal or clarification. (UNITED STATES OF AMERICA)
849	8	49	13	0	0	Provide space i.e. "2011). A..." (Ambulkar, Archis, Brinjac Engineering Inc.)
850	8	49	19	49	21	The assertion that increasing urbanization is necessary or sufficient for climate change adaptation is highly debatable. It is likely to increase carbon emissions. Whether it increases vulnerability depends on the location and quality of the urban development and most of the rapid urbanization in developing countries is unplanned or poorly planned. The authors should consider deleting "It is generally agreed" as this presumes there is consensus on the statement and good evidence to support it. (UNITED STATES OF AMERICA)
851	8	49	19	49	23	If using the term "urban form" it would greatly benefit from some definition. MBC (UNITED STATES OF AMERICA)
852	8	49	21	0	11	But adaptation requires an urban form that favours green infrastructure and requires provision of open space for I would suggest writing that "adaptation may require an urban form that favours..." as there is no proof that green infrastructures are an absolute requirement for adaptation (Viguié, Vincent, CIRED)
853	8	49	21	49	21	Use of "requires" could be interpreted as prescriptive, and alternative wording would be preferable. (Mach, Katharine, IPCC WGII TSU)
854	8	49	22	0	0	Separate words "migration and..." (Ambulkar, Archis, Brinjac Engineering Inc.)

#	Ch	From Page	From Line	To Page	To Line	Comment
855	8	49	23	0	0	you could add that another dimension of this "density conundrum" comes from the link between high density and exposure to natural hazards, cf. Burby, R. J, A. C Nelson, D. Parker, et J. Handmer. 2001. « Urban Containment Policy and Exposure to Natural Hazards: Is There a Connection? » Journal of Environmental Planning and Management 44 (4): 475–490. and Burby, R.J., E. L Birch, et S. M Wachter. 2006. « The problems of containment and the promise of planning. » In Rebuilding urban places after disaster: lessons from Hurricane Katrina. University of Pennsylvania Press.\n (Viguié, Vincent, CIREC)
856	8	49	25	0	0	Separate words "increase energy..." (Ambulkar, Archis, Brinjac Engineering Inc.)
857	8	49	26	0	0	Provide space i.e. "use, further..." (Ambulkar, Archis, Brinjac Engineering Inc.)
858	8	49	31	0	0	Provide space i.e. "roofs: Green..." (Ambulkar, Archis, Brinjac Engineering Inc.)
859	8	49	31	50	28	Clarification for the effectiveness of cool roofs for multi- and single-storey buildings is only used once in the text. It needs to be clarified and elaborated, since it currently appears as not being a factor. (Costas Balaras, Institute for Environmental Research and Sustainable Development, National Observatory of Athens, Greece) (GREECE)
860	8	49	31	50	28	Cite Gaffin et al. 2012 in this section. (UNITED STATES OF AMERICA)
861	8	49	32	0	0	Provide space i.e. "adaptation. Rooftop..." (Ambulkar, Archis, Brinjac Engineering Inc.)
862	8	49	42	49	47	brackets in this sentence seem to have got confused! (da Silva, Jo, Arup)
863	8	49	54	0	0	What is the difference in cost between a green roof and typical alternatives? \nIs a white roof just a conventional roof painted white or is it made of certain types of materials? (UNITED STATES OF AMERICA)
864	8	50	8	50	15	Modelling study by Bohnenstengel et al. (2011) suggests that very large green fractions would be needed in urban areas before the UHI could be reduced. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
865	8	50	8	50	20	Description of the role of cool roofs or reflective roofs is incomplete, whereas limited referral is made to excessive research on the field (see Akbari H., S. Menon and A. Rosenfeld, 2009: Global cooling: increasing world-wide urban albedos to offset CO ₂ , 94 (3-4), 275-286.) (Constantinos Cartalis, Environmental Physics, University of Athens, Greece) (GREECE)
866	8	50	33	51	12	Citations should be provided in full support of all statements in these paragraphs. (Mach, Katharine, IPCC WGII TSU)
867	8	50	39	0	0	either refer to 'Red Cross Red Crescent national societies' or the 'Red Cross Red Crescent movement' (da Silva, Jo, Arup)
868	8	50	46	50	47	Citations are needed for this example. Additionally, casual usage of "likely" should be avoided, as it is a reserved likelihood term. (Mach, Katharine, IPCC WGII TSU)
869	8	50	49	0	0	Include more information here not only on preparedness to respond to extreme events, but increased monitoring of early warning information, investment in receiving and disseminating early warning information, and increased action before disasters happen. (Coughlan, Erin, Red Cross / Red Crescent Climate Centre)
870	8	51	3	0	0	Not only the health risks of Climate Change, but also the short-term health risks in real time. This monitoring is a key aspect of adapting to the changing risks. (Coughlan, Erin, Red Cross / Red Crescent Climate Centre)
871	8	51	5	0	0	refer to 'shelters' rather than 'safe centres' (da Silva, Jo, Arup)
872	8	51	9	0	0	Change to "For cities without a robust early warning system or emergency response network..." (Coughlan, Erin, Red Cross / Red Crescent Climate Centre)
873	8	51	22	0	0	Chapter should coordinate with chapter 14, 15, and 16 to coordinate and reduce text in this section. (Chatterjee, Monalisa, IPCC WGII TSU)
874	8	51	22	0	0	Section 8.4. In developing the final draft of the chapter, the author team should reduce the length of this chapter by more than 50%. (Mach, Katharine, IPCC WGII TSU)

#	Ch	From Page	From Line	To Page	To Line	Comment
875	8	52	2	0	0	Section 8.4.1: It is recommended to add reference to the problem that in many respects universal norms of adaptation or resilience currently debated in the literature meet with very different institutional and cultural background or context conditions, potentially causing conflict and prompting the need for adjusting conceptual and normative (!) principles of adaptation and resilience governance -- or at least to critically ask for their transferability in certain contexts. Using a perspective of institutional and organizational theory, Garschagen (2013), [Garschagen, M. (2013). Resilience and Organisational Institutionalism from a Cross-Cultural Perspective – An Exploration based on Urban Climate Change Adaptation in Vietnam. In Natural Hazards, 67(1): 25-46.] for example, shows in detail how the propositions published under the label of general resilience or adaptation governance can be at odds with current management paradigms in certain institutional contexts. For example, Garschagen shows how the normative claims for flexible and open management principles and the notion of self-regulation in adaptation literature is in conflict with top-down, centralistic and control-oriented management approaches currently prevailing in urban management and disaster risk management in Vietnam. This is not to mean that the propositions published in the adaptation/resilience discourse are wrong. However, one needs to acknowledge that they in fact constitute irreconcilable antipodes to existing institutional structures -- hence, making the entry points for institutional change ever more difficult. It is recommended to add reference to this aspect along with the above indicated reference. (Garschagen, Matthias, United Nations University)
876	8	52	2	55	18	This section is much too long and repetitive. Suggest to reduce it significantly (UNITED STATES OF AMERICA)
877	8	52	4	52	7	Birkmann et al. 2010 provide a list of criteria for 'adaptive urban governance'. These criteria could provide additional entry points to the discussion in 8.4.1 on urban adaptation governance. [Birkmann, J., Garschagen, M., Kraas, F., and N. Quang (2010). Adaptive Urban Governance: New Challenges for the Second Generation of Urban Adaptation Strategies to Climate Change. In Sustainability Science. vol. 5. no. 2. pp. 185-206.] (Garschagen, Matthias, United Nations University)
878	8	52	22	52	23	Garschagen and Kraas (2011) is suggested as additional reference. The paper discusses in detail the opportunities but also constraints for local urban governments to moderate and implement successful urban climate change adaptation, specifically paying attention to the conditions in transition countries experiencing decentralization. [Garschagen, M., and F. Kraas (2011). Urban Climate Change Adaptation in the Context of Transformation – Lessons Learned from Vietnam. In Zimmermann, K. (ed.): Cities and Adaptation to Climate Change. Springer. Local Sustainability, Volume 1: 131-139.] (Garschagen, Matthias, United Nations University)
879	8	52	38	0	0	key interests' of what/whom? Unclear (da Silva, Jo, Arup)
880	8	52	41	52	45	Separating groups into 'inner circle' and 'outer circle' is not a useful construct, since interactions in cities are more multidimensional. This should be represented in Figure 8.1 as well. (UNITED STATES OF AMERICA)
881	8	52	45	52	47	The process has been modelled in existing literature and coined as "learning alliances" concerning the development of interpretation among stakeholders (understand why they need to engage with adaptation) and "learning active alliances" concerning developing intervention with stakeholders (initiate measures).\nAshley, R., Blanskby, J., Newman, R., Gersonius, B., Poole, A., Lindley, G., Smith, S., Ogden, S., Nowell, R., 2012. Learning and action alliances to build capacity for flood resilience. Journal of Flood Risk Management 5, 14 - 22.\nVan Herk, S., Zevenbergen, C., Ashley, R., Rijke, J., 2011. Learning and Action Alliances for the integration of flood risk management into urban planning: a new framework from empirical evidence from The Netherlands. Environmental Science & Policy 14, 543 - 554.\n\n(NETHERLANDS)
882	8	53	3	0	0	Separate words "decision making..." (Ambulkar, Archis, Brinjac Engineering Inc.)
883	8	53	5	53	7	The authors should include examples of local adaptation decisions/local authorities, like land-use planning, zoning, tax incentives, etc. (UNITED STATES OF AMERICA)
884	8	53	7	0	0	Date of Arup/C40 report is 2012 (amend reference) (da Silva, Jo, Arup)

#	Ch	From Page	From Line	To Page	To Line	Comment
885	8	53	30	53	32	This sentence's meaning is obscured by jargon. (UNITED STATES OF AMERICA)
886	8	53	45	0	0	Unplanned or poorly planned development may not even have short-term net economic benefits. (UNITED STATES OF AMERICA)
887	8	54	0	0	8	There should just be a note in this section to mention the need to be careful not to seek to mainstream where the existing practice or procedure is not sustainable (refer to Maria Lemos U of Michigan, from Adaptation Futures conference Arizona 2012). (Larrivee, Caroline, Ouranos inc.)
888	8	54	3	0	0	Separate words "accountable leadership..." (Ambulkar, Archis, Brinjac Engineering Inc.)
889	8	54	3	54	3	No spacing between 'accountable' and 'leadership' in line 3 (INDIA)
890	8	54	26	0	0	The authors should consider refelcting the thought that for covering the initial capital investments of the physical infrastructure and not the continuing operation, maintenance, and replacement costs, there can be biasing in the types of investment decisions preferred by recipients of donor support. (UNITED STATES OF AMERICA)
891	8	54	31	0	0	specify which 'key sectors' are being referred to (da Silva, Jo, Arup)
892	8	54	36	55	18	A dsicussion of sector-based approach to mainstreaming (eg., mainstreaming adaptation into water utility operations) vs. mainstreaming into top-down or cross-sector plans) should be included as options, along with examples of cities that have tried the diffetent approaches. (UNITED STATES OF AMERICA)
893	8	54	38	55	18	This section would benefit from a discussion about the Australian Resiience Taskforce in Australia. The Australian Resiliennce Taskforce is an insurance industry organisation that has been developing mechanisms to rate the resilience of individual houses and using those rating to better price premiums. A resilient house will then get a preferable insurance premium and pay less, thus offering an economic incentive for resilience to teh houseolder. This is being scaled up and work is underway with local governments to establish regulatory mechanisms to improve land use planning and improved building standards in risk prone areas. It is important to recognise this progress as most of the references are in the era of 2007 - 2010. The Resilience agenda is moving much quicker than the reporting process can acknowledge, so citing this leading practice is vital. (Davies, Tom, Edge Environment)
894	8	54	40	0	0	you could also cite here Viguie and Hallegatte 2012 (Viguié, Vincent, CIREN)
895	8	54	53	54	53	The phrase "imperative of adaptation" here could be interpreted as prescriptive, and alternative wording would be preferable. (Mach, Katharine, IPCC WGII TSU)
896	8	55	21	0	0	co-benefits' should be defined somewhere in this sub-section (da Silva, Jo, Arup)
897	8	55	21	55	21	This section should also cover co-benefits of adaptation and mitigation - or perhaps more appropriately, a cross-reference to elsewhere in the WG report that covers this issue. (UNITED STATES OF AMERICA)
898	8	55	31	0	0	Para 8.4.1.4. "urban vulnerability and risk assessment practices" could be amended by citing the research work of some international organisations (i.e. ICLEI, 2007, Preparing for climate change, a guidebook for local, regional and state governments, or ICLEI, 2010, Changing climate, Changing communities, Guide and workbook for municipal climate adaptation) aimed at developing methodologies and processes for the preparation of Adaptation Plans. Such methodologies specify the role and sequence of the various passages. (ITALY)
899	8	55	47	55	47	This section should be significantly shortened (UNITED STATES OF AMERICA)
900	8	55	53	53	0	Missing references for Bourque et al. 2007 in References section (Larrivee, Caroline, Ouranos inc.)
901	8	55	54	0	0	The authors should consider deleting 'need to'. (UNITED STATES OF AMERICA)
902	8	56	8	56	18	Cite Blake et al. 2011 in this section. (UNITED STATES OF AMERICA)
903	8	56	15	56	15	Use of "requires" could be interpreted as prescriptive, and alternative wording would be preferable. (Mach, Katharine, IPCC WGII TSU)

#	Ch	From Page	From Line	To Page	To Line	Comment
904	8	56	20	24	0	Missing reference Bourque, A., A. Musy, C. Larrivée, 2009, Ouranos: un modèle original pour le développement de connaissances menant à l'adaptation aux changements climatiques, in Liaison Énergie Francophonie, # 85, pp. 61-66. in the references section (Larrivee, Caroline, Ouranos inc.)
905	8	56	46	56	48	Cite Mehrotra et al. 2011a for assessments and vulnerability. (UNITED STATES OF AMERICA)
906	8	57	4	0	0	Explain "local Agenda 21s" (UNITED STATES OF AMERICA)
907	8	57	11	57	11	No spacing between 'vulnerable' and 'population' in line 11 (INDIA)
908	8	57	11	57	13	The following references can be used to underline the importance of vulnerability mapping:\n- review of 20 vulnerability assessments in regard to its spatial, temporal and thematic characteristics: Kienberger, S., Blaschke, T., Zaidi. R.Z., (2012). A framework for spatio-temporal scales and concepts from different disciplines: the 'vulnerability cube'. Natural Hazards (online). http://dx.doi.org/10.1007/s11069-012-0513-x \n- Spatial vulnerability mapping including participatory approaches in rural Mozambique: Kienberger, S., 2012. Spatial modelling of social and economic vulnerability to floods at the district level in Búzi, Mozambique. Natural Hazards 64(3), 2011-2019. http://dx.doi.org/10.1007/s11069-012-0174-9 \n- Method to model spatial vulnerability under the frame of climate change: Kienberger, S., Lang, S., Zeil, P., 2009. Spatial vulnerability units – expert-based spatial modelling of socio-economic vulnerability in the Salzach catchment, Austria, Nat. Hazards Earth Syst. Sci., 9, 767-778. http://www.nat-hazards-earth-syst-sci.net/9/767/2009/nhess-9-767-2009.html (Kienberger, Stefan, University of Salzburg)
909	8	57	18	0	0	you could include here a reference to section 17.3.6.4, as this section provides many examples of Multi-Metrics Decisionmaking for Adaptation (Viguié, Vincent, CIRED)
910	8	57	20	57	20	Use of "need" here could be interpreted as prescriptive, and alternative wording could be preferable. (Mach, Katharine, IPCC WGII TSU)
911	8	57	25	57	28	In many cities, indicators are defined (either single or aggregate ones) for monitoring in a dynamic manner and in relation to the prevailing social and economic conditions, risks and resilience capacities. Such discussion is missing. (Constantinos Cartalis, Environmental Physics, University of Athens, Greece) (GREECE)
912	8	57	25	57	31	Relative differences of vulnerability and adaptive capacity are demonstrated at the level of households (Sietz et al. 2012) and global drylands (Sietz et al. 2011). The validation of results has strengthened 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)
913	8	57	25	57	34	Are these urban-specific tools and studies or of broader applicability (and therefore also should be mentioned in the rural chapter or other chapters)? (UNITED STATES OF AMERICA)
914	8	57	29	57	34	Kienberger et al 2012 reviewed specifically vulnerability assessment case studies in regard to their consideration of spatial, temporal and thematic characteristics. One recommendation of their work is to consider scale specific issues. The refer to the concept of 'kinds of scale' which need to be in line (intrinsic scale of a phenomena, modelling scale, observational scale, policy scale): Full reference: Kienberger, S., Blaschke, T., Zaidi. R.Z., (2012). A framework for spatio-temporal scales and concepts from different disciplines: the 'vulnerability cube'. Natural Hazards (online). http://dx.doi.org/10.1007/s11069-012-0513-x (Kienberger, Stefan, University of Salzburg)
915	8	57	47	57	48	Cite ARC3 here as well for assessment of climate change and urban spatial scales. (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
916	8	58	7	58	7	System of innovation framework could be employed to engage all the key stakeholders (Sanni, Maruf, National Centre for Technology Management)
917	8	58	7	58	39	Engaging citizens in urban planning is a good topic for adaptation, if there any cases for developing countries? (zheng , yan, Chinese Academy of Social Sciences (CASS))
918	8	58	9	61	37	This section should be significantly shortened (UNITED STATES OF AMERICA)
919	8	59	10	0	0	Provide full stop i.e. (...2011b)." (Ambulkar, Archis, Brinjac Engineering Inc.)
920	8	59	17	0	0	Not sure if ")" is needed after "homes" in this sentence. (Ambulkar, Archis, Brinjac Engineering Inc.)
921	8	59	39	0	0	original location' - should this be 'homes'? (da Silva, Jo, Arup)
922	8	59	40	59	42	What strenghtens, universally and generally, the asset base of low-income households is first and foremost economical development. It should be mentioned. (Godefridi, Drieu, Cogito)
923	8	59	40	59	42	See also IFRC/Arup (2011) Characteristics of a safe and resilient community. Geneva: IFRC (da Silva, Jo, Arup)
924	8	59	52	59	53	A range of studies ...mitigate their vulnerabilities This statement is not informative because it does not say anything about what the studies have specifically shown. Also, the word "mitigate" should be replaced with "adapt to reduce" since mitigation has other meanings in climate change. (UNITED STATES OF AMERICA)
925	8	60	2	0	0	No reference provided for statistic. (UNITED STATES OF AMERICA)
926	8	60	18	60	19	Another key limiting factor for collective action in urban settings is the primary motivation amongst immigrants for living in cities is usually economic. Profit/personal wealth is therefore given a higher priority than community cohesion/collective wellbeing in these environments therefore. Similarly, people who have moved to urban areas have less historic ties to where they currently live, (unlike many residents in rural communities); this also affects the level of community cohesion and collective action. (See Arup (2013) Key determinants of a successful CBDRR programme in Latin America and the Caribbean. London: Arup) (da Silva, Jo, Arup)
927	8	60	21	0	0	DRR term is not defined or elaborated in this chapter prior to being used in this sentence (Ambulkar, Archis, Brinjac Engineering Inc.)
928	8	60	21	0	0	Spell out acronym DRR (UNITED STATES OF AMERICA)
929	8	60	42	60	42	Use of "requires" could be interpreted as prescriptive, and alternative wording could be preferable. (Mach, Katharine, IPCC WGII TSU)
930	8	61	2	0	0	Not sure if "]" is needed at the end of this sentence. (Ambulkar, Archis, Brinjac Engineering Inc.)
931	8	61	21	0	0	Remove extra full stop at the end of sentence i.e. "2011).. " (Ambulkar, Archis, Brinjac Engineering Inc.)
932	8	61	40	63	13	A discussion about how insurance industry can collaborate with stakeholders at all levels, building owners, governments and developers for win win outcomes in building resilient buildings. Is missing - refer to Australian Resilience Taskforce. (Davies, Tom, Edge Environment)
933	8	61	40	64	12	There is some good information in the private sector engagement and insurance section. This could be strengthened by some sub-sections, so that information on the different topics could be found more easily. (UNITED STATES OF AMERICA)
934	8	62	7	62	13	The World Economic Forum's 'Global Risks Report 2013' provides more updated figures: http://www.weforum.org/reports/global-risks-2013-eighth-edition (AUSTRALIA)
935	8	62	7	62	19	The key point to make here, which reference to the Aon report suggests, is that the way to make private sector see value in undertaking DRR / adaptation is to speak their language. Talk to businesses about 'ensuring business continuity' rather than 'climate-proofing' and they recognise the importance of risk reduction. This needs to be more explicitly highlighted here. (da Silva, Jo, Arup)

#	Ch	From Page	From Line	To Page	To Line	Comment
936	8	62	51	0	0	Also, transaction costs of selling and administering many small policies for low-income people may be high and the client group may lack ability to pay for insurance. As disaster risks rise, it may be difficult to get companies interested in underwriting the risk. (UNITED STATES OF AMERICA)
937	8	63	10	63	13	Perhaps an explicit example might be useful here such as Gram Vikas in Orissa, India and its director Joe Madiath on how everyone in the community contributes something to lift the quality of life for everyone in the community. (UNITED STATES OF AMERICA)
938	8	63	19	0	0	Information provided in Box 8-2 is important. Some expansion may be considered. (Constantinos Cartalis, Environmental Physics, University of Athens, Greece) (GREECE)
939	8	63	27	0	0	Microcredit does not reduce risks and generally supports small income-generating activities rather than climate change adaptation. Micro-insurance projects have been pilot scale and donor funded and geared to farmers weather-related crop risk in rural areas. They are unlikely to be replicated on a large scale by the private sector or extended to urban areas. (UNITED STATES OF AMERICA)
940	8	65	1	65	2	What are the Hyogo Framework and ISDR? (UNITED STATES OF AMERICA)
941	8	65	30	0	0	Discussion on the need to reform existing University curricula towards mitigation/adaptation of climate change should be included along with specific examples. (Constantinos Cartalis, Environmental Physics, University of Athens, Greece) (GREECE)
942	8	65	36	65	39	Describe role of UCCRN in creating an assessment process for cities here. (UNITED STATES OF AMERICA)
943	8	65	47	0	0	IDRC term is not defined or elaborated in this chapter prior to being used in this sentence (Ambulkar, Archis, Brinjac Engineering Inc.)
944	8	65	48	0	0	START programme term is not defined or elaborated in this chapter prior to being used in this sentence (Ambulkar, Archis, Brinjac Engineering Inc.)
945	8	66	5	0	0	Spell out FLACSO (UNITED STATES OF AMERICA)
946	8	66	11	0	0	The Global Cool Cities Alliance also. V (GREECE)
947	8	66	34	70	18	Great care needs to be taken with this section as it is veering away from being a science and policy-relevant document and becoming a policy-prescriptive document. Describing existing funding arrangements is OK, calling for new funds or mechanisms is not appropriate. For example, on page 69, line 23-25 it says "...for new dedicated climate change funds." (UNITED STATES OF AMERICA)
948	8	67	15	67	18	it could be revised as:"...e.g., more than 60% of total fiscal income of local governments in China comes from land sales (Long et al., 2012) which in turn". references?Long, H., Y. Li, Y. Liu, M. Woods, and J. Zou, 2012: Accelerated restructuring in rural China fueled by 'increasing vs. decreasing balance' land-use policy for dealing with hollowed villages. Land Use Policy, 29(1), 11-22. (zheng , yan, Chinese Academy of Social Sciences (CASS))
949	8	67	31	0	0	ICMS term is not defined or elaborated in this chapter prior to being used in this sentence (Ambulkar, Archis, Brinjac Engineering Inc.)
950	8	68	3	0	0	Clean Development Mechanism per se is about over. The authors should refer more generically to international private or public sector funding transfers. CDM was also intended for developed, not developing countries. (UNITED STATES OF AMERICA)
951	8	68	9	0	0	Spell out KFW (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
952	8	68	24	68	25	Yes, the scope at which the humanitarian community is now expected to work during urban disasters is extensive, but terming its response so far as 'impressive' may be slightly overstating past experience; in fact, the community itself is keenly aware that it requires new skills to handle urban disasters. See 'Jo da Silva (2012) From Response to Resilience. London: ICE' on this. (da Silva, Jo, Arup)
953	8	68	43	68	45	Has a more recent GFDRR strategy been issued? (UNITED STATES OF AMERICA)
954	8	69	11	69	11	There should be an assessment of what multilateral banks are doing in the area of urban resilience and climate change adaptation, given the large amount of funding invested (UNITED STATES OF AMERICA)
955	8	69	11	70	18	Excellent text! (Harnisch, Jochen , KfW)
956	8	69	15	0	0	Separate words "funds for..." (Ambulkar, Archis, Brinjac Engineering Inc.)
957	8	69	22	0	0	Spell out SREX (UNITED STATES OF AMERICA)
958	8	69	30	0	0	ODA term is not defined or elaborated in this chapter prior to being used in this sentence (Ambulkar, Archis, Brinjac Engineering Inc.)
959	8	69	46	0	0	The statement is biased, "a donor tendency to control" is necessary given that governments of donor countries are responsible to their parliaments and taxpayers. This aspect should be taken into account. (GERMANY)
960	8	70	3	0	0	Provide space i.e. "projects. UN..." (Ambulkar, Archis, Brinjac Engineering Inc.)
961	8	70	23	70	33	Cite Rosenzweig and Solecki 2010 here for New York. (UNITED STATES OF AMERICA)
962	8	70	47	70	47	Use of "need" here could be interpreted as prescriptive, and alternative wording could be explored. (Mach, Katharine, IPCC WGII TSU)
963	8	71	1	71	15	The authors should consider adding the following text: In conjunction with the National Climate Assessment, the US Global Change Research Program is overseeing a project to develop adaptation indicators. (UNITED STATES OF AMERICA)
964	8	71	3	71	4	Use of "needed" and "requires" could be interpreted as prescriptive, and alternative wording could be explored. (Mach, Katharine, IPCC WGII TSU)
965	8	71	19	0	0	The BOX 8-4 provides a significant contribution to the overall monitoring discussion. The parameters monitored and the procedures used in NY could be a good starting point for other regions. (Denia Kolokotsa, Environmental Engineering Department, Technical University of Crete, Greece) (GREECE)
966	8	72	23	0	0	No mention of the need to involve greater private sector action to effectively reduce urban risk/undertake adaptation. This is a key future need; and has already been recognised as an area for focus in the updated framework for DRR which will replace the Hyogo Framework for Action in 2015 (see UNISDR for more details) (da Silva, Jo, Arup)
967	8	72	23	0	0	Section 8.5. Calibrated uncertainty language should be provided for all key assessment findings presented in this section, in order to indicate the chapter team's degree of certainty in the findings. Additionally, line-of-sight references to specific supporting sections of chapters could be used in addition to citations provided. (Mach, Katharine, IPCC WGII TSU)

#	Ch	From Page	From Line	To Page	To Line	Comment
968	8	72	23	0	0	Section 8.5: This section somewhat confusingly overlaps with the executive summary, and I would recommend that material that overlaps be deleted here, ensuring that the executive summary presents the major conclusions of the chapter. For any material retained, please ensure clear line of sight to other chapter sections where this material is discussed, and consistent usage of calibrated uncertainty language. Conclusions of the chapter should not be presented here without such language. (Mastrandrea, Michael, IPCC WGII TSU)
969	8	72	23	73	18	Another potential conclusion to include: Implementing adaptation strategies in urban areas not only prepares communities for the impacts of climate change, but also helps build resilience to economic shocks (UNITED STATES OF AMERICA)
970	8	72	25	0	0	Section 8.5.1. It would be preferable to have a more precise title characterizing the conclusions presented in this section. Additionally, calibrated uncertainty language should be presented to characterize the chapter team's degree of certainty in all key findings. (Mach, Katharine, IPCC WGII TSU)
971	8	72	25	77	30	Add "research gaps", and suggest to use "key conclusions and research gaps" not "conclusions" . (Liu, Lulu, National Climate Center, CMA)
972	8	72	27	72	27	Use of "need" here is prescriptive, and the sentence should be reworded. (Mach, Katharine, IPCC WGII TSU)
973	8	72	28	0	0	Berger 2003 information is not available (Real, Marcia, Universidade Federal Fluminense)
974	8	72	42	0	0	Separate words "resolve in..." (Ambulkar, Archis, Brinjac Engineering Inc.)
975	8	72	46	73	5	Framing of this conclusion sets up a false conflict. Actions benefiting existing work streams can be, in fact, transformative. Further, stand-alone climate change actions run the risk of being isolated pilots with little effect.\n\nThe authors should consider deleting use of 'interventionist and reactive'. These can in fact be important pathways to transformation. (UNITED STATES OF AMERICA)
976	8	73	7	73	18	Again, use of negative language is not effective here, e.g., 'tool of last resort' or 'end of the pipe'. Such actions by cities incorporating climate change can indeed be the beginning of transformation in actual practice. (UNITED STATES OF AMERICA)
977	8	73	8	0	0	Boyd et al 2009 information is not available (Real, Marcia, Universidade Federal Fluminense)
978	8	73	18	0	0	Provide space i.e. "systems (IPCC..." (Ambulkar, Archis, Brinjac Engineering Inc.)
979	8	73	21	0	0	Section 8.5.2. Calibrated uncertainty language should be presented for all key assessment findings in this section, in order to characterize the chapter team's degree of certainty in the findings. (Mach, Katharine, IPCC WGII TSU)
980	8	73	21	77	30	Consider reviewing & citing this publication on barriers to adaptation: Moser, S. C. and Julia Ekstrom. (2010). A framework to diagnose barriers to climate change adaptation, PNAS, 107 (51): 22026-22031, DOI:10.1073/pnas.1007887107 (UNITED STATES OF AMERICA)
981	8	73	33	0	0	Provide space i.e. "changes. (Lowe..." (Ambulkar, Archis, Brinjac Engineering Inc.)
982	8	73	36	73	37	It would be helpful to briefly indicate the metrics relevant to "most at risk" here--presumably, for example, loss of life and livelihoods is meant more than monetized economic damages. (Mach, Katharine, IPCC WGII TSU)

#	Ch	From Page	From Line	To Page	To Line	Comment
983	8	73	48	0	0	Provide space i.e. "authorities (with..." (Ambulkar, Archis, Brinjac Engineering Inc.)
984	8	73	50	0	0	Provide space i.e. "adaptation (Shaw..." (Ambulkar, Archis, Brinjac Engineering Inc.)
985	8	74	12	0	0	Separate words "often cross..." (Ambulkar, Archis, Brinjac Engineering Inc.)
986	8	74	13	0	0	Provide spaces i.e. "timelines, rooted..." and "contexts, involve..." (Ambulkar, Archis, Brinjac Engineering Inc.)
987	8	74	17	0	0	Separate words "are immediate..." (Ambulkar, Archis, Brinjac Engineering Inc.)
988	8	74	19	0	0	Separate words "vulnerabilities and..." (Ambulkar, Archis, Brinjac Engineering Inc.)
989	8	74	20	0	0	Separate words "benefits such..." (Ambulkar, Archis, Brinjac Engineering Inc.)
990	8	74	22	0	0	Add reference to Rosenzweig and Solecki 2010. (UNITED STATES OF AMERICA)
991	8	74	27	0	0	First priority should be better adaptation to current weather if that is not already in place. (UNITED STATES OF AMERICA)
992	8	74	33	74	35	Not clear that density is necessary and sufficient for mitigation. Is there more than 1 study supporting this assertion? (UNITED STATES OF AMERICA)
993	8	74	37	0	0	Separate words "densification and..." (Ambulkar, Archis, Brinjac Engineering Inc.)
994	8	74	49	0	0	Another contribution can be made by promotion of interdisciplinary research and integrative planning. (Denia Kolokotsa, Environmental Engineering Department, Technical University of Crete, Greece) (GREECE)
995	8	74	49	0	0	Section 8.5.3. Calibrated uncertainty language should be presented to characterize the chapter team's degree of certainty in key findings presented in this section. (Mach, Katharine, IPCC WGII TSU)
996	8	74	49	77	30	Confusing italicised topic headings - if they are 'What Contributes to the Development of Effective Transformative Adaptation Plans?' then 'Poorly Developed Monitoring and Evaluation systems' should be 'Effective Monitoring and Evaluation systems', for example. (da Silva, Jo, Arup)
997	8	74	51	74	53	Which UN population growth scenario and what does the range of UN and other projections show in comparison? (UNITED STATES OF AMERICA)
998	8	75	23	0	0	Provide space i.e. "vulnerability (UN..." (Ambulkar, Archis, Brinjac Engineering Inc.)
999	8	75	31	0	0	Provide space i.e. "disasters, while..." (Ambulkar, Archis, Brinjac Engineering Inc.)
1000	8	76	5	76	6	The authors should consider deleting the unhelpful and unnecessary quote on bureaucratic black holes and obfuscation (UNITED STATES OF AMERICA)
1001	8	76	17	0	0	You could add that mainstreaming adaptation policies into municipal planning and land-use management systems also enables to take advantage from synergies between different urban policy goals, as shown in Viguié and Hallegatte 2012 (Viguié, Vincent, CIRED)
1002	8	76	26	0	0	Separate words "building broader..." (Ambulkar, Archis, Brinjac Engineering Inc.)
1003	8	76	29	0	0	Separate words "continuity as..." (Ambulkar, Archis, Brinjac Engineering Inc.)
1004	8	76	30	0	0	Separate words "or leave..." (Ambulkar, Archis, Brinjac Engineering Inc.)
1005	8	76	34	0	0	Separate words "and an..." (Ambulkar, Archis, Brinjac Engineering Inc.)
1006	8	76	34	76	45	Cite ARC3 and the initiation of the ARC3 assessment process, and the need for it to continue and grow. (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
1007	8	76	35	0	0	Provide space i.e. "2011): Despite..." (Ambulkar, Archis, Brinjac Engineering Inc.)
1008	8	76	40	0	0	Provide space i.e. "rely more..." (Ambulkar, Archis, Brinjac Engineering Inc.)
1009	8	76	40	0	0	GDF 2011 information is not available (Real, Marcia, Universidade Federal Fluminense)
1010	8	76	51	0	0	What constitutes substantial spending? Is this relative to local govt budgets or the local economy size? How do these expenditures compare to what is needed? (UNITED STATES OF AMERICA)
1011	8	77	12	77	12	Casual usage of "likely" should be avoided, as it is a reserved likelihood term. (Mach, Katharine, IPCC WGII TSU)
1012	8	77	16	77	22	The authors should consider adding the role of knowledge providers and the ARC3 process here. (UNITED STATES OF AMERICA)
1013	8	77	31	0	0	Reference is incomplete (Real, Marcia, Universidade Federal Fluminense)
1014	8	77	35	0	0	FAQ 8-1 The author team may wish to highlight the tensions in addition to synergies between the DRR and CCA policies. The tone of the answer needs to be policy relevant but not policy prescriptive. (Chatterjee, Monalisa, IPCC WGII TSU)
1015	8	77	45	0	0	Hallegate 2009 information is not available (Real, Marcia, Universidade Federal Fluminense)
1016	8	77	45	77	45	Use of "needs" here could be interpreted as prescriptive, and alternative wordings could be explored. (Mach, Katharine, IPCC WGII TSU)
1017	8	77	49	0	0	FAQ 8-2 There should be some discussion on what is good and bad development. That way the answer can address the maladaptive aspects as well and highlight under what conditions, based on what factors does a development strategy have positive results. (Chatterjee, Monalisa, IPCC WGII TSU)
1018	8	77	50	78	2	Incorrectly gives the impression that only good development is needed and no special adaptation efforts. (UNITED STATES OF AMERICA)
1019	8	78	2	0	0	(after past) :good , appropriate and accommodating are three different types of provisions . So, good need not cover adaptation (Bharat, Alka, M.A.National Institute of technology)
1020	8	78	4	0	0	FAQ 8-3 An example of extreme event that caused an exodus to urban areas would be helpful. Perhaps the relationship between migration and multiple stressors should be mentioned here. (Chatterjee, Monalisa, IPCC WGII TSU)
1021	8	78	9	78	9	Use of "the need" here could be interpreted as prescriptive, and alternative wordings should be explored. (Mach, Katharine, IPCC WGII TSU)
1022	8	78	13	0	0	(after these) : level and type of infrastructure is also one of the reason for migration (Bharat, Alka, M.A.National Institute of technology)
1023	8	78	15	0	0	FAQ 8-4 Authors may wish to use response mechanisms terms such as co-benefits, low regrets to connect the answer with other chapters of the report. (Chatterjee, Monalisa, IPCC WGII TSU)
1024	8	78	24	0	0	(after decision) : as there are proved evidences as well as cases suggests climate change impacts are being experienced and should be addressed , now . System should also be prepared to handle extremities (Bharat, Alka, M.A.National Institute of technology)
1025	8	79	14	0	0	Hewit 2009 information is not available (Real, Marcia, Universidade Federal Fluminense)

#	Ch	From Page	From Line	To Page	To Line	Comment
1026	8	79	23	0	0	Huang 2008 information is not available (Real, Marcia, Universidade Federal Fluminense)
1027	8	79	45	0	0	IPCC SREX 2012 information is not available (Real, Marcia, Universidade Federal Fluminense)
1028	8	82	1	0	0	Major at al 2011 information is not available (Real, Marcia, Universidade Federal Fluminense)
1029	8	82	31	82	33	Updated version of this paper can be found at http://eau.sagepub.com/content/25/1/139.full.pdf+html (UNITED STATES OF AMERICA)
1030	8	106	0	0	0	In Table 8-1, the data of population in China are different from official publication (http://www.stats.gov.cn/tjsj/ndsj/2011/html/D0301e.htm). They should be "millions of inhabitants of China should be 62, 144, 302 and 670 in 1950, 1970, 1990 and 2010, respectively"; and corresponding percent of the population in urban areas should be 11.2, 17.4, 26.4 and 49.9 in 1950, 1970, 1990 and 2010, respectively. (Liu, Luliu, National Climate Center, CMA)
1031	8	106	0	0	0	Table 8-1, Urban population in China reaches 665.57 (about 666) millions in 2010, and occupies 49.68% of total population, instead of "660" and "49.2". (Xia, Chaozong, Academy of Forest Inventory and Planning)
1032	8	106	0	0	0	Table 8-1 Instead of a table a spaghetti diagram would be more effective way of showing growth of urban population. (Chatterjee, Monalisa, IPCC WGII TSU)
1033	8	107	0	0	0	Table 8-2. Supporting citations should be provided for all entries within this table. (Mach, Katharine, IPCC WGII TSU)
1034	8	107	0	108	0	Table 8-2 Authors may wish to add the sources of these findings in the table as well. (Chatterjee, Monalisa, IPCC WGII TSU)
1035	8	109	0	0	0	Table 8-3 It would be more effective if sources that support these findings are provided in a separate column. Moreover, places where these cases are applicable should also be listed. Color coding or other way of depicting different sets of finding is useful and TSU can help in developing this further. (Chatterjee, Monalisa, IPCC WGII TSU)
1036	8	109	0	0	0	Table 8-3. Supporting citations should be provided for all entries within this table. (Mach, Katharine, IPCC WGII TSU)
1037	8	109	0	109	0	Table 8-3. Perhaps watershed management and micro-basin management is not appropriate for this table because the table is focusing on Community based adaptation. Watershed management can be community based but normally is following a national/regional or local policy. It is worth highlighting both somewhere. It is already mentioned in the text with examples from cities, perhaps it could be made more evident as watershed management will be the baseline for many urban areas, both because of increasing floods and droughts. (Lacambra Segura, Carmen, Grupo La Era)
1038	8	110	0	0	0	Table 8-4 seems to suggest that little or no funding instruments are available to middle and low income cities and informal settlements that are estimated to number over 1 billion people. Moreover, this seems inconsistent with the text in places. (UNITED STATES OF AMERICA)
1039	8	110	0	0	0	Table 8-4 Sections from where these conclusions are drawn should be given in a separate column. (Chatterjee, Monalisa, IPCC WGII TSU)

#	Ch	From Page	From Line	To Page	To Line	Comment
1040	8	110	0	0	0	Table 8-4. Supporting citations should be provided for all entries within this table. (Mach, Katharine, IPCC WGII TSU)
1041	8	111	0	0	0	Figure 8-1 Chapter 2, 17, 25 have different figures on decision making. Please coordinate and develop this idea further. It would be great to have a consistent synthesized figure on decision making. (Chatterjee, Monalisa, IPCC WGII TSU)
1042	8	111	0	113	0	Figure 8-1 and Figure 8-4: Neither of these figures is depicted particularly specific to the "Urban Areas" chapter. The author team may wish to consider developing these figures further to convey the main concept discussed in the chapter. (Estrada, Yuka, IPCC WGII TSU)
1043	8	112	0	0	0	Figure 8-2 Please describe further the measures to cope in the caption. (Chatterjee, Monalisa, IPCC WGII TSU)
1044	8	112	0	112	0	Figure 8-2 for household adaptaion needs to be repeated by usual engineering drawing format. (Labib, Mounir Wahba , Third National Communication (TNC) Project)
1045	8	113	0	0	0	Delete Figure 8-4 due to no closy relationship with t "urban". (Liu, Luliu, National Cliamte Center, CMA)
1046	8	113	0	0	0	Figure 8-4 Chapter should coordinate with chapter 16 and 20 regarding soft and hard limits and transformational change. (Chatterjee, Monalisa, IPCC WGII TSU)
1047	8	113	0	0	0	Figure 8-3: What are x- and y-axes showing? (Estrada, Yuka, IPCC WGII TSU)
1048	8	113	0	113	0	Figure 8-3 The source data for this figure would perhaps make a good map (this chapter has no map at all) (Dimitris Stathakis, Urban and Regional Planning, University of Thessaly, Greece) (GREECE)
1049	8	113	0	113	0	For figure 8-3, the unit of the ordinate is missing. The abscissa should be labelled in more detail - I assume, that it is for high per capita income, upper-middle per capita income and so on. That is not clear at first glance. (Hebblinghaus, Heike, North-Rhine Westphalian State Agency for Nature, Environment and Consumer Protection)
1050	8	134	0	137	0	The chapter clearly points out the gaps and indicates some solutions to fill them in the future. (Some, Leopold, Centre National de la Recherche Scientifique Technologique)