#	Ch	From Page	From Line	To Page	To Line	Comment
1	27	0	0	0	0	All the Chapter 27, this structured good but an important aspect that it is not approaches is the focused public policies to the adaptation to the climate change. In Latin America a generalized Agreement of the deficiencies in the matter of public policies exists. The information Nations indicate that there is a strong weakness of integration and joint occurs not only in operational terms but also in terms of opposed objectives. The tensions and contardictions between the climatic policies in the región are appellants, especially, the oriented to the adaptations. (Lugo Morin, Diosey Ramon, Universidad Europea de Energia y Medio Ambiente)
2	27	0	0	0	0	The chapters introduction is very nice, mentioning the huge amount of interactions and mixed effects that can influence predictions. A strong point in the chapter is the gain of not only limiting to climatic changes but also land use, economics, human population growth, etc. Also very interestingly explained in 27.4.1 first paragraph (Carbajo, Anibal Eduardo, Universidad Nacional de San Martín)
3	27	0	0	0	0	Figure 27.8 It is not correct to attribute mangrove degradation (number 4) in the North of SA to climate change. The chapter mentions that most of the changes are attributable to land conversion, and that is also what is reported in most literature. For more information see Spalding et al 2010. The World Atlas of Mangroves. (Lacambra Segura, Carmen, Grupo La era)
4	27	0	0	0	0	The city of Manizales, Colombia, presented a failure in the distribution of drinking water for more than a month in October 2011 due to a landslide triggered by intense rainfall, which patrtially destroyed the treatment water plant, showing that even Andean cities where rainfall is abundant are vulnerable. (http://www.andesco.org.co/site/assets/media/camara/ambiental/sem2012/18-Juan-David-Arango.pdf) (Velez, Jorge Julian, Universidad Nacional de Colombia Sede Manizales)
5	27	0	0	0	0	reference: Guimberteau M., Ronchail J., Espinoza J.C., Lengaigne M., Sultan B., Polcher J., Drapeau G. Guyot J.L., Ducharne A. and Ciais P. 2013. Future changes in precipitation and impacts on extreme stream_flow over Amazonian sub-basins. Environ. Res. Lett. 8 014035 doi:10.1088/1748-9326/8/1/014035 (Ronchail, Josyane, LOCEAN - Laboratory of Oceanography and Climate)
6	27	0	0	0	0	Thanks to all authors for some many different regions (Central and South America 11, Europe and USA 9, Brazil 7) for the good work. The chapter has many different source of good information. (Mata, Luis J , Independent Consultant)
7	27	0	0	0	0	Excellent Executive Summary. Would be good to be split on shorter separate parragrphs with confidence levels when possible (Suarez, Avelino, Institute of Ecology and Systematic, Cuban Environmental Agency)
8	27	0	0	0	0	I find that the emphasis in CMIP3, rather than to CMIP5, should be reduced in AR5 (Silva Dias, Maria Assuncao, University of Sao Paulo)
9	27	0	0	0	0	The ILO's approach and strategy on the development of local resource-based infrastructure , also applies in urban areas, especially in vulnerable areas where slums are localetd building protective infrastructure to landslides and river defense. References : ILO Atkinson, Adrian Cities with Jobs: Confronting the Employment challenge Policy Working papers Nos 128, and 130 . http://www.ilo.org/public/libdoc/ilo/2012/112B09_197_engl.pdf (Harsdorff, Marek, ILO)
10	27	0	0	0	0	As a general point for this chapter, the treatment of Central America is weak and overshadowed by in-depth analysis of the trends in the South America region. For example, in Section 27.3.4 Food Production Systems and Food Security, of the 14 paragraphs on the topic, only one (lines 49-54) is exclusively devoted to the Central American Region. There should be a better effort to balance the text as much as possible throughout the region. While data availability may be better for SA than CA, however, there are several places throughout the chapter where CA examples can and should be highlighted. (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
11	27	0	0	0	0	Several general comments to the chapter:\n-Central America receives less focus than south America.\n-Some literature is largely absent - e.g. perception of adaptive capacity. \n-Population size, distribution, composition, characteristics for the region comprises an important part of the numerator for vulnerability. A few sentences at least laying this out would be helpful.\n-While CA is much smaller than SA, it is particularly vulnerable. An expanded treament of Central American vulnerability would seem to be warranted.\n-One area that merits discussion as a research gap is population - what is the population size, distribution, structure, and growth rates in different parts of the region and how will this affect vulnerability and adaptive capacity? (UNITED STATES OF AMERICA)
12	27	0	0	0	0	The authors are encouarged to cross-references to other chapters/sections that address issues that are important for the Central / South America region. For example, population growth and associated health concerns. (UNITED STATES OF AMERICA)
13	27	0	0	0	0	The authors should point out that adaptation to extremes of historical climate can usefully inform adaptation to future climate. Specifically, since climate change often involves more frequent occurrence of historically rare conditions, adaptation to those conditions can provide useful experience as well as some protection against future climate (UNITED STATES OF AMERICA)
14	27	0	0	0	0	The issue of availability of data should be further developed in this chapter. What the authors refer as a problem with the availability of reliable data (mentioned in 27.1.2.2 and 27.7), should be emphasized more in terms of data sharing since the problem is not necessarily that there are no data available. To some extent, the culture of not-sharing existing data is limiting. Additionally, this chapter could emphasize the importance of collecting uniform yield data for better analysis in food security at the regional scale, primarily in Central America. The lack of such data in the region hampers the analysis of historical, present and projected agricultural food production. The importance of data sharing ensures the success of efforts such as the regional climate database developed in Central America, mentioned in 27.3.4.2, pg 24(19). (UNITED STATES OF AMERICA)
15	27	0	0	0	0	There is very little in the chapter about human perceptions of climate change, while there are a number of studies that document change perception in different regions. The extent to which individuals are perceiving change may be an important factor to consider in terms of the timing and mobilization of adaptation efforts. The authors are encouraged to consider this literature. (UNITED STATES OF AMERICA)
16	27	0	0	0	0	This chapter could highlight the need for regional and national capacities for seasonal and decadal climate monitoring. Systems mitigating the effects of climate variability will be a critical aspect of adaptation, and such systems require good climate monitoring networks and institutions. (UNITED STATES OF AMERICA)
17	27	0	0	0	0	The approach of climate responsibility period versus climate options approach could be harmonized and further explored under this chapter whenever possible. E.g. page 2 line 11 brings results for the mid-century. (de Campos, Christiano, Petroleo Brasileiro SA)
18	27	0	0	0	0	I missed the use of the two metrics of communication in this chapter: evidence and agreement, mainly in the summary. I suggest to reconcile whenever possible. (de Campos, Christiano, Petroleo Brasileiro SA)
19	27	0	0	0	0	General comment on Executive summary. The executive summary in general needs to reference its statement better. There is lots of interesting information but it is often difficult to link it to a specific section of the chapter. We also suggest that confidence statements are lacking for many important pieces of evidence and should be included. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)
20	27	0	0	0	0	Figure 27-6: The caption of this figure is still insufficient. The figure caption needs to explain all elements of the figure to provide a guide for readers to interpret the concepts illustrated. (Estrada, Yuka, IPCC WGII TSU)

#	Ch	From Page	From Line	To Page	To Line	Comment
21	27	0	0	0	0	1) Overall -- The chapter team has developed a very strong assessment in its 2nd-order draft. In the final draft, the chapter team is encouraged to continue its prioritization of compact and rigorous assessment, effective and comprehensive tables and figures, and high specificity in examples given. (Mach, Katharine, IPCC WGII TSU)
22	27	0	0	0	0	2) Coordination across Working Group II -- In developing the final draft of the chapter, the chapter team should continue to ensure coordinated assessment, both in the chapter text and at the level of key findings. As appropriate, cross-references to the sections of other chapters and/or their assessment findings should be used, reducing overlaps and harmonizing assessment. (Mach, Katharine, IPCC WGII TSU)
23	27	0	0	0	0	3) Harmonization with the Working Group I contribution to the AR5 -- In developing the final draft, the chapter team should also ensure all cross references to the Working Group I contribution are updated, with discussion of climate, climate change, and climate extremes referencing the assessment findings in that volume. (Mach, Katharine, IPCC WGII TSU)
24	27	0	0	0	0	4) Tightening and shortening the chapter's assessment -- As the author team prepares the next draft, it should continue to condense and tighten the assessment wherever possible. (Mach, Katharine, IPCC WGII TSU)
25	27	0	0	0	0	5) Characterization of future risks -- In characterizing future risks for Central and South America, 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 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 characterization of future risks, along with the key and emergent risk typology of chapter 19. (Mach, Katharine, IPCC WGII TSU)
26	27	0	0	0	0	6) Informing the summary products -- To support robust and insightful summary products for the report, the chapter team is encouraged to maximize nuance and traceability in its key findings, 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 relevant to date, and how interactions among mitigation, adaptation, and sustainable development may occur. (Mach, Katharine, IPCC WGII TSU)
27	27	0	0	0	0	7) Report release -- The chapter team should be aware that the final drafts of the chapters will be posted publicly at the time of the SPM release, before final copyediting has occurred. Thus, the chapter team is encouraged to continue its careful attention to refined syntax and perfected referencing. (Mach, Katharine, IPCC WGII TSU)
28	27	0	0	0	0	GENERAL COMMENTS: I congratulate the author team for all their work on an interesting and informative SOD. When considering the suite of review comments, please look for opportunities to continue to hone and focus the text in revision even further, reducing length where possible. Please see my detailed comments for suggestions related to specificity of ES findings and traceable accounts, refining figures and tables, and specific clarifications. (Mastrandrea, Michael, IPCC WGII TSU)

#	Ch	From Page	From Line	To Page	To Line	Comment
29	27	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 27, this includes presentation of observed impacts and vulnerabilities in section A.i, adaptation experience in section A.ii, sectoral and regional risks in section C.i, and interactions between adaptation and mitigation in section D.ii, as well as related figures and tables. Are there opportunities for presenting chapter findings and material in a way that further supports broad themes highlighted in the summary products and that facilitates additional cross-chapter synthesis in specific findings or figures/tables? Do the existing summary product drafts suggest additional coordination that should occur between Chapter 27 and other chapters at LAM4? (Mastrandrea, Michael, IPCC WGII TSU)
30	27	1	1	1	1	The tile" Central and South America" is hanging. Let the title capture the sprit of the underlying text in the entire document. In otherwords, the title always prepares the reader what he expects in the text of the document (KENYA)
31	27	1	11	1	11	The correct name is "Eric Alfaro (Costa Rica)", not "Erik Alfaro (Costa Rica)" (Calvo - Solano, Oscar, Center for Geophysical Research)
32	27	2	36	0	0	Format of the Executive Summary -- The chapter team is strongly encouraged to structure the executive summary so that each paragraph presents a key finding in bold text with calibrated uncertainty language followed by non-bold supporting text. Additionally, all calibrated uncertainty language used should be italicized for clarity. (Mach, Katharine, IPCC WGII TSU)
33	27	2	36	0	0	Regional Key Risks in the Executive Summary -- The chapter team is strongly encouraged to present clearly the key regional risks for Central and South America within the executive summary. For the key risks, how do they vary with level of climate change, and what is the potential for adaptation to reduce the risks? What are the risks in the near-term (which can be considered an era of climate responsibility) versus the long-term (which can be considered an era of climate options)? The framing of SPM table SPM.4 or the framing of chapter 25's executive summary and table 25-8 could be considered. Identifying key risks would enable the chapter team to continue to tighten the executive summary with a strong organizing principle. (Mach, Katharine, IPCC WGII TSU)
34	27	2	36	0	0	Executive Summary: The current draft executive summary contains much good material, but I feel that the clarity and specificity of the presentation can still be improved. For example, to the extent possible as supported by the literature, please emphasize what risks are projected to emerge over different time horizons (e.g., mid-century vs. end-of-century), as well as the potential or lack of potential for mitigation and adaptation to reduce them. In addition, please make the role of climate change as opposed to other drivers as clear as possible in each finding. See my specific comments for other suggestions, and please present each paragraph as a bold finding with a set of nonbold supporting statements. Finally, there are a few cases where support in the chapter text is not clear (see specific comments). (Mastrandrea, Michael, IPCC WGII TSU)
35	27	2	36	4	48	The Executive Summary includes too many outcomes, it should be shorterned: uncertainties are not indicated in terms of the likehood of the outcome. (Mata, Luis J , Independent Consultant)
36	27	2	38	4	48	Exec Summ: could you provide confidence language for the ES? (Menzel, Lena, Alfred Wegener Institute for Polar and Marine Research)
37	27	2	40	2	40	The countries which are parts of SESA should be indicated. (Mata, Luis J , Independent Consultant)
38	27	2	41	2	41	In place of "medium-lower confidence," it would be preferable to use the specified terms in the uncertainties guidance: very low, low, medium, high, very high confidence. Additionally, this calibrated uncertainty language should be italicized for clarity. (Mach, Katharine, IPCC WGII TSU)
39	27	2	41	2	41	Section 27.1.2.2 states medium confidence in this context, so it is not clear why "medium-lower" is used here. (Mastrandrea, Michael, IPCC WGII TSU)

#	Ch	From Page	From Line	To Page	To Line	Comment
40	27	2	42	2	42	If "likely" is being used as a calibrated likelihood term, reflecting a probabilistic basis for its assignment, it should be italicized. Casual usage should be avoided. On the same line, "low confidence" should be italicized. (Mach, Katharine, IPCC WGII TSU)
41	27	2	47	2	48	It would be helpful if the preceding paragraph presented the range of historical observations to contrast with the the projected range stated here. (UNITED STATES OF AMERICA)
42	27	2	47	2	48	Does this include the full range of RCP scenarios? Seems a little low if so. If not, why not? (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)
43	27	2	47	2	49	Please clarify the sources of the ranges of temperatures and precipitation changes presented here. Are these synthesizing across a variety of studies and scenarios? How should readers interpret the likelihood that temperatures will be in this range vs. outside this range? Would it be useful to differentiate projections across scenarios? (Mastrandrea, Michael, IPCC WGII TSU)
44	27	2	47	2	50	I suggest to reference the emissions scenarios those projections are based on. (Hoffmann, Dirk, Bolivian Mountain Institute - BMI)
45	27	2	47	2	50	The scenarios for these projections should be clarified--RCP 2.6-8.5? SRES scenarios as well? Additionally, are the values given the mean projections across models for high and low scenarios? (Mach, Katharine, IPCC WGII TSU)
46	27	2	47	3	3	All the projections are wrong. The temperature has not changed for 15 yedars and is running below your projections. (Gray, Vincent, Climate Consultant)
47	27	2	49	2	49	Rainfall reduction up 10% in tropical SA, reading the chapter I we could add that this is low confidence. E.g. acording to table 27-2 Jones and Cavalho (2013) show na increase of the wet season. Page 8 line37/43 brings different spatial resolution. It should be reconciled here. (de Campos, Christiano, Petroleo Brasileiro SA)
48	27	2	52	2	53	sectors' of continent is unclear. Suggest changing to 'areas' of contingent (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)
49	27	2	52	2	53	medium confidence and "very likely" should be italicized. (Mach, Katharine, IPCC WGII TSU)
50	27	3	1	3	1	In place of "lower-medium confidence," it would be preferable to use the specified terms in the uncertainties guidance: very low, low, medium, high, very high confidence. Additionally, this calibrated uncertainty language should be italicized for clarity. (Mach, Katharine, IPCC WGII TSU)
51	27	3	1	3	1	It would be preferable to change "lower-medium" to either "low" or "medium" confidence here. Is a further gradation of the confidence scale necessary? (Mastrandrea, Michael, IPCC WGII TSU)
52	27	3	2	3	3	"likely" and "very likely," if being used as calibrated likelihood terms (reflecting a probabilistic basis for their assignment), should be italicized. (Mach, Katharine, IPCC WGII TSU)
53	27	3	5	3	11	Please clarify the timeframe over which these changes are observed. (Mastrandrea, Michael, IPCC WGII TSU)
54	27	3	6	3	6	high confidence should be italicized. (Mach, Katharine, IPCC WGII TSU)
55	27	3	7	3	8	It would be useful to have some numbers at this point in the executive summary around observed or projected changes to glaciers attributable to climate change- especially any trends or numbers. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)
56	27	3	13	3	13	Suggest eleting one of the "impacts" in this sentence (UNITED STATES OF AMERICA)
57	27	3	13	3	49	Calibrated uncertainty language should be used to characterize the author team's degree of certainty in key findings in these paragraphs. (Mach, Katharine, IPCC WGII TSU)
58	27	3	16	3	16	Suggest adding "crops" after "biomass". (UNITED STATES OF AMERICA)
59	27	3	17	3	18	The statement here about the vulnerability of communities is not really discussed in 27.2.2.1. Please provide clear line of sight to its support. (Mastrandrea, Michael, IPCC WGII TSU)

#	Ch	From Page	From Line	To Page	To Line	Comment
60	27	3	18	3	20	When you mention that deforestation has decreased in the last eight years in a current value of 0.29%, the reader can interpret at the time of reading - do not know exactly when - that's eight years before, for example if you read in the year 2016, we can interpret that it is about the year 2008 to 2016, I suggest to specify something like this "from 2004 to 2012 to a current value of 0.29%." (Bulege-Gutiérrez, Wilfredo, Universidad Continental)
61	27	3	18	3	20	Are these net changes in forest or deforestation rates? Suggest should make this clear (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)
62	27	3	19	3	19	0.29% is NOT the current value but it is the value for the period 2005-2010 (ref. Ch27 pg10 line 12)\n\n (NETHERLANDS)
63	27	3	20	3	20	Please note that Chaco forest deforestation rate is not mentioned in Ch27.2.2.1. DELETE Chaco forest\n\n (NETHERLANDS)
64	27	3	26	3	28	The "Human Development Index" is not equivalent to "human development". The text could say instead: "In terms of the human development index, the performance of different countries varied greatly from Chile and Argentina with the highest values, and Guatemala and Nicaragua with the lowest. " (Takahashi, Ken, Instituto Geofísico del Perú)
65	27	3	36	3	36	Suggest - 'most at risk on the planet' or similar would be more suitable. 'endangered' is usually used for individual species. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)
66	27	3	36	3	37	It should be important to include where did you take the information when you wrote: "Changes over 2mm/yr of sea-level rise (SLR) have been found in CA and SA. (Calvo - Solano, Oscar, Center for Geophysical Research)
67	27	3	36	3	37	Over what timeframe has this sea level rise been observed? (Mastrandrea, Michael, IPCC WGII TSU)
68	27	3	43	3	44	Suggest you mean 'lack of conservation' (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)
69	27	3	43	3	49	Please clarify the timeframe for these statements, as well as the role of climate change, if any, here. This is not clear from the discussion in the associated chapter text. In addition, section 27.3.2.1 is also relevant here. (Mastrandrea, Michael, IPCC WGII TSU)
70	27	3	44	3	44	For plant species -Need to be explicit if you are talking about species extinctions or just numbers of plants. suggest linking this statement to evidence and numbers in the underlying report. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)
71	27	3	45	3	45	Do you mean globally? Again we suggest linking this to evidence in the underlying report. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)
72	27	3	47	3	49	I suggest the sentence read: "Ecosystem-based adaptation practices, such as THE EFFECTIVE MANAGEMENT AND ESTABLISHMENT OF NEW PROTECTED AREAS, are important tools for climate change adaptation. Also, conservation agreements and community management of natural areas, begin to multiply across the region (27.3.2.2)." (Hoffmann, Dirk, Bolivian Mountain Institute - BMI)
73	27	3	51	3	53	This sentences was confusing to the reviewer: "Although there is high uncertainty in terms of climate projections for regions with high vulnerability in terms of current water availability, this vulnerability is expected to increase in the future due to climate change impacts (high confidence). Consider restating. (UNITED STATES OF AMERICA)
74	27	3	51	3	53	For the described climate change projections, it would be helpful to clarify further what is meant--temperature, precipitation, etc.? Additionally, "high confidence" on line 53 should be italicized. (Mach, Katharine, IPCC WGII TSU)
75	27	3	53	3	53	When it is referred at the high trust term, explain how you determined this value and in what scale. (Bulege-Gutiérrez, Wilfredo, Universidad Continental)
76	27	4	1	4	4	Suggest the authors attached confidence to these two statements. (UNITED STATES OF AMERICA)
77	27	4	10	4	10	Please do not use "attributed" in the context of a forward-looking statement, given its specific meaning in a climate change context. (Mastrandrea, Michael, IPCC WGII TSU)
78	27	4	10	4	12	It might be good to mention (here, or at a more general place of the chapter), that the world´s present emissions curve is close or slightly above scenario A1FI (Hoffmann, Dirk, Bolivian Mountain Institute - BMI)

#	Ch	From Page	From Line	To Page	To Line	Comment
79	27	4	10	4	12	Suggest you quote the references (at least sections in rest of chapter). Where evidence to an increase in productivity can be found. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)
80	27	4	12	4	14	medium confidence on lines 12 and 14 should be italicized. (Mach, Katharine, IPCC WGII TSU)
81	27	4	13	4	13	The associated chapter text does not talk about the before 2025 timeframe mentioned here. Please clarify in the chapter text. (Mastrandrea, Michael, IPCC WGII TSU)
82	27	4	18	4	19	RE important means to adaptation? In general is for mitigation, as stated in page 27 line 46. Can be explained which interpretation is concluding this? It should be rephrased this. (de Campos, Christiano, Petroleo Brasileiro SA)
83	27	4	18	4	19	Suggest you mean mitigation rather than 'adaptation'. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)
84	27	4	18	4	29	I missed some summary of CC impacts on hydropower and windpower as brought in item 27.6.1 and page 28 line 50/52. (de Campos, Christiano, Petroleo Brasileiro SA)
85	27	4	21	0	24	Also suggest that temperature increases could have a negative impact on yield - especially with higher temperature increases. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)
86	27	4	22	4	22	likely, if being used as calibrated uncertainty language (reflecting a probabilistic basis for its assignment), should be italicized. (Mach, Katharine, IPCC WGII TSU)
87	27	4	23	4	24	The authors appear to make an editorial comment. Suggest more formal language. (UNITED STATES OF AMERICA)
88	27	4	23	4	24	Drought is not mentioned in section 27.3.6, so please clarify the support for this statement. (Mastrandrea, Michael, IPCC WGII TSU)
89	27	4	26	4	26	Loss of employment? And what about local employment? How is the net benefit? This part of sentence should be deleted since is vague to IVA perspective. (de Campos, Christiano, Petroleo Brasileiro SA)
90	27	4	26	4	29	As shown in figure 27-6, soy expansion have been for animal protein source mainly, historically the oil is a secondary product. The page 29 line 9/11 present that there is little soybean in deforested land. Both points should be included in this sentence or the last two sentences should be deleted since does not add value to IVA perspective. (de Campos, Christiano, Petroleo Brasileiro SA)
91	27	4	31	0	32	This statement that climate change is increasing mortality and disabilities is used in the Executive Summary and FAQ. However, from the underlying chapter there is no clear evidence specified for this statement and no literature sources that seem to be directly attributed to it. Suggest reviewing the statement providing more specificity in the underlying chapter. (CANADA)
92	27	4	31	4	40	To the extent supported by the literature, please clarify the role of climate variability vs climate change in this context. (Mastrandrea, Michael, IPCC WGII TSU)
93	27	4	32	4	34	very high confidence and "high confidence" on lines 32 and 34 should be italicized. (Mach, Katharine, IPCC WGII TSU)
94	27	4	36	0	0	It is not clear why diabetes and chronic kidney diseases are climate related anywhere in this chapter and does not link to any other chapter of the AR5. Please include an explanation or link to other chapter. (de Campos, Christiano, Petroleo Brasileiro SA)
95	27	4	38	4	38	very likely as a likelihood term should be italicized. However, the author team should also consider whether a confidence assignment may be more appropriate given the qualitative nature of this finding. (Mach, Katharine, IPCC WGII TSU)
96	27	4	42	4	42	It would be better to specify the benefits of this mode of preparation, to avoid potential interpretation of a prescriptive formulation. (Mach, Katharine, IPCC WGII TSU)
97	27	4	45	4	46	Can more be said about these synergies more specifically? (Mastrandrea, Michael, IPCC WGII TSU)
98	27	5	5	5	5	Maximum biodiversity in relation to what baseline? (UNITED STATES OF AMERICA)
99	27	5	6	5	6	What is "rapidly developing"? (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
100	27	5	7	5	8	Where did you take the information in which you say: poverty and inequality are decreasing continuosly, but at a low pace; while adaptative capacity is improving related to poverty allviation? You should include your cites. (Calvo - Solano, Oscar, Center for Geophysical Research)
101	27	5	7	5	11	On line 7 and 11, use of the word "remarkable" is a bit ambiguous--it would be preferable to use more specific wording indicating why these aspects are remarkable. (Mach, Katharine, IPCC WGII TSU)
102	27	5	8	5	8	Poverty alleviation does not necessarily lead to enhanced adaptive capacity. Justification is needed here (references?). (UNITED STATES OF AMERICA)
103	27	5	10	5	10	Is land cover change a driver or and outcome (result) of other stressors (e.g., demographic, economic). It would seem to be the latter, as described in line 14-15. (UNITED STATES OF AMERICA)
104	27	5	10	5	11	This sentence is difficult to comprehend. (UNITED STATES OF AMERICA)
105	27	5	11	5	11	remarkable is an odd choice of word, "important" might be more appropriate. (Halladay, Kate, Met Office Hadley Centre)
106	27	5	17	5	18	Which countries are included in "some countries"? (UNITED STATES OF AMERICA)
107	27	5	19	5	19	Casual usage of "likely" should be avoided, as it is a reserved likelihood term. (Mach, Katharine, IPCC WGII TSU)
108	27	5	24	5	25	Do the authors mean "potential is for agricultural expansion" not "development"?\nThere are many regions with huge potential for ag development but only SA with potential for agricultural expansion (UNITED STATES OF AMERICA)
109	27	5	31	0	0	Section 27.1.2: Please provide specific line of sight to AR4 and SREX for the statements made in this section. (Mastrandrea, Michael, IPCC WGII TSU)
110	27	5	31	6	40	No mention of results from RCP scenarios here. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
111	27	5	33	0	0	Section 27.1.2.1. References must be provided for all statements in this section. At a minimum, the relevant chapter(s) should be specified, and ideally, specific relevant chapter sections for each finding should also be indicated. For example, line-of-sight references would be preferable in place of quotations on lines 48-52. Additionally, all calibrated uncertainty language should be italicized--for instance, on lines 48-52 and on line 46 if "likely" is being used as a calibrated likelihood term. (Mach, Katharine, IPCC WGII TSU)
112	27	5	44	5	46	It might be good to mention (here, or at a more general place of the chapter), that the world´s present emissions curve is close or slightly above scenario A1FI (Hoffmann, Dirk, Bolivian Mountain Institute - BMI)
113	27	5	45	5	45	Suggest use of standard uncertainty language to qualify these findings. (UNITED STATES OF AMERICA)
114	27	6	1	6	3	Provide actual examples and references for this. (UNITED STATES OF AMERICA)
115	27	6	8	0	0	Section 27.1.2.2 References must be provided for all statements in this section. At a minimum, the relevant chapters should be specified, and ideally, specific relevant chapter sections for the findings could be indicated. Additionally, all calibrated uncertainty language used (likelihood terms and levels of confidence) should be italicized. (Mach, Katharine, IPCC WGII TSU)
116	27	6	8	6	8	Explain the acronym SREX, someone who starts with the reading of this document specifically, would not understand what it means. (Bulege-Gutiérrez, Wilfredo, Universidad Continental)
117	27	6	10	6	22	The section starts by saying that there is not enough good long-term data to perform robust analyses of trends, however language assciated with trend descriptions implies that projected trends by models are believed as certain. Uncertainty associated with model projections need to be acknowledged. (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
118	27	6	19	6	22	According to Arroyo J (2012) correlated the increase of rainfall with the snow increasing and the water disponibility, also the temperature increase, but it results in negative impacts in the glacier mass receding as a result of anthropogenic activities such as experiential tourism, reforestation, cattle raising, infiltration trenches and cultural activities based on beliefs of the population that develop in the nearest gaps to the high Andean glaciers, such as the land payment in the Junin, Peru . For more information check the magazine "Apuntes de Ciencia & Sociedad " Vol 1, No 2, www.ucci.edu.pe/revista-apuntes (Bulege-Gutiérrez, Wilfredo, Universidad Continental)
119	27	6	38	6	40	That sentence seems disconnected from the rest of the section. (UNITED STATES OF AMERICA)
120	27	6	43	7	11	This section suggests that variability itself is a problem, rather than changes in variability (which is assumed to be what the authors mean). (UNITED STATES OF AMERICA)
121	27	6	47	9	26	Section 27.2.1: Please update to ensure consistency and cross-referencing with relevant WGI AR5 chapters (in particular Ch2 and Ch14), the WGI AR5 Annex I: Atlas of global and regional climate projections, and the SREX Chapter 3 in regards to extremes. Currently, there are only general WGI AR5/SREX references in the captions of tables 27-1 and 27-2. The link to the WGI assessment has to be strengthened in the text. (Plattner, Gian-Kasper, IPCC WGI TSU)
122	27	6	49	8	11	The section includes a series of observed phenomena at mixed temporal and spatial scales. There is no attempt to interpret any of the changes. What do those changes mean? What are possible physical causes? This section would benefit from assessment. (UNITED STATES OF AMERICA)
123	27	6	50	6	52	Observed changes in … This sentence is confusing. I would expect it to say that observed changes in some regions have been attributed to natural climate variability while in other regions they have been attributed to land use change, e.g increased urbanisation. (Halladay, Kate, Met Office Hadley Centre)
124	27	6	51	6	52	The text states "while human influences... are attributed to land use change." It may be the reverse: land use change is a result of anthropogenic drivers; this land use change then has implications for climate processes and outcomes. (UNITED STATES OF AMERICA)
125	27	7	6	7	8	The timeframe of observation for these anomalies should be specified. (Mach, Katharine, IPCC WGII TSU)
126	27	7	8	7	8	What is anomalous about the "anomalous rainfall"? Is there something that falls outside of normal climate variability? The message here is not clear. (UNITED STATES OF AMERICA)
127	27	7	8	7	11	Please specify what "anomalies" and "variations" are being referred to here. (UNITED STATES OF AMERICA)
128	27	7	11	7	11	Need to explain relevance of study by Arias et al. (2012). (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
129	27	7	13	7	14	References needed for the coastal cooling: Falvey and Garreaud (2009, doi:10.1029/2008JD010519), Gutierrez et al. (2011, doi:10.1029/2010GL046324) (Takahashi, Ken, Instituto Geofísico del Perú)
130	27	7	14	7	14	Why presumably? What is the confidence in this statement? (UNITED STATES OF AMERICA)
131	27	7	24	7	25	Mention that the El Niño and La Niña are southern oscillations (ENSO). (Bulege-Gutiérrez, Wilfredo, Universidad Continental)
132	27	7	25	7	25	This line mentions an example from the La Plata Basin, it would be helpful to identify in which country this river is located. (UNITED STATES OF AMERICA)
133	27	7	25	7	25	What is the meaning of a drought in NEB during a La Nina year? Isn't that the meaning of probabilistic effect of ENSO on rainfall? Not all El Nino years result in droughts either... This type of comments reduce the scientific soundness of the chapter. (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
134	27	7	32	7	38	Vuille et al (2008, doi:10.1016/j.earscirev.2008.04.002) provide a review of changes in climate in the Andes. Particularly they indicate that "climate in the tropical Andes has changed significantly over the past 50–60 years. Temperature in the Andes has increased by approximately 0.1 °C/ decade, with only two of the last 20 years being below the 1961–90 average. Precipitation has slightly increased in the second half of the 20th century in the inner tropics and decreased in the outer tropics. The general pattern of moistening in the inner tropics and drying in the subtropical Andes is dynamically consistent with observed changes in the large-scale circulation, suggesting a strengthening of the tropical atmospheric circulation." This should be discussed. (Takahashi, Ken, Instituto Geofísico del Perú)
135	27	7	33	7	38	Moreover, a positive significant trend in mean temperature of 0.09 C per decade has been detected over the Peruvian Andes by Lavado et al., (2012), considering the 1965-2007 period: Lavado W., Labat D., Ronchail J., Espinoza JC., Guyot JL. 2012. Trends in rainfall and temperature in the Peruvian Amazon-Andes basin over the last 40 years (1965-2007). Hydrological Processes. doi: 10.1002/hyp.9418 (Espinoza, Jhan Carlo, Instituto Geofísico del Perú (IGP))
136	27	7	35	7	36	To the text "In the northern Ands (Colombia, Ecuador) changes in temperature and rainfall in 1961-1990 have been identified by Villacis (2008)" introduce a citation related to the Table 27 so "In the northern Ands (Colombia, Ecuador) changes in temperature and rainfall in 1961-1990 have been identified by Villacis (2008) see Table 27-1" (Pabón-Caicedo, José Daniel, Universidad Nacional de Colombia)
137	27	7	50	7	50	The reference Espinoza et al 2012 mentionned in the bibliography is not correct (it does nor refer to extreme events in the Amazon basin). Add: Espinoza, J. C., J. Ronchail, J. L. Guyot, C. Junquas, G. Drapeau, Martinez J.M., Santini W., P. Vauchel, W. Lavado, Espinoza R. 2012. From drought to flooding: understanding the abrupt 2010-2011 hydrological annual cycle in the upper Solimões River (Western Amazon basin). Environ. Res. Lett. 7 024008 doi:10.1088/1748-9326/7/2/024008 (Ronchail, Josyane, LOCEAN - Laboratory of Oceanography and Climate)
138	27	7	50	7	50	Add Espinoza et al. 2013 that also talks about extremes in the Amazon basin: Espinoza, J.C., Ronchail, J., Frappart, F., Lavado, W., Santini,W., Guyot J.L. 2013. The major floods in the Amazonas River and tributaries (Western Amazon basin) during the 1970 - 2012 period: A focus on the 2012 flood. J. Hydrometeor. doi:10.1175/JHM-D-12-0100.1. (Ronchail, Josyane, LOCEAN - Laboratory of Oceanography and Climate)
139	27	7	50	7	50	Include here, references of Satyamurty et al (2013) and Espinoza et al. (2013) about the 2012 flood in Amazon basin: Espinoza JC., Ronchail J., Frappart F., Lavado W., Santini W., Guyot JL. The major floods in the Amazonas River and tributaries (Western Amazon basin) during the 1970 – 2012 period: A focus on the 2012 flood. In Press, Journal of Hydrometeorology. doi: 10.1175/JHM-D-12-0100.1. Satyamurty, P., C. P. W. da Costa, A. O. Manzi, and L. A. Candido (2013), A quick look at the 2012 record flood in the Amazon Basin, Geophys. Res. Lett., 40, 1396–1401, doi:10.1002/grl.50245. (Espinoza, Jhan Carlo, Instituto Geofísico del Perú (IGP))
140	27	8	4	0	0	What is SAMS (de Campos, Christiano, Petroleo Brasileiro SA)
141	27	8	8	8	10	precipitation to be more responsive - I am not sure what the response of being compared with. Also "the atmosphere influence is more significant" - again I am not sure of the comparison. I think more explanation may be required. (Halladay, Kate, Met Office Hadley Centre)
142	27	8	14	0	0	27.2.1.2. It would be good to have a sentence about the importance of the interannual rainfall distribution (and not just looking at global values for a full year), which is often much more meaningfull to farmers and agricultural production in general, especially in the tropical Andes (Hoffmann, Dirk, Bolivian Mountain Institute - BMI)
143	27	8	14	9	26	This section does not discuss any of the regional climate projections for CA/SA. For example, Marengo et al. CLIMATE DYNAMICS Vol.38 1829-1848; Carril et al., Performance of a multi-RCM ensemble for South Eastern South America CLIMATE DYNAMICS Vol.39, 2747-2768 (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)

#	Ch	From Page	From Line	To Page	To Line	Comment
144	27	8	16	23	23	CMIP5 is Jones and Carvalho (2013) that could be referenced here. (de Campos, Christiano, Petroleo Brasileiro SA)
145	27	8	32	8	32	Explain the meaning of "expriments", perhaps it is referred to "experiments" (Bulege-Gutiérrez, Wilfredo, Universidad Continental)
146	27	8	37	8	43	In view of the emissions curve since the development of SRES, I would suggest that A2 would rather be called an intermediate (but not a "high" emissions scenario (Hoffmann, Dirk, Bolivian Mountain Institute - BMI)
147	27	8	37	8	43	What is the uncertainty level of these projections? (UNITED STATES OF AMERICA)
148	27	8	49	8	51	It would be interesting to have a few words indicating what are the observational constraints mentioned. (Silva Dias, Maria Assuncao, University of Sao Paulo)
149	27	8	50	8	51	It should be important to include a paragraph or a few ideas in which you describe more widely a comparison between the observational constraints and what CMIP3 ensemble is showing. (Calvo - Solano, Oscar, Center for Geophysical Research)
150	27	9	7	9	17	Are there any references for this paragraph? (Silva Dias, Maria Assuncao, University of Sao Paulo)
151	27	9	11	9	11	Explain the meaning of "4 C" (Bulege-Gutiérrez, Wilfredo, Universidad Continental)
152	27	9	12	9	12	Add the degrees Celsius symbol at the 1.8 temperature value , because some values have been added this symbol and others do not have it, I suggest the use of the symbol in all cases. (Bulege-Gutiérrez, Wilfredo, Universidad Continental)
153	27	9	13	0	0	Cerrado forest? In most of global biome classifications cerrado is a savana/grassland biome not forest. (de Campos, Christiano, Petroleo Brasileiro SA)
154	27	9	17	9	17	Even in SESA where rainfall projections reach +30%, those projections also include changes of -15%. In fact all projections of rainfall are +/- X%. It would help the readers if authors put these numbers in context. (UNITED STATES OF AMERICA)
155	27	9	33	9	33	Explain what is referred with the term "land cover change", what relation exists with "land use change", it seems there is no much relation with the subtitle. (Bulege-Gutiérrez, Wilfredo, Universidad Continental)
156	27	9	37	9	37	The most recent article on deforestation in Latin America is Aide et al., 2013. (UNITED STATES OF AMERICA)
157	27	9	42	9	46	Paramo ecosystems also not reflected in the policies and strategies of mitigation and adaptation to climate change (Velez, Jorge Julian, Universidad Nacional de Colombia Sede Manizales)
158	27	9	48	9	54	Please see more recent estimates in Aide et al., 2013. (UNITED STATES OF AMERICA)
159	27	9	50	9	50	21,940km2 per year? The figure 27-3 bring different number, 2005 19.000km2 and 2010 7.000km2, an average of 10.000 km2 per year! Page 10 line 8/11 also highlight an expressive decrease. It seems to be wrong here. (de Campos, Christiano, Petroleo Brasileiro SA)
160	27	9	50	9	52	In the statement “Bolivia, Venezuela and Argentina follow in deforested area (Figure 27-2) with all four countries accounting for 54% of the forest loss in the world for the same period", the similarity established between Bolivia, Venezuela and Argentina respect to Brazil is incorrect, because the land amount deforested in Brazil is at least one order of magnitude higher than the rest of countries. I suggest to change the statement to “Bolivia, Venezuela and Argentina follow in deforested area with 5.5%, 5.2% and 4.3% of the total world deforestation, respectively (FAO 2010)”. (VENEZUELA, BOLIVARIAN REPUBLIC OF)
161	27	10	6	10	21	Although it is true that the number of hectares of forest loss is smaller in CA due to the smaller land area in the region, these two paragraphs present a false picture of the trends in Central America. CA has the highest rate of deforestation of anywhere in the world (-1.23% between 2005-2010 and a much higher than the rate in South America at -0.41% during the same period) even when considering the small amounts of forest gain in Costa Rica, El Salvador and Panama, these positive trends are overwhelmed by the deforestation trends in the other countries. \nSource: FAO. Global Forest Resource Assessment 2010. http://www.fao.org/forestry/fra/fra2010/en/ (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
162	27	10	12	10	12	It would be helpful to include the percent of global deforestation that is represented by Brazil. (UNITED STATES OF AMERICA)
163	27	10	18	10	19	Detail the acronym PRODES and INPE, in every country can mean something different, for example in Brazil it is a research dedicated institution, in Peru is an institute that manage the penitentiary system. (Bulege-Gutiérrez, Wilfredo, Universidad Continental)
164	27	10	35	10	37	Please clairfy what level of "intensive migratory processes" this line refers to - internally within the country to urban areas or international migration? Or both? (UNITED STATES OF AMERICA)
165	27	10	42	10	48	This paragraph conflates two distinct issues - deforestation by small farmers and deforestation on indigenous lands. Data from a study on indigenous territories is used to back up a statement that shifting cultivation actually has a low deforestation rate. Although some indigenous communities may also be small farmers, this is not always the case. Suggest removing the indigenous study reference or clarifying the distinction. (UNITED STATES OF AMERICA)
166	27	11	8	0	0	1,4 Mha, could be presented in km2? (de Campos, Christiano, Petroleo Brasileiro SA)
167	27	11	17	0	0	If palm oil is 75% produced in state of Bahia (page 11 line 21),. The oil produced have increased in the last decade, while the deforestation has decreased in Brazil. This deforestation in SA link is weak. The sentence should be rephrased and reference scientific articles. (de Campos, Christiano, Petroleo Brasileiro SA)
168	27	11	21	11	22	Pará State has the major palm planted area and is also is the most important palm oil producer in Brazil, not Bahia. (Almeida, J., 2012, Criação de Valor Sustentável e Óleo de Palma no Brasil, FGV, São Paulo, Brasil), (Projeto Potencialidades Regionais Estudo de Viabilidade Econômica DENDE, Suframa, FGV, MDIC, 2003) (Real, Marcia, Universidade Federal Fluminense)
169	27	11	25	11	31	Rather than affecting savannas, numerous works show that fire is a determinant in its origin, presence, permanence, and even stability, rather than in affectation. Recurrent burning is a natural process in this system. Please, consider contributions on tropical savannas such as Grace, J., San José, J., Meir, P., Miranda, H. & Montes, R. 2006. Productivity and carbon fluxes of tropical savannas. J. Biogeogr. 33:387-400 and San José, J. & Montes, R. 2007. Resource apportionment and net primary production outcome across the Orinoco savanna-woodland continuum. Acta Oecol. 32:243-253. Various works from Steve Archer and Juan F. Silva on savannas are also important to consider in this discussion. (Thielen Engelbertz, Dirk, Instituto Venezolano de Investigaciones Cientificas)
170	27	11	28	11	29	The statement “An estimation of burned land in Latin America by Chuvieco et al. (2008) also concluded that, proportionally, the most affected ecosystems were the savannas of Colombia and Venezuela”, since savanna by definition includes the key aspect of the recurrent incidence of fire (e.g. Eiten, 1972; San José & Fariñas, 1983, 1991) it is not clear what does mean “affected”?, does it mean a reduction of savanna extension? If it does, please complete it with something like “where land of savanna is reducing". If it does not, please delete the statement. (VENEZUELA, BOLIVARIAN REPUBLIC OF)
171	27	11	38	11	39	The wording of this sentence should be carefully considered to avoid a prescriptive formulation. (Mach, Katharine, IPCC WGII TSU)
172	27	11	40	11	44	Somewhat contradictory: while recognizing that indigenous groups are both victims and perpetrators of LUCC, the text would be clearer if the distinction could be made in relation to specific regions where the evidence is found. (UNITED STATES OF AMERICA)
173	27	11	43	11	45	This directly contradicts information presented on page 10 lines 43-45. (UNITED STATES OF AMERICA)
174	27	12	17	12	17	Please clarify the dates between which poverty declined from 44% to 33% ? (UNITED STATES OF AMERICA)
175	27	12	33	12	34	To what country/region do these statements apply? (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
176	27	12	49	13	2	That paragraph is quite confusing. It is not cear what the message is that the authors are trying to convey. Please reconsider this pararaph and the message that is intended. (UNITED STATES OF AMERICA)
177	27	13	5	33	16	In section 27.3 can improve if they include an sub-section on climatic policies. I recommend the revision of a paper that analize the public policies (Lugo-Morin, 2012).\nComplete reference: Lugo-Morin, Diosey Ramón (2012). Políticas rurales en el ámbito de las estrategias de adaptación al cambio climático. Spanish Journal of Rural Development, vol. 3, núm. 4, pp. 13-22.\n (Lugo Morin, Diosey Ramon, Universidad Europea de Energia y Medio Ambiente)
178	27	13	9	15	5	And table 27-3. many of the studies listed were published pre-AR4. It would be more valuable to focus on studies published since then. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)
179	27	13	10	13	11	The timeframe for this statistic should be specified. (Mach, Katharine, IPCC WGII TSU)
180	27	13	29	13	29	Increased runoff due to what? Land use changes, agricultural practices? Please clarify. (UNITED STATES OF AMERICA)
181	27	13	38	0	0	Does strong interannual and decadal variability necessarily imply a lack of clarity in trends or simply that it takes longer time series to detect such trends? (UNITED STATES OF AMERICA)
182	27	13	42	13	42	The sentence in parentheses must be improved by: "(e.g. increasing trends during the high-water period in Peruvian and Colombian Amazons and decreasing trend during the low-water period in Peruvian and Bolivian Amazons) (Espinoza, Jhan Carlo, Instituto Geofísico del Perú (IGP))
183	27	13	43	13	43	Insert this sentence: Guimberteau et al 2013, using a multi GCMs approach to get climate simulations and the land surface model ORCHIDEE (IPSL, France) to project discharge values in the sub-basins of the Amazon, show that in the horizon 2046-2050 low stage discharge will decrease in most basins, especially in the south and in the northernmost basins (Negro and Branco rivers) while high stage discharge may increase in the north-western basins. (Ronchail, Josyane, LOCEAN - Laboratory of Oceanography and Climate)
184	27	13	45	13	46	Are you sure that the only study done for rivers in CA is the one made by Day in (2011)? (Calvo - Solano, Oscar, Center for Geophysical Research)
185	27	13	48	13	53	The onset of rapid glacier retreat in the tropcial Andes is generally placed in the late 70s or early 80s: "Consistent with most mountain glaciers worldwide, glaciers in the tropical Andes have been retreating at an increasing rate since the late 1970s." (Rabatel et al. 2013. Current state of glaciers in the tropical Andes: a multi-century perspective on glacier evolution and climate change, The Cryosphere, 7, 81-102, p 97). There are numerous other sources to support this, the break point likely being the 1976 Pacific climate shift (p 96). (Hoffmann, Dirk, Bolivian Mountain Institute - BMI)
186	27	13	48	14	7	It is important to clarify to the lectors that the impact of the glaciers melting is only remarkable in Andean rivers that flow towards the Pacific or in the upstream rivers that flow towards the Atlantic (e.g. small rivers). Indeed, impact of glaciers melting is imperceptible in the main hydrological system of SA (e.g. Amazon, Orinoco, La Plata) (Espinoza, Jhan Carlo, Instituto Geofísico del Perú (IGP))
187	27	13	52	13	53	The author team is encouraged to provide this calibrated uncertainty language parenthetically at the end of the sentence to maximize directness of wording. (Mach, Katharine, IPCC WGII TSU)
188	27	14	2	14	2	of is missing in the sentence. (UNITED STATES OF AMERICA)
189	27	14	21	0	0	The latest article by Nakaegawa et al. (2013) is the updated version of Nohara et al. (2006). Nakaegawa et al. (2013) used the much higher horizontal resolution version than Nohara et al. (2006). Results are consistent between them. In addition, Nakaegawa et al. (2013) presented statistically significant increase for the both basins (Table III) and robust changes for certain months for both basin (Figure 8). This latest results may be also included:\nNakaegawa, T., A. Kitoh, M. Hosaka. 2013: Discharge of major global rivers in the late 21st century climate projected with the high horizontal resolution MRI-AGCMs -overview-. Hydrological Processes. 27. DOI: 10.1002/hyp.9831 (Nakaegawa, Toshiyuki, Meteorological Research Institute)

#	Ch	From Page	From Line	To Page	To Line	Comment
190	27	14	21	14	23	After the end of this sentence includes: Nakaegawa et al. (2013) did a study with the same 24 basins included in Nohara et al. (2006). Comparing these studies, Nakaegawa et al. (2013) obtained simulated river discharges closer to observed values in 4 basins, while results for the remaining 20 basins did not show significant differences. The corresponding references are: T. Nakaegawa, A Kitoh, M. Hosaka. 2013: Discharge of major global rivers in the late 21st centrury climate projected with the high horizontal resolution MRI-AGCMs-overview. Hydrological Processes. 27 DOI:10.1002/hyp. 9831. (Fábrega, José, Universidad Tecnológica de Panamá)
191	27	14	32	14	37	It would be helpful to the reader if the authors would explain the reasons why decreased inflows are expected. (UNITED STATES OF AMERICA)
192	27	14	39	0	0	Another study related to climate scenarios, glaciers and hydrology is the following: "Assessment of the impacts of climate change on mountain hydrology. Development of a methodology through a case study in the Andes of Peru". This study was conducted by the World Bank (2011) in collaboration with Stockholm Environment Institute (SEI). SEI applied WEAP (Water Evaluation and Planning System) to assess the climate change impacts on the hydrology of three basins in Peru (Santa, Rimac and Mantaro). The three basins depend on glaciers and are relevant for the generation of hydropower energy, thus SEI developed a glacier-module in WEAP to evaluate the glacier dynamics and its contribution to runoff.\nThe study is available in the following World Bank´s website: https://openknowledge.worldbank.org/handle/10986/2278 \nPlease find attached a policy paper based on the study (in spanish). The name of the pdf files is: (Iju Attach 1) SEI Glaciares Peru (Iju Fukushima, Ana, Inter-American Development Bank)
193	27	14	43	14	45	I suggest it should read: "...these studies indicate that glaciers WILL continue to retreat...." (instead of "may", as this is very much certain) (Hoffmann, Dirk, Bolivian Mountain Institute - BMI)
194	27	15	5	15	5	No mention is made to permafrost changes especially in the High Andes more arid regions. Studies are still lacking and positions contrasting, but surely permafrost needs to be mentioned. See contrasting papers by Azzocar and Brenning (2010) and Arenson and Jackob (2010). Arenson L, Jackob M. 2010. The Signi?cance of Rock Glaciers in the Dry Andes – A Discussion of Azocar and Brenning (2010) and Brenning and Azocar (2010). Permafrost and Periglac. Process. 21: 282–285. Azzocar GF, Brenning A. 2010. Hydrological and geomorphological significance of rock glaciers in the dry Andes, Chile (27°–33°S), Permafrost and Periglac. Process. 21: 42–53. (Vieira, Goncalo, University of Lisbon)
195	27	15	10	15	13	It would be useful to further clarify the distinction here, possibly cross-referencing discussion in Chapter 19 of the evolution in definitions of vulnerability from AR4 to AR5. In the AR5 context, exposure and vulnerability are considered separate (see AR5 WGII Glossary), while in AR4, exposure was considered a component of vulnerability. Both vulnerability and exposure interact with physical climate changes to determine risks. (Mastrandrea, Michael, IPCC WGII TSU)
196	27	15	12	15	13	I suggest to drop the word "communities", as whole regions along the tropical Andes must be considered highly vulnerable. (Hoffmann, Dirk, Bolivian Mountain Institute - BMI)
197	27	15	13	15	13	certain regions in CA and communities along the tropicsal Andes What "regions in CA"? Why only tropical Andes? What about Bolivia, Altiplano? (UNITED STATES OF AMERICA)
198	27	15	17	15	17	Regarding "changes in seasonality", what is the level of certainty? Suggest applying IPCC certainty language. (UNITED STATES OF AMERICA)
199	27	15	19	0	21	The sentence "the need to develop…" needs to be revised. (Yao, Xiangjun, Food and Agriculture Organization of the United Nations (FAO))
200	27	15	26	15	27	What is the level of certainty of these projected changes? Suggest applying IPCC certainty language. (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
201	27	15	35	0	0	Section 27.3.1.2. A good example of adaptation to glacier retreat is the project "Adaptation to the impacts of rapid glacier retreat in the tropical Andes". This is a regional project (Bolivia, Colombia, Ecuador and Peru) funded by the SCCF through the World Bank aimed at implementing specific adaptation measures in glaciated basins and establishing a glacier monitoring network in the region. The adaptation measures are oriented to improve water management at basin level, including conservation of native pastures, reforestation, small irrigation systems and integrated watershed management plans considering climate change adaptation aspects. Other adaptation measures include use of resilient crops, recuperation of agrobiodiversity and capacity building activities at local level to cope with climate change challenges.\nPlease find attached the Project Appraisal Document. The name of the pdf file is: (Iju Attach 2) PAD PRAA (Iju Fukushima, Ana, Inter-American Development Bank)
202	27	15	52	15	54	It would be helpful to know what some of those challenges and opportunities are, rather than just that they have been studied. (UNITED STATES OF AMERICA)
203	27	16	8	16	11	This discussion would be improved by an assessment of the findings from the studies of Broad et al., Sankaasubramain, and Campos and Carvalho. As written, the authors simply indicate that they have studied a problem. (UNITED STATES OF AMERICA)
204	27	16	8	16	14	This discussion should emphasize that all of these very good papers are based on managing current climate variability (interannual) and not on long-term projections. (UNITED STATES OF AMERICA)
205	27	16	8	16	17	Adaptation strategies for smallholders in Northeast Brazil are discussed in Sietz et al. (2006). Pathways to reduce the widespread degradation of natural resources, sustain wellbeing and thus reduce smallholders vulnerability receive particular attention. Strategies include adjustments of agricultural production to thresholds of sustainable yield extraction as well as support to investments in resouce improvements. REFERENCE: Sietz, D., Untied, B., Walkenhorst, O., Lüdeke, MKB., Mertins, G., Petschel-Held, G. and Schellnhuber, HJ. (2006) Smallholder agriculture in Northeast Brazil: Assessing heterogeneous human-environmental dynamics. Reg. Environ. Chang. 6(3): 132-146. (sietz, diana, Wageningen University)
206	27	16	8	16	17	Chapter 20, page 9 line 18/20, there is also an example where client-list politics undermined the adaptation policies in Brazil. It should be written here. (de Campos, Christiano, Petroleo Brasileiro SA)
207	27	16	27	16	30	It would be very informative to explain what those interventions are, i.e., describe at least some of the interventions instead of just mentioning the references. (UNITED STATES OF AMERICA)
208	27	16	28	16	32	Suggest that the authors provide level of confidence in these statements. (UNITED STATES OF AMERICA)
209	27	16	45	16	54	Most of this is a repetition of the section that discusses land use changes and it could be consolidated/deleted. (UNITED STATES OF AMERICA)
210	27	16	46	16	54	Please consider overlap of this material with section 27.2.2.1. (Mastrandrea, Michael, IPCC WGII TSU)
211	27	17	9	17	10	Insert additional references relevant to the fact that future vegetation changes themselves (in response to climate change) can alter the local, and potentially regional climate, with notable but uncertain impacts over the Amazon: Jiang, D., Zhang, Y., and Lang, X.: Vegetation feedback under future global warming, Theor. Appl. Climatol., 106, 211–227,2011; Falloon, P. D., Dankers, R., Betts, R. A., Jones, C. D., Booth, B. B. B., and Lambert, F. H.: Role of vegetation change in future climate under the A1B scenario and a climate stabilisation scenario, using the HadCM3C earth system model, Biogeosciences 9, 4739-4756,doi:10.5194/bg-9-4739-2012; Strengers, B. J., M¨uller, C., Schaeffer, M., Haarsma, R. J., Severijns, C., Gerten, D., Schaphoff, S., van den Houdt, R., and Oostenrijk, R.: Assessing 20th century climate–vegetation feedbacks of land-use change and natural vegetation dynamics in a fully coupled vegetation–climate model, Int. J. Climatol., 30, 2055–2065.doi:10.1002/joc.2132, 2010 (Falloon, Peter, Met Office Hadley Centre)
212	27	17	14	17	14	Please clarify what is meant by "declining" here, and what this decline is due to. What is the role of climate change, if any? (Mastrandrea, Michael, IPCC WGII TSU)

#	Ch	From Page	From Line	To Page	To Line	Comment
213	27	17	14	17	18	Consider adding discussion of Swenson et al., 2012 "Plant and animal endemism in the eastern Andean slope" BMC Ecology vol 12. (UNITED STATES OF AMERICA)
214	27	17	18	17	18	Please clarify what is meant by "threatened" here--by what? What is the role of climate change, if any? (Mastrandrea, Michael, IPCC WGII TSU)
215	27	18	8	18	26	The writing implies that all ecosystem services (ES) help adaptation to climate change. Although this is true for many ES, it is not the case for all and this should be clarified. (UNITED STATES OF AMERICA)
216	27	18	10	18	10	Before moving the discussion from EbA to PES, I think some additional words may be needed on EbA in the context of CA and SA. Ecosystem restoration or conservation projects in CA and SA have started to recognize their role in EbA and, sometimes, to consider their dual contribution to adaptation and mitigation. For example, the forestry project of the Chinchiná watershed, registered in the Clean Development Mechanism, also contributes to hydrological regulation, biodiversity conservation and community adaptation through new activities and incomes (Locatelli et al., 2011). [Locatelli B., Evans V., Wardell A., Andrade A., Vignola R., 2011. Forests and Climate Change in Latin America: Linking Adaptation and Mitigation. Forests 2(1): 431-450. doi:10.3390/f2010431]\n (Locatelli, Bruno, CIRAD-CIFOR)
217	27	18	26	18	28	I suggest to include a short paragraph along the following lines: "One important tool for the conservation of ecosystems as a means of climate change adaptation is the effective management of natural protected areas, and, where necessary, the creation of new protected areas within national protected area systems (see Hoffmann et. al. 2011 and Hoffmann & Oetting 2011). Participatory approaches or mecanisms for co-management help to involve local (indigenous) communities and bridge the gap between social and ecological needs." Full citations: HOFFMANN, D., OETTING, I., ARNILLAS, C. A. & ULLOA, R. 2011. Climate Change and Protected Areas in the Tropical Andes. In: HERZOG, S. K., MARTÍNEZ, R., JOERGENSEN, P. M. & TIESSEN, H. (eds.) Climate Change and Biodiversity in the Tropical Andes. Inter-American Institute for Global Change Research (IAI) Scientific Committee on Problems of the Envrionment (SCOPE).\nHOFFMANN, D. & I. OETTING (2011): Climate Change in Bolivia. In: Leal Filho, Walter (Ed.): The Economic, Social and Political Elements of Climate Change, Series: Climate Change Management, Springer.\n (Hoffmann, Dirk, Bolivian Mountain Institute - BMI)
218	27	18	28	18	40	See also Oestreicher et al., 2009 Avoiding deforestation in Panamanian protected areas. Global Environmental Change. 19: 279-291. Also: perhaps the chapter should make explicit the challenge of creating effective protected areas when boundaries of such areas are likely going to need to be flexible as ecosystem properties change with climate change. This is likely to be a very difficult challenge for management of biodiversity in the future. (UNITED STATES OF AMERICA)
219	27	18	34	18	34	Use of "somehow" is a bit ambiguous, and it would be preferable to indicate more specifically what is meant. (Mach, Katharine, IPCC WGII TSU)
220	27	18	47	20	24	27.3.3.1 distinction between observations and projections appears warranted. The text on corals, mangroves reads very well.\nbalancing of content and cross-referencing to sectoral chapters 5 and 6 as well as the cross-chapter boxes on ocean acidification and coral reefs should be considered. (Menzel, Lena, Alfred Wegener Institute for Polar and Marine Research)
221	27	18	54	18	54	27.3.3.1 Cross reference to chapter 5 appears warranted. (Menzel, Lena, Alfred Wegener Institute for Polar and Marine Research)
222	27	19	2	19	4	27.3.3.1 detection and attribution has not carefully been included in the health index which is not commonly used by regional chapters?. (Menzel, Lena, Alfred Wegener Institute for Polar and Marine Research)
223	27	19	7	19	9	The fact that population is located within 200km of the coast does not make it coastal. This is a huge assumption that should be pointed out. Does this mean that the entire countries of Panama and Salvador, Chile are coastal? (Lacambra Segura, Carmen, Grupo La era)

#	Ch	From Page	From Line	To Page	To Line	Comment
224	27	19	7	19	15	This paragraph groups SA and CA with the Caribbean region. Is the Caribbean intended to be included in this chapter? (UNITED STATES OF AMERICA)
225	27	19	10	19	10	what are the threats? Climate change? Overpopulation? Ecosystem degradation? Land use? Overexploitation? (Lacambra Segura, Carmen, Grupo La era)
226	27	19	10	19	11	This would be better with a reference and more importantly with 2/3 lines that explain how this figure was obtained, and its timescale. (Lacambra Segura, Carmen, Grupo La era)
227	27	19	10	19	11	Over what timeframe has this sea level rise been observed? (Mastrandrea, Michael, IPCC WGII TSU)
228	27	19	18	19	19	What does elaborated mean in this context? Please clarify this reference. (Mastrandrea, Michael, IPCC WGII TSU)
229	27	19	21	19	22	See also Casco et al., 2011 Floods in the lower parana river. Intercencia. 36: 423-430 (perhaps for inclusion in dicussion on adaptation to flooding). (UNITED STATES OF AMERICA)
230	27	19	31	19	33	Please provide a clear sense of the range of possible outcomes, including collapse but also other outcomes. (Mastrandrea, Michael, IPCC WGII TSU)
231	27	19	40	19	45	Is there a strong basis for such long-term extrapolation based on this observed trend? This would be useful to address explicitly. (Mastrandrea, Michael, IPCC WGII TSU)
232	27	19	47	19	49	Is there a strong basis for such long-term extrapolation based on this observed trend? This would be useful to address explicitly. (Mastrandrea, Michael, IPCC WGII TSU)
233	27	19	105	19	105	Figure 27.5 this is a useful figure, there are very few technical reports considering the entire region. This figure would benefit of several clarifications, for example if the source of the data and uncertainty of the results were included and how was it achieved, is it a model based assessment? GIS? Historical data? Projections?. For example the north of the Colombian Pacific (half of the Colombian pacific in fact) is dominated by cliffs with no beaches. There is not enough data available that suggest that the Colombian Caribbean has changed 40% over the last 60 years; perhaps land use has but that could not be directly related to climate change. The figure is only showing coastal cities that flood within Brazil, Uruguay and Buenos Aires but not in the rest of the region, Esmeraldas, Guayaquil, Georgetown, Santos, Cumana, Maracaibo, Cartagena. The line of reduction of reliability of coastal structures refers to coastal protection infrastructure in place? the Colombian pacific is not protected, there are no protection structures in place. This figure could be use as a baseline for regional CVA but for that the above issues on data, methods and limitations should be clearly stated. (Lacambra Segura, Carmen, Grupo La era)
234	27	20	6	20	6	27.3.3.1 Species and productivity shifts in the upwelling systems may deserve mentioning. (Menzel, Lena, Alfred Wegener Institute for Polar and Marine Research)
235	27	20	6	20	8	There might be a misinterpretation of the paper here. Peru and Colombia were ranked 9 and 28 respectively in the report where there are 33 countries in total. There are almost 60 countries that were data deficient so could not be included in the study. For Peru fisheries is an important sector of the economy, for Colombia it is not , only 0.32% of the GDP (see http://rccp.udea.edu.co/index.php/ois/article/viewFile/489/456). (Lacambra Segura, Carmen, Grupo La era)
236	27	20	10	20	10	27.3.3.1 What does the trophic level decline refer to? (Menzel, Lena, Alfred Wegener Institute for Polar and Marine Research)

#	Ch	From Page	From Line	To Page	To Line	Comment
237	27	20	29	21	8	Perhaps this section could highlight the lack of clear adaptation options in the region. The equivalent section for agriculture in page 23 shows adaptation practices being developed in the region, this section does not and perhaps is because at the moment we are not seeing successful adaptation options in coastal areas. The only regional option presented is MPAs. The inclusion of the 2 last paragraphs in page 20 could make the reader think that those strategies are currently happening on the ground when actually there are not occurring. It is very difficult to find successful adaptation projects in coastal areas in the region that are practical (mangrove restoration, infrastructure climate screening, dunes restoration...etc). There are several projects lead by CDKN, USAID and the Caribbean Community Climate Change Center based in Belize that focus on institutions strengthening and capacity building. Information production is another adaptation strategy that is being used in the region, installing oceanographic stations and tidal gauges to actually measure change in SLR (see the INAP case in Colombia for example http://unfccc.int/files/adaptation/nairobi_work_programme/workshops_and_meetings/application/pdf/colombia_rojas_june2010.pdf.) This baseline information is a problem everywhere in the region, including in Santos the most important port in the entire region (see Alfredini, P. Arasaki E. and do Amaral F. 2008 Mean sea-level rise impacts on Santos Bay, Southeastern Brazil – physical modelling study Environ Monit Assess (2008) 144:377–387 (Lacambra Segura, Carmen, Grupo La era)
238	27	20	29	21	8	27.3.3.2 Balancing and cross-referencing with chapter 5 is warranted. (Menzel, Lena, Alfred Wegener Institute for Polar and Marine Research)
239	27	20	43	20	46	Gilman et al propose such actions globally not for the region. At the regional level almost every country in the region is implementing adaptation strategies to SLR or at least to address current coastal erosion. The problem however is that very rarely ecosystems and their services are being considered. Mangrove's protection role is more used in Asia than in Latin America. There are efforts in Puerto Rico, Brazil, Colombia, Brazil but none of these have shown clear results yet. See Lacambra C and Zahedi K (2010). Climate Change, Natural Hazards and Coastal Ecosystems in Latin-America: A Framework for Analysis In In: Hans Günter Brauch, H; Oswald Spring, U; Grin, J., Mesjasz, C; Kameri-Mbote, P., Chadha Behera, N., Chourou, B; Krummenacher, H. Facing Global Environmental Change. Environmental, Human, Energy, Food, Health and Water Security Concepts. Hexagon Series on Human and Environmental Security and Peace.\n \n (Lacambra Segura, Carmen, Grupo La era)
240	27	21	0	0	0	It would be helpful to provide the reader with context for why is important and how food security is related to climate and enviroment. As a potential approach, a recent document from FAO says, Food security exists when all people at all times have physical or economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life. To achieve food security, all four of its components must be adequate. These are: availability, stability, accessibility and utilization. A food system is a set of dynamic interactions between and within bio-geophysical and human environments that influences both activities and outcomes all along the food chain (production, storage and processing, distribution, exchange, preparation and consumption). (UNITED STATES OF AMERICA)
241	27	21	0	0	0	The changes projected in the climate of CA could affected severly the poorest people of Central America and especially their food security which could increase the current serious rate of chronic malnutrition. As an example, the recent rust problem on the coffee sector of 2012/2013 will reduce employment by 30 to 40 percent for the harvest 2013/2014 as compared to other years. At least 1.4 million people in Guatemala, El Salvador, Honduras and Nicaragua depend on the coffee sector every year and the coffee sector is suceptible to changes in climate. (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
242	27	21	0	0	0	The vulnerability of Central America in this section is not really mentioned. Please consider citing relevant FAO research: The complex Central American physical-climate characteristics and the socioeconomic processes which can occur in its territory make the area vulnerable to climate change. Two of the main concerns and environmental trends that are happening in Central America are:\nHigh deforestation: Central America is the region with the highest rate of deforestation in the world. In the last global forest resources assessment, for the period 2005-2010, the sub region showed an annual loss in forest area of 1.2 per cent, when we compare with 0.4 percent of South America and 0.41 per cent of the world (FAO 2011).\nSoil degradation: More than 60 per cent of the land for agricultural use in Central America is located through the highland areas and the 32% of the total surface used is for agricultural production, pastures and forest are exposed to degradation phenomena, this percentage can reach even 74 percent, in the case, we consider individually the agricultural lands (FAO-PESA, 2010). The factors mentioned by FAO can produce high vulnerability in the households due to poor soils. Commercial plants like Sugar cane, African palm and other industry products are also reducing the areas for production of food. (UNITED STATES OF AMERICA)
243	27	21	2	21	32	All of these examples describe non-optimal practices under current climate. "Climate change" is not needed to identify them as non-optimal practices. (UNITED STATES OF AMERICA)
244	27	21	11	23	39	May also be worthwhile to mention coffee rust in this section, since it is a current issue impacting much of the Latin America region. (UNITED STATES OF AMERICA)
245	27	21	11	23	39	The limited treatment of the Central American experience in Section 27.3.4 - Food Production Systems and Food Security undermines the challenges faced by the CA on this particular issue. Out of 14 paragraphs on the topic, only one analyzes the impacts on the Central American region. At the very least, the situation in Guatemala should be mentioned. According to the 2012 FAO Report "The State of Food Insecurity in the World," (http://www.fao.org/docrep/016/i3027e/i3027e.pdf) Guatemala is the most food insecure country in the region by percentage of the population (30.4%), and is one of only two countries within the region where the percentage has been increasing in recent years. (UNITED STATES OF AMERICA)
246	27	21	17	0	19	The sentence "agroecosystemsl…" needs to be revised. (Yao, Xiangjun, Food and Agriculture Organization of the United Nations (FAO))
247	27	21	17	21	17	Change"potential" to"potentially". (UNITED STATES OF AMERICA)
248	27	21	23	21	26	What is meant by "water yields ……. of soy"? Do the authors refer to water use efficiency? Water use/kg of grain? (UNITED STATES OF AMERICA)
249	27	21	34	22	2	Observed impacts: The chapter is only showing impacts on SESA and Brazil. The CIAT and several regional reports have case studies in other sectors. Sugar cane in central America and Colombia are examples. This report in other chapter is also mentioning coffee in Central America. Although is not peer reviewed information, Ministries of Agriculture from almost all countries will have observed impacts on agriculture. (Lacambra Segura, Carmen, Grupo La era)
250	27	21	39	21	41	This is an example of the limited usefulness of long-term rainfall projections. The scenarios commented before suggested sustained increases in rainfall. The authors should clarify. (UNITED STATES OF AMERICA)
251	27	21	46	21	47	This statement could cross-reference the relevant findings and sections of Chapter 7. (Mach, Katharine, IPCC WGII TSU)
252	27	21	48	21	50	Did those simulation experiments allowed for adjustments in crop management practices (such as changes in planting dates)? For adjustments in crop breeding (new cultivars)? (UNITED STATES OF AMERICA)
253	27	22	1	22	1	Please specify what "weather types" are being referred to here. (UNITED STATES OF AMERICA)
254	27	22	4	23	6	The uncertainty levels associated to these impacts are thought to be large. The authors are encouraged to provide some discussion of the certainty associated with these future projecions. (UNITED STATES OF AMERICA)
255	27	22	21	22	21	Correct, after the word "fruit", repeat the word "and" twice, I think it is unnecessarily. (Bulege-Gutiérrez, Wilfredo, Universidad Continental)

#	Ch	From Page	From Line	To Page	To Line	Comment
256	27	22	27	22	27	The executive summary talk about a 2025 timeframe here--please clarify. (Mastrandrea, Michael, IPCC WGII TSU)
257	27	22	33	22	35	The relevant climate/socioeconomic scenario for this projected outcome could be specified. (Mach, Katharine, IPCC WGII TSU)
258	27	22	35	22	36	Does the authors imply that frost risk will be increasing for central Brazil? (UNITED STATES OF AMERICA)
259	27	22	36	22	37	Does this mean an increase in production (yield) is expected in areas currently producing coffee or that coffee is expected to expand into Uruguay and Argentina where temperature is increasing ? When is this increase expected to occur? (UNITED STATES OF AMERICA)
260	27	22	38	22	38	When is this scenario expected to take place? What is the associated level of confidence? (UNITED STATES OF AMERICA)
261	27	22	46	23	10	There is much reluctance in this report to associate climate change with conflict risks. However, low and deteriorating socioeconomic conditions have been more widely linked to conflict. To the extent that climate change clearly has the potential to create these conditions, the direct if not direct link to conflict is a bit clearer. Of course there are a lot of mediating factors that determine whether in one place low socioeconomic conditions will lead to conflict compared to another. However, given the expected exaccerbation of climate impacts is it not reasonalble to make this potential a bit more explicit here? This is an unpopular linkage - but discussion is still justified. (Bunce, Matthew, Institute of Marine Engineering, Science and Technology)
262	27	22	49	22	51	How much wheat and rice production is there in CA? Expected to see at least mention of (if not emphasis on) maize and beans. (UNITED STATES OF AMERICA)
263	27	22	49	22	51	What is the confidence in this projection? (UNITED STATES OF AMERICA)
264	27	23	6	23	40	The uncertainty levels associated to these impacts are thought to be large. The authors are encouraged to provide some discussion of the certainty associated with these future projecions. (UNITED STATES OF AMERICA)
265	27	23	15	23	22	Are there any scenarios of what may happen to roya in coffee in CA (Hemileia vastatrix) or la broca (Hypothenemus hampei)? This year has been particularly devastating in terms of roya; if there is any knowledge of its association with climatic patterns (variability or change) it would be particularly useful to include here. The evidence may be scarce: See Ghini et al 2011 Diseases in tropical and plantation crops as affected by climate changes Plant Pathology 60: 122-132; Jaramillo et al 2009 Thermal Tolerance of the Coffee Berry Borer PloS One 4.8; Rimirez-Villegas et al 2012 A way forward on adaptation to climate change in Colombian agriculture Climatic Change 115: 611-628; Lin et al 2008 Synergies between ag intensification and climate change... BioOne.... (UNITED STATES OF AMERICA)
266	27	23	17	0	0	Suggest that the authors include the scientific name for this blight (Mal de Rio Cuarto), assuming that one exists. (UNITED STATES OF AMERICA)
267	27	23	24	23	32	In this paragraph, it is not clear what part of livestock productivity is referred to as increasing or decreasing (e.g., cattle weight? population?) "Sheep increase..."? What does it mean that beef cattle choices decline? (UNITED STATES OF AMERICA)
268	27	23	35	23	36	A citation is needed to support this conclusion. (UNITED STATES OF AMERICA)
269	27	23	37	23	39	The authors should acknowledge that, given most poor households (rural and urban) are net food purchasers, rising commodity prices tend to have a negative effect on poverty, as evident in the last commodity price hikes, as referred to here (von Braun 2007: World Food Situation: New Driving Forces and Required Actions, analysis from IFPRI). This also goes for countries for which food imports constitute a large part of expenditures. (UNITED STATES OF AMERICA)
270	27	23	45	23	46	Previously it was stated that climate impacts on maize and wheat are likely to be neutral or positive? (pg 22/ line 7)? Please clarify this apparent paradox. (UNITED STATES OF AMERICA)
271	27	24	9	24	9	It would be preferable to specify and explain why this mode of preparation is the "best way" in place of the phrase used. (Mach, Katharine, IPCC WGII TSU)

#	Ch	From Page	From Line	To Page	To Line	Comment
272	27	24	9	24	10	this statement that "The best way to be prepared to adapt to future climate change is by assisting people to cope with current climate variability" is really just an opinion that some people have, it is not a general theory that has been proven in any sense. better to soften to something like, "One approach to adapting to future..." (Lobell, David, Stanford University)
273	27	24	15	0	0	An example of insurance for weather-related risks is the "Seguro Agrario" established by the Ministry of Agriculture in Peru. The beneficiaries are the farmers in the 8 regions with the highest poverty index in the country.\nPlease find attached the Supreme Decree No. 019-2008-AG Operational regulations of the Agricultural and Livestock Trust Fund (in spanish). The name of the pdf file is: (Iju Attach 3) DS 019 2008 AG Peru (Iju Fukushima, Ana, Inter-American Development Bank)
274	27	24	18	24	18	Explain what refers the words "data base", apparently it would be related to the unique word "database" that means in that context "organized collection of data"; it is different to say "data base" to say "database" (Bulege-Gutiérrez, Wilfredo, Universidad Continental)
275	27	24	26	24	28	Extending this case, a study of vulnerability and food security of Quechua smallholders in the highlands of Peru (Peruvian Altiplano) reveals that pronounced limitations in land and livestock resources due to constrained access would need to be overcome to reduce vulnerability to climate variability including droughts and frosts. This study also shows that smallholders engaged in off-farm activities are less vulnerable to climate variability, thus better able to meet their food requirements. REFERENCE: 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)
276	27	24	28	24	31	Underlying processes of vulnerability in Northeast Brazil due to the widespread over-use of soil and water resources are revealed in Sietz et al. (2006) and Sietz et al. (2011). The studies reveal that the degradation of natural resources had not been sufficiently compensated for by technological innovations. This encouraged the orientation towards more profitable off-farm activities even further. The persistent poverty in the region highlights the fact that the off-farm activities did not provide the desired opportunities for improving human well-being. Thus, smallholders that generated income below the existential budget level faced increasing difficulty in coping with or adapting to droughts, fluctuations in commodity prices and wages or immigration pressures. REFERENCES: Sietz, D., Untied, B., Walkenhorst, O., Lüdeke, MKB., Mertins, G., Petschel-Held, G. and Schellnhuber, HJ. (2006) Smallholder agriculture in Northeast Brazil: Assessing heterogeneous human-environmental dynamics. Reg. Environ. Chang. 6(3): 132-146. ; Sietz, D., Lüdeke, MKB. and Walther, C. (2011) Categorisation of typical vulnerability patterns in global drylands. Global Environmental Change 21(2): 431-440. (sietz, diana, Wageningen University)
277	27	24	32	24	32	Migration has been an adaptation strategy too. See, e.g., the special issue on this topic in Environment Research Letters 2013, volume 7 no. 4, specifically, de Sherbinin et al, Lopez-Carr, and Gibb and Ford (and others). (UNITED STATES OF AMERICA)
278	27	24	37	24	39	I suggest adding the following reference: Milan, A. & S. Ruano (under review). Rainfall variability, food insecurity, migration and trapped populations in Cabricán, Guatemala, Climate and Development, Vol. x, No. x, pp. xx-xx. In fact, adjustement of production practices through selection of more resistant varieties and water capturing is also highlighted in this article: "participants in PRA sessions remarked the impact of droughts which affect water availability for human consumption, as well as crops during their growing process. For the former, with the support of an NGO, many households are installing water reservoirs to collect rainfall during the rainy season. For the latter, farmers have been adapting by planting crop varieties which are more tolerant to drought, such as some local corn and bean germplasms". (the page number for this quote is still to be assigned because the paper was submitted in January 2013 but is still under review). (Milan, Andrea, United Nations University Institute for Environment and Human Security)

#	Ch	From Page	From Line	To Page	To Line	Comment
279	27	24	41	24	42	again this statement (on organics) is way too strong. There is really no proof that organic systems are generally more adaptive to climate change. also, it is not very informative to say this without explaining the logic behind such a statement. similarly for the GMO statements in this paragraph (Lobell, David, Stanford University)
280	27	24	41	24	42	Organic systems can encompass a wide diversity of practices, depending what exactly is meant by organic. Where there is evidence that organic (i.e., no synthetic chemicals?) or agroecological approaches enhance adaptive capacity it should be stated (e.g., the work of Lin et al in Chiapas in relation to coffee). Crop diversity, local knowledge, soil conservation, and economic diversity are all documented strategies for managing risk in rural Latin America; whether or not local knowledge will continue to serve for adapting to rapid climate change (e.g., in the Andes) is perhaps less certain (see work of Valdivia., C, Seth., A, Gilles, J.L., Garcia, M., Jimenez, E et al. (2012). Adapting to Climate Change in Andean Ecosystems: Landscapes, Capitals, and Perceptions Shaping Rural Livelihood Strategies and Linking Knowledge Systems. Annals Association of American Geographers 100:4, 818-834. Perez, C., Nicklin, C., Dangles, O., Vanek, S., Sherwood, S., Halloy, S., Garrett, K., & Forbes, G., (2010).Climate Change in the High Andes: Implications and adaptation strategies for small- scale farmers. The International Journal of Environmental, Cultural, Economic and Social Sustainability. (UNITED STATES OF AMERICA)
281	27	24	43	24	46	Here it would be more useful to specify in what ways biotech is expected to facilitate adaptation -- e.g., via drought or salt tolerance, or disease resistance. In Eakin and Wehbe 2008 in Climatic Change, we discuss the implications of soy expansion in Argentina in terms of adaptation, arguing that what is adaptive for specific farm enterprises (expansion of soy) may have maladaptive implications at regional scales, and over time, become maladaptive for individual enterprises as well. (UNITED STATES OF AMERICA)
282	27	24	44	24	44	Casual usage of "likely" should be avoided, as it is a reserved likelihood term. (Mach, Katharine, IPCC WGII TSU)
283	27	24	48	24	50	again, these are not statements the ipcc should be making. There is little evidence behind them, there is no traceable account, there is no summary of the level and agreement of evidence (Lobell, David, Stanford University)
284	27	25	4	25	7	these statements sound policy prescriptive, which is not the job of the ipcc (Lobell, David, Stanford University)
285	27	25	14	25	14	The author team may wish to consider using a level of confidence here instead of a likelihood term. (Mach, Katharine, IPCC WGII TSU)
286	27	26	30	26	34	Suggest mention that peri-urban areas and irregular settlements pose particular challenges to urban governance and risk management (UNITED STATES OF AMERICA)
287	27	26	33	26	33	The author team may wish to consider using a level of confidence here instead of a likelihood term. (Mach, Katharine, IPCC WGII TSU)
288	27	26	39	27	28	Sub-section 27.3.5.2. is difficult to read (grammar mistakes and unclear sentence structures). Please rewrite\n\n (NETHERLANDS)
289	27	27	1	0	0	Another example is the "Emerging and Sustainable Cities Initiative" (ESCI) launched in 2001 by the Inter-American Development Bank to help growing intermediate cities make more informed planning decisions and take immediate actions towards smart and sustainable urban development. The ESCI supports the formulation of Sustainable Urban Development Action Plans, which includes climate change considerations. Intermediate cities are defined as cities with populations of 100,000 to 2 million, with economies that are growing rapidly. The initiative began with 5 pilot cities, and now expects to cover 26 countries in the Latin American and the Caribbean Region.\nwebsite: \nhttp://www.iadb.org/en/topics/emerging-and-sustainable-cities/emerging-and-sustainable-cities-initiative,6656.html (Iju Fukushima, Ana, Inter-American Development Bank)
290	27	27	27	27	27	I donnot agree with the expression " biofuels plantation", " biomass crop" it seems better (Real, Marcia, Universidade Federal Fluminense)

#	Ch	From Page	From Line	To Page	To Line	Comment
291	27	27	31	29	12	Section 27.3.6. completely overlooks the issue of traditional firewood use - a form of renewable energy heavily utilized in the region for both cooking and heating. This is a major consideration throughout the Latin America region and an important driver of deforestation and forest degradation. Suggest that it be considered in this section. (UNITED STATES OF AMERICA)
292	27	27	31	30	23	There is a lot of repetition in the RE section, particularly in relation to land use change implications, some of which has been covered earlier in the chapter. Addressing this repetition will enhance readability and contribute to needed length reduction. (UNITED STATES OF AMERICA)
293	27	27	45	27	46	This statement is largely repeated on page 28, lines 21-22. (Mach, Katharine, IPCC WGII TSU)
294	27	27	45	27	48	Please consider overlap of this material with page 28 lines 21-24 and 50-52. (Mastrandrea, Michael, IPCC WGII TSU)
295	27	28	1	28	1	Climate change, in accordance with the UNFCCC definition, should be used in singular (Hoffmann, Dirk, Bolivian Mountain Institute - BMI)
296	27	28	3	28	3	The text can give misinterpretation since the palm oil and palm dende oil are the same oil, extracted primarily from the African palm Elaeis guineensis. (Real, Marcia, Universidade Federal Fluminense)
297	27	28	3	28	5	I suggest to include include "and biodiversity" directly after "....to influence the stability of forests...AND BIODIVERSITY..." (the topic is being picked up in the next paragraph) (Hoffmann, Dirk, Bolivian Mountain Institute - BMI)
298	27	28	3	28	5	If palm oil is 75% produced in state of Bahia (page 11 line 21), the page 29 line 9/11 present that there is little soybean in deforested land, the last sentence is judge value and should be deleted. (de Campos, Christiano, Petroleo Brasileiro SA)
299	27	28	18	28	18	It should have a space among "720" and "ppmv." (Bulege-Gutiérrez, Wilfredo, Universidad Continental)
300	27	28	23	28	23	What is meant by energy vulnerability here, and what is the linkage to climate change? (Mastrandrea, Michael, IPCC WGII TSU)
301	27	28	27	28	33	I strongly recommend to delete this paragraph, mainly because add no relevant to observed and projected impacts of CC on renewables. The iLUC is very new science and recent studies are contraditing the Lapola (2010). E.g.: 1) "Nassar, A. M., Harfuch, L., Bachion, L.C., & Moreira, M.R. (2011). Biofuels and land-use changes:\nsearching for the top model. Interface Focus, 1(2) 224-232." 1.1) "Nassar, A.M., Harfuch, L., Moreira, M.M.R., Bachion, L.C., Antoniazzi, L.B, & Sparovek, G. (2009). Impacts on Land Use and GHG Emissions from a Shock on Brazilian Sugarcane Ethanol Exports to the United States using the Brazilian Land Use Model (BLUM). ICONE's Comments on RFS-2 Draft Regulatory Impact Analysis. Docket EPA-HQ-OAR-2005-0161." 2) "Wallington T.J., Anderson J.E., Mueller S.A., Kolinski Morris E., Winkler S.L., & Ginder J.M. (2012). Environmental Science and Technology 46: 6379?6384. dx.doi.org/10.1021/es300233m" 3) "Dale V.H., Efroymson, R.A. & Kline, K.L. (2011). The land use – climate change – energy nexus. Landscape Ecology 26:755-773." 4) "Egeskog, A., Berndes, G., Freitas, F., Gustafsson, S., & Sparovek, G. (2011). Integrating bioenergy and food production – A case study of combined ethanol and dairy production in Pontal, Brazil. Energy for Sustainable Development 15(1): 8- 16." 5) "California Air Resources Board (CARB) (2011). Air Resources Board Expert Workgroup on Indirect Land Use Change, Subgroup: Uncertainty (final report).) 6) "Chalmers, J., Kunen, E., Ford, S., Harris, N., Kadyzewski, J. (2011).Biofuels and Indirect Land Use Change, White paper on challenges and opportunities for improved assessment and monitoring. Winrock International, March 2011." etc. (de Campos, Christiano, Petroleo Brasileiro SA)
302	27	28	27	28	33	The IPCC SREN also recognizes that iLUC is uncertain ""The role of bioenergy production in iLUC is still uncertain; current initiatives have rarely captured impacts from iLUC in their standards, and the time scale becomes another important variable in assessing such changes (see Section 2.5.3). Addressing unwanted LUC requires overall sustainable agricultural production and good governance first of all, regardless of the end-use of the product or of the feedstocks." (p. 255)" (de Campos, Christiano, Petroleo Brasileiro SA)

#	Ch	From Page	From Line	To Page	To Line	Comment
303	27	28	37	28	37	The author team may wish to consider using a level of confidence here instead of a likelihood term. (Mach, Katharine, IPCC WGII TSU)
304	27	29	1	29	12	These two paragraphs could be moved to section 27.2.2. They are very important as non-climatic stressors. (de Campos, Christiano, Petroleo Brasileiro SA)
305	27	29	3	29	3	The author team may wish to consider using a level of confidence here instead of a likelihood term. (Mach, Katharine, IPCC WGII TSU)
306	27	29	4	29	6	Cerrado Region is first described located in Brazil Central-South region, then in Northern Brazil and Columbia\n\n (NETHERLANDS)
307	27	29	9	29	12	What evidence (% change in deforestation rates) is associated with the moratorium? If the meaning here is that government action in defining conservation land can be effective in inhibiting negative impacts of soy expansion, it needs to be more clearly stated. If the authors intended some other conclusion, it needs to be clarified. (UNITED STATES OF AMERICA)
308	27	29	15	0	0	In page 37 lines 16 to 20 there is a reference of adaptation practices (Lucena eta al 2010a). It should be mentioned here. (de Campos, Christiano, Petroleo Brasileiro SA)
309	27	29	15	30	23	The item 27.3.6.2 should be rewriten since bring few information about adaption practices and renewables. It should bring examples of water management, alternative energies, irrigation, drougth mitigation, change of cultures, cultures displacement, energy efficience etc. as adaptation practices for renewables under climate change impacts. (de Campos, Christiano, Petroleo Brasileiro SA)
310	27	29	17	29	25	This paragraph should be rephrased or deleted except first sentence. What is the link of renewables and adaptation? Page 27 line 46 and the general percpetion is that renewables are for mitigation. (de Campos, Christiano, Petroleo Brasileiro SA)
311	27	29	28	29	31	It is hard to understand from the text whether the second measure mentioned is at its place here, since it seems more on modeling then on adaptation. Please explain or reformulate.\n\n (NETHERLANDS)
312	27	29	29	29	30	What is the advantage of modeling iLUC to adaptation practices for biofuel? It is important for mitigation policies, it should be deleted here. (de Campos, Christiano, Petroleo Brasileiro SA)
313	27	29	29	29	31	It would be helpful to clarify how these are adaptation measures. (Mach, Katharine, IPCC WGII TSU)
314	27	29	36	29	37	A possible adaptation measure could be to expand the use of reforestation technology to other\ncountries in CA and SA.. Other-than which countries (e.g. the countries mentioned at line 20 on this page)?\n\n (NETHERLANDS)
315	27	29	39	29	46	What is the adaptation practices to renewables raising the issue of food vs fuel? I strongly recommend to delete these sentences. Mainly because these iLUC hypotesis are under development, and recently many articles are resizing it. Even the IPCC SREN recognizes that it is uncertain (p.255). (de Campos, Christiano, Petroleo Brasileiro SA)
316	27	29	39	29	54	Possibly relevant here is the debate about the consequences of agricultural intensification (e.g., intensification of biofuel production) and whether or not intensification (vs extensification) alleviates demand for land (see Tscharntke et al 2012 in Biological Conservation). (UNITED STATES OF AMERICA)
317	27	29	50	29	50	Control of growth should be deleted or further explored. This is not a adaption practices for renewables under climate change. (de Campos, Christiano, Petroleo Brasileiro SA)
318	27	29	54	29	54	cellulosic feedstocks still require land, and so indirectly compete with food. It's just less direct than using food crops directly in ethanol / biodiesel (Lobell, David, Stanford University)
319	27	30	6	30	7	The use of biodiesel to complement oil is adaptation? It is mitigation. Sentence should reconcile this. (de Campos, Christiano, Petroleo Brasileiro SA)

#	Ch	From Page	From Line	To Page	To Line	Comment
320	27	30	14	30	15	It is suggested to delete the following: “For example, these teleconnections may link Amazon deforestation derived from soy expansion to the economic growth in China due to changes in the demand of soy.”\nAccordingly, Figure 27-6 in Line 21 should be deleted. (CHINA)
321	27	30	14	30	18	What is the adaptation practices of discussing teleconnections of deforestation and biofuel? Beyond, the figure 27-6 shows that soy is linked to protein production not biofuel. These sentences and figure27-6 should be deleted. We could present how soy culture was adapted in Brazil to the cerrado, how sugar cane can be benefited and other examples as biofuel cultures displacement. (de Campos, Christiano, Petroleo Brasileiro SA)
322	27	30	16	33	16	27.3.7. Human Health. The general section seems positive about the augmentation of diseases. Maybe this reflects last few years literature, but I believe this misses a part of the whole picture. I add some comments in that direction. (Carbajo, Anibal Eduardo, Universidad Nacional de San Martín)
323	27	30	26	32	45	The use of parenthesis in this section to present more than one case within a single sentence is very confusing. For example from page 31 line 5: "A study in Rio de Janeiro found that a 1 degree C (10-mm) increase in monthly minimum temperature (rainfall) lead to a 45% (6%) increase in DF the following month." (UNITED STATES OF AMERICA)
324	27	30	26	32	54	There appears to be a disconnect between the majority of the citations referenced, and the overall claims of strong climate change impacts, especially as represented in the Executive Summary. The section primarily describes impacts of climate variability, while page 4-line 31 states that with very high confidence 'climate variability and climate change are negatively affecting human health'. While this is supported by section 27.3.7.1, the link to climate change seems much weaker than to climate variability. Climate change could be removed from the sentence on page 4-line 31, and/or the explicit impacts of change (as opposed to variability) need to be spelled out. (UNITED STATES OF AMERICA)
325	27	30	26	33	16	The approach used in the discussion of the health sections seems much more appropriate than the one used in most of the other sections. In this case, impacts and adaptation are more focused in the observed changes, observed variability, etc. Suggest that authors consider applying this template to other sections. (UNITED STATES OF AMERICA)
326	27	30	28	0	0	Section 27.3.7.1: To the extent supported by the literature, please clarify the role of climate variability vs climate change in this section. (Mastrandrea, Michael, IPCC WGII TSU)
327	27	30	28	32	45	This subsection lists a lot of correlations between seasonal disease incidence and seasonal climate, but there is no discussion of mechanisms or whether seasonal correlation has any relevance for understanding cause and effect of long-term trends. (Stone, Dáithí, University of Cape Town)
328	27	30	31	30	33	very high confidence and "high confidence" on lines 31 and 33 should be italicized for clarity. (Mach, Katharine, IPCC WGII TSU)

#	Ch	From Page	From Line	To Page	To Line	Comment
329	27	30	40	30	49	Although malaria vector density is mentioned as rising in Argentina (Dantur Juri et al 2010; 2011), these same authors mention the progressive decrease in malaria cases since 1996. Malaria control consist of attacking the vector. Maybe they sampled uncontrolled areas, and suppositions on raising abundance are dependent of no further control taking place. According to the National health ministry, there have been no cases in Argentina since 2008.\nThere is also a distribution issue: (I mentioned this also for chapter 11) Diseases closely related to ecosystems, need the changes in the latter to follow changes in climate. Dengue may follow quite closely these changes in climate, because they affect the vector more straightly. Its vector is an urban mosquito, and the urban environment is nearly ubiquitous. This may not be the case for malaria in areas close to the distribution limit. The ecosystem associated with its transmission (jungles or rainforest where the vector lives in - Danton Juri et al 2011) is not climate independent. It may not expand so easily as the conditions change. On the contrary, it would probably be deforested (confront section 27.2.2). So the net effect on malaria transmission even if the climate predicted higher densities is uncertain against potential distribution contraction. Dantur Juri, M.J., Stein, M., Mureb Sallum, M.A. 2011. Ocurrene of Anopheles (Anopheles) neomaculipalpus Curry in north-western Argentina. J. Vector Borne Diseases 48:64-66. Dantur Juri, M.J., Claps, G.L., Santana, M., Zaidenberg, M. and Almirón, W.R. 2010. Abundance patterns of Anopheles pseudopunctipennis and Anopheles argyritarsis in northwestern Argentina. Acta Tropica 115: 234-241.\n (Carbajo, Anibal Eduardo, Universidad Nacional de San Martín)
330	27	30	40	30	49	The inference of long-term cause and effect contradicts 11.5.1.1. (Stone, Dáithí, University of Cape Town)
331	27	30	51	31	9	In Argentina cases have augmented since reemergence in 1998. The risk estimated through virus development mathematical models did too. Notwithstanding this, the spatial distribution of cases during the biggest epidemic was related to demographic, geographic and climatic variables. Any of these variables alone were capable of good prediction, reminding the importance of including factors other than climatic in the models (Carbajo A.E., Cardo M.V. y Vezzani D. (2012) Is temperature the main cause of dengue rise in non-endemic countries? The case of Argentina. International Journal of Health Geographics 11:26). (Carbajo, Anibal Eduardo, Universidad Nacional de San Martín)
332	27	30	51	31	9	The inference of long-term cause and effect contradicts 11.5.1.2 and Box 11-3. (Stone, Dáithí, University of Cape Town)
333	27	31	18	31	23	Hantavirus was found to be related to el Niño, but few unidirectional predictions are given. Variation in its reservoir are known to depend on dry-wet cycles (e.g. in Chile Meserve et al. 2003) or on the environment (e.g. Argentinean Patagonia: higher abundance in woods when humid and in scrubland when dry- Andreo et al. 2012). Its reservoir distribution was modeled in Patagonia according to spatially heterogeneus temperature and precipitation changes. Contraction or expansion of the distribution area depended on the intensity of temperature and precipitation changes (Carbajo et al 2009). Bibliography: Andreo, V, C Provensal, S Levis, N Pini, D Enría and J Polop. 2012. Summer–autumn distribution and abundance of the hantavirus host, Oligoryzomys longicaudatus, in northwestern Chubut, Argentina. Journal of Mammalogy 93:1559-1568. Carbajo A.E., Vera C y González P.L.M. (2009) Hantavirus reservoir Oligoryzomys longicaudatus spatial distribution sensitivity to climate change scenarios in Argentine Patagonia. International Journal of Health Geographics. 8(1):44. Meserve, P.L., D.A. Kelt, W.B. Milstead and J.R. Gutiérrez. 2003. Thirteen Years of Shifting Top-Down and Bottom-Up Control. Bioscience 53:633-646. (Carbajo, Anibal Eduardo, Universidad Nacional de San Martín)
334	27	31	20	31	23	Please define "RV". (UNITED STATES OF AMERICA)
335	27	31	21	31	21	should specify if it is more common or less common, seemingly there would be a contradiction. (Bulege-Gutiérrez, Wilfredo, Universidad Continental)
336	27	32	19	32	20	This statement needs a citation. (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
337	27	32	24	32	45	This paragraph would be improved by providing an assessment of the literature cited, rather than a laundry list of findings from a disparate collection of references. What do the authors feel are the key findings resulting from these papers. (UNITED STATES OF AMERICA)
338	27	33	19	0	0	Section 27.4. Throughout this section, the chapter team should continue to strive to illustrate the core findings with rich specifics, perhaps building from the extensive table 27-7. (Mach, Katharine, IPCC WGII TSU)
339	27	33	23	33	24	Would it be more accurate here to say that the study of adaptation has "expanded from an impact-focused approach to include a vulnerability-focused vision"? (Mach, Katharine, IPCC WGII TSU)
340	27	33	51	33	53	In the statement “This situation weakens the importance of adaptation planning to climate change in the political agenda, and requires therefore international involvement as one facilitating factor in natural hazard management and climate change adaptation (Carey et al., 2012b)” please complete as “This situation weakens the importance of adaptation planning to climate change in the political agenda, and requires therefore international involvement as one facilitating factor in natural hazard management and climate change adaptation, in accordance with the respect to sovereignty, the international conventions and the United Nations framework convention on climate change” (VENEZUELA, BOLIVARIAN REPUBLIC OF)
341	27	34	1	34	2	See also Lemos et al 2007 in Ecology and Society; and Tompkins et al 2008 in Global Environmental Change (A less disastrous disaster...) concerning linking climate change adaptation to disaster risk management efforts. (UNITED STATES OF AMERICA)
342	27	34	12	34	13	Climate change, in accordance with the UNFCCC definition, should be used in singular (Hoffmann, Dirk, Bolivian Mountain Institute - BMI)
343	27	34	32	34	32	A more recent reference on perception is Frank et al., 2011 in GEC on Mexican coffee farmers. (UNITED STATES OF AMERICA)
344	27	36	6	0	0	27.5. I find one main element of "Interactions between Adaptation and Mitigation" completely missing, which is the importance of tropical forests in South America (probably also elsewhere) in mitigation of CC, but also as an element of adaptation: maintaining forest cover has beneficial impact on local and regional climate. See e.g. D. V. Spracklen et al (2012). Observations of increased tropical rainfall preceded by air passage over forests. Nature, Vol 489, 13 Sept 2012: "Land-use patterns and small-scale deforestation may also alter precipitation locally, through changes in the thermodynamic profile and the development of surface-induced mesoscale circulations". (Hoffmann, Dirk, Bolivian Mountain Institute - BMI)
345	27	36	8	36	8	Explain what refers with the term "SouthSouthNorth... " (Bulege-Gutiérrez, Wilfredo, Universidad Continental)
346	27	36	42	36	43	Please give a reference which underpins the statement: "The quality of water resources availability in CA and SA is the largest in the world with an average regional capacity factor of over 50%." (what is an average regional capacity factor?; capacity for what?)\n\n (NETHERLANDS)
347	27	37	1	37	17	Is this section focusing on regional literature and examples? This should be clearly stated. In most technical workshops the barrier to adaptation is not perception of risk but political will and lack of information that allows the decision makers to make informed decisions (Lacambra Segura, Carmen, Grupo La era)

#	Ch	From Page	From Line	To Page	To Line	Comment
348	27	38	4	38	17	The section on PES could discuss how PES can contribute to adaptation or be used as a policy instrument for adaptation. First PES can produce adaptation co-benefits if the services that are paid for contribute to reducing the vulnerability of the society to climate change (e.g. hydrological services) or when the protection of these services contribute to sustaining other services that are relevant to adaptation. Second PES can also have adaptation-relevant institutional spillovers, for example with institutional strengthening or increased coordination between economic sectors (Wertz-Kanounnikoff et al., 2012). Third PES can also influence (positively or negatively) the adaptive capacity of people receiving the payments (Locatelli et al., 2008). [Wertz-Kanounnikoff S., Locatelli B., Wunder S., Brockhaus M., 2011. Ecosystem-based adaptation to climate change: What scope for payments for environmental services? Climate and Development 3(2): 143-158. doi:10.1080/17565529.2011.582277] [Locatelli B., Rojas V., Salinas Z., 2008. Impacts of payments for environmental services on local development in northern Costa Rica: A fuzzy multi-criteria analysis. Forest Policy and Economics 10(5): 275-285. doi:10.1016/j.forpol.2007.11.007] (Locatelli, Bruno, CIRAD-CIFOR)
349	27	38	15	38	16	Comment on text after "and Venezuela) "WOULD BE INCLUDED ;OTHER " cases where mechanisms are inefficient to reduce poverty" ; "slowness to build trust between buyers and sellers, …. (Suarez, Avelino, Institute of Ecology and Systematic, Cuban Environmental Agency)
350	27	38	34	40	8	While the Research Gaps section makes many good points, it seems that this section could be better written and organized. The authors are encouraged to consider the goal of the section and to organize the material in a way to achieve that goal. (UNITED STATES OF AMERICA)
351	27	38	36	38	41	Add the need to improve the permafrost monitoring network (e.g. in the framework of GTN-P). Suggestion "The non-availability of high resolution climatic, hydrologic and permafrost data…" (Vieira, Goncalo, University of Lisbon)
352	27	38	36	40	8	From the literature reviewed it appears that another important gap is in relation to economic analyses of the impact of climate change and variability on poverty and inequality across the region. Such an analysis would help provide empirical results to support economic development and poverty alleviation efforts. (UNITED STATES OF AMERICA)
353	27	38	44	38	44	include "." instead "," after countries: "...information availability between countries. While more studies…" (Espinoza, Jhan Carlo, Instituto Geofísico del Perú (IGP))
354	27	39	12	39	15	For IVA what is the importance of this paragraph for IVA? It should be better explored or deleted. Historicaly, soy bean is a food crop, the oil is a residual product. iLUC is a growing science but the last results are very vague. The IPCC SREN mention it. (de Campos, Christiano, Petroleo Brasileiro SA)
355	27	40	11	0	0	Section 27.8. Calibrated uncertainty language should be used throughout this section to characterize the author team's degree of certainty in the findings. (Mach, Katharine, IPCC WGII TSU)
356	27	40	11	0	0	Section 27.8: This section currently overlaps significantly with the executive summary, and I would recommend reducing that overlap as much as possible. If overlapping material is retained here, it must employ the same calibrated uncertainty language and line of sight to other chapter sections. But it would be preferable to focus this section on the other summary elements presented here. (Mastrandrea, Michael, IPCC WGII TSU)
357	27	40	16	40	16	Explain how it is the interpretation of the episodes of droughts and rains in the years "2010/2009", it is from 2010 to 2009 or it means 2010 or 2009, because it is not considered of smaller to bigger. (Bulege-Gutiérrez, Wilfredo, Universidad Continental)
358	27	40	29	40	29	Chaco forest deforestation rate is not mentioned in Ch27.2.2.1. DELETE Chaco forest\n\n (NETHERLANDS)

#	Ch	From Page	From Line	To Page	To Line	Comment
359	27	40	46	40	47	This is a mistake that is repeated often. This figure should be revised or a comment added. The fact that 3/4 of the population live within 200km of the coast does not make them vulnerable to SLR or coastal dynamics. Almost all cities in Central America would be coastal and that is not the case. This comment has been made before, but here are some examples of cities in the region and within that limit that are not coastal: Caracas, Valencia, Guatemala city, San Salvador, Tegucigalpa, San Jose, almost all Andean cities in Colombia are within 200km from de Pacific ocean (Medellin, Pereira, Cali, Buga, Popayan, Pasto etc), the same applies to several cities in Peru and Ecuador, Quito, QUebedo, Babahoyo, Cuenca and many many more. If distance is the only variable considered, we are making a huge mistake; adding topography is also a generalization but will be closer to reality than just distance and the figure "coastal population" will reduced drastically. (Lacambra Segura, Carmen, Grupo La era)
360	27	40	53	41	2	Same as above: "Ecosystem-based adaptation practices, such as THE EFFECTIVE MANAGEMENT AND ESTABLISHMENT OF NEW PROTECTED AREAS, are important tools for climate change adaptation. Also, conservation agreements and community management of natural areas, begin to multiply across the region (27.3.2.2)." (Hoffmann, Dirk, Bolivian Mountain Institute - BMI)
361	27	41	16	41	34	Please clarify whether this synthesis is focusing on attribution to climate change or to anthropogenic climate change, and be clear about this distinction in both the text and associated figure. (Mastrandrea, Michael, IPCC WGII TSU)
362	27	41	19	41	28	Calibrated uncertainty language should be used to characterize the author team's degree of certainty in these findings, especially given the note provided on lines 30-31. (Mach, Katharine, IPCC WGII TSU)
363	27	41	36	41	38	I suggest to reference the emissions scenarios those projections are based on. (Hoffmann, Dirk, Bolivian Mountain Institute - BMI)
364	27	41	36	41	38	The scenarios for these projection should be clarified--RCP 2.6-8.5? SRES scenarios as well? Additionally, are the values given the mean projections across models for high and low scenarios? (Mach, Katharine, IPCC WGII TSU)
365	27	41	40	41	40	very likely, if being used as a calibrated likelihood term, should be italicized; casual usage of the reserved likelihood term should be avoided. (Mach, Katharine, IPCC WGII TSU)
366	27	41	41	0	0	Could add the following sentece. There is high degree of uncertatinty for rainfall. (de Campos, Christiano, Petroleo Brasileiro SA)
367	27	42	14	0	0	Ecosystem services section could usefully refer to the difficulty in data-poor environments of establishing pathways of generation and use of ES, across ES types, in ways that help policymakers understand their management requirements in the context of complex transboundary spatial and temporal scale elements. (Bunce, Matthew, Institute of Marine Engineering, Science and Technology)
368	27	42	14	42	16	For IVA what is the importance of this paragraph for IVA? It should be better explored or deleted. Historicaly, soy bean is a food crop, the oil is a residual product. In Brazil sugar cane for ethanol is in a food secury area and under long term managed lands. iLUC is a growing science but the last results are very vague. (de Campos, Christiano, Petroleo Brasileiro SA)
369	27	42	15	42	15	Loss of employment? And what about local employment? How is the net benefit? This part of sentence should be deleted since is vague to IVA perspective and there is no reference. (de Campos, Christiano, Petroleo Brasileiro SA)
370	27	42	39	0	0	FAQ 27-1 From the tone of the answer it seems that glacier retreats and its consequences are already occuring. Hence it may be helpful if the increase in the rate of retreat is clearly specified. Without that the impact (potential and observed) of climate change is unclear. (Chatterjee, Monalisa, IPCC WGII TSU)
371	27	42	39	0	50	The words "retreat" and "recede" are used interchangeably. Suggest picking one term for the FAQ to avoid confusion. (CANADA)

#	Ch	From Page	From Line	To Page	To Line	Comment
372	27	42	40	42	41	The onset of rapid glacier retreat in the tropcial Andes is generally placed in the late 70s or early 80s: "Consistent with most mountain glaciers worldwide, glaciers in the tropical Andes have been retreating at an increasing rate since the late 1970s." (Rabatel et al. 2013. Current state of glaciers in the tropical Andes: a multi-century perspective on glacier evolution and climate change, The Cryosphere, 7, 81-102, p 97). There are numerous other sources to support this, the break point likely being the 1976 Pacific climate shift (p 96). (Hoffmann, Dirk, Bolivian Mountain Institute - BMI)
373	27	42	45	42	47	I suggest to include: ", endanger high Andean wetlands (bofedales)...." right after "...reduce water related benefits..." (Hoffmann, Dirk, Bolivian Mountain Institute - BMI)
374	27	42	52	0	0	PES should be spelled out in the FAQ so that this section can stand alone. (CANADA)
375	27	42	52	0	0	FAQ 27-2 PES should be spelt out and a few words description should be provided for the benefit of general audience. Perhaps a few words explanantion of the setbacks would also be very helpful. (Chatterjee, Monalisa, IPCC WGII TSU)
376	27	43	6	0	0	FAQ 27-3 Confidence scale may be too technical for FAQs. Explaining the status of scieitific knowledge in simple words would be most effective. Moreover, authors may wish to provide examples of places where diseases have been emerging and reemerging. (Chatterjee, Monalisa, IPCC WGII TSU)
377	27	43	8	43	8	reverse order "CV/CC" (Hoffmann, Dirk, Bolivian Mountain Institute - BMI)
378	27	43	11	43	13	I suggest to include "chagas" in this enumeration (as it has been mentioned before in the health section and is an important desease influenced by temperature changes throughout the dry tropcial Andean valleys. (Hoffmann, Dirk, Bolivian Mountain Institute - BMI)
379	27	43	14	0	0	Unless the finding associated with "very likely" has been quantitatively assessed, suggest avoiding using these words. (CANADA)
380	27	43	14	43	14	Casual usage of "very likely" should be avoided, as it is a reserved likelihood term. If it is being used as calibrated uncertainty language, a level of confidence may be more appropriate. (Mach, Katharine, IPCC WGII TSU)
381	27	48	40	49	51	The bibliographical references when it is several authors in the case of the page 48, line 40 it is mentioned to all the authors, but in the case of the page 49, line 51 it is used the term "et al.", I suggest that for all the cases it is used the term "et. al." when they are more than 6 authors or those that you stablish for this document of high scientific technical level. (Bulege-Gutiérrez, Wilfredo, Universidad Continental)
382	27	52	51	52	51	Explain why "BLACKWELL PUBLISHING" is everything in uppercase. (Bulege-Gutiérrez, Wilfredo, Universidad Continental)
383	27	53	28	53	29	This reference (Espinoza et al., 2012 Climate Dynamics) is not correct for hydrological impacts. The correct reference is: Espinoza JC., Ronchail J., Guyot JL., Junquas C., Drapeau G., Martinez JM., Santini W., Vauchel P., Lavado W., Ordoñez J., Espinoza R. 2012. From drought to flooding: understanding the abrupt 2010-2011 hydrological annual cycle in the Amazonas River and tributaries. Environmental Research Letters 7 024008. doi:10.1088/1748-9326/7/2/024008. (Espinoza, Jhan Carlo, Instituto Geofísico del Perú (IGP))
384	27	79	0	0	0	Tabla 27-1 for SESA: It includes information for Chile and Bolivia, are these two countries part of Southeastern South America? (Mata, Luis J , Independent Consultant)
385	27	80	0	0	0	Table 27-1 Region SESA: In Argentina, a decrease of the annual number of dry days and in the dry sequences is observed in the period 1960–2005 (Rivera et al, 2012; Llano and Penalba, 2011). \nRivera, J.A., Penalba, O.C., Bettolli, M.L., 2012. Inter-annual and inter-decadal variability of dry days in Argentina. International Journal of Climatology. Online. DOI: 10.1002/joc.3472\nLlano M.P., Penalba O., 2011, A climatic analysis of dry sequences in Argentina. International Journal of Climatology, 31, 504-513. (Penalba, Olga Clorinda, Universidad de Buenos Aires)

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386	27	80	0	0	0	Table 27-1 Region SESA: Increase of monthly rainfall in the arid zone of Argentina is due to a decrease in the occurrence of dry days and the positive trends in extreme rainfall events (Penalba and Robledo, 2010).\nPenalba O.C., Robledo F.; 2010, Spatial and temporal variability of the frequency of extreme daily rainfall regime in the La Plata Basin during the 20th century. Climatic Change (DOI 10.1007/s10584-009-9743-7) Volume 98, Issue 3, 531-550. (Penalba, Olga Clorinda, Universidad de Buenos Aires)
387	27	80	0	0	0	After this paper incluide the following references in the different region of SESA\nOmit the previous comment\nTable 27-1 Region SESA: In paper Vargas et al 2011. Include La Plata Basin region after 1996 (Penalba, Olga Clorinda, Universidad de Buenos Aires)
388	27	80	0	0	0	Positive trends in the annual maximum rainfalls, as well as an increment in the frequency of heavy rainfalls over thresholds ranging from 50 to 150 m were observed in south-eastern South America during 1959–2002 (Barros and Re, 2009).\nBarros V.R. and Re M., 2009. Extreme rainfalls in SE South America, Climatic Change, 96. 119–136. DOI 10.1007/s10584-009-9619-x. (Penalba, Olga Clorinda, Universidad de Buenos Aires)
389	27	80	0	0	0	Occurrence of short-term and long-term droughts will be more frequent in the early (2011-2040) and late (2071-2100) 21st century, with shorter durations and greater severities over much of the SESA (Penalba and Rivera, 2013).\nPenalba, O.C., Rivera, J.A. 2013. Future changes in drought characteristics over Southern South America projected by a CMIP5 multi-model ensemble. Accepted in American Journal of Climate Change, Vol. 2, No. 3. (Penalba, Olga Clorinda, Universidad de Buenos Aires)
390	27	80	0	0	0	Table 27-1: Increase in consecutive dry days - trend column suggests decrease (-4 days decade-1). Also, Donat et al (2013) does not refer to the period 1951-2000 or to the SESA region specifically. Figure 8c in this paper suggests an increase of perhaps 1 or 2 days but the period is 1951 to 2010. (Halladay, Kate, Met Office Hadley Centre)
391	27	81	0	0	0	Table 27-1: Negative runoff trends of the Amazon river and Positive runoff trends of the Tocatins river. No reference to these is found in the Dai et al papers. In addition, one would expect runoff to be reported for an area or basin, and flow rates for a river. Secondly, I question the relevance of period 1948-1968. (Halladay, Kate, Met Office Hadley Centre)
392	27	81	0	0	0	for the whole table 27-1: please uniform temperature data (instead of +0.2 to + 0.45; 0.1 to 0.22; +0.2 - 0.45) (Hoffmann, Dirk, Bolivian Mountain Institute - BMI)
393	27	82	0	0	0	Table 27-1 for Northeast Brazil indicates that different studies point to regionally varying trends in rainfall. However Figure 27- has a decrease arrow for the whole NEB, region 6. Seems to be inconsistent. (Silva Dias, Maria Assuncao, University of Sao Paulo)
394	27	83	0	0	0	The following article may be sutable for inclusion of this table: J. Fábrega, T. Nakaegawa, R. Pinzón, K. Nakayama, O. Arakawa, SOUSEI Theme-C modeling group. 2013: Hydroclimate projections for Panama in the late 21st Century. Hydrological Research Letters. Vo.7., in press. (Nakaegawa, Toshiyuki, Meteorological Research Institute)
395	27	83	0	0	0	The following article may be sutable for inclusion of this table: J. Fábrega, T. Nakaegawa, R. Pinzón, K. Nakayama, O. Arakawa, SOUSEI Theme-C modeling group. 2013: Hydroclimate projections for Panama in the late 21st Century. Hydrological Research Letters. Vo.7., in press.\nhttp://www.hrljournal.org/ (Nakaegawa, Toshiyuki, Meteorological Research Institute)
396	27	83	0	0	0	In Kamiguchi et al. (2006), the model used is the MRI-AGCM3.0S. In addition, Kitoh et al. (2011) quantified the robustness with the MRI-AGCM3.1S and MRI-AGCM3.1H. This article may support this previous results.\nKitoh, A., S. Kusunoki, and T. Nakaegawa (2011), Climate change projections over South America in the late 21st century with the 20 and 60 km mesh Meteorological Research Institute atmospheric general circulation model (MRI-AGCM), J. Geophys. Res., 116, D06105, doi:10.1029/2010JD014920. (Nakaegawa, Toshiyuki, Meteorological Research Institute)

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397	27	83	0	0	0	Table 27-2 . The following line should be added within the CA and Northern SA region (subtitle indicates a column): Region. Significant precipitation increases for almost all the panamanian territory. Total runoff followed the changes in precipitation as expeceted. Due to net radiation increases, projected evaporation did not appear to be affected by precipitation changes. Model and scenarios. 20 km JMA-MRI model A1B. Projected changes. With exception of few areas, precipitation increase in Panama by at least 5%. References. Fabrega et al. (2013) The corresponding reference is: J. Fábrega, T. Nakaegawa, R. Pinzón, K. Nakayama, O. Arakawa, SOUSEI Theme-C modeling group. 2013: Hydroclimate projections for Panama in the late 21st Century. Hydrological Research Letters Vol. 7, in press. (Fábrega, José, Universidad Tecnológica de Panamá)
398	27	83	0	0	0	Table 27-2: Karmalkar et al (2011) - temperature projections should be +4 to +5 C not -5 C (Halladay, Kate, Met Office Hadley Centre)
399	27	83	1	86	0	Table 27-2 is dominated by CMIP3 and downscalling from HadCM3. Is this adequate for AR5? (Silva Dias, Maria Assuncao, University of Sao Paulo)
400	27	84	0	84	0	In Table 27-2, the folowing reference must be included regarding SESA: "Increasing in precipitation by 2100; 9 CMIP3 models, A1B; increase of +0.3 to 0.5 mm/day ;Junquas et al. (2012). C Junquas, C Vera, L Li, H Le Treut. 2012. Summer precipitation variability over Southeastern South America in a global warming scenario. Climate Dynamics, Issue 9-10, pp 1867-1883. doi 10.1007/s00382-011-1141-y (Espinoza, Jhan Carlo, Instituto Geofísico del Perú (IGP))
401	27	84	0	84	0	In table 27-2, correct "pof" by "of" in reference Seth et al. (2010) (Espinoza, Jhan Carlo, Instituto Geofísico del Perú (IGP))
402	27	85	0	0	0	Section "Andes": the first and the last entry seem to be the same (both Minvielle and Garreaud 2011) (Hoffmann, Dirk, Bolivian Mountain Institute - BMI)
403	27	86	0	0	0	20 km MRI JMA model should be MRI-AGCM3.1S in Hall et al. (2009) and Nakaegawa et al. (2013) (Nakaegawa, Toshiyuki, Meteorological Research Institute)
404	27	86	0	0	0	Table 27-4: The future changes in annual river discharges at the Amazon and La Plata Rivers are +3.7% and +18.4% with the statistically significance level of 95% according to the latest article by Nakaegawa et al. (2013).\nNakaegawa, T., A. Kitoh, M. Hosaka. 2013: Discharge of major global rivers in the late 21st century climate projected with the high horizontal resolution MRI-AGCMs -overview-. Hydrological Processes. 27. DOI: 10.1002/hyp.9831 (Nakaegawa, Toshiyuki, Meteorological Research Institute)
405	27	86	0	0	0	Table 27-4: In Kamiguchi et al. (2006), the model used is the MRI-AGCM3.0S. In addition, Kitoh et al. (2011) quantified the robustness with the MRI-AGCM3.1S and MRI-AGCM3.1H. This article may support this previous results.\nKitoh, A., S. Kusunoki, and T. Nakaegawa (2011), Climate change projections over South America in the late 21st century with the 20 and 60 km mesh Meteorological Research Institute atmospheric general circulation model (MRI-AGCM), J. Geophys. Res., 116, D06105, doi:10.1029/2010JD014920. (Nakaegawa, Toshiyuki, Meteorological Research Institute)
406	27	87	0	0	0	Table 27-3 Venezuela) : are the articles (Polissar and Morris related with climate change? (Mata, Luis J , Independent Consultant)
407	27	87	0	0	0	Table 27-3: is there information behind 2000 ? (Mata, Luis J , Independent Consultant)
408	27	87	0	0	0	Table 27-3: Columbia - Where is reference for "Glacier areas total 45km2 in Columbia in 2011" Poveda and Pineda state that this was the total area in 2007. (Halladay, Kate, Met Office Hadley Centre)
409	27	87	0	0	0	Table 27-3: Venezuela - "Remaining glaciers are at risk of disappearing completely in next years" - is there a number of years missing? Or should it say next few years? Seems ambiguous. (Halladay, Kate, Met Office Hadley Centre)

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410	27	87	0	87	0	Some data on Venezuelan glacier retrieve was originally provided on Schubert, C., 1997. Satellite Image Atlas of Glaciers of the World. Glaciers of South America-Glaciers of Venezuela. U.S. Geological Survey, U.S. Department of the Interior. (Thielen Engelbertz, Dirk, Instituto Venezolano de Investigaciones Cientificas)
411	27	91	0	0	0	Table 27-4: The future changes in annual river discharges at the Amazon and La Plata Rivers are +3.7% and +18.4% with the statistically significance level of 95% according to the latest article by Nakaegawa et al. (2013).\nNakaegawa, T., A. Kitoh, M. Hosaka. 2013: Discharge of major global rivers in the late 21st century climate projected with the high horizontal resolution MRI-AGCMs -overview-. Hydrological Processes. 27. DOI: 10.1002/hyp.9831 (Nakaegawa, Toshiyuki, Meteorological Research Institute)
412	27	91	0	0	0	Table 27-4: The following article may be suitable for inclusion of this table: J. Fábrega, T. Nakaegawa, R. Pinzón, K. Nakayama, O. Arakawa, SOUSEI Theme-C modeling group. 2013: Hydroclimate projections for Panama in the late 21st Century. Hydrological Research Letters. Vo.7., in press.\nhttp://www.hrljournal.org/ (Nakaegawa, Toshiyuki, Meteorological Research Institute)
413	27	91	0	0	0	Table 27-4: Cordillera Blanca Basins - Scenarios are A1,A2, B1, B2. (Halladay, Kate, Met Office Hadley Centre)
414	27	91	0	0	0	Table 27-4: References to Nohara et al (2006) for Parana and Amazon basins - the values correspond to those in Table 4 from Nohara et al but this table lists changes in river discharge not runoff. (Halladay, Kate, Met Office Hadley Centre)
415	27	93	0	0	0	Table 27-4 . The following line should be added within the CA region (subtitle indicates a column): Region. CA Basins studied. Panamá (Stretching from 7 12´ 07" to 9 38´ 46" N and 77 09´ 24" to 83 03´ 07" W Hydrological variables. Runoff and Evaporation Projected changes. Total runoff followed changes in precipitation as expected. Projected evaporation does not appear to be affected Period. 2075-2099 GCM. CMIP3 Multi-model ensemble (MME) Scenarios. A1b References. Fabrega et al. (2013) The corresponding reference is: J. Fábrega, T. Nakaegawa, R. Pinzón, K. Nakayama, O. Arakawa, SOUSEI Theme-C modeling group. 2013: Hydroclimate projections for Panama in the late 21st Century. Hydrological Research Letters Vol. 7, in press. (Fábrega, José, Universidad Tecnológica de Panamá)
416	27	94	0	0	0	Table 27-5 Comment: What are the units in the column "changes"? What is the baseline? (UNITED STATES OF AMERICA)
417	27	97	0	0	0	Table 27-7. Please consider the following information:\nName of the project: "Adaptation to the impacts of rapid glacier retreat in the tropical Andes"\nCountries: Bolivia, Ecuador, Peru\nAdaptation area: Integrated watershed management (Iju Fukushima, Ana, Inter-American Development Bank)
418	27	97	1	0	0	This table should also mention the AMAZALERT project. See http://www.eu-amazalert.org/project/objectives (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
419	27	102	0	0	0	Table 27-8. Please consider the following information:\nCountry: Peru\nLevel: Subnational (Madre de Dios region)\nStart: 2004\nName: Mechanism for Ecosystem Services Compensation in Mishquiyacu, Rumiyacu and Almendra microcatchements\nBenefits: Since August 2009, 3% of the water tariff is allocated to the Ecosystem Services Compensation Fund. Additionally, the Water Utility Company allocates 1 sol (USD 0.40) per water connection per month to the Fund. \nReferences: Please find attached the document "Compensación por servicios ecosistémicos: Lecciones aprendidas de una experiencia demostrativa" (in spanish). The name of the pdf file is: (Iju Attach 4) PES San Martin Peru (Iju Fukushima, Ana, Inter-American Development Bank)

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420	27	103	0	0	0	Figure 27-1: Key for figures in left column is too small to read. Perhaps a single, enlarged version of this could be added. (Halladay, Kate, Met Office Hadley Centre)
421	27	103	1	0	0	This figure should also show results from the RCP2.6 scenario, which may represent the "best case" for future climate change. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
422	27	103	1	103	40	The record is unning below the projections (Gray, Vincent, Climate Consultant)
423	27	105	0	0	0	Figure 27-4 Comment: Please add a label on the y-axis describing the units. (UNITED STATES OF AMERICA)
424	27	105	0	0	0	Figure 27-5. In this figure, it is not clear which of the impacts/dynamics are currently observed versus projected for the future, and it would be best to clarify this. Additionally, the citation provided is not very clear. (Mach, Katharine, IPCC WGII TSU)
425	27	105	0	0	0	Figure 27-5: Please clarify observed and projected elements of this figure, as this is currently unclear. (Mastrandrea, Michael, IPCC WGII TSU)
426	27	105	0	105	0	Figure 27.5 this is a useful figure, there are very few technical reports considering the entire region. This figure would benefit of several clarifications, for example if the source of the data and uncertainty of the results were included and how was it achieved, is it a model based assessment? GIS? Historical data? Projections?. For example the north of the Colombian Pacific (half of the Colombian pacific in fact) is dominated by cliffs with no beaches. There is not enough data available that suggest that the Colombian Caribbean has changed 40% over the last 60 years; perhaps land use has but that could not be directly related to climate change. The figure is only showing coastal cities that flood within Brazil, Uruguay and Buenos Aires but not in the rest of the region, Esmeraldas, Guayaquil, Georgetown, Santos, Cumana, Maracaibo, Cartagena. The line of reduction of reliability of coastal structures refers to coastal protection infrastructure in place? the Colombian pacific is not protected, there are no protection structures in place. This figure could be use as a baseline for regional CVA but for that the above issues on data, methods and limitations should be clearly stated. (Lacambra Segura, Carmen, Grupo La era)
427	27	106	0	0	0	It is suggested to delete Figure 27-6, which mistakes China as an example. The deforestation in the Amazon basin only linked with China's demand for soybeans does not agree with the original literature. \nIn the original literature, the deforested Amazon may be related to more than one factors, such as the demand for biofuels in US, and the demand for beef in Europe and North America. Meanwhile, the demand for South America's soybeans arises not only from China, but also from other countries like Russia, South Africa and India. Moreover, international trade is a win-win game. It is not appropriate to only emphasize the demand by economic development for resources. According to the literature, it is a garbled quotation to single out China as an example here. \n (CHINA)
428	27	108	0	0	0	Figure 27-8: Are the authors, very likeky sure that the item #3 has more "degree of confidence" than item 1? (Mata, Luis J , Independent Consultant)
429	27	108	0	0	0	Figure 27-8: Figure caption does not explain what the different shapes on the plot respresent. (Halladay, Kate, Met Office Hadley Centre)
430	27	108	0	0	0	Figure 27-8. The wording within the caption ("observed impacts of climate variations and attribution of causes") could be clarified, as it is not as explicit as it could be--attribution to climate change? (Mach, Katharine, IPCC WGII TSU)
431	27	108	0	0	0	Figure 27-8: Please clarify that this is attribution to climate change in the figure and caption. (Mastrandrea, Michael, IPCC WGII TSU)