#	Ch	From Page	From Line	To Page	To Line	Comment
1	29	0	0	0	0	In general, the Chapter is well written and contains some novel materials compacompared to prior IPCC Volume II Assessments. (Singh, Bhawan, University of Montreal)
2	29	0	0	0	0	Some additional references worth looking at: IPCC (2012) Managing the risks of extreme events and disasters to advance climate change adaptation. Special Report of the IPCC, Cambridge University Press, 582pp (contains specific examples relating to small islands); McGregor et al (2011) Assessing the social & economic value of germplasm and crop improvement as a climate change adaptation strategy: Samoa and Vanuatu case studies, A background case study prepared for IUCN's report, Lal PN (2011) Climate Change Adaptation in the Pacific: making informed choices, prepared for the Australian DCCEE, IUCN, Suva, Fiji; FAO (2010) Pacific Food Security Toolkit. Building Resilience to Climate Change. Root Crop and Fishery Production, FAO, Rome, Italy, 130pp.; SPC (2011) Food security in the Pacific and East Timor and its vulnerability to climate change, prepared for the Australian DCCEE, Spc, Noumea, New Caldeonia, 88pp.; Mataki M et al (2013) Coiseul Province Climate Change Vulnerability and Adaptation Assessment Report, SPC DGIZ, SPREP, Suva, Fiji, 65pp.; Fletcher & Richmond (2010) Climate change in the FSM. Food and water security, climate risk management and adaptive strategies. ICAP, University of Hawaii, Hawaii, 28pp; SPREP, APAN (2013) Report on Adaptation Challenges in Pacific Island Countries. Apia, Samoa, SPREP, 29pp. (Lough, Janice, Australian Institute of Marine Science)
3	29	0	0	0	0	This is a clear and well-written chapter with arguments and assessments easy to follow and well illustrated. (Lough, Janice, Australian Institute of Marine Science)

#	Ch	From Page	From Line	To Page	To Line	Comment
4	29	0	0	0	0	The overall tone of the chapter tends to downplay the significance of climate change for small island developing countries. This is particularly the case in the Executive Summary, which generalises about the amount of information available to understand climate change impacts (page 2, 27-37), and suggests that addressing immediate development problems is more of a priority than understanding the long-term impacts of climate change (page 2, 49-54). Implicit in this statement is the notion that there is only one pathway to addressing climate change risks (or that there is only one type of risk to manage). Palutikof et al (2013: p18) caution against the reasoning that argues that developing countries should first reach a satisfactory level of well-being before being able to address the future. Palutikof et al (2013) argue that pursuing a 'development as usual' approach risks missing opportunities for developing countries to realise technology gains and better design standards for a future climate, and hence risks doing development actions that will be maladaptive in ways that future change undermines development gains. Instead development should indeed pursue today's needs but in ways that are 'climate change ready'. In a slightly different take on pathways to adaptation, Schipper (2007) argues that vulnerability must first be reduced through 'climate-aware development practice' as a precursor for adaptation to take place. This implies that a better understanding of vulnerability is required to ensure that development trajectories remain consistent with the objectives of adaptation. This approach privileges vulnerability reduction as a guiding methodology that brings together adaptation and development efforts, but again emphasising the need to be 'climate change ready'. Expanding on this, McGray et al (2007) note the importance of recognising that responding to climate change can take various approaches across a spectrum. Such a spectrum entails addressing general drivers of vulnerability at one end, with responses to distinct climate change impacts at the other. At the latter end of the spectrum, the climate change impacts can be identified outside the realm of traditional development, requiring a highly specialised response. This is an important contribution, as at certain thresholds, a 'development as usual' approach will not be sufficient to deliver the adaptation response needed. This is particularly the case for long-term investments, such as those relating to urban planning or long-lived infrastructure. The chapter would benefit from a more sophisticated consideration of adaptation pathways, possibly along the lines of that outlined above. Finally, noting the gaps identified in AR4, the Pacific Climate Change Science Program specifically addressed the lack of country-level information and climate projections for 14 Pacific Island countries and East Timor. Specific comment on the program has been made separately. References cited above: 2013, Palutikof, J., Parry, M., Stafford Smith, M., Ash, A. J., Boulter, S. L., and Waschka, M. The past, present and future of adaptation: setting the context and naming the challenges (Chapter 1). In: 'Climate Adaptation Futures'. (Eds J. Palutikof, S. L. Boulter, A. J. Ash, M. Stafford Smith, M. Parry, M. Waschka and D. Guitart.) pp. 3-29. (Wiley Publishing: Oxford.) 2007, Schipper, L., Climate Change Adaptation and Development: Exploring the Linkages, Tyndall Centre for Climate Research, Working Paper 107. 2007, McGray, H., Hammill, A., & Bradley, R., Weathering the Storm: Options for Framing Adaptation and Development, World Resources Institute. (AUSTRALIA)

#	Ch	From Page	From Line	To Page	To Line	Comment
5	29	0	0	0	0	I wish to reiterate a comment made during my previous review, which stated: I would concur that threats to islands have been overblown (certainly in the media). I think the chapter has gone to considerable effort to address this, and it is very well done. That said, care needs to be taken in going too far the other way. For many atolls, at least, the cascade of effects (negative impacts ocean and coastal fisheries, agriculture, water resources greater likelihood of extreme events, etc.) is going to make the situation increasingly untenable. In a broader sense, it is hard to see the picture of not only exposure and sensitivity but of adaptive capacity as being rosy for some islands." I think this issue remains - I commend the authors for making it clear that the impacts of a changing climate are at this time equivocal, climate change is one concern among a panoply that face small islands. However, when taken enmasse and without clear statements to the contrary, I fear that the reader is left with the impression that the impacts of climate change on many small islands will over the long term not be dramatic. I would respectfully recommend the authors revisit this issue particularly in the context of key findings, and more generally in the context of looking for subtle changes in wording that would slightly alter emphasis. I wish to reiterate a comment made during my previous review, which stated: I would concur that threats to islands have been overblown (certainly in the media). I think the chapter has gone to considerable effort to address this, and it is very well done. That said, care needs to be taken in going too far the other way. For many atolls, at least, the cascade of effects (negative impacts ocean and coastal fisheries, agriculture, water resources greater likelihood of extreme events, etc.) is going to make the situation increasingly untenable. In a broader sense, it is hard to see the picture of not only exposure and sensitivity but of adaptive capacity as being rosy for some islands." I think this issue remains - I commend the authors for making it clear that the impacts of a changing climate are at this time equivocal, climate change is one concern among a panoply that face small islands. However, when taken enmasse and without clear statements to the contrary, I fear that the reader is left with the impression that the impacts of climate change on many small islands will over the long term not be dramatic. I would respectfully recommend the authors revisit this issue particularly in the context of key findings, and more generally in the context of looking for subtle changes in wording that would slightly alter emphasis. (Marra, John J., NOAA)
6	29	0	0	0	0	We appreciate the inclusion in the summary of the experience and experience of islanders, as in the Pacific for example climate change is a highly socio-culturally charged phenomenon. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
7	29	0	0	0	0	Complements to the Lead Authors of the Small Islands chapter on their writing style - their text is clear, understandable, concise and a pleasure to read. (Wratt, David, NIWA, New Zealand)
8	29	0	0	0	0	when we say "small islands" it is mis-leading…for a nation like the Maldives, some of the islands are very small and some are larger in the context of the country. Since all of the Islands are low-lying islands, they are equally vulnerable…In seychelles, some of the islands are small but high in altitude and hence might not be impacted as same way as larger low-lying islands in the Maldives. So it might be appropriate to use low-lying islands or small low-lying islands (Zahid, -, Maldives Meteorological Service)
9	29	0	0	0	0	A sub-section could be included covering Observed Impacts of climate change on food avilability or food security". It is expected that with climate change it is going to reduce global food production by 20-40%. It is expected that there will be frequent flood, drought events, increase in temperature...This will impact agricultural lands and will impact health of plants. Increase in sea surface temperature will have impact on fisheries sector thus impacting food avilability. (Zahid, -, Maldives Meteorological Service)
10	29	0	0	0	0	General Comments – very good readable chapter. (HAWKINS, STEPHEN, UNIVERSITY OF SOUTHAMPTON)
11	29	0	0	0	0	As written, it is difficult for a reader to find easily accessible "snapshots" of past IPCC findings reinforced by this Report or an easy summary of impacts (perhaps a Table in each chapter?) (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
12	29	0	0	0	0	Authors should review the document for both internal consistency (see comments related to differences between the Executive Summary/FAQs and the body of this Chapter BUT ALSO with Chapter 5, the Summary for Policy Makers and Technical Summary. (UNITED STATES OF AMERICA)
13	29	0	0	0	0	Based on reviewers' knowledge of the Pacific Islands region, overall Chapter 29 appears to downplay both observed and projected climate change trends in the region and over-emphasize the uncertainties. This creates some confusion in the reader who has previously read the SPM and GER summaries; see e.g., GER p. 37 lines 5-11, p. 52 lines 8-9, p. 68 lines 13-18, p. 73 lines 22-27, and p. 90 Table TS.3 [this table presents a nice summary that could be replicated in Chapter 29]. There also are apparent discrepancies between agreement/confidence statements in this chapter and Chapter 5 - Coastal systems and low-lying areas, including a lack of cross-referencing to Chapter 5; see e.g., p. 3 lines 1-12, 31-47; p. 9 lines 52-53; p. 13 lines 38-42; pp. 18-20; p. 30 lines 14-28; p. 35 lines 13-24; and the FAQ section on pp. 44-45. (UNITED STATES OF AMERICA)
14	29	0	0	0	0	Executive Summary statements do not seem to derive directly from subsequent text but, rather, appear to be stand-alone comments from the authors. Recommend review to ensure a clear line from the body of the Chapter to the highighted items in the Exeuctive Summary. In addition, several of the highlighted statements in the Executive Summary are applicable to other regions and sectors (e.g., integration of development planning and climate adaptation). (UNITED STATES OF AMERICA)
15	29	0	0	0	0	Recommend authors review for consistent use of terminology -- climate, climate variability and climate change. IPCC includes both variability and anthropogenic change in the definition of climate change yet, as written, this chapter tends to focus on distinguishing between variability and change and, by focusing on the concept of "attribution" the chapter loses focus to readers interested in addressing climate-related vulnerabilities. The shortage of "attribution" studies in the scientific literature should not be perceived to mean an absence of climate-related impacts OR legitimate efforts by Small Island States to address those challenges. (UNITED STATES OF AMERICA)
16	29	0	0	0	0	Recommend authors review for overall tone to ensure that the Chapter is not downplaying the significance of climate impacts in Small Island settings OR the actions of governments to address climate-related challenges. Similarly, the tone seems to imply that addressing today's climate variability is not as important as adderssing anthropogenic climate change and that because the scientific community cannot attribute observed changes to anthropogenic climate change, decisionmakers shouldn't be undertaking adaptation efforts. Regardless of the cause, small island communities, governments and businesses will be focusing on climate resilience as part of their responsibilities. (UNITED STATES OF AMERICA)
17	29	0	0	0	0	Recommend that the authors review the document for declarative statements about policy that are not substantiated in the literature. It is important for IPCC to ensure that the Assessments inform policy rather than direct. (UNITED STATES OF AMERICA)
18	29	0	0	0	0	The authors should assess how relevant this (and other) chapter(s) is to decisionmakers. Chapter 29 in particular seems to be more focused on scientific needs (e.g., downscaling) rather than information that decisionmakers can use now to support support assessing vulnerability and inform adaptation decisions. The authors are encouragee to include relevant references from the literature in this regard. Additionally, getting the 'confidence' statements correct would provide valuable guidance to decisionmakers. (UNITED STATES OF AMERICA)
19	29	0	0	0	0	The chapter brings out toward the end the notion that climate adaptation builds on frameworks drawn from disaster planning, coastal planning, and water and land management. Suggest that the authors highlight the integration of climate change considerations into other resource management practices as an efficient way to address current and projected vulnerabilities. (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
20	29	0	0	0	0	Throughout the chapter it is mentioned that further research/investigation is needed. Who will do the further investigation or is that a recommendation to the decision makers of small islands. If it is a recommendation, it should be stated as such. (UNITED STATES OF AMERICA)
21	29	0	0	0	0	While recognizing that no one event can be attributed to anthropogenic "climate change", the very strength (and one of the points) of a synthesis chapter such as this is that it is a compelling collection of impacts across diverse island regions. The authors do not appear to have fully utilized the opportunity to use the information collected here to highlight the strength of this very synthesis - are small islands currently experiencing impacts from climate change? And when we look at the cross-sectoral observations across space and time, are there many observed vulnerabilities? The authors seem willing to group *future* impacts as being due to climate change, but are not willing to assess the likelihood that currently observed impacts across the region are also due to climate change. If the literature does not exist to make such an attribution to (anthropogenic) climate change, this should be clearly stated, i.e., please distinguish between absence of evidence and evidence of absence. (UNITED STATES OF AMERICA)
22	29	0	0	0	0	You seem to almost exclusively refer to the old WGI AR4 report and SRES scenarios to support statements concerning the physical science of climate change. Please update your assessment to ensure consistency and cross-referencing with the WGI AR5 chapters (especially for sea level related issues), including the Annex I: Atlas of global and regional climate projections, and the SREX Chapter 3. (Plattner, Gian-Kasper, IPCC WGI TSU)
23	29	0	0	0	0	There are some missing/ incorrect citations in the chapter. These discrepancies have been highlighted in the ref check document for chapter 29 and is available in the supporting material web page. Chapter team may wish to rectify these errors before starting to work on SOD revisions and FGD preparation. (Chatterjee, Monalisa, IPCC WGII TSU)
24	29	0	0	0	0	1) Overall -- The chapter team has developed a strong 2nd-order draft. In the final draft, the chapter team is encouraged to continue its prioritization of compact and rigorous assessment, clear writing, high specificity, and effective figures. (Mach, Katharine, IPCC WGII TSU)
25	29	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)
26	29	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)
27	29	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)
28	29	0	0	0	0	5) Report release -- The chapter team should be aware that the final drafts of the chapters will be posted publicly at the time of the SPM approval, before final copyediting has occurred. Thus, the chapter team is encouraged to continue its careful attention to refined syntax and perfected referencing. (Mach, Katharine, IPCC WGII TSU)

#	Ch	From Page	From Line	To Page	To Line	Comment
29	29	0	0	0	0	6) Characterization of future risks -- In characterizing future risks for small islands, 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)
30	29	0	0	0	0	7) 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. 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)
31	29	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, traceable accounts, and specific clarifications. In addition, where likelihood terms are used ("likely," "very likely," etc.), it is also not always clear whether they are intended as calibrated language or not--please carefully check this and avoid casual usage. (Mastrandrea, Michael, IPCC WGII TSU)
32	29	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 29, this includes presentation of observed impacts and vulnerabilities in section A.i, 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 29 and other chapters at LAM4? (Mastrandrea, Michael, IPCC WGII TSU)
33	29	1	1	1	1	The tile" Small Islands" 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)
34	29	1	1	2	22	Please add page numbers to the chapter (NETHERLANDS)

#	Ch	From Page	From Line	To Page	To Line	Comment
35	29	2	25	0	0	Use of Calibrated Uncertainty Language in the Executive Summary -- In the framework of the uncertainties guidance, the author team should consider the available evidence and agreement for a topic. On the basis of its evaluation of evidence and agreement, the author team can then assign a level of confidence. Where there is a probabilistic basis, a likelihood term for the outcome or event can be subsequently assigned. Given this framework, it would be preferable for the chapter team to use the following options for presenting summary terms for evidence and agreement and/or levels of confidence: (1) if the author team chooses to present only summary terms for evidence and agreement, summary terms for BOTH evidence and agreement should ideally be presented, preferably within parentheses at the end of the statement. (2) If the author team wishes to present a level of confidence AND summary terms for evidence and agreement, the level of confidence followed by summary terms for BOTH evidence and agreement should ideally be presented, preferably within parentheses at the end of the sentence (for example, "high confidence, based on medium agreement, robust evidence"). (3) If the chapter team wishes to present only a level of confidence for a finding, the level of confidence should be presented, preferably within parentheses at the end of the sentence. (Mach, Katharine, IPCC WGII TSU)
36	29	2	25	0	0	Approach to Impacts, Vulnerability, and Adaptation in the Executive Summary -- The executive summary presents important and compelling assessment findings. Yet I feel important foundational elements are missing. That is, a reader could finish the executive summary wondering, what are the vulnerabilities and potential impacts for small islands? Are they small or large? What adaptation experience has been seen to date, and what are adaptation needs, constraints, and limits moving forward? In addition to the topics already covered, it seems very important to provide strong findings on the basics as well. (Mach, Katharine, IPCC WGII TSU)
37	29	2	25	0	0	Regional Key Risks in the Executive Summary -- The chapter team is strongly encouraged to present clearly the key risks for small islands 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 enrich the executive summary with a strong organizing principle. (Mach, Katharine, IPCC WGII TSU)
38	29	2	25	0	0	Executive Summary: In revising the executive summary, I would recommend considering ways to more clearly communicate the risks posed by climate change to small islands and how they interact with other stressors, as well as what adaptation options are available and what is known about limits to adaptation. Much of the material already presented in the ES then puts such information in the appropriate context. In addition, please revise the use of calibrated uncertainty language, as currently the usage is nonstandard. Each key finding should either be assigned a level of confidence or descriptors for both evidence and agreement (not evidence or agreement alone). Ideally, a consistent approach should be adopted across all findings (e.g., all findings assigned levels of confidence). (Mastrandrea, Michael, IPCC WGII TSU)
39	29	2	25	3	27	Executive Summary : My impression from reading the ‘high confidence’ in the first two paragraphs of the summary and ‘medium agreement’ given to the remaining paragraphs of the summary is that the climate change situation for small island states is not so serious now despite what the literature and media are portraying. I would have expected a higher level of confidence paid to the impacts of climate change, observed or projected, to the small islands. In the AR4 there were three paragraphs with 'very high confidence' and four paragraphs with 'high confidence' in the executive summary. (Wong, Poh Poh, National University of Singapore)

#	Ch	From Page	From Line	To Page	To Line	Comment
40	29	2	25	3	27	The Executive Summary should address the potential additive or multiplicative effect that climate change will have on existing island stressors. For example, the current impacts from invasive species will likely be great exacerbated by added climate stressors, which may push ecosystems past a tipping point in which they can no longer be sustained or recovered. (UNITED STATES OF AMERICA)
41	29	2	27	2	28	The fact that observed and projected impacts are discussed in the same paper, including the former serving as analogues for the former, does not necessarily mean there is an unclear distinction; this statement needs to be rephrased (Hay, John, University of the South Pacific)
42	29	2	27	2	28	In line with my general comments on the executive summary, this "high agreement" should be changed to a confidence statement, or a descriptor of evidence should be added. (Mastrandrea, Michael, IPCC WGII TSU)
43	29	2	27	2	37	This Summary Statement as written is misleading. While there is no question that models need to be improved along with observations to support both scientific research (i.e., the "literature") and adaptation but, as written, the Statement could be read to minimize the impacts of changing climate -- observed AND projected -- on Small Island States. (UNITED STATES OF AMERICA)
44	29	2	27	3	27	The Executive Summary (and the chapter as a whole) creates the impressions that (1) the literature does not document observed climate change trends and (2) the successful adaptive capacity of island communities in the past may somehow translate into greater resiliency in the future. With regard to (1), in the Pacific region there is a growing body of literature documenting long-term trends in ambient air temperature, precipitation, sea surface temperature, and ocean chemistry, both at the regional and sub-regional scales (e.g., Keener, V. W., Marra, J. J., Finucane, M. L., Spooner, D., & Smith, M. H. (Eds.). (2012). Climate Change and Pacific Islands: Indicators and Impacts. Report for The 2012 Pacific Islands Regional Climate Assessment. Washington, DC: Island Press.). With regard to (2), the chapter appears to sidestep the issue that given these documented trends (temperature, precipitation, ocean chemistry) and projected impacts due (sea-level rise, changes in storm frequency and/or intensity), islanders are faced with a future that has no analog in human history, such as annual coral bleaching events; therefore, any discussion of adaptive capacity needs to take into account the very real likelihood of a 4 degree C warmer world and the limitations of adaptation in such a world. While the chapter very rightly avoids a "doomsday" tone, underplaying the serious threat that climate change poses to islands could lead to inaction or maladaptive responses to current and projected future impacts and is inconsistent with the document as a whole (see e.g., GER p. 52 lines 8-9). (UNITED STATES OF AMERICA)
45	29	2	27	3	27	The Executive Summary is not representative of some sections in the chapter and should be revised, as it leads off with a negative point. It is suggested that the first point be that small island climates are changing, as seen in observed changes in temperature, preciptiation patterns and amounts, sea level, and ecosystems (etc) across small islands. Having made that point, it is then approporaite to explain that the distinctionbetwen observed and projected impacts is sometimes unlcear. On the 5th point about donors, recommend that the authors assess a suggested solution to their identified problem,e.g., that to combat maladaptation from donor sponsored projects, donors should work closely with the local community or through an international organizational framework such as the UN. (UNITED STATES OF AMERICA)
46	29	2	28	2	28	Here, would it be preferable to present a level of confidence? Please see my overall comment on calibrated uncertainty language in the executive summary. (Mach, Katharine, IPCC WGII TSU)
47	29	2	31	2	31	Please clarify that scenarios here refers to both climate projections and socioeconomic scenarios, per the corresponding chapter text. (Mastrandrea, Michael, IPCC WGII TSU)

#	Ch	From Page	From Line	To Page	To Line	Comment
48	29	2	32	2	37	The impression is that there is low confidence in the magnitude of projected impacts to small islands. This is true for some impacts, but for other impacts such as sea level rise and wave inundation and overwash, there is high confidence. This distinction should be made clear. Also, for low islands, downscaling may not be as critical as it is for high islands. These islands experience the climate as it exists over broad oceanic areas, where as the topography of high islands presents important downscaling issues. Thus, confidence in climate change predictions for low islands is the same as for the larger scale global models. (UNITED STATES OF AMERICA)
49	29	2	33	2	33	Where evidence is described here, the author team could consider presenting a summary term for evidence (and a summary term for agreement). (Mach, Katharine, IPCC WGII TSU)
50	29	2	33	2	35	There was very little "downscaling" in this study - it largely made use of ensemble model outputs from AR4 but the key difference was that it was focussed on islands with their particular characteristics. (Lough, Janice, Australian Institute of Marine Science)
51	29	2	33	2	37	In line with my general comments on the executive summary, could this description provide the basis for a finding about vulnerability of fisheries that includes results of the mentioned analysis? (Mastrandrea, Michael, IPCC WGII TSU)
52	29	2	39	2	40	It is not completely clear if this key finding describes impacts observed to date or projected for the future. If it refers to observed outcomes, are the described impacts the impacts of climate change? Especially given the previous paragraph, it seems important to ensure clarity here, as part of the added value of the assessment. Finally, presentation of calibrated uncertainty language for this statement should consider my overall comment for the executive summary. (Mach, Katharine, IPCC WGII TSU)
53	29	2	39	2	47	As written, this Summary Statement does not adequately conveys the Authors' presumed intent (or reality) -- Changing climate conditions are generated by processes outside ANY individual nation (not just Small Island States). If the intent is to highlight that the impacts of these processes (i.e., changing climate) is largely negative, then recommend rewriting to start with the punchline (impacts are negative) DESPITE the facts that many are generated outside the boundaries of an individual nation. (UNITED STATES OF AMERICA)
54	29	2	39	2	47	How many of the impacts listed here are due to climate change? (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)
55	29	2	39	2	47	In line with my general comments on the executive summary, it would be useful to frame this finding with more of a focus on what is known about the impacts of climate change and how they interact with other stressors, rather than the other way around. In addition, please check the line of sight for this finding, as 29.5.4 appears to contain relevant information on aquatic pathogens, and 29.3.3.2 is relevant to health but not really to trans-boundary effects. (Mastrandrea, Michael, IPCC WGII TSU)
56	29	2	40	2	40	This calibrated uncertainty language should be revised to either present only a confidence statement or both agreement and evidence. (Mastrandrea, Michael, IPCC WGII TSU)
57	29	2	49	2	50	This statement is partly true for high islands but not for low atoll islands over an extended future. The document does a very good job in pointing out the distinction between high and low islands, but this distinction is not carried through. The distinction between impacts to high and low islands needs to be made clear in the Executive Summary. Figure 29-1 shows the range of island topography but, like the Executive Summary, fails to clearly point out that climate change impacts to the low atoll islands will be dramatically different that impacts to the high islands. This is a critical issue throughout the Pacific Islands where large sections of many island nations are established on low atoll islands that are at great risk to rising sea level and wave overwash. Dickenson 2009 (GSA Today, v. 19, no. 3, doi: 10.1130/GSATG35A.1) (not cited in the references) discusses this impact in a clear and relatively climate conservative presentation and should be part of the Executive Summary and overall discussion in the text. (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
58	29	2	49	2	54	Among the "critical social , economic and environmental issues of the day" are the current risks from extreme climate hazards. In particular, damage from a single cyclone can undo years of 'development' in a few days. (Weir, Tony, University of the South Pacific)
59	29	2	49	2	54	This para should be first in the ES (Hay, John, University of the South Pacific)
60	29	2	49	2	54	Using of the phrase "most important" is a value judgment by the authors. A more accurate reflection of reality in Small Islands -- as in most countries -- is that climate is just one of the multiple stresses and, in an adaptation context, is often effectively addressed IN THE CONTEXT of addressing those stresses rather than as a stand-alone challenge. There are subsequent statements throughout the chapter that appear to imply the importance of climate in context but that important idea is not always clear or consistent. (UNITED STATES OF AMERICA)
61	29	2	49	2	54	Can this finding provide further clarity as to how such a focus on short-term issues could build resilience? I also feel that deleting "we agree that" in line 52 would make the statement clearer. In terms of line of sight, 29.3.2 also provides relevant information. (Mastrandrea, Michael, IPCC WGII TSU)
62	29	2	50	2	50	Change word "important" to "urgent" to more accurately reflect that it is a distinction between short term and long term priorities not overall importance. (AUSTRALIA)
63	29	2	50	2	50	Use of the word 'Increasingly' is problematic. How much evidence is available that supports an increasing trend (does not seem evident from the discussion in 29.3.3). (AUSTRALIA)
64	29	2	50	2	50	The chapter team should consider presentation of calibrated uncertainty language here, along the lines of my overall comment for the executive summary. (Mach, Katharine, IPCC WGII TSU)
65	29	2	50	2	50	This calibrated uncertainty language should be revised to either present only a confidence statement or both agreement and evidence. (Mastrandrea, Michael, IPCC WGII TSU)
66	29	2	52	0	0	Suggest avoiding use of "we agree". This could be deleted and sentence could start with "Addressing… (CANADA)
67	29	2	52	2	0	says 'we agree', but what does the scientific evidence show? (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)
68	29	2	52	2	52	"We agree that" is not standard IPCC confidence language and I think it sounds rather loose for an IPCC assessment. I suggest removing these three words, so the sentence becomes: "Addressing the critical social …". (Wratt, David, NIWA, New Zealand)
69	29	2	53	2	53	Instead of the likelihood term used for this statement, the chapter team should consider assigning a level of confidence, which may better match the nature of available evidence for the topic. (Mach, Katharine, IPCC WGII TSU)
70	29	3	2	0	3	This is not uniquely true of small islands. Is it possible to be more specific about the regional context in the bolding finding? Or perhaps the first sentence can be deleted and the paragraph can begin with the second? (CANADA)
71	29	3	2	3	2	"…. Are not aways tradeoffs…." (Hay, John, University of the South Pacific)
72	29	3	2	3	10	Adaptation and mitigation in SIDS can be trade-offs, when for example, mitigation strategies are driven by external donor financing (thus deviating much needed resources for adaptation) even though their GHG emissions are negligeable. (Bettencourt, Sofia, World Bank)
73	29	3	3	3	6	Can further information be provided about what adaptation options are available and how those complement mitigation? (Mastrandrea, Michael, IPCC WGII TSU)
74	29	3	4	3	5	It would be preferable to indicate what these interactions entail, instead of just simply naming them. (Mach, Katharine, IPCC WGII TSU)
75	29	3	5	3	6	Regarding the sentence: "The alignment of these sectors for potential emission reductions together with adaptation needs offers co-benefits and opportunities in small islands." Caution should be used in generalizing between SIDS, still some common issues exist especially within regions. CPACC in the Caribbean and similar efforts in the Pacific Rim are of value. (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
76	29	3	12	3	12	"….is often vital……" (Hay, John, University of the South Pacific)
77	29	3	12	3	12	This sounds rather policy presctiptive. Suggest replacing this sentence with something from the rest of the sentence. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)
78	29	3	12	3	13	While I am personally sympathetic to the words "Assistance from the international community is vital …" this phrasing is rather policy-prescriptive for an IPCC report, for which the guidance is generally to be "policy-relevant but not policy prescriptive". Perhaps you could get a similar message across using less prescriptive language. e.g. "The ability of small islands to undertake adaptation and mitigation programmes, and their effectiveness, can be substantially strengthened through appropriate assistance from the international community…"? (Wratt, David, NIWA, New Zealand)
79	29	3	13	3	13	Expand on what exactly is meant by "some types". If some types are maladaptive, which types aren't? (AUSTRALIA)
80	29	3	14	3	14	This calibrated uncertainty language should be revised to either present only a confidence statement or both agreement and evidence. (Mastrandrea, Michael, IPCC WGII TSU)
81	29	3	14	3	16	As written, not sure that this Summary Statement adequately conveys the Authors' intent (or reality) -- Changing climate conditions are generated by processes outside ANY individual nation (not just Small Island States). If the intent is to highlight that impacts on Island States are largely negative -- regardless of the source of the processes controlling those impacts -- then recommend rewiriting. (UNITED STATES OF AMERICA)
82	29	3	14	3	23	Assignment of calibrated uncertainty of language on lines 14, 17, and 23 could be considered. Please see my overall comment for the executive summary. (Mach, Katharine, IPCC WGII TSU)
83	29	3	17	3	27	Other chapters discuss both the utility and the limits of such local experience in a changing climate. Is this relevant in the context of small islands as well? (Mastrandrea, Michael, IPCC WGII TSU)
84	29	3	22	3	27	This statement should be combined with current page 2 lines 49 to 54 (Hay, John, University of the South Pacific)
85	29	3	22	3	27	The summary does not discuss the unique condition posed by low atoll islands. Resilience for these islands is a moot point. People will have to find new places to live. Pacific Island nations likely have a limited capacity to support these people within their national boundaries and international help will likely be needed. This issue needs to be an important point in the Executive Summary. The above point is paralleled by the eventually loss of low atoll island ecosystems. There are endemic atoll species that may need to be translocated to high island settings if they are not to become extinct due to sea level rise and wave overwash. The Authors are encouraged to include these points in the Executive Summary. (UNITED STATES OF AMERICA)
86	29	3	22	3	27	The text in bold refers to "non-climate stressors" but the paragraph text identifies extreme weather, climate and ocean-related events which do often have a climate connection. Would also recommend a re-check of the references used to substantiate the statement that "adaptative capacity is better when the frequency of the hazards is greater." Perhaps a more appropriate statement would be that adaptive capacity is greater when historic experience with hazards is greater; rather than suggesting that an increased frequency of hazards is a positive step towards adaptation. The bolded statement probably better reflects the intent of the Authors than the closing sentence of this text does. In either sense, the authors should revist this statement. (UNITED STATES OF AMERICA)
87	29	3	23	3	23	This calibrated uncertainty language should be revised to either present only a confidence statement or both agreement and evidence. (Mastrandrea, Michael, IPCC WGII TSU)
88	29	3	25	0	0	Suggest replacing "We have" with "There is" (CANADA)
89	29	3	25	3	25	Similarly to line 52 on the previous page, I suggest that "We have medium confidence that …" should be rephrased. For example: "Adaptive capacity is better when the frequency of hazards is greater (medium confidence), but there may be …" (Wratt, David, NIWA, New Zealand)

#	Ch	From Page	From Line	To Page	To Line	Comment
90	29	3	25	3	26	The sentence "We have medium confidence that adaptive capacity is better when the frequency of hazards is greater" -- is this referring to the fact that people will acclimate and thus adapt to these extremes? Please clarify (UNITED STATES OF AMERICA)
91	29	3	25	3	27	However, the relevance for policymakers is unclear when it comes to the (potentially misleading) assertion that "adaptive capacity is better when the frequency of hazards is greater". It is unclear why this is in the executive summary. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
92	29	3	31	3	31	Should you have a brief definition of "small island" just so your readers understand clearly what population of landmasses you are talking about? (Nunn, Patrick, University of New England)
93	29	3	32	3	33	This sentence appears to be a clearer and more direct statement of the reality of cllimate change for Small Islands than the second Statement in the Executive Summary. Recommend re-consideration of the use of this sentence in the Executive Summary rather than in the body of the Introduction. (UNITED STATES OF AMERICA)
94	29	3	32	3	38	I would have context-setting citations at the end of each of the three settings in this paragraph. Also the are in line 34 should be is. And I would delete extreme from line 35 rather than laboriously clarifying the sense(s) in which you are using it. (Nunn, Patrick, University of New England)
95	29	3	32	3	38	For these statements, it would be preferable to provide calibrated uncertainty language to indicate the chapter team's degree of certainty in the statements, in place of or to complement phrases such as "very real," "threatened by rising sea levels," and "there is no doubt." Additionally, it would be best to provide line-of-sight references to the chapter sections in which supporting assessment can be found. (Mach, Katharine, IPCC WGII TSU)
96	29	3	33	3	33	As the chapter refers to ocean acidification it should be refered to, therefore: …,but the threats of climate change, ocean acidification and sea level rise. (Viner, David, Private)
97	29	3	33	3	33	"…but that the threats of climate change and sea level rise to small islands are very real." sea level rise is the result of climate change. So it can be said as threats of climate change such as sea level rise (Zahid, -, Maldives Meteorological Service)
98	29	3	35	3	36	"…there is no doubt that on the whole the impacts of climate change on small islands will have serious negative…" It is not only small islands but also low-lying larger islands will be impacted (Zahid, -, Maldives Meteorological Service)
99	29	3	35	3	38	Given such statements ('will have serious negative effects'), then the summary should reflect a more serious situation for the small islands. (Wong, Poh Poh, National University of Singapore)
100	29	3	37	3	38	I think the last part of this sentence (from although) is unnecessarily vague. I suggest when talking about how impacts might be reduced (rather than ameliorated), the key adjectives for adaptation are "effective and sustainable". (Nunn, Patrick, University of New England)
101	29	3	37	3	38	Suggest deleting text after the dash: stating that impacts will be ameliorated by adaptation is speculative and will not apply to all islands especially low atoll islands. Adaptation and mitigation will only apply to high islands in the long run. (UNITED STATES OF AMERICA)
102	29	3	40	0	0	It is written in 29,1 Introduction, page 3, line 40, "The small islands considered in this chapter are principally sovereign states and territories located within the tropics of the southern and western Pacific Ocean, central and western Indian Ocean, the Caribbean Sea, and the eastern Atlantic off the coast of west Africa, as well as in the more temperate Mediterranean Sea". That is the only mention in the chapter to the "eastern Atlantic off the coast of west Africa" area as a whole. To this respect there are only three indirect references to that area in the chapter: Azores one reference, Madeira two references, Cape Verde two references and no mention to the Canary Islands, the biggest archipielago of the West Africa region. There are also no mention in the Tables nor in the Figures of this chapter to this west Africa region; this issue unbalances the chapter. (SPAIN)

#	Ch	From Page	From Line	To Page	To Line	Comment
103	29	3	40	3	42	What about the Azores, Madeira and Canary Islands in the Atlantic? Even though they are territories, they are also an important SIDS cluster. (Bettencourt, Sofia, World Bank)
104	29	3	41	3	41	Add in central Pacific Ocean to cover Hawai`i and other central Pacific islands. A map showing the location of small islands and national boundaries would be useful. (UNITED STATES OF AMERICA)
105	29	3	52	3	52	"We agree that" is not appropriate terminology. (Hennessy, Kevin, Commonwealth Scientific and Industrial Research Organisation)
106	29	4	14	4	16	Why reference 328-330? Suppress. And following idem (Pecheux, Martin, Institut des Foraminifères Symbiotiques)
107	29	4	34	4	37	Climate change is but one of the serious challenges facing SIDS. Many of the vulnerabilities already exist and climate change will exascerbate those vulnerabilities. (UNITED STATES OF AMERICA)
108	29	4	42	4	45	Authors cite decrease in articles after TAR in 2001 compared to those published before TAR. Two that they missed were: James B. London, "The Implications of Climate Change on Small Island Developing States", Journal of Environmental Planning and Management, 2005. James B. London, "Climate Change and Small Island Developing States," Commonwealth Ministers Reference Book. London: Commonwealth Secretariat, 2007. (UNITED STATES OF AMERICA)
109	29	4	47	5	2	For the conclusions presented here, the chapter team could consider presenting calibrated uncertainty language to characterize its degree of certainty in them. (Mach, Katharine, IPCC WGII TSU)
110	29	4	50	4	50	"islands and island states" captures the diversity better than "island states" because states are not groups of homogenous islands (Nunn, Patrick, University of New England)
111	29	4	52	5	2	With all due respect, I don't think the last two sentences of this paragraph are correct. There is a lot of published critiques of CC policy for islands but I can't think of any that don't recognise that long-term adaptation is not a critical development need of the present. The last sentence therefore appears to me as a non sequitur, and I would delete it altogether on the grounds that it is open to misinterpretation. (Nunn, Patrick, University of New England)
112	29	5	1	5	2	Precisely, given what has been reviewed in the past assessment reports, the situation facing small islands should be worse in AR5. (Wong, Poh Poh, National University of Singapore)
113	29	5	5	0	0	Section 29.3. In addition to using the word "impacts" within the title of this section, would it be best to add "vulnerability" (or potentially also sensitivity), given the nature of the material assessed and also given the characterization provided on line 7-14 of this page? (Mach, Katharine, IPCC WGII TSU)
114	29	5	9	5	9	delete "seasonal" - it muddies the point (Nunn, Patrick, University of New England)
115	29	5	12	5	12	"..and wave climate and particularly the extremes such as tropical cyclones…" does wave climate includes ocean currents? If not, ocean current could be included, since changes in the current can impact the islands. For example increase in ocean currents can increase in beach erosion (land loss). which is a huge issue for small islands. Since drought is mentioned, Floods (due to high waves and rainfall) are also needed to be included, which impacts small islands (demages to agricultural fields and also increase in salinity resulting from high wave flooding) (Zahid, -, Maldives Meteorological Service)
116	29	5	12	5	14	I would rewrite the last sentence of this paragraph to make it clearer. (Nunn, Patrick, University of New England)
117	29	5	17	5	17	Figure 29-1. delete "this schematic describes" (HAWKINS, STEPHEN, UNIVERSITY OF SOUTHAMPTON)
118	29	5	24	0	0	Section 29.3.1. In addition to using the word "impacts" within the title of this section, would it be best to add "vulnerability" (or potentially also sensitivity), given the nature of the material assessed and also given the characterization provided on line 7-14 of this page? (Mach, Katharine, IPCC WGII TSU)

#	Ch	From Page	From Line	To Page	To Line	Comment
119	29	5	26	5	26	This section should include a discussion of Dickenson 2009 (GSA Today, v. 19, no. 3, doi: 10.1130/GSATG35A.1). This paper address Pacific island atoll structure and sea level rise using A1B over the Holocene to the present with projected sea level rise impact into 2100. It is an important paper and should not be neglected here. Also consider: Merrifield, Mark A., & Maltrud, M. E. (2011). Regional sea level trends due to a Pacific trade wind intensification. Geophysical Research Letters, 38, L21605. doi:10.1029/2011GL049576 (UNITED STATES OF AMERICA)
120	29	5	26	5	26	This section should include reference to some of the periodic sea level drops associated with ENSO processes in some parts of the Pacific although the impacts on coral reefs, associated fisheries and coastal communities can be significant (e.g., Samoa). (UNITED STATES OF AMERICA)
121	29	5	28	5	29	29.3.1.1. For general aspects of sea level rise please refer to chapter 5 (Menzel, Lena, Alfred Wegener Institute for Polar and Marine Research)
122	29	5	28	6	36	This whole section gives a view of the effects of sea-level change around small islands that I believe is incorrect and not shared by most observers, scientific and otherwise. Paragraph 3 on page 6 suggests that all observations of inundation and erosion are explicable by "extenuating circumstances", as though the rise of sea level for the past 200 years or so (apparently "inadequately monitored" according to paragraph 2, which is not the view of Ch 13 WGI) has had the miraculous effect of growing islands rather than shrinking them. This is a view that applies specifically to atoll islands and should not in my view be allowed to stand with implicit reference to ALL island shorelines. There are numerous studies of shoreline erosion in the Pacific and Caribbean (including Webb and Kench of course) that are completely overlooked in this section - For non-atoll islands, reference should be made to Romine and Fletcher (Journal of Coastal Research, 2012, DOI: 10:2112/jcoastres-D-11-00202) and for atolls, almost everything published in the last 5 years plus Yates et al. (Journal of Coastal Research, DOI 10:2112/jcoastres-D-12-00129.1) on French Polynesia, Ford on Wotje (Remote Sensing of Environment, 135, 130-140 (2013)), Rankey on Kiribati, and so on.. Suggest radical overhaul. (Nunn, Patrick, University of New England)
123	29	5	29	5	31	In sentence 2, are should be is. Also change "limited relocation opportunities" to "limited on-island relocation opportunities" because that is the point being made here. I suggest this discussion also informs the presently somewhat narrow Box 29-1. (Nunn, Patrick, University of New England)
124	29	5	34	5	36	Suggest adding discussion for the possible cause of sea-level rise being significantly higher in the south Indian Ocean and tropical Pacific. Is it due to thermal expansion? Other forces? Ocean currents? This might also help explain why in the Caribbean the rate is less. (UNITED STATES OF AMERICA)
125	29	5	35	5	35	after "rates", add "in some parts" (Nunn, Patrick, University of New England)
126	29	5	36	5	39	Decadal climate variability in the Pacific affecting trade winds also appears to play a role in the higher rates of sea-level rise in the western Pacific - see, for example, Merrifield MA (2011) A shift in western tropical Pacific sea level trends during the 1990s. Journal of Climate 24: 4126-4138. Merrifield MA and Maltrud ME (2011) Regional sea level trends due to a Pacific trade wind intensification. Geophysical Research Letters 38, doi:10.1029/2011GL049576. Merrifield MA, Thompson PR and Lander M (2012) Multidecadal sea level anomalies and trends in the western tropical Pacific. Geophysical Research Letters 39, doi:10.1029/2012GL052032. (Lough, Janice, Australian Institute of Marine Science)
127	29	5	36	5	39	According to Australian Bureau of Meteorology and CSIRO (2011a), sea level rise in the western tropical Pacific, between 1993 and 2009, has a distinct pattern that should be described. East of 165 E, the rise is generally 2-7 mm/yr (including Vanuatu, Fiji, Tonga, Nuie, Cook Islands, Samoa, Tuvalu, Kiribati, Nauru, Marshall Islands). West of 165 E, this rise is generally 7-12 mm/yr (including Solomon Islands, PNG, FSM, Palua) (Hennessy, Kevin, Commonwealth Scientific and Industrial Research Organisation)

#	Ch	From Page	From Line	To Page	To Line	Comment
128	29	5	38	5	38	They are not "transient rates" (what rate is not?). I would rewrite this line as "2009 and are associated with natural interannual climate phenomena such as" (Nunn, Patrick, University of New England)
129	29	5	39	5	39	Consider also: Mark A. Merrifield, Philip R. Thompson, and Mark Lander. (2012) Multidecadal sea level anomalies and trends in the western tropical Pacific. GEOPHYSICAL RESEARCH LETTERS, VOL. 39, L13602, doi:10.1029/2012GL052032, 2012 (UNITED STATES OF AMERICA)
130	29	5	41	5	41	The paper by Dunne et al (2012) does not claim to demonstrate large interannual variability - as stated here (Brown, Barbara, University of Newcastle)
131	29	5	44	5	45	The opening sentence of this paragaph highlights an important reality -- the absence of long-term records and sustained monitoring programs -- related to climate in general in addition to sea level rise. This would seem to be an important finding to highlight more effectively in the Chapter, perhaps in the Executive Summary. (UNITED STATES OF AMERICA)
132	29	5	46	5	46	delete "frequently" - surely this is always the case? (Nunn, Patrick, University of New England)
133	29	5	48	5	49	Flooding due to high waves together with spring high tide are quite common in the Maldives, especially during southwest monsoon season. In 2012 alone, about 6 islands from the Maldives were flooded due to high waves. (Zahid, -, Maldives Meteorological Service)
134	29	5	50	5	50	have not has (Nunn, Patrick, University of New England)
135	29	5	52	5	52	This section is about observations not projections so this line should be deleted. (Nunn, Patrick, University of New England)
136	29	6	1	6	1	Suggest repacing "extenuating circumstances" with a less judgemental phrase, such as "Documented cases of coastal inundation and erosion often cite additional climatic factors such as ……." (UNITED STATES OF AMERICA)
137	29	6	9	6	9	Between these two paragraphs there should be one of equal length to that which follows reviewing the published literature on shoreline erosion around small islands. (Nunn, Patrick, University of New England)
138	29	6	10	6	19	See also our draft report on coastline changes in key coastal areas of Sao Tome and Principe, between 1950s and 2010's (estimated through overlay of topographic and high resolution satellite maps). This gray literature paper (by Geoville) is being sent to the Working Group as part of the supporting documentation to this review. [WB-FinalReport_CoastalChange-STP_GeoVille_v2.pdf] (Bettencourt, Sofia, World Bank)
139	29	6	10	6	19	Webb and Kench's work does not deserve to be the centrepiece of this paragraph. The way it is described glosses over many aspects of it. First that most study islands showed signs of shoreline EROSION as well as progradation, suggesting that the interpretation of growth is less likely than reconfiguration. Second the study looked at island area not island volume, thus spawning the popular misinterpretation of its conclusions of two-dimensional net growth as three-dimensional absolute growth. The conclusions of the other studies cited in this paragraph are given in a similarly unbalanced way ("sea level rise was not likely to be the main influencing factor" ... but it could have been!). The last sentence of this paragraph draws a global conclusion from three studies (and unspecified others) that contradicts a huge mass of observations and will send an erroneous message to people reading the final version of this chapter. (Nunn, Patrick, University of New England)
140	29	6	10	6	19	It would seem crucial to reiterate here that these studies are not forward looking (observed data only), and serve to show that while SLR has not been the predominant force in the last 20-60 years and that atoll morphology is quite dynamic, atolls WILL be affected by SLR in the future, as is discussed througout the rest of the chapter. (UNITED STATES OF AMERICA)
141	29	6	17	6	19	Addition of words "to date" into the following sentence as shown "Overall, these and other studies conclude that to date normal seasonal erosion and accretion processes apear to predominate…". As an alternative to "to date" could outline specific timeframe of these observations e.g. over the past 60 years. (AUSTRALIA)

#	Ch	From Page	From Line	To Page	To Line	Comment
142	29	6	17	6	19	It might be useful to explicitly state that the conclusion in this sentence relates to obvserved rates of change over recent decades (since I suspect it would not hold true for at least some of the high-end rates of sea level rise that have been suggested for the future). For example: "Overall, these and other studies conclude that FOR RATES OF CHANGE EXPERIENCED OVER RECENT DECADES normal seasonal erosion and accretion ..." (Wratt, David, NIWA, New Zealand)
143	29	6	21	6	36	Clarify that we cannot conclude from observations in the past what will happen in the future. The future response of islands may be quite different to that seen in the past as variables change. (AUSTRALIA)
144	29	6	41	6	41	Not only "Coral reefs are important resources in small tropical islands…" but for large tropical islands as well… (Zahid, -, Maldives Meteorological Service)
145	29	6	45	6	45	delete “touristic economic activity” insert “tourism” so that it reads “…and reef-based tourism”…. (HAWKINS, STEPHEN, UNIVERSITY OF SOUTHAMPTON)
146	29	6	48	6	48	Increasing coral bleaching and reduced calcification due to thermal stress and increasing CO2 concentration (OA induces bleaching, and at maximal thermal summer stress, calcification is reduced) (Pecheux, Martin, Institut des Foraminifères Symbiotiques)
147	29	6	48	6	48	This sentence erroneously gives the impression that increased CO2 directly causes reduced calcification rates, when in fact it is ocean acidification which causes this. The sentence should be changed accordingly: “…and reduced calcification rates due to ocean acidification are expected to affect…” (AUSTRALIA)
148	29	6	49	6	49	change to “…affect the functioning and …..” (HAWKINS, STEPHEN, UNIVERSITY OF SOUTHAMPTON)
149	29	6	50	6	51	I would say that it is exaggerated to claim that Tanzil et al (2009) results are consistent with reef decline - growth rates (i.e. linear extension) for Porites spp are some of the highest in the world in the Andaman Sea - they have been tempered by rising sea temperatures (NB not acidification) but the structure of the reefs has not suffered as a result of reduced Porites growth. One has to be very careful in distinguishing between observations on individual corals and those of the reef as a whole . Also this study is not a regional one as implied here - it is restricted to Phuket only. Perhaps a better sentence construction might be ' Increasing thermal stress has been implicated in reduced coral calcification rates (Tanzil et al 2009) and regional declines in calcification of corals that form a major part of the reef framework (De'ath et al 2009; Cantin et al 2010).' (Brown, Barbara, University of Newcastle)
150	29	6	51	6	51	typo "iin" (Hennessy, Kevin, Commonwealth Scientific and Industrial Research Organisation)
151	29	7	1	7	1	Correction: Palmyra Atoll is not unpopulated. Palmyra Atoll is managed cooperatively by the U.S. Fish and Wildlife Service and The Nature Conservancy, which owns Cooper Island within the refuge; "residents" include management and research staff, and a limited number of permits are issued to public visitors. See http://www.fws.gov/palmyraatoll/index.html (UNITED STATES OF AMERICA)
152	29	7	8	7	9	There is no scientific evidence of a synergistic interaction between temperature and acidification related to reef corals - see discussion in Dunne RP (2010) Coral Reefs 29: 145-152 (Brown, Barbara, University of Newcastle)
153	29	7	12	7	12	This section should include a discussion of how thermal stress and acidification will interact to affect corals. Thermal stress will begin in low latitude areas and extend outward to the N and S, while acidification will affect corals from higher latitudes inward toward the equator. This will, at some point, effectively limit the capacity of corals to respond to thermal stress by migrating to higher latitudes. This important interactive (additive, multiplicative?) effect also needs to be part of the Executive Summary. (UNITED STATES OF AMERICA)
154	29	7	12	7	14	The Nature Conservancy carried out pilots in Palau setting aside thermally resistant corals in the core areas of Marine Protected Areas. This was carried out by Andrew Smith from TNC in the early 2000s, but I am not sure whether it was ever published. (Bettencourt, Sofia, World Bank)

#	Ch	From Page	From Line	To Page	To Line	Comment
155	29	7	14	7	16	A good example of climate in context highlighting the importance of climate adaptation for natural resource management (and other issues) being set in the context of resource management as a whole versus attempting to manage climate risks independently. This concept is implicit in several parts of this Chapter but could be highlighted more effectively throughout. (UNITED STATES OF AMERICA)
156	29	7	16	0	0	A suitable reference for this sentence about resilience would be : Crabbe, M.J.C. (2010) Topography and spatial arrangement of reef-building corals on the fringing reefs of North Jamaica may influence their response to disturbance from bleaching. Marine Environmental Research. 69, 158-162. (Crabbe, Michael James, University of Bedfordshire)
157	29	7	21	7	23	The recent study of recovery of an isolated reef system off Western Australia may also be useful here: Gilmour Jp et al (2013) Recovery of an isolated coral reef system following severe disturbance. Science 340: 69-71. (Lough, Janice, Australian Institute of Marine Science)
158	29	7	21	7	39	Another very good example of SIDS that are being subjected to saline intrusions into coastal aquifers and limited fresh water resources and agricultural soils, supposedly due to gradual sea level rise and human activities, namely mining of beach sand, can be found in Santiago Island in Cape Verde in the Eastern Atalantic. Beach mining of sand combined with rising sea levels and swells has allowed saline intrusions into the fertile and limited-area Ribeira Seca valley (PAGIRE (2010): Plano de Accao Nacional de Gestao Integrada dos Recursos Hidricos: Diagnostico da Situacao dos Recursos Hidricos e do Seu Quadro de Geastao Volume 1, 100 p. PAGIRE (2010): Plano de Accao Nacional de Gestao Integrada dos Recursos Hidricos: Objectivos, Estrategias, Accoes e Resultados, Volume 2, 135 p. (Singh, Bhawan, University of Montreal)
159	29	7	22	7	22	Casual usage of "likely" should be avoided, as it is a reserved likelihood term. (Mach, Katharine, IPCC WGII TSU)
160	29	7	23	0	0	Suggest an additional citation: "Recovery of an Isolated Coral Reef System Following Severe Disturbance" by James P. Gilmour et al. Science 340, 69 (2013) (UNITED STATES OF AMERICA)
161	29	7	25	7	25	The word "dire" is freighted; does the Pratchett et al. 2009 reference actually use that word? (UNITED STATES OF AMERICA)
162	29	7	25	7	25	It would be helpful to the more explicit here--presumably this statement is about loss of coral reef habitat that has already occurred. What type of loss is being referred to--following bleaching, due to other factors, etc.? How extensive have such loss been? (Mach, Katharine, IPCC WGII TSU)
163	29	7	35	8	10	29.3.1.2. While the section on coral reefs is well balanced and is enriched by small island examples after refering back to the general sections in the report like the CC-CR, similar cross-referencing might be beneficial for the treatment of sea grass meadows and the mangroves, to the respective sections and principles dicsussed in WGII chapters 5 and 6. (Menzel, Lena, Alfred Wegener Institute for Polar and Marine Research)
164	29	7	38	7	38	Tsunamis? (HAWKINS, STEPHEN, UNIVERSITY OF SOUTHAMPTON)
165	29	7	40	7	53	and tsunamis? (HAWKINS, STEPHEN, UNIVERSITY OF SOUTHAMPTON)
166	29	8	1	8	1	Casual usage of "likely" should be avoided, as it is a reserved likelihood term. (Mach, Katharine, IPCC WGII TSU)
167	29	8	3	8	8	Please check the reference: should be Campbell, McKenzie and Kerville (2006) instead of Campbell et al., 2006 (NETHERLANDS)
168	29	8	4	8	6	Sedimentation onto the near-shore reef of Molokai is a direct result of human mediated overgrazing by cattle and by feral goats. Current efforts to reduce the impact of grazing are being undertaken in a small upland section as a demonstration project of how siltation can be greatly reduced through re-vegetation. The effects on marine photosynthesis are accurate, but the unnatural state should be made clear. (UNITED STATES OF AMERICA)
169	29	8	8	8	10	Important study on vegetation in Balearics, but was only made over 6 years. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)

#	Ch	From Page	From Line	To Page	To Line	Comment
170	29	8	13	0	0	Section 29.3.2 In addition to using the word "impacts" within the title of this section, would it be best to add "vulnerability" (or potentially also sensitivity), given the nature of the material assessed and also given the characterization provided on line 7-14 of this page? (Mach, Katharine, IPCC WGII TSU)
171	29	8	13	8	19	Is it possible to refer to relevant chapters in WG1 relating to rainfall changes here? (Lough, Janice, Australian Institute of Marine Science)
172	29	8	15	8	19	Are the three classes of impacts in fact "mainly due" only to temperature increases or to temperature increases and other climate-related changes like precipitation (availability of freshwater)? Even if the citation focuses solely on temperature, recommend the Authors consider highlighting what comes later in the context of freshwater availability as an interacting climate-related stressor/driver of impacts. (UNITED STATES OF AMERICA)
173	29	8	16	8	19	The range shifts discussed here may also be driven by changes in precipitation. (UNITED STATES OF AMERICA)
174	29	8	21	8	27	It would be best to specify the relevant time frame over which these effects have been observed. (Mach, Katharine, IPCC WGII TSU)
175	29	8	25	8	26	"…negatively impacts vegetation formerly reslient on deeper freshwater reserves" …The combination of drier conditions and saline incrusion reduces the avilability of fresh ground water for human consumption; such as for cooking, drinking, and bathing for which island communities highly depend on. For example about 97-98% of the house holds in outer islands of Maldives depend on groundwater (Zahid, 2011: The influence of Asian monsoon variability on precipitation patterns over the Maldives, PhD thesis, University of Canterbury, New Zealand: http://ir.canterbury.ac.nz/handle/10092/5891) (Zahid, -, Maldives Meteorological Service)
176	29	8	32	8	38	Here are a few more references on observed ecosystem impacts on small tropical islands (Hawaii): Krushelnycky, Paul et al (2013). Climate-associated population declines reverse recovery and threaten future of an iconic high-elevation plant. Global Change Biology, Volume 19, issue 3, p. 911-922.ISSN: 1354-1013 DOI: 10.1111/gcb.12111 Atkinson, C. T., & LaPointe, D. A. (2009b). Introduced avian diseases, climate change, and the future of Hawaiian honeycreepers. Journal of Avian Medicine and Surgery, 23(1), 53åÐ63. doi:10.1647/2008-059.1 (UNITED STATES OF AMERICA)
177	29	8	40	8	40	This should read "...may also lead to latitudinal species range shift" since this has not yet been observed on small islands. (UNITED STATES OF AMERICA)
178	29	8	41	8	42	It would be preferable to indicate the timeframe over which the shift (and associated rate of shifting) was observed. (Mach, Katharine, IPCC WGII TSU)
179	29	8	45	8	45	The Angelo and Daehler reference is for 2013, not 2012. (UNITED STATES OF AMERICA)
180	29	8	46	8	48	It should be pointed out that the references cited for the effects of habitat constriction and changes in species composition area of continental (Pauli et al., and Sekercioglu et al.) conditions and not small islands and the Chen et al. reference is for Borneo, which is radically different than small islands. The discussed affects may play out on small islands but, to date, there are no observations. This is a data gap that needs addressing in the near future. (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
181	29	8	48	8	50	"A more complete description of this disease process and its impact on Hawaiian forest birds is given in: Keener, V. W., Marra, J. J., Finucane, M. L., Spooner, D., & Smith, M. H. (Eds.). (2012). Climate Change and Pacific Islands: Indicators and Impacts. Report for The 2012 Pacific Islands Regional Climate Assessment. Washington, DC: Island Press; Chapter 4: Marine, Freshwater, and Terrestrial Ecosystems on Pacific Island. Pages 111-113. Other information not covered in the IPCC document can be found in Keener, V. W., Marra, J. J., Finucane, M. L., Spooner, D., & Smith, M. H. (Eds.). (2012). Climate Change and Pacific Islands: Indicators and Impacts. Report for The 2012 Pacific Islands Regional Climate Assessment. Washington, DC: Island Press. See below: 1. Observed high mortality of low atoll island seabirds due to storm wave over wash (Flint, B., Leary, P., & Klavitter, J. (2011). Briefing paper to the US delegation to the Agreement on the Conservation of Albatrosses and Petrels (ACAP) presented at the Population Status and Trends and Breeding Sites Working Group meeting, Guayaquil, Ecuador has critical implications for sea level rise; page 104 of Chapter 4: Marine, Freshwater, and Terrestrial Ecosystems on Pacific Islands. 2. Decreasing stream base flow (Oki, 2004 Trends in streamflow characteristics at long-term gaging stations, Hawaii (US Geological Survey Scientific Investigations Report No. 2004-5080). Retrieved from http://pubs.usgs.gov/sir/2004/5080/) can lead to pervious permanent streams flow to hyporeheic flow and thus greatly reduce stream habitat and isolate stream populations; page 154 of Chapter 4: Marine, Freshwater, and Terrestrial Ecosystems on Pacific Islands; 3. Recruitment of larvae of amphidromous fishes and invertebrates may be impacted by reduced stream flow that will accompany reductions in precipitation; page 105 of Chapter 4: Marine, Freshwater, and Terrestrial Ecosystems on Pacific Island. 4. Unique, high elevation habitats - changes in snow fall may affect the high elevation communities on Mauna Kea and Mauna Loa and increase their exposure to invasive species; page 105 of Chapter 4: Marine, Freshwater, and Terrestrial Ecosystems on Pacific Island. 5. Increasing drought and resistance to the trade wind inversion appears to be affecting Hawaiian alpine ecosystems and species such as the Hawaiian silversword (Loope and Crivellone, 1986; Krushelnycky et al. 2013. Climate-associated population declines reverse recovery and threaten future of an iconic high-elevation plant. Global Change Biology 19, 911‰ÛÒ922; page 106 of Chapter 4: Marine, Freshwater, and Terrestrial Ecosystems on Pacific Island. 6. Climate-change induced climate envelopes for Hawaiian Plants: Price, J., Giambelluca, T. W., Jacobi, J., Elison Timm, O., Diaz, H. F., & Mehrhoff, L. (2009). Modeling Hawaiian plant species ranges relative to global climate change. Poster presented at the Hawaii Conservation Conference, Honolulu, HI. page 106 of Chapter 4: Marine, Freshwater, and Terrestrial Ecosystems on Pacific Island. " (UNITED STATES OF AMERICA)
182	29	8	48	8	50	Additional citations: Atkinson, C. T., & LaPointe, D. A. (2009a). Ecology and pathogenicity of avian malaria and pox. In M. T. K. Pratt, M. C. T. Atkinson, M. P. C. Banko, M. J. D. Jacobi, & M. B. L. Woodworth (Eds.), Conservation biology of Hawaiian forest birds: Implications for island avifauna (pp. 234–252). New Haven, CT: Yale University Press. Atkinson, C. T., & LaPointe, D. A. (2009b). Introduced avian diseases, climate change, and the future of Hawaiian honeycreepers. Journal of Avian Medicine and Surgery, 23(1), 53–63. doi:10.1647/2008-059.1 Atkinson, C. T., & Utzurrum, R. B. (2010). Changes in prevalence of avian malaria on the Alakai'i Plateau, Kaua'i. Hawai'i, 1997-2007 (Hawaii Cooperative Studies Unit Technical Report No. HCSU-017). University of Hawaii at Hilo. Retrieved from http://hilo.hawaii.edu/hcsu/documents/TRHCSU017AtkinsonChangesinPrevalenceofAvianMalariaFINAL.pdf (UNITED STATES OF AMERICA)
183	29	9	13	9	15	Historical precipitation patterns in the Caribbean showing decline over the last century reinforce the point that shifting precipitation patterns may be a greater problem in many case than rising temperatures turning wet islands into dry islands and substantially impacting agricultural activity. (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
184	29	9	13	9	19	In reference to decreasing rainfall and increasing temperature impacts on terrestrial resources, see below for information pertaining to the Hawaiian Islands. • Giambelluca, T.W., H.F. Diaz, and M.S.A. Luke, 2008: Secular temperature changes in Hawai'i. Geophysical Research Letters, 35, L12702 doi: 200810.1029/2008gl034377. The rate of temperature increase greater at high elevations. • Bassiouni, M. and D.S. Oki, 2012: Trends and shifts in streamflow in Hawai'i, 1913–2008. Hydrological processes doi: 10.1002/hyp.9298; Chu, P.S. and H. Chen, 2005: Interannual and interdecadal rainfall variations in the Hawaiian islands. Journal of Climate, 18, 4796-4813; Oki, D.S., 2004: Trends in streamflow characteristics at long-term gaging stations, Hawaii. U.S. Geological Survey Scientific Report 2004-5080., United States Geological Survey 120 pp. Average precipitation, average stream discharge, and stream base flow trending downward in Hawaii • Cao, G., T.W. Giambelluca, D.E. Stevens, and T.A. Schroeder, 2007: Inversion variability in the Hawaiian trade wind regime. Journal of Climate, 20, 1145-1160 doi: 10.1175/jcli4033.1 Hawai'ian high-elevation alpine ecosystems show strong signs of increased drought and higher temperatures • Krushelnycky, P., L. Loope, T.W. Giambelluca, F. Starr, K. Starr, D.R. Drake, A.D. Taylor, and R.H. Robichaux, 2012: Climate-associated population declines reverse recovery and threaten future of an iconic high elevation plant. Proceedings of the National Academy of Sciences, submitted July 25, 2012. Global Change Biology, in press. Specific example, the number Haleakalā silversword has declined dramatically over the past two decades. (Marra, John J., NOAA)
185	29	9	13	9	19	Additional trends in the Pacific sub-regions can be cited; see Keener, V. W., Marra, J. J., Finucane, M. L., Spooner, D., & Smith, M. H. (Eds.). (2012). Chapter 2: Freshwater and Drought on Pacific Islands (pp. 35-64) in Climate Change and Pacific Islands: Indicators and Impacts. Report for The 2012 Pacific Islands Regional Climate Assessment. Washington, DC: Island Press. (UNITED STATES OF AMERICA)
186	29	9	21	9	26	Since it is highly unlikely that all of identified conditions will (or even currently are) met, what value does this statement of minimal impacts have in reality? This is an example of a statement of interest to scientists but of little value to decision-makers facing climate risk management in Small Islands. (UNITED STATES OF AMERICA)
187	29	9	25	9	27	the statement "as long as direct human impacts are managed" is a large and unrealistic qualifier. Should state that this is an assumption that is not likely to be met. (UNITED STATES OF AMERICA)
188	29	9	37	0	0	Section 29.3.3 (and 29.3.3.1). In addition to using the word "impacts" within the title of this section, would it be best to add "vulnerability" (or potentially also sensitivity), given the nature of the material assessed and also given the characterization provided on line 7-14 of this page? (Mach, Katharine, IPCC WGII TSU)
189	29	9	39	9	39	I suggest separating "island settlements" and "tourism" - they are not obviously linked (Nunn, Patrick, University of New England)
190	29	9	39	9	39	In this section it should be mentioned that shifting human populations can have a range of negative effects on island ecosystems: displacement of native species and introductions of alien invasive species. (UNITED STATES OF AMERICA)
191	29	9	39	11	4	As well as specific comments above, this entire section is poor. It uses spurious null statements, is poorly referenced and is devoid of specific examples. In its current form section 29.3.3.1 does not add greatly to the discussion and the work of the AR4. (Viner, David, Private)
192	29	9	41	9	42	Not sure if this sentence is intended to refer only to the tropical Pacific (in which case this should be stated). (Nunn, Patrick, University of New England)
193	29	9	41	9	42	Recommend a citation for this declarative statement about traditional settlements on high islands being located inland. Is that statement applicable to all of the regions addressed by Chapter 29 or just one (e.g., Caribbean)? (UNITED STATES OF AMERICA)
194	29	9	46	0	0	"sea level rise" should be "sea-level rise"? (Yokoki, Hiromune, Ibaraki University)
195	29	9	46	9	48	This sentence should be supported with a citation or two. It is an important point. (Nunn, Patrick, University of New England)

#	Ch	From Page	From Line	To Page	To Line	Comment
196	29	9	52	10	5	This is not entirely true in the case of Tarawa. Inundation due to sea level rise and storm surge was modeled both for a key area of South and North Tarawa (Bikenibeu Island) and the effects were found to be higher in North Tarawa (some 55-80% of the land affected by 2050) than in South Tarawa (25-54% of the land affected), probably due to elevation and coastal geomorphology. This finding is reported in the study published by World Bank (2000) "Cities, Seas and Storms: Volume IV - Adapting to Climate Change - Summary Version", which is being sent to you under separate mail as a supporting document to this review (see Cities Seas and Storms VolumeIV Summary.pdf) (Bettencourt, Sofia, World Bank)
197	29	10	1	10	13	The words preexisting and pre-existing co-exist. Either word should be used? (Yokoki, Hiromune, Ibaraki University)
198	29	10	20	10	22	Yes, but this is not universal. Many island coasts have become depopulated because of precisely these kind of stressors (I think of Vaitupu in Tuvalu, and Niue). So perhaps qualify this sentence. (Nunn, Patrick, University of New England)
199	29	10	23	10	23	I suggest a new paragraph is inserted here focusing on the geographical complexity of many island nations and the implications of this for settlements. In particular, in the case of archipelagic countries, there are steep gradients between the cores and peripheries; the former are well-informed and well-serviced, with better-planned settlements, the latter none of these. See Nunn et al in Regional Environmental Change, 2013, DOI: 10.1007/s10113-013-0486-7 for discussions of Fiji, Kiribati and Vanuatu in this context (Nunn, Patrick, University of New England)
200	29	10	24	10	24	some not many (Nunn, Patrick, University of New England)
201	29	10	25	10	26	The sentence and refernce starting with "There is currently…Scott et al)" is superfluous, it says nothing that is relevant to this chapter. (Viner, David, Private)
202	29	10	26	0	0	Insert word "Permanently" into sentence "...no evidence that observed climatic changes have PERMANENTLY altered…..", otherwise authors contradict themselves in next paragraph (UNITED STATES OF AMERICA)
203	29	10	34	10	34	Which resorts?it is necessary to refer to actual resorts, not purely "renowned tourism destinations". If you mean Cancun and Cozumel, then mention them. (Viner, David, Private)
204	29	10	34	10	34	Please consider to use the word indicative instead of 'indicate' (NETHERLANDS)
205	29	10	35	10	35	Please consider removing the word "the" before beach erosion. (NETHERLANDS)
206	29	10	37	10	40	the statemnet that visitation declined is correct, however to relate increases in 2007 to beach restoration is spurious. Visitor numbers would have increased because of short term-memory of tourism and possible increased marketing by Cancun. (Viner, David, Private)
207	29	10	42	11	4	This section points out that there has been no systemmatic study on climnate change impacts on tourism demand patterns. At the same time, it points out all the adjustments by islands to ensure tourists keep coming - from reef restoration to desalination. This suggests that consumers are aware of many trends and may indeed have stopped coming in the absence of any action by the host states. In other words, expected falls in demand due to tourists' concerns and negative perceptions of some destinations have been pre-empted or overcome. However, maintaining arrivals on islands with low carrying capacity still comes at a price - energy and resource demand locally if not imported from other areas. (Bunce, Matthew, Institute of Marine Engineering, Science and Technology)
208	29	10	44	10	44	Please consider removing the word "and" before reduce and replacing it with "to" (NETHERLANDS)
209	29	10	47	10	48	This sentence "No information is available on how…. (Scott et al., 2012b).) is irrelevnat and adds nothing of worth to this paragraph. You may as well say that "There is no evidence that increased car use I China is influencing tourism in small islands" (Viner, David, Private)
210	29	10	49	10	50	The sentence starting "One aspect of this that [sic] cruise ships…" as well as the typo, this is an exceptionally naïve comment. Modern cruise ships have exceptionally large fresh water tanks as well as modern desalination plants on board. (Viner, David, Private)

#	Ch	From Page	From Line	To Page	To Line	Comment
211	29	10	49	10	50	As the sentence is written it seems as though limited freshwater would ONLY impact tourism. Wouldn't it also affect the people & livestock (drinking), agriculture, among other. Suggest rewriting sentence to highlight the other impacts that limited freshwater has on the small islands. (UNITED STATES OF AMERICA)
212	29	10	49	11	5	This subsection on the availability of freshwater resources should be a separate paragraph. Given how water-intensive the entire tourism sector is, as referenced in this text, it is surprising that it does not receive greater attention in the discussion of impacts on tourism. (UNITED STATES OF AMERICA)
213	29	10	51	10	51	A word seems to be missing from the sentence which starts "One aspect of this that cruise ships". Suggestion to include the word is so that the sentence would read "One aspect of this is that cruise ships". (NETHERLANDS)
214	29	10	54	11	2	Two points. One, the islands are not investing. Two, some examples of places where these things are happening are needed with appropriate citations. (Nunn, Patrick, University of New England)
215	29	10	54	11	2	The delcarative statement that the referenced investments in adaptation measures is "in an attempt to reverse negative publicity" requires a citation IF it is retained. As written, it suggests that avoiding or reversing negative publicity is the only -- or even primary -- reason for such investments. (UNITED STATES OF AMERICA)
216	29	11	0	0	43	"Section 29.3.3.2. Changes in precipitation patterns (associated with climate change) are likely to increase incidence of waterborne diseases like cholera and other diarrhoeal diseases in the future due to limited access to safe water (Zahid, 2011: The influence of Asian monsoon variability on precipitation patterns over the Maldives, PhD thesis, University of Canterbury, New Zealand: http://ir.canterbury.ac.nz/handle/10092/5891)" (Zahid, -, Maldives Meteorological Service)
217	29	11	3	11	4	The final sentence "The tourism industry…." This needs a firm example and a better reference. (Viner, David, Private)
218	29	11	7	0	0	Section 29.3.3.2. In addition to using the word "impacts" within the title of this section, would it be best to add "vulnerability" (or potentially also sensitivity), given the nature of the material assessed and also given the characterization provided on line 7-14 of this page? (Mach, Katharine, IPCC WGII TSU)
219	29	11	11	11	14	Another reference could be added: Arranz Lozano, M (2006). "Riesgos catastróficos en las Islas Canarias. Una visión geográfica". Anales de Geografía, 26, 167-194 (SPAIN)
220	29	11	31	11	31	Casual usage of "likely" should be avoided, as it is a reserved likelihood term. (Mach, Katharine, IPCC WGII TSU)
221	29	11	52	11	52	Suggest changing "communicable diseases" to transmissible diseases (UNITED STATES OF AMERICA)
222	29	12	4	12	7	This article, Peréz-Arellano J-L, Luzardo OP, Brito AP, Hernández Cabrera M, Zumbado M, Carranza C, et al. Ciguatera fish poisoning, Canary Islands (2005). Emerging Infectiosus Research 11 (12): 1981-1982, shows also the presence of ciguatera in the Canary Islands (west Africa coast). Therefore it should be mentioned in the text considering that the Canary archipielago is placed on the way between the Caribbean and Mediterranean region. There should be also additional references to this aspect in the scientific literature. (SPAIN)
223	29	12	28	12	30	Evidence of migration in response to CC is scarce because migration is never caused by a single factor (see Locke). So maybe you should not be commenting on its scarcity but on its complexity while highlighting that environmental change has been cited as a major contributory cause to movements of populations in island realms in the past - you could cite Nunn's 2007 book (Climate, Environment and Society during the last millennium in the Pacific, Elsevier) or Peter Bellwood's forthcoming volume (OUP) on First Migrations, as well as examples from the Carterets and Ontong Java. (Nunn, Patrick, University of New England)
224	29	12	31	12	31	"...climate drivers such as sea level rise…" climate factors such as sea level rise would be appropriate? (Zahid, -, Maldives Meteorological Service)

#	Ch	From Page	From Line	To Page	To Line	Comment
225	29	12	32	12	33	The Bedford and Bedford use of 'refugees' in quotes is correct, noting that international law does not recognise the term climate change refugee (and they would be more correctly referred to as 'climate induced migrants'). The use of the word 'surprising' is emotive and not appropriate. Noting the statement based on work by Barnett and O'Neil 2012 in that same paragraph, question the inclusion of the Myers reference. Further supporting references are Brown (2007) who notes 'nobody really knows with any certainty what climate change will mean for human population distribution' (UNDP, Occasional Paper 17, 'Climate Change and Forced Migration: Observations, Projections and Implications 5, 2007). (AUSTRALIA)
226	29	12	32	12	33	Confirm/assess evidence that Australia had offered land to residents of the Maldives if and when sea level rise forces relocation. (UNITED STATES OF AMERICA)
227	29	12	32	12	34	"…Although there is no government policy that allows for climate 'refugees' from islands to be accepted into another country, due to the real threat pose by the sea level rise to the Maldives, former preseident of the Maldivian President, Mohamed Nasheed, said his government was considering Australia as a possible new home if the tiny archipelago disappears beneath rising seas. Eighty per cent of the Maldivian land mass - a string of more than 1200 islands, 200 inhabited, running 750 kilometres north-south in the Indian Ocean - is less than a metre above sea level. The highest point in the entire country is 2.4 metres above sea level, and already, 14 islands have had to be abandoned because of massive erosion by the sea. Mr Nasheed said Maldivians want to stay but moving was an eventuality his government had to plan for. He said he did not want his people ''living in tents'' for years, or decades, as refugees. The Maldives is not the first nation to look to Australia as a destination for its climate change refugees. A decade ago, the government of Tuvalu, north of New Zealand in the Pacific Ocean, requested immigration assistance for its population of 12,000 to move to Australia. The Australian government said its humanitarian obligations were to people who require ''assistance urgently''. (http://www.smh.com.au/environment/climate-change/climate-change-castaways-consider-move-to-australia-20120106-1pobf.html#ixzz2U86WSOIP) (Zahid, -, Maldives Meteorological Service)
228	29	12	38	12	38	Following from my last point, the first sentence of this paragraph should be deleted. One has to distinguish proximal and distant drivers of migration, and the fact that few migrants, if pressed, would identify a single reason for migration. The issue is complexity not a preoccupation with single causes. (Nunn, Patrick, University of New England)
229	29	12	38	12	38	I suggest adding "to date" to this sentence, so that it becomes: "The majority of studies on island migration reveal that TO DATE the key drivers HAVE BEEN economic or cultural and not climatic". (Reason: It may be that under some of the projected future rates of change of climate, sea level etc climate could become a significant driver ?) (Wratt, David, NIWA, New Zealand)
230	29	12	47	12	48	Given that the paragraph that follows which notes that environmental changes -- including climate-related natural hazards -- are drivers of migration, isn't the closing sentence of the second paragraph on migration inconsistent? Perhaps the Authors mean that there is no evidence yet that migration from islands is being driven by anthropogenic climate change but climate change as used in IPCC includes variability and associated extremes? (UNITED STATES OF AMERICA)
231	29	12	47	12	48	The Carteret island move is often considered climate-induced, but establishing a clear causal connection is much harder to do unequivocally. The use of "there is no evidence" is questioned. The word, evidence needs a modifier, such as "there is no [clear/unequivocal] evidence." (UNITED STATES OF AMERICA)
232	29	12	50	12	54	I suggest careful rewriting of this paragraph. Environmental change is the distant/ultimate driver and there are a range of proximate ones through which it can cause migration. These include land rights and, while these are locally important, they are not universally so across all small islands. (Nunn, Patrick, University of New England)

#	Ch	From Page	From Line	To Page	To Line	Comment
233	29	13	1	13	4	Under the first phase of the Kiribati Adaptation Program, climate change adaptation was mainstreamed into the National Strategic Plan. This included a recommendation for the government to encourage future population settlement from Tarawa to the (higher) island of Kiritimati (Christmas Island). (Bettencourt, Sofia, World Bank)
234	29	13	1	13	4	There is a climatic fingerprint, as Campbell's work cited earlier shows clearly, but this is obscured. The point I suggest this paragraph should make is that the potential for this "fingerprint" to be more visible as the 21st century progresses is considerable. Another relevant point is that, until there is a legislative framework for climatic refugees (or some such phrase), why would any such person label themselves as such when another phrase (like economic or political refugee) gets them more sympathy? (Nunn, Patrick, University of New England)
235	29	13	3	13	4	There was work in the early 1980s on Caribbean ethnicity and migration patterns by de Albuquerque (Klaus) and McElroy (Jerome). (UNITED STATES OF AMERICA)
236	29	13	3	13	4	This statement could be made clearer by further explaining what is meant. (Mach, Katharine, IPCC WGII TSU)
237	29	13	7	0	0	Section 29.3.3.4. In addition to using the word "impacts" within the title of this section, would it be best to add "vulnerability" (or potentially also sensitivity), given the nature of the material assessed and also given the characterization provided on line 7-14 of this page? (Mach, Katharine, IPCC WGII TSU)
238	29	13	9	13	39	Is a further vulnerability of small island countries to climate extremes the fact that one major event (e.g. a tropical cyclone) can effect most of the country and have a large impact on that years' GDP - compared to larger countries where individual events generally only affect a small proportion of the country and its GDP that year? (I've heard people from small islands raise this point, although I am not familiar enought with the literature to suggest any references). (Wratt, David, NIWA, New Zealand)
239	29	13	14	50	10	It should be made clear that Figure 29-2 is for currently observed detections that are attributable to current climate change and not to projected climate change in the future. For instance, terrestrial systems show medium detection and low to medium attribution. Future climate-change is likely to result in high or very high detection and high or very high attribution for these features. (UNITED STATES OF AMERICA)
240	29	13	19	13	25	I suggest a careful reworking of this paragraph to remove ambiguities such as "insularity leads to high cost of transport" (the issue is surely distance from supplies and from markets). I also suggest a broader engagement with the Pacific literature, starting perhaps with Prasad, B.C. 2008. Institutions, good governance and economic growth in the Pacific Island countries. International Journal of Social Economics, 35, 904 – 918. (Nunn, Patrick, University of New England)
241	29	13	27	13	33	Not sure why a paragraph on environmental vulnerability is in a section on economic vulnerability (Nunn, Patrick, University of New England)
242	29	13	27	13	39	Would seem that the dependence of many island states on natural resources and sectors that are climate-sensitive IS an important factor too --not just for fisheries and tourism (i.e. ocean impacts). This paragraph could be clarified and strengthened with specific citations. (UNITED STATES OF AMERICA)
243	29	13	29	13	30	Please rephrase "Small island states TEND to BE also highly prone to natural disasters". Many SIDS located close to the equator (such as Seychelles, Sao Tome and Principe and Kiribati) have actually few natural hazards, as they are located outside the cyclone belt. (Bettencourt, Sofia, World Bank)
244	29	13	35	13	39	Concern raised that government funds are constrained and that adaptation and mitigation efforts are costly is correct. The next sentence says that tourism and fishery activities are being impacted by SLR and extreme weather events. Authors are encouarged to stress this connection - this is why climate change adaptation is integral to social stability and economic vitality. (UNITED STATES OF AMERICA)
245	29	13	39	13	39	Casual usage of "likely" should be avoided, as it is a reserved likelihood term. (Mach, Katharine, IPCC WGII TSU)

#	Ch	From Page	From Line	To Page	To Line	Comment
246	29	13	47	13	48	The sentence starting Attribution is absolutely correct, but is it something to appear in a chapter on small islands? Or are there particular aspects of variability vs incremental change on small islands that are particularly noteworthy? Suggest try and adapt statement to the island context. (Nunn, Patrick, University of New England)
247	29	13	47	14	9	This fourth sentence of the opening paragraph of Detection and Attribution (as well as the closing sentence of this paragraph on page 14 and discussions of attribution elsewhere in the Chapter) would benefit from clarification that the Authors are talking about attributio to anthropogenic climate change as opposed to climate change with includes variability. While this may be covered elsewhere in the IPCC Assessment Report, the language used requries clarity vis-a-vis attribution of anthropogenic climate change particularly in the context of the section that also addresses detection of change(s). From the standpoint of on-the-ground decision-makers trying to address climate in the context of major socio-economic issues, it really doesn't matter when (or if) the scientific community formally attributes the change to anthropogenic climate change EXCEPT in the context of supporting GHG and other mitigation measures. Adaptation and risk management decisions are made regardless of the CAUSE/SOURCE of the change in climate. (UNITED STATES OF AMERICA)
248	29	14	8	14	9	Suggest that this last sentence be reiterated both in the Executive Summary and in the first FAQ of the chapter. (UNITED STATES OF AMERICA)
249	29	14	13	14	13	I would suggest adding a short paragraph here explaining the size/severity/seriousness of the challenge of CC for small islands before plunging into the detail. (Nunn, Patrick, University of New England)
250	29	14	14	9	23	In reference to challenges in using model projections for policy development see also pages 18-22 of Chapter 1 Pacific Islands Region Overview in V. W. Keener, J. J. Marra, M. L. Finucane, D. Spooner, & M. H. Smith (Eds.), Climate Change and Pacific Islands: Indicators and Impacts. Report for the 2012 Pacific Islands Regional Climate Assessment (PIRCA). Washington, DC: Island Press. (Marra, John J., NOAA)
251	29	14	14	14	20	Citations should be provided in support of these statements. (Mach, Katharine, IPCC WGII TSU)
252	29	14	15	14	15	The second sentence of this paragraph -- "PRIMARY among these is the absence of credible regional SOCIO-ECONOMIC scenarios" is misleading and inconsistent with language later in this section. The use of the word "primary" should be based on a citation. As the Authors discuss later, the scale of GCMs and the failure of those models to capture climate processes relevant to islands in many regions of the globe (e.g. Pacific) also limit the use of model-based scenarios for climate projections. (UNITED STATES OF AMERICA)
253	29	14	15	14	16	I understand how someone steeped in policy and top-down governance approaches on small islands might believe that an "absence of credible regional socio-economic scenarios" is the primary challenge in using CC projections. From my experience, the challenge is overcoming the inability of many island governments to implement plans. You don't have to travel far from Apia or Suva to meet communities who know absolutely nothing about their governments' plans. While it might not be a popular idea, I suggest that this point be made here also - top-down environmental governance does not work in SIDS and the best hope is for empowered communities to develop and sustain adaptation (Iati, I. 2008. The potential of civil society in climate change adaptation strategies. Political Science, 60, 19-30 and Nunn 2009 and Duncan, R. 2008. Cultural and economic tensions in Pacific Islands' futures. International Journal of Social Economics, 35, 919-929.). (Nunn, Patrick, University of New England)
254	29	14	18	14	19	I do not agree that there have to be scientifically credible simulations of island climates before we can decide what to do. This is of course a view espoused by many but it is uninformed and unrealistic in my view. Do we really need to know whether the sea level will be 40 cm or 45 cm higher in 2050 in order to decide whether to plan on relocating downtown Nuku'alofa or any other low-lying island settlement? I don't think so. So I suggest moderating this statement. (Nunn, Patrick, University of New England)

#	Ch	From Page	From Line	To Page	To Line	Comment
255	29	14	18	14	19	Given that the current scenario development process for RCPs and SSPs separated development of socioeconomic scenarios from development of pathways used for climate modeling, it seems this statement is not necessarily true and would benefit from clarification. (Mach, Katharine, IPCC WGII TSU)
256	29	14	19	14	23	Is it worth commenting on the resolution of the CMIP-5 models used in WG1 AR5? Following paper may be useful regarding the differences between CMIP3 and CMIP5 models: Knutti R and Sedlacek J (2012) Robustness and uncertainties in the new CMIP5 climate model projections. Nature Climate Change, doi:10.1038/NCLIMATE1716. It should also perhaps be noted that all GCMs do not perform equally well when examining projections for particular regions; see, for example, Irving DB, Perkins SE, Browm JR, Sen Gupta A, Moise AF, Murphy BF, Muir LC, Colman RA, Power SB, Delage FP and Brown JN (2011) Evaluating global climate models for the Pacific island region. Climate Research 49:169-187 and Perkins SE (2011) Biases and model agreement in projections of climate extremes over the tropical Pacific. Earth Interactions 15, doi:10.1175/2011EI395.1. (Lough, Janice, Australian Institute of Marine Science)
257	29	14	25	14	33	statistical and dynamical downscaling has been undertaken in the Pacific to provide locally-relevant data for risk assessment (Australian Bureau of Meteorology, 2011a). Dynamical downscaling has been done at 8 km resolution for East Timor, PNG, Fiji, Vanuatu, Samoa, Solomons and FSM for 3 GCMs for the A2 scenario for 20-year periods centred on 1990, 2055 and 2090. (Hennessy, Kevin, Commonwealth Scientific and Industrial Research Organisation)
258	29	14	25	14	36	There are efforts involving both statistical AND dynamical downscaling on several islands - seems strange to omit dynamical efforts in this section. Zhang, C., Wang, Y., Lauer, A., & Hamilton, K. (2012). Configuration and evaluation of the WRF model for the study of Hawaiian regional climate. Monthly Weather Review, 120502071935003. doi:10.1175/MWR-D-11-00260.1 (UNITED STATES OF AMERICA)
259	29	14	28	14	31	I think it is worth highlighting the considerabel work undertaken in PCCSP (ABOM/CSIRO 2011a,b) in rescuing, homogenising and making available through their data portal, climate data for the Pacific Islands; I think it is also more accurate to say that the sparse obersvational records "can be supplemented" by more recent satellite observations and incorporated into computer models. (Lough, Janice, Australian Institute of Marine Science)
260	29	14	31	14	34	The language of this sentence could use clarification for a non-technical audience -- what does it mean that "they -(data?) - can respond to the guidance of GCMS to closely match the local domain" (UNITED STATES OF AMERICA)
261	29	14	34	14	36	The Pacific Climate Change Science Program (PCCSP), delivered by BoM and CSIRO, presented a detailed assessment and analysis of 15 Partner countries in the Pacific region encompassing latitudes 25°S-20°N and longitudes 120°E-150°W, excluding the Australian region south of 10°S and west of 155°E. Dynamical and statistical downscaling techniques were used resulting in small-scale (60 km over the PCCSP region and to 8 km for selected islands) climate projections. This program not only projected temperature, including extreme temperature events, and sea-level changes, but also future rainfall conditions (annual mean, extreme events, wet season and dry season), changes in the frequency of drought and cyclone events and future ocean acidity levels. (AUSTRALIA)
262	29	14	35	14	35	Should "… and this may f be adequate …" read "… and this may NOT be adequate …"? (Wratt, David, NIWA, New Zealand)
263	29	14	35	14	35	typo "f" (Hennessy, Kevin, Commonwealth Scientific and Industrial Research Organisation)
264	29	14	45	14	46	"ptentially transforming the competitive position." In what way will it be transforming it? Please provide an example to to help clarify this point. (UNITED STATES OF AMERICA)
265	29	14	49	14	49	….rainfal events during El Nino. (Pecheux, Martin, Institut des Foraminifères Symbiotiques)
266	29	15	0	0	0	In the caption of Fig.29-3, The word or indication of (surface) temperature should be appeared in the text (of caption) (Yokoki, Hiromune, Ibaraki University)
267	29	15	0	0	0	Table 29.1 Comment. It is written in the text "Small islands regions temperatures and precipitation…" but not all the regions are reflected in the table. Please, also add to the table the eastern Atlantic off the coast of west Africa region and the Mediterranean region. (SPAIN)

#	Ch	From Page	From Line	To Page	To Line	Comment
268	29	15	3	15	14	There are mentions to the Caribbean, Indian Ocean, Pacific Ocean and Mediterranean small islands regions but none to the west Africa mention. Please, insert here results for west Africa small islands regions from the AR5 WGI. (SPAIN)
269	29	15	5	15	6	I doubt that the "more balanced" descriptor here will mean much to your readers, and suggest you delete it, so the phrase becomes: " … for the SRES A1B medium emissions scenario …". (Wratt, David, NIWA, New Zealand)
270	29	15	5	15	9	Table 29-1. 12% average decline in precipitation in Caribbean is very problematic for water supply and agriculture - may be especially true in places like Dominica, St. Lucia and St. Vincent. (UNITED STATES OF AMERICA)
271	29	15	6	15	7	Please state the base period for the " 2°C increase in temperature" discussed here - is it 2°C compared to pre-industrial , or 2°C compared to a 1980-99 base period ? (Wratt, David, NIWA, New Zealand)
272	29	15	9	15	9	Spatial differences including high-island topography as well (UNITED STATES OF AMERICA)
273	29	15	9	15	12	Table 29-1 gives projections of temperature and rainfall for 2 very broad Pacific regions for 2090 for A1B emissions. Please note that projections of temperature, rainfall and many other variables for 15 individual Pacific countries were published by Australian Bureau of Meteorology and CSIRO (2011b) for 2030, 2055 and 2090 for B1, A1B and A2 emissions. Ranges of uncertainty are greater at the country-scale. (Hennessy, Kevin, Commonwealth Scientific and Industrial Research Organisation)
274	29	15	10	15	10	If being used as a likelihood term, reflecting a probabilistic basis for its assignment, "likely" should be italicized. Casual usage should be avoided. (Mach, Katharine, IPCC WGII TSU)
275	29	15	11	15	11	The acronyms SPCZ and ITCZ should be spelled out for clarity. (Mach, Katharine, IPCC WGII TSU)
276	29	15	13	15	14	"Throughout the Mediterranean region, the length, frequency..." Isn't this also true for the Indian/Pacific/Caribbean islands? (UNITED STATES OF AMERICA)
277	29	15	14	15	14	If being used as a likelihood term, reflecting a probabilistic basis for its assignment, "very likely" should be italicized. Casual usage should be avoided. (Mach, Katharine, IPCC WGII TSU)
278	29	15	22	15	24	Suggest that a better elaboration of the Pacific Climate Change Science Program is warranted. Word suggested below. As a general comment, while generally there is a paucity of such studies performed, in regards to Small Island States, the detail and scope of this work in the Pacific is a notable exception. The Pacific Climate Change Science Program (PCCSP), delivered by BoM and CSIRO, presented a detailed assessment and analysis of 15 Partner countries in the Pacific region encompassing latitudes 25°S-20°N and longitudes 120°E-150°W, excluding the Australian region south of 10°S and west of 155°E. Dynamical and statistical downscaling techniques were used resulting in small-scale (60 km over the PCCSP region and to 8 km for selected islands) climate projections. This program not only projected temperature, including extreme temperature events, and sea-level changes, but also future rainfall conditions (annual mean, extreme events, wet season and dry season), changes in the frequency of drought and cyclone events and future ocean acidity levels. (AUSTRALIA)
279	29	15	22	15	24	Is it actually surprising that "there are few, peer-reviewed scientific publications providing downscaled, climate data projections and virtually none illustrating the experience gained from their use for policy making"? As noted by the Authors themselves, the foundational GCMs don't capture all the climate processes and scale details relevant for small islands. In addition, except for some (largely international) mitigation discussions, the current models are not particularly helpful in the context of adaptation. (UNITED STATES OF AMERICA)
280	29	15	24	15	25	Please state the base period for the "projected 2°C temperature increase by the year 2100" discussed here - is it 2°C compared to pre-industrial , or 2°C compared to a 1980-99 base period ? (This is very relevant to policymakers considering e.g. UNFCCC targets of 2°C which I understand are relative to pre-industrial). (Wratt, David, NIWA, New Zealand)

#	Ch	From Page	From Line	To Page	To Line	Comment
281	29	15	24	15	36	Perhaps a little too much detail from this singel study here. See also Frieler et al (2012) Limiting global warming to 2C is unlikely to save most coral reefs. Nature Climate Change doi:10.1038/NCLIMATE1674 and Hooidonk et al (2013) Temporary refugia for coral reefs in a warming world. Nature Climate Change doi:10.1038/NCLIMATE1829. (Lough, Janice, Australian Institute of Marine Science)
282	29	15	24	15	36	New modeled projections of global coral bleaching under AR5 RCPs can be found in "Temporary refugia for coral reefs in a warming world" by R. van Hooidonk, J. A. Maynard and S. Planes. Nature Climate Change PUBLISHED ONLINE: 24 FEBRUARY 2013 | DOI: 10.1038/NCLIMATE1829. (UNITED STATES OF AMERICA)
283	29	15	26	15	36	For these statements, relevant sections and/or assessment findings from chapters 6, 5, and 30 could be cross-referenced. (Mach, Katharine, IPCC WGII TSU)
284	29	15	34	15	36	For these projections, it would be preferable to provide the range of years projected, to best reflect relevant uncertainties. (Mach, Katharine, IPCC WGII TSU)
285	29	15	38	15	47	Since most of population and infrastructure tends to be located near the coast, the relative impacts are high and costs as share of GDP will be significant. (UNITED STATES OF AMERICA)
286	29	15	39	15	39	Need to spell out "FUND" acronym. (Lough, Janice, Australian Institute of Marine Science)
287	29	15	45	15	45	It would be preferable to indicate with specific statistics that damage costs are enormous in relation to the size of economies. (Mach, Katharine, IPCC WGII TSU)
288	29	15	45	17	41	Admitted, regional and local scale climate data is essential for proper V&A studies in sub-grid SIDS. Statistical dowmscaling methods such as SDSM have shown to produce very unreliable results, especially for precipitation, a key variable. In the Caribbean, data dynamically downscaled data using the PRECIS regional model is now available for different (HAdCM and ECHAM) GCMs and SRES forcing scenarios (A2, B2, A1 and AIB) at 50 x 50 km rsolution and even 25 x 25 km resolution for selected variables fom the Caribbean Community Climate Change Centre (5Cs) and the Cuban INSMET data site. (Singh, Bhawan, University of Montreal)
289	29	15	48	15	48	I am not sure whether this is the right place but the following paper examines the impacts of sea-level rise on island biodiversity: Wetzel FT et al (2013) Vulnerability of terrestrial island vertebrates to projected sea-level rise. Global Change Biology, doi:10.1111/gcb.12185. (Lough, Janice, Australian Institute of Marine Science)
290	29	15	51	15	51	Please state the base period for the " 1-4°C" increase in temperature discussed here - is it compared to pre-industrial , or compared to a 1980-99 base period ? (Wratt, David, NIWA, New Zealand)
291	29	15	54	0	0	The following article may reinforce these results since Nakaegawa et al. (2013) used 20-km and 60-km mesh MRI-AGCMs and CMIP3 multi-models and demonstrated the robustness. Nakaegawa, T., A. Kitoh, Y. Ishizaki, S. Kusunoki, H. Murakami. 2013: Caribbean low-level jets and accompanying moisture fluxes in a global warming climate projected with CMIP3 multi-model ensemble and fine-mesh atmospheric general circulation models. International Journal of Climatology. 33 in press. (Nakaegawa, Toshiyuki, Meteorological Research Institute)
292	29	16	7	16	7	It would be preferable to provide the range of estimates for each scenario, rather than just a central estimate. (Mach, Katharine, IPCC WGII TSU)

#	Ch	From Page	From Line	To Page	To Line	Comment
293	29	16	10	0	0	Report on "Developement of high-resolution regional climate model for the Maldives through statistical and dynamic donslcaing of global climate models to provide projections for use in national and local planning" shows annual mean sea surface height from 1961 to 2100 for Male' (central Maldives) and Gan (Southern Maldives) location has been analyzed. The minimum and maximum of model control (1961 to 2000) for the location Male' is 0.33 to 0.39m and Gan is 0.37 to 0.39m. The maximum sea surface height changes for Male during 2001 to 2100 fluctuates from 0.4 to 0.48m with an uncertainty range 0.36 to 0.5m. The maximum sea surface height for Gan from 2001 to 2100 fluctuates from 0.39 to 0.48m with an uncertainty range 0.37 to 0.53m. The mean sea-surface heights are seen to be within the current range of fluctuations during most of the future period until about 2070s in both locations. (Zahid, -, Maldives Meteorological Service)
294	29	16	10	16	14	Downscaled projections have also been generated for Sao Tome Island - see Tadross (2011)Sao Tome and Principe Adaptation to Climate Change Project - Technical support for climate modelling - Projected and observed changes in climate from historical data and General Circulation Models" sent as Microsoft Word - CC report STP vn1.docx . This draft report projected a 1-2 C increase in temperature by 2050. The draft report is being sent to you as an accompanying document to this review. (Bettencourt, Sofia, World Bank)
295	29	16	12	16	14	It would be preferable to provide the range of projected values, not just central estimates. (Mach, Katharine, IPCC WGII TSU)
296	29	16	13	16	13	The issue of base period against which the 1.8°C rise in temperature and 40 cm rise in sea level are compared comes up again. Maybe the best solution would be to make a statement in the text (or via a footnote) near the beginning of Section 29.4.2 such as: "Projections of temperature and sea level changes discussed in this sections are all relative to a base period of .... (1980-99??)" (Wratt, David, NIWA, New Zealand)
297	29	16	16	16	16	Change language from: "… extensive climate projections have been made for 15 small islands based on downscaling from an ensemble…" to "… extensive climate projections have been made for 14 Pacific Island Countries based on downscaling from an ensemble…" (AUSTRALIA)
298	29	16	16	16	22	The Pacific Climate Change Science Program (PCCSP), delivered by BoM and CSIRO, presented a detailed assessment and analysis of 15 Partner countries in the Pacific region encompassing latitudes 25°S-20°N and longitudes 120°E-150°W, excluding the Australian region south of 10°S and west of 155°E. Dynamical and statistical downscaling techniques were used resulting in small-scale (60 km over the PCCSP region and to 8 km for selected islands) climate projections. This program not only projected temperature, including extreme temperature events, and sea-level changes, but also future rainfall conditions (annual mean, extreme events, wet season and dry season), changes in the frequency of drought and cyclone events and future ocean acidity levels. (AUSTRALIA)
299	29	16	20	16	22	This sentence ("Notably…scenario") is incorrect and has been corrected in the PCCSP Errata (see http://www.pacificclimatechangescience.org/publications/CCIP_Errata_Sheet_V4_25Sep12.pdf). The sentence should be deleted and replaced with the following: "Notably, extreme rainfall events that currently occur once every 20 years on average are generally simulated to occur four times per 20-year period, on average, by 2055 and seven times per 20-year period, on average, by 2090 under the A2 (high emissions) scenario (Bureau of Meteorology and CSIRO, 2011b)." (AUSTRALIA)

#	Ch	From Page	From Line	To Page	To Line	Comment
300	29	16	21	16	21	In the errata at http://www.pacificclimatechangescience.org/publications/CCIP_Errata_Sheet_V4_25Sep12.pdf, the extreme rainfall statement should be "Extreme rainfall events that currently occur once every 20 years on average are generally simulated to occur four times *per 20-year period*, on average, by 2055 and seven times *per 20-year period*, on average, by 2090 under the A2 (high) scenario". Is it worth mentioning projections for variables other than temperature and rainfall at this point, e.g. sea level, tropical cyclones, ocean acidification? If so, lots of material can be found in Australian Bureau of Meteorology and CSIRO (2011a, b) (Hennessy, Kevin, Commonwealth Scientific and Industrial Research Organisation)
301	29	16	22	16	29	The Bell et al (2011) study did use the IPCC AR4 projections. (Lough, Janice, Australian Institute of Marine Science)
302	29	16	27	16	29	Table 29-2 does not show projected changes in habitat, coral reef cover or demersal fish production. It only shows skipjack and bigeye tuna catch and changes to government revenue. (UNITED STATES OF AMERICA)
303	29	16	36	16	37	As summarized in Bell et al 2013, "winners" are likely to be tuna fisheries & freshwater aquaculture/fisheries whereas "losers" are likely coral reef-based fisheries - so they are not all negative projections. (Lough, Janice, Australian Institute of Marine Science)
304	29	16	36	16	37	As your table 29-2 indicates, projected shifts in the distribution of tuna stocks could have profound impacts on the revenues of countries (such as Kiribati and FSM) that are highly dependent on tuna revenues. As such, our report World Bank (2000) "Cities, Seas and Storms: Volume IV Summary.pdf, sent as an accompanying document to this review" has recommended the pursuit of more multilateral agreements with distant water fishing nations. (Bettencourt, Sofia, World Bank)
305	29	16	36	16	37	There are potentially positive changes in Pacific fisheries re-distribution due to changing ocean conditions (see Polovina et al., 2011). Projected expansion of the subtropical biome and contraction of the temperate and equatorial upwelling biomes in the North Pacific under global warming. ICES Journal of Marine Science, 68(6), 986-995. doi:10.1093/icesjms/fsq198). However these changes likely will favor international fishing fleets that can shift operations over large distances over local, artisanal fishers. (UNITED STATES OF AMERICA)
306	29	16	39	16	47	The only reference to the west Africa small islands region, Madeira, is included in the Mediterranean island paragraph. Could be possible to add a separate paragraph with specific information about the west Africa small islands region (Azores, Madeira, Cape Verde and Canary Islands)? (SPAIN)
307	29	16	52	17	2	This material could be shortened instead with use of a cross-reference to chapter 1 and/or the glossary. (Mach, Katharine, IPCC WGII TSU)
308	29	17	0	0	0	Figure 29-3 Comment. Five small islands regions are cited in 29.1 Introduction from line 32 to line 38 and only four small islands regions are included in Figure 29-3. Please add a RCP scenario projection to the year 2100 for the west Africa small islands region as it has been done for the other main small island regions. (SPAIN)
309	29	17	2	17	4	Not sure what the scentence "Scientists have strongly cautioned……" is referring to? Many of the CMIP5 models (and the bigger suite of models) used in WG 1 AR5 do have improved resolution. (Lough, Janice, Australian Institute of Marine Science)
310	29	17	6	17	7	Are you sure that it is the "output of one model" that it is highlighted? I would have thought these were multi-model projections, hence the range bars. (Lough, Janice, Australian Institute of Marine Science)
311	29	17	14	17	14	It would be clearest to specify the context in which small island developing states advocated this goal. (Mach, Katharine, IPCC WGII TSU)

#	Ch	From Page	From Line	To Page	To Line	Comment
312	29	17	14	17	20	I think it would be useful to reiterate the assumptions behind RCP 2.6 as it is widely thought to be now an unrealistic outcome. Especially as we seem to be tracking the higher end scenarios, e.g. Peters et al (2013) The challenge to keep global warming below 2C. Nature Climate Change doi:10.1038/nclimate1783 and Rahmstorf et al (2012) Comparing climate projections to observations up to 2011. Environmental Research Letters, doi:10.1088/1748-9326/7/4/044035. (Lough, Janice, Australian Institute of Marine Science)
313	29	17	14	17	20	SIDS would like to limit global warming to less than 1.5 C which is highly unlikely to be achieved. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
314	29	17	16	17	20	The temperature scales on Figure 29.3 are all related to a base period of 1986-2005. So your statement here that RCP 2.6 yields about a 1°C temperature increase for several regions by 2100 is relative to 1986-2005, not relative to pre-industrial. The change relative to pre-industrial is probably more like 1.7°C. Similarly the 2°C increase for the Mediterranean is perhaps 2.7°C compared to pre-industrial. I suggest you revise this discussion, since you are considering the possibilites of keeping within 1.5°C of pre-industrial temperatures. (Wratt, David, NIWA, New Zealand)
315	29	17	22	17	26	The projected temperature increases you list in this paragraph are all again relative to 1986-2005. The SOD of WG1 Chapter 2 states that the warming from 1886–1905 (early-industrial) to 1986–2005 (reference period for the modelling chapters and the Atlas in Annex 1) is 0.66°C ± 0.06°C (5 to 95% confidence 57 interval). I suggest you make that difference clear here too (maybe by a footnote) since otherwise your readers are likely to interpret your statements as being relative to pre-industrial. (Wratt, David, NIWA, New Zealand)
316	29	17	29	17	37	The introduction to this Section (and the Section in total) could use some clarification. Aren't all of the processes associated with climate change "generated by processes originating in another region or continent" when it comes to the Small Islands? In reading the Section, it appears to be focused on trans-boundary processes that exacerbate and/or interact with climate change (both variability and antrhopogenic change). This requires some clarification and elaboration particularly for an audience not steeped in this part of the scientific community. (UNITED STATES OF AMERICA)
317	29	17	31	17	32	A simple but important factor made more important by climate change; this has important implications in terms of regional cooperation and external assistance and taking common and/or regional appropriate measures. (Wong, Poh Poh, National University of Singapore)
318	29	18	0	0	0	Figure 29-4 Comment. Tropical Storm Delta formed on 19 November 2005 about 1200 n mi southwest of the Azores. (John L. Beven II et al. (2008). "Annual Summary. Atlantic Hurricane Season of 2005". American Meteorological Society, 136 (3): 1131-1141. This tropical storm impacted Canary Islands (28 N) due to its extra tropical track and affected, amongst other effects, the forest and the slides of the archipielago, mainly on Tenerife island. (Manuel Luis gonzález, Laura Fernández-Pello &Francisco Quirantes (2006) "Efectos y repercusiones de la tormenta tropical Delta en los bosques de Anaga (Tenerife)". Ería 71: 253-268. and other studies). This example could be referenced as 5b or could be added below the "Impacts on Natural Ecosystems and Resources" column as a new box named, for example, "Damage to inland forest". (SPAIN)
319	29	18	5	18	39	The question of sea level rise coupled with storm surges, which are crtical to SIDS is not addressed in sufficient detail. Only what-if scenarios (1 or 2 meter level sea level rise are briefly mentioned). Following the release of AR4 (2007), several studies that integrate land ice contributions into A-OGCMs show sea level rise to be sometimes more that twice the SLR projections into the future (up to 2100) compared to AR4. Amongst these studies are: Vermeer and Rahmstorf (2009); Grinstead et (2009); Jevrejeva et al., (2010) in: ARCTIC CLIMATE FEEDBACKS :Global Implications, WWF (2010) Publication, 100 p. (Singh, Bhawan, University of Montreal)
320	29	18	9	18	14	See also Hemer et al (2013) Projected changes in wave climate from a multi-model ensemble. Nature Climate Change, doi:10.1038/NCLIMATE1791. (Lough, Janice, Australian Institute of Marine Science)

#	Ch	From Page	From Line	To Page	To Line	Comment
321	29	18	17	9	25	In reference to swell events of distant origin and their impacts, see also Sweet, William V. A combination of processes creates extreme water levels and contributes to flooding and erosion. Case Study 4 in Keener, V. W., Marra, J. J., Finucane, M. L., Spooner, D., & Smith, M. H. (Eds.). (2012). Climate Change and Pacific Islands: Indicators and Impacts. Report for The 2012 Pacific Islands Regional Climate Assessment. Washington, DC: Island Press. (Marra, John J., NOAA)
322	29	18	24	18	24	29.5.1. the number (format) of people affected is not clear.. (Menzel, Lena, Alfred Wegener Institute for Polar and Marine Research)
323	29	18	31	0	0	The parenthiesis (in front of 2004 should be deleted? (Yokoki, Hiromune, Ibaraki University)
324	29	18	35	18	36	This definitely warrants regional action with external assistance rather than action from a single island. (Wong, Poh Poh, National University of Singapore)
325	29	19	15	19	27	Similar findings have also been reported in Sao Tome and Principe, where increased concentration of aerosols and precipitation during the mini-storm season (Gravana) of December to February is blamed for the increase in the disappearance of fishermen at sea, who traditionally navigated back to the islands by sight (see Tadross and Tamon 2009) "São Tomé and Príncipe: Adaptation to Climate Change Program - Technical support for climate modelling Historical decadal changes in regional climate and aerosols" , unpublished, sent to you as a supporting document of this review. [WB_saotome_report_final.pdf] (Bettencourt, Sofia, World Bank)
326	29	19	15	19	35	Article about health problems in the Canary Islands due to dust transport from Sahara. Elena López Villarubia, Ferrán Ballester, Camen Iñiguez & Nieves Peral." Air pollution and mortality in the Canary Islands: a time series analysis", Environmental Health 2010, 9:8. It also should be mentioned in the text. Other articles as Querol et al. Impacto de las emisiones desérticas de polvo africano sobre la calidad del aire en España. The Impact of Desert-Windblowed Dust Particles on the Quality of Air in Spain. Macla 8 (2008) 22-27 should be also considered. (SPAIN)
327	29	19	29	19	35	Are there any studies related to the effects of dust from Indo-China on islands in the Pacific? (UNITED STATES OF AMERICA)
328	29	19	33	19	35	Another area where measures could be taken at international level, e.g. WHO? WMO? (Wong, Poh Poh, National University of Singapore)
329	29	19	38	0	0	Section 29,5,3 Comment. There are some literature to this respect and could be considered for this section: Brito A., J.M. Falcón & R. Herrera (2005) Sobre la tropicalización reciente de la ictiofauna litoral de las Islas Canarias y su relación con los cambios ambientales y actividades antrópicas. Vieraea 33:515-525. Brito, A.&J.M. Falcón (2006). Primera cita para Canarias de dos nuevos peces de origen tropical: Diodon holcanthus Linnaeus, 1758, y Conthidermis maculata (Bloch, 1786), Rev. Acad. Canar. Cienc. 18 (4):89-92. Velarque M., J. Alfonso-Carrillo, N.C. Gil-Rodríguez, CH. Durand, CH. F. Boudouresque & Y. Le Parco, (2004). Blitzkrieg in a marine invasion: Caulerpa racemosa var. cylindracea (Bryopsidales: Chlorophyta) reaches the Canary Islands (north-eastAtlantic). Biological Invasions, 6: 269-281. (SPAIN)

#	Ch	From Page	From Line	To Page	To Line	Comment
330	29	19	38	19	38	The spread of alien grasses may drive a shift in the fire regime in Hawaii. Downscaled precipitation modeling (Timm and Diaz 2009, Journal of Climate 22: 4261-4280) indicates a 55-10% decrease in wet season rainfall and a 5% increase in dry season rainfall. These changes may promote the spread of alien grasses which are already a major cause of fires in Hawaii. These results correspond with historic decreasing stream base flow (Oki, 2004 Trends in streamflow characteristics at long-term gaging stations, Hawaii (US Geological Survey Scientific Investigations Report No. 2004-5080) and historic decreasing precipitation (Diaz, Chu, Eischeid 2005 16th Conference on Climate Variability and Change, American Meteorological Society, Boston, MA). References on fire regime in Hawaii: Hughes F, Vitousek PM, Tunison T. 1991. Alien grass invasion and fire in the seasonal submontane zone of Hawaii. Ecology 72:743-746. Hughes F, Vitousek PM. 1993. Barriers to shrub re-establishment following fire in the seasonal submontane zone of Hawaii. Oecologia 93:557-563. D'Antonio CM, Hughes RF, Mack MC, Hitchcock D, Vitousek PM. 1998. The response of native species to removal of invasive exotic grasses in a seasonally dry Hawaiian woodland. Journal of Vegetation Science 9:699-712. D'Antonio CM, Hughes RF, Vitousek PM. 2001. Factors influencing dynamics of two invasive C4 grasses in seasonally dry Hawaiian woodlands. Ecology82:89-104. Asner GP, Elmore AJ, Hughes RF, Warner AS, Robinson SM, Farrington HM, Vitousek PM. 2005. Ecosystem structure along bioclimatic gradients in Hawaii from imaging spectroscopy. Remote Sensing of the Environment 96:497-508. Elmore AJ, Asner GP, Hughes RF. 2005. Satellite monitoring of vegetation phenology and fire fuel conditions in Hawaiian drylands. Earth Interactions 9:1-21. Aplet GH, Hughes RF, Vitousek PM. 1998. Ecosystem development on Hawaiian lava flows: Biomass and species composition. Journal of Vegetation Science 9:17-26. LaRosa AM, Tunison JT, Ainsworth A, Kauffman JB, Hughes RF. 2008. Fire and nonnative invasive plants in the Hawaiian bioregion. In: Zouhar K, Smith JK, Brooks M, Sutherland S (eds.) Wildland Fire in Ecosystems: Fire and Nonnative Invasive Plants. Gen. Tech. Rep. RMRS-GTR-42-vol. 6. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. D'Antonio CM, Hughes RF, Tunison JT. 2011. Long term impacts of invasive grasses and subsequent fire in seasonally dry Hawaiian woodlands. Ecological Applications 21:1617-1628. (UNITED STATES OF AMERICA)
331	29	19	41	19	41	Use of the terminology "natural or local areas" requires clarification. Even colonizer species have a "natural" habitat from which they come. (UNITED STATES OF AMERICA)
332	29	20	5	20	5	Replace “return to species richness” with “return of species richness”. (AUSTRALIA)
333	29	20	13	20	13	The following reference is highly relevant to this section: Hay, J.E. and N. Mimura, 2013: Vulnerability, Risk and Adaptation Assessment Methods in the Pacific Islands Region: Past Approaches, and Considerations for the Future. Sustainability Science (DOI 10.1007/s11625-013-0214-8) (Hay, John, University of the South Pacific)
334	29	20	13	20	13	The following reference is highly relevant to this section: Hay, J.E., 2013: Small Island Developing States: Coastal Systems, Global Change and Sustainability. Sustainability Science (accepted) (Hay, John, University of the South Pacific)
335	29	20	13	20	13	The following reference is highly relevant to this section:Hay, J.E, Forbes, D. and N. Mimura, 2013: Understanding and Managing Global Change in Small Islands. Sustainability Science (accepted) (Hay, John, University of the South Pacific)
336	29	20	28	20	48	29.5.4. A general discussion of these aspects is found in chapters 6 and 30. (Menzel, Lena, Alfred Wegener Institute for Polar and Marine Research)

#	Ch	From Page	From Line	To Page	To Line	Comment
337	29	21	0	0	0	Section 29.6 is good as far as it goes, but it does not distinguish enough between two classes of risk: (a) risks from climate-related hazards that have occured for centuries before now , such as tropical cyclones, floods and droughts, and (b) risks posed by climate change (and/or the increase in GH gases) which have not been common before, such as salination from sea level rise and reef damage from increased acidity of the ocean. Type-(a) risks are readily recognised by communities (villages) and thus readily amenable to community-based adaptation drawing on traditional knowledge, as the section rightly notes. Not so for type(B) [unprecedented, slow change] risks. I note that Figure 29-2 supports this distinction in kind, by indicating that both sea level rise and ocean acidification are clearly atrributable to climate change as distinct from current climate variability. (Weir, Tony, University of the South Pacific)
338	29	21	1	21	3	In Hawaii, American Samoa, and the Mariana Islands, Achatina fulica is an agricultural pest that is found only at low elevations and little to no impact on native gastropods. Euglandina rosea, a predatory snail that was introduced as a biocontrol for Achatina fulica, is a major predator on native snails in all these island groups. Along with rats, Platydemis manokwari (a flatworm), and Jackson's chameleon (Hawaii only), these invasive alien species are driving major elements of the Pacific island gastropod fauna to extinction. Climate change will likely add stressors that will exacerbate this trend. Reference: Sugiura, Holland, Cowie 2011 Journal of Molluscan Studies 77: 1-2; Holland, Montgomery, Costello 2010 Biodivers Conserv 19:1437-1441; Holland, Christensen, Hayes, Cowie 2008 Proc. Hawaiian Entomol. Soc.40:81-83; Kraus, Medeiros, Preston, Jarnevich, Rodda 2012, Biol Invasions 14:579-593. (UNITED STATES OF AMERICA)
339	29	21	6	21	16	empirical evidence of changes in risk come from observed data, not "poor regional projections". (Hennessy, Kevin, Commonwealth Scientific and Industrial Research Organisation)
340	29	21	15	21	18	On two counts, this sentence is simply wrong. First, I would say that for "most" islands, there is indeed manifest and blatant evidence of increased empirical risk associated with climate change. Surely if you stand on any low-lying island coast and ponder the likelihood that sea level will be 1-2 m higher 90 years hence, the risk is clear. Second, I would argue that observed evidence of risk such as I have described is equal to that from modelling. To use the impotence of models and inadequacy of data to argue that there is only "limited" evidence of risk seems counterintuitive. And there must be dozens of examples published of risk based on informed projections; Lata and Nunn on the Rewa Delta in Fiji springs to mind, as does Dickinson's 2009 study of atolls (GSA Today). (Nunn, Patrick, University of New England)
341	29	21	15	21	21	In reference to my general comment – a fear the reader is left with the impression that the impacts of climate change on many small islands will over the long term not be dramatic – I believe this paragraph offers a case in point. For example, while it may be true that there is “limited empirical evidence of changes in risk associated with climate change” it is stated in such a way, placed in a context such that it acts to downplay the validity of analogues and in turn the potential severity of climate risks. (Marra, John J., NOAA)
342	29	21	15	21	21	This paragraph appears to sidestep other, well-documented risks such as drought (due to long-term trend of decreasing precipitation) and associated disease incidence, coral bleaching and disease outbreaks (due to increasing sea-surface temperatures), and attendant impacts on human health, fisheries, tourism, and other sectors. (UNITED STATES OF AMERICA)
343	29	21	15	22	13	Section 29.6.1. mostly focuses on outlining the gaps in addressing current vulnerabilities and adaptation in small islands without really giving examples how said gaps are currently being addressed. Authors might consider elaborating how island specific vulnerabilities and gaps in adaptation gaps are being addressed in different contexts. (Zissener, Michael, United Nations University Institute for Environment and Human Security (UNU-EHS))
344	29	21	20	21	21	The last sentence in this paragraph should be deleted. It is wrong and misleading. Any scientist who has worked for a while on tropical Pacific island coasts knows what the sensible adaptation options are as well as the less sensible ones. (Nunn, Patrick, University of New England)

#	Ch	From Page	From Line	To Page	To Line	Comment
345	29	21	20	21	21	The last sentence of this paragraph requires clarification -- do the Authors mean ANTRHOPOGENIC climate change risks in this sentence. Cilmate risks associated with natural variability and extreme events certainly have been identified and, as the Authors point out elsewhere in the Chapter, are being used to support adaptation and climate risk management. As written, a reader might assume that adaptation and risk management decision-making should await further clarity from the climate science/modeling community. Authors should clarify if this was their intent and, even if it was, such a statement may be useful to bolster scientific research investments but not to decisionmakers facing the reality of climate impacts today. (UNITED STATES OF AMERICA)
346	29	21	29	21	29	The authors' use of the phrase "medium evidence" is not consistent with standard IPCC practice (in italics at the end of a statement). Please check this. (UNITED STATES OF AMERICA)
347	29	21	29	21	29	"medium evidence" as calibrated uncertainty language should be italicized. Additionally, it would be preferable to provide a summary term for agreement as well to characterize the "disagreement" mentioned. (Mach, Katharine, IPCC WGII TSU)
348	29	21	34	21	34	Please don't call the nation "the Solomon Islands". The official name is "Solomon Islands" (Nunn, Patrick, University of New England)
349	29	21	34	21	34	After the end of this sentence, I would add another about core-periphery differences in vulnerabilities and adaptation needs. See Nunn et al in Regional Environmental Change, 2013, DOI: 10.1007/s10113-013-0486-7 for discussions of Fiji, Kiribati and Vanuatu in this context (Nunn, Patrick, University of New England)
350	29	21	37	21	37	Blancard and Hoarau 2013 is not in the references. (UNITED STATES OF AMERICA)
351	29	21	37	21	40	Hughes et al. 2012 have also indicated that in their national level vulnerability analysis focusing on the food security impacts of climate change on coral reefs SIDS were mostly excluded from the analysis by lack of data. This is despite their exceptionally high dependency on fish as a source of animal protein. There are 52 countries classified by the United Nations as SIDS but only 4 of the 27 countries analyzed in this paper are SIDS due to data constraints. (Hughes, S. A. Yau, L. Max, N. Petrovic, F. Davenport, M. Marshall, T. McClanahan, E. Allison, and J. Cinner. A framework to assess national level vulnerability from the perspective of food security: The case of coral reef fisheries. Environmental Science and Policy 23: p 95-108.) (Monnereau, Iris, University of the West-Indies)
352	29	21	40	21	40	(Wheeler, 2010) not found (NETHERLANDS)
353	29	21	40	21	44	This finding is extremely important and ought to be highlighted more significantly in the Chapter. Strategies such as those employed by Park can be -- and are being used -- to understand and address climate vulnerability in Small Islands even in the absence of certainty in model-based scenarios and definitive attribution . (UNITED STATES OF AMERICA)
354	29	21	46	21	48	Four stressors - socio-economic, physical, socio-ecological, climate induced. Reinforcing mechanisms are key in the magnitude of impacts. (UNITED STATES OF AMERICA)
355	29	22	3	22	4	While the Rasmussen et al. 2011 finding is certainly valid in highlighting that climate is but one of many stressors/drivers relevant to islands (or any setting), this could be interpreted as inconsistent with the third highlighted finding in the Executive Summary. One way for scientists and decisionmakers to approach climate vulnerability assessment is to incorporate other socio-economic issues/stressors into the assessment framework; another approach is to integrate considerations of climate into vulnerability assessments for key issues like water availability, coastal community resilience, etc. It could be seen as self-serving to say that the primary framework for decision making should be climate vulnerability assessments rather than vulnerability assessments that address all aspects of a societal challenge/issue INCLUDING but not solely focused on climate. While subtle there is an important distinction particularly when viewed through the eyes of someone outside the scientific community. (UNITED STATES OF AMERICA)

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356	29	22	9	22	11	"This could suggest that either the eroding urban coastal areas were initially more exposed, or that human activity in coastal areas and interventions in coastal ecosystems are exacerbating erosion associated with sea level rise." This statement is not true. The main cause of erosion is geomorphological process of sea and rivers. (NETHERLANDS)
357	29	22	11	22	13	In the Pacific, there is compelling evidence that "Low islands, coral reefs, nearshore and coastal areas on high islands, and high elevation ecosystems are most vulnerable to climatic changes." Keener, V. W., Marra, J. J., Finucane, M. L., Spooner, D., & Smith, M. H. (Eds.). (2012). Executive Summary, pg. x. Climate Change and Pacific Islands: Indicators and Impacts. Report for The 2012 Pacific Islands Regional Climate Assessment. Washington, DC: Island Press. (UNITED STATES OF AMERICA)
358	29	22	12	22	13	There are limitations in predicting vulnerabilities and risk. Continental scale models do little to differentiate between islands in the same region much less microclimates on the same island. Still, sea level rise scenarios and storm surge models can indentify vulnerable areas. Many of the vulnerabilites building on steep slopes or floodplains can be mapped without refined global or regional scale models. (UNITED STATES OF AMERICA)
359	29	22	18	22	0	The first two sentences here are confusing; the first talking about (long-term) climate CHANGE, the next about short-term climate VARIABILITY. There is good evidence that island peoples have not succeeded in adapting in situ to pre-contact climate change - there are plenty of examples in Nunn's 2007 book (Elsevier) - and their success throughout much of recorded history in adapting to climate variability does not necessarily inform what is likely to happen in the next few decades. I suggest either this point is drawn out in a rewritten sentence 1 or that this is converted into a separate paragraph discussing islander adaptation to past climate change. (Nunn, Patrick, University of New England)
360	29	22	19	22	20	There is something to be said for traditional coping mechanisms developed over long periods in the face of natural hazards. How can better information and long-term planning combine with traditional coping efforts to better adapt to climate induced change? (UNITED STATES OF AMERICA)
361	29	22	30	22	30	Qualify by adding "in-situ" before "climate adaptation (Nunn, Patrick, University of New England)
362	29	22	43	24	7	This section 29.6.2.1, relates well to local community based adaptation drawn out from academic research, however it does not addreess the practical responses of commercially mided organisations, most notably International Tourism Opertaors. It does not take a large scale academic research project to understand that following on from hurricanes etc. (e.g., Ivan) Tourism operators take the opportunity to incorporate better designs in to their buildings and bring in better disaster preparedness proceess. (Viner, David, Private)
363	29	22	43	24	7	This section is about rural/traditional/peripheral communities not urban ones. If this emphasis is deliberate, that is fine, but I would suggest an explanatory sentence at the start. (Nunn, Patrick, University of New England)
364	29	22	43	24	7	If this section is to focus on rural/traditional/peripheral communities only (see previous comment), then I would suggest a paragraph on traditional institutions and a discussion of their effectiveness (in addressing issues ascribable to climate change) and their adaptability, given that such institutions were designed for managing other societal stressors. There is a new paper in Regional Environmental Change (Nunn et al., forthcoming, DOI: 10.1007/s10113-013-0486-7) that gives discussions of traditional institutions for environmental governance in various Pacific countries. In Kiribati, for example, traditional systems are strong (yet inadequate) in the outer periphery (Beru) while being diluted (to improve adaptability) in the near periphery (Butaritari). (Nunn, Patrick, University of New England)

#	Ch	From Page	From Line	To Page	To Line	Comment
365	29	22	45	22	46	There may be "only limited [direct] evidence" that the capacity to adapt to current climate risks flows through to capacity to adapt to long-term climate change, but it follows from the projections of IPCC WG1 that many of the physical effects of climate change will affect Pacific Island populations mainly by making the existing climate extremes either more intense or more frequent or both . Consequently, adapting to these effects of climate change will require similar techniques to those used now for climate extremes but a more concerted effort. It will be like the step up from playing club football to playing in the World Cup: it's the same basic idea but your opponents are stronger and faster! [This colourful analogy comes from T Weir (2013), "Climate change and renewable energy: implications for the Pacific Islands of a global perspective", Journal of Pacific Studies (in press) [accepted Feb 2013]] (Weir, Tony, University of the South Pacific)
366	29	22	45	22	46	This sentence ("Capacity…for this") lacks clarity. Suggest change to: "The ability of a small island population to deal with current climate risks may be positively correlated with the ability to adapt to future climate change, but evidence confirming this remains limited (such as Lefale, 2010)". (AUSTRALIA)
367	29	22	45	22	46	I agree with the point but suggest rewrite this sentence. How can there be evidence of capacity to adapt to future climate change? Surely the point is that islanders are (innately) adaptable and therefore stand a better chance than many other groups of being able to successfully adapt to future climate change? (Nunn, Patrick, University of New England)
368	29	22	45	22	54	Similar views were expressed by Hornidge and Scholtes (2011, Sociologus). (Nunn, Patrick, University of New England)
369	29	22	45	24	7	Section 29.6.2. mainly provides examples on practical experience of adaptation in small islands by focusing on traditional knowledge / indegenous startegies. It might also be helpful to integrate views on how to strengthen resilience and bolster adaptive capacities from areas including economic diversification, DRR, risk awareness, prepardness, building codes, insurance, early warning, etc. (Zissener, Michael, United Nations University Institute for Environment and Human Security (UNU-EHS))
370	29	22	50	22	54	Traditional knowledge has also been incorporated in the resilience strategies formulated by communities under the Samoa Infrastructure Asset Management Program, which has been under implementation for over a decade (see Implementation_20Guidelines.pdf sent as a supporting document to this review). (Bettencourt, Sofia, World Bank)
371	29	22	50	23	12	This paragraph starts with the proposition that the inclusion of IK into adaptation planning will make it more effective and likely to succeed. But then by line 4 on page 23, there is comment that this effectiveness is because there has been little cultural and demographic change. I would suggest the ensuing discussion acknowledge that most Pacific Island communities are at least on the cusp of an unprecedented cultural change (irrespective of climate) marked in some respects by rapid urbanization, acculturation, loss of language and tradition, all of which make it unlikely that IK per se will succeed as a major plank of adaptation in 30 years time. Far more important is that adaptation should be "owned" by Pacific people, contextualized and communicated appropriately. For example, while adaptation planning continues to be communicated in English to people whose preferred language is Samoan, for instance, they will continue to regard it as a mostly alien concept. (Nunn, Patrick, University of New England)
372	29	22	54	22	54	Not THE Solomon Islands; again on page 23 (Nunn, Patrick, University of New England)
373	29	23	1	23	12	Could be valuable to include the Micronesian Conservation Trust CC toolkit work here - a case study documents work with communites to map climate decision calendars and impacts, increase understanding: http://www.cakex.org/ virtual-library/3440 (UNITED STATES OF AMERICA)
374	29	23	10	33	15	Agreement by whom? Presume this refers to agreement in the scientific literature but, if so, this should be clarified. As described later in this Section, there is a growing agreement among practitioners that integrating local and traditional knowledge and practices is important in the context of relevant and salient vulnerability assessment on the ground. (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
375	29	23	14	23	14	Following the uncertainties guidance for authors, summary terms for evidence and agreement could be provided to characterize the growing literature and lack of agreement. (Mach, Katharine, IPCC WGII TSU)
376	29	23	24	23	26	Some of traditional coping knowledge has been lost due to globalization and that is a problem. (UNITED STATES OF AMERICA)
377	29	23	28	23	37	Traditional Samoan houses (Fales) also lack walls, thus allowing cyclone winds to circulate without destroying the foundation of the houses. (Bettencourt, Sofia, World Bank)
378	29	23	28	23	42	This comment is superfluous if this entire section is about rural/traditional/peripheral communities but if it is not, then the discussion of construction should include urban areas. No-one is going to build themselves a traditional dwelling in a city when other materials/expertise are available. (Nunn, Patrick, University of New England)
379	29	23	30	23	54	Another very good example human activities and maladaptation can be found in Trinidad at the Point Fortin port. The harbour was dredged to allow the entry of LNG tankers. This lead to a change in ocean dynamics and circulation which caused the adjacent Clifton Hill Beach, a popular beach for locals and tourists to be completely washed away. (Singh, Bhawan, University of Montreal)
380	29	23	44	23	46	Some elaboration on how exactly these factors have acted to inhibit adaptation are necessary in this statement. (UNITED STATES OF AMERICA)
381	29	24	0	0	0	In Table 29-4, Fiji (24.9) and Fiji (16.0) are appeared in the last (right-most?) column. The difference between the two Fiji items are not shown. (Yokoki, Hiromune, Ibaraki University)
382	29	24	1	24	2	Would it be germane to mention parallel work in Disaster Risk Reduction (DRR) focused on the incorporation of IK and belief systems into risk recognition and response. The work in Vanuatu by Shane Cronin (Bulletin of Volcanology, 2004) and Rory Walshe (International Journal of Disaster Risk Science, 2012) springs to mind. (Nunn, Patrick, University of New England)
383	29	24	1	24	2	Research "is needed" by whom? (UNITED STATES OF AMERICA)
384	29	24	4	24	7	Definitely an area that should be supported by regional efforts. Role of island knowledge networks in adaptation? (Wong, Poh Poh, National University of Singapore)
385	29	24	4	24	7	This point could be more constructively worded to call for enhanced documentation of how traditional and local knowledge are being used to support adaptation rather than positing this as a negative statement. This is an example of one of the overall Chapter comments to look carefully at the tone of the document. The tone of this statement, for example, may seem appropriate to some parts of the climate science community but to on-the-ground practitioners and others active in the use of traditional and local knowledge as part of their research, the current phrasing could be seen as a criticism of them rather than the lack of documentation. (UNITED STATES OF AMERICA)
386	29	24	4	25	16	There remains limited evidence of how traditional knowledge, technologies and skills are being used to support adaptation''. ''Warrick's work (put as reference) in Vanuatu focuses on empowerment that is 'helping people to help themselves', while addressing local priorities and building on local knowledge and capacity. This approach to adaptation is being promoted as an appropriate strategy for small states, since it is something done 'with' rather than 'to' communities''. These two statements are contradictory to each other. (NETHERLANDS)
387	29	24	5	24	7	More detailed studies on small islands in the central and western Indian Ocean, the Mediterranean and the central and eastern Atlantic would improve understanding in (replace with on) this area (replace with topic). (NETHERLANDS)
388	29	24	11	24	15	General comment whereby a statement is made stating that future risks are relatively unknown due to the inability to get the scale of the model to the scale of the island. In addition, Chapter 29, Pg 21 (Line 15-18) talks of long time baseline information. Thus making it hard to make a conclusion on the projected effects of climate change for the island (NETHERLANDS)

#	Ch	From Page	From Line	To Page	To Line	Comment
389	29	24	12	24	13	The future climate risks are not unknown due to "The Lack of effective downscaling methods", the methods are just challenging, and studies are still being completed. Suggest changing this sentence to ".....the lack of as yet published downscaling studies for small islands..." (UNITED STATES OF AMERICA)
390	29	24	12	24	15	This sentence is likely to be misinterpreted by the uncritical reader to mean that no future risk can be meaningfully identified until we have lots of appropriate data and models. This is not correct; there is a lot in general projections of future change that is meaningful for adaptation planning, and that message should be sent clearly in this section. For instance, does it matter for a 50-year adaptation plan on any Pacific Island coast whether sea level will be 50 or 60 cm higher at the end of the period or not? I suggest the latter. (Nunn, Patrick, University of New England)
391	29	24	12	24	32	In reference to my general comment – a fear the reader is left with the impression that the impacts of climate change on many small islands will over the long term not be dramatic – I believe these two paragraphs offer a case in point. For example, it is not so much that "many of the future climate risks on small islands remain unkown", than it is the full extent of many of these risk are not well understood. Also, it is noted that much of the literature suggests that natural hazards risks on small islands are severe and by analogy climate change is anticipated to exacerbate these risks. However, linking this to a statement pertaining to risk management places it in a context such that serves to downplay climate risks. (Marra, John J., NOAA)
392	29	24	28	24	28	To characterize this evidence, following the uncertainties guidance for authors, a summary term for evidence could be provided. (Mach, Katharine, IPCC WGII TSU)
393	29	24	31	24	32	Risk avoidance is commonly implemented through structural engineering (protection) structures such as seawalls. (Bettencourt, Sofia, World Bank)
394	29	24	40	24	41	It is stated that the potential for index-based insurance for climate stressors on islands is under-researched. Authors might consider including a study by Jonathan Lashley (2012) who looked at the demand for risk management and index-based (micro)insurance tools in 4 Caribbean countries. Reference: Lashley, J. (2012): Weather-related insurance and risk management. A demand study in the Caribbean. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Munich Climate Insurance Initiative (MCII) e.V. Eschborn, Bonn Available from: http://www.climate-insurance.org/upload/pdf/20121105_MCII-GIZ_2012_Demand_for_Microinsurance_in_the_Caribbean#pdf Lashley, J., Warner, K. (2013): Evidence of implicit and explicit demand for weather-related microinsurance in the Caribbean. Climatic Change. Special Issue "Advancing Climate Adaptation and Risk Management. New Insights, Concepts and Approaches" (Birkmann, Mechler editors). (Zissener, Michael, United Nations University Institute for Environment and Human Security (UNU-EHS))
395	29	24	42	24	47	The potential for a similar scheme in the Pacific is actually being piloted, while the potential is being explored amongst Indian Ocean states (facilitated by the Indian Ocean Commission). Please note that in all three cases (Caribbean, Pacific, and Indian Ocean) this instrument pertains only to sovereign catastrophe insurance and not to micro-insurance at the household level (hence, you may want to adjust your last sentence, as the two are not directly related). (Bettencourt, Sofia, World Bank)
396	29	24	50	24	51	tropical cyclone (Lough, Janice, Australian Institute of Marine Science)
397	29	24	53	25	2	In the case of natural systems, risks can be spread through (insert different ways for instance) the creation of marine protected areas, around key refuges that protect a diversity of habitat, that cover an adequate proportion of the habitat and that protect critical areas such as nursery grounds and fish spawning aggregation areas (McLeod et al., 2009). (NETHERLANDS)
398	29	25	1	25	6	Actually, the experience of Marine Protected Areas was initiated largely in Samoa in the late 1990s and early 2000s, first at the community, and then at the district level (the first level was initiated by the Fisheries Division the second through an IUCN-GEF project). (Bettencourt, Sofia, World Bank)

#	Ch	From Page	From Line	To Page	To Line	Comment
399	29	25	1	25	6	Please note that the conclusions of this paragraph (that MPAs can potentially help reduce and spread the risks of climate change) are not necessarily true when MPAs are created primarily to preserve biodiversity and not to preserve thermally-resilient corals. However, they can have an indirect impact on resilience by helping to preserver fishermen's livelihoods. (Bettencourt, Sofia, World Bank)
400	29	25	5	25	5	"medium evidence" as calibrated uncertainty language should be italicized. (Mach, Katharine, IPCC WGII TSU)
401	29	25	9	25	49	Section 29.6.2.3: Having read this section on numerous occassions I still fail to see what purpose this serves. It fails to address the concerns of commercial organisations and does not relate to specific policy formulation. It reads as if it has been taken out of an academic review with little or no relevance to the real world. i.e., how would the Chief operating officer of a major commercial port use or pay attention to this information. In summary this section adds little value. (Viner, David, Private)
402	29	25	11	25	16	Warrick's work in Vanuatu is stellar but not without precedent, as this paragraph may be taken to imply. A lot of the literature around locally-managed marine areas adopts the same approach - suggest you cite Breckwoldt et al. (in the journal Sustainability, July 2012) for example. (Nunn, Patrick, University of New England)
403	29	25	13	25	16	This statement about the value of the approach documented in Warrick et al 2009 could just as easily apply to any community not just Small Islands. It also represents a very important finding that could/should be highlighted in the Executive Summary especially in light of the rest of the text in this Section. (UNITED STATES OF AMERICA)
404	29	25	26	25	26	The authors' use of the phrase "medium evidence" is not consistent with standard IPCC practice (in italics at the end of a statement). Please check this. (UNITED STATES OF AMERICA)
405	29	25	26	25	26	"medium evidence" as calibrated uncertainty language should be italicized. (Mach, Katharine, IPCC WGII TSU)
406	29	25	27	25	27	offset not dampen? (Nunn, Patrick, University of New England)
407	29	25	41	25	41	Casual usage of "likely" should be avoided, as it is a reserved likelihood term. (Mach, Katharine, IPCC WGII TSU)
408	29	25	45	25	45	"robust evidence" as calibrated uncertainty language should be italicized. (Mach, Katharine, IPCC WGII TSU)
409	29	26	3	26	19	The major risk from the slow but steady and insidious rise in sea level is the SALT-water incursion it brings to coastal and low-lying land. Thus, as noted by T Weir (2013) [“Climate change and renewable energy: implications for the Pacific Islands of a global perspective”, Journal of Pacific Studies (in press, accepted Feb 2013]: An atoll will become uninhabitable long before it is totally submerged, because salt water incursion will pollute its fresh water supply, which is held underground, in a ‘lens’ floating on top of salt water in the porous coral rock. .Salt water incursion from below is aggravated by extra high tides (king tides) and storm surges, which bring in salt water from above as it washes over the land . This is already happening to many atolls in the Pacific, with the Carteret Islands of PNG and Funafuti (Tuvalu) being well-publicised cases. Currently this occurs only every 2 -3 years in Tuvalu. Observations and modelling suggest that the lens takes about 2 months to recover to fresh water in the absence of further salt water influx (Terry and Falkland, 2010). Therefore it is reasonable to infer that if sea level rises to the stage that saltwater inundation occurs every few months instead of every few years, then the lens will remain salty and the island will become effectively uninhabitable, with little fresh water available and crops unable to grow. At current rates of sea level rise this could occur within the next 30 years or so (i.e. as early as 2040). (Weir, Tony, University of the South Pacific)
410	29	26	3	26	19	the slow but steady and insidious rise in sea level, and the salt-water incursion it brings to coastal and low-lying land. (Weir, Tony, University of the South Pacific)
411	29	26	3	26	19	Regarding to the sea level rise, at least for an small part of the west Africa small islands region, there are some results. There is a tool made by IH Cantabria as part of the Spanish PNACC (Plan Nacional de Adaptación al Cambio Climático; Climate Change National Adaptation Plan) where projections can be obtained for some ocean variables.(http://c3e.ihcantabria.com/) (SPAIN)

#	Ch	From Page	From Line	To Page	To Line	Comment
412	29	26	6	26	10	I suggest toning down the rhetoric about islands being "overwhelmed" and disappearing. This seems to me to be journalese and perhaps out of place here. (Nunn, Patrick, University of New England)
413	29	26	8	26	8	"limited evidence" as calibrated uncertainty language should be italicized. (Mach, Katharine, IPCC WGII TSU)
414	29	26	13	28	54	As for the interactions between adaptation and mitigation a very good case study could be built around the situation in Haiti. On account of deforestation for energy use (cooking, laundering, construction...), lesss than 3 % of the surface area of Haiti is now forested. This over the years, in interaction with changing climate conditions, supposedly more frequent and violent tropical storms, has lead to severe soil erosion and alluvium deposits on river beds that have exacerbated the flooding problem. Several donors and NGOs have in recent years planted millions of trees with the succcess rate being very low (less than 20 %). This frustration of reafforstation efforts, which would not only serve as a viable adaptation measure (soil stabilisation, agroforestry...), but also as a mitigation measure (carbon sequestration) however is frustrated by changing climatic conditions: variable and unseasonal rainfall and extended drought periods. Proper adaptation then involving the use retention ponds to store water collected in the rainy season and the use of artisinal and cheap irrigation methods (trucks and buckets to get up to the mornes) and the manual removal of sediments from the main river beds and use it as topsoil for planting trees, that are then watered to prevent dessication and death. (Singh, Bhawan, University of Montreal)
415	29	26	17	26	19	Relocation options are the subject of active though guarded current discussion in the Pacific Islands. See reports in Islands Business News (April 2013) of discussions and planning within the Kiribati Government and the Pacific Conference of Churches. (Weir, Tony, University of the South Pacific)
416	29	26	21	26	35	See comment under page 13, lines 1-4 above. (Bettencourt, Sofia, World Bank)
417	29	26	31	26	31	Casual usage of "likely" should be avoided, as it is a reserved likelihood term. (Mach, Katharine, IPCC WGII TSU)
418	29	26	42	26	42	old references cited (Nunn, Patrick, University of New England)
419	29	26	43	26	43	"limited evidence" as calibrated uncertainty language should be italicized. (Mach, Katharine, IPCC WGII TSU)
420	29	26	43	26	44	last sentence is difficult to understand - lacks context (Nunn, Patrick, University of New England)
421	29	26	54	0	0	Please also provide example(s) of "soft" adaptation measures (as opposed to "hard" measures, where seawalls are called out as an example (UNITED STATES OF AMERICA)
422	29	27	7	27	9	What is the basis for the statement that it is limiting ACTION? Does this statement come from the Barnett, 2010 citation? (UNITED STATES OF AMERICA)
423	29	27	19	27	19	note that the PCCSP produced climate change brochures in English and local languages for 15 Pacific countries to enhance understanding and build capacity - see http://www.pacificclimatechangescience.org/publications2.html (Hennessy, Kevin, Commonwealth Scientific and Industrial Research Organisation)
424	29	27	26	27	28	Another very important finding is the importance of setting climate in context particularly when seeking to support decisionmaking at a community (and sectoral) level. Although this concept is subtly woven through several places in the Chapter it is not highlighted and perhaps it should be. (UNITED STATES OF AMERICA)
425	29	27	47	27	49	While adaptation does not require a completely new toolbox, the rate of change may accelerate making it still more important to be out front. (UNITED STATES OF AMERICA)
426	29	27	53	27	53	Why is the use of "however" needed here? (UNITED STATES OF AMERICA)
427	29	28	1	28	2	I agree, but this discusses synergies between development and (climate change) adaptation only in urban areas. Given the steep core-periphery gradients in many Pacific Island nations, I think you should extend this discussion to non-urban/peripheral parts (DOI: 10.1007/s10113-013-0486-7). It would also seem important here to discuss the capacity of governments in archipelagic countries to effectively implement adaptation strategies beyond the core. (Nunn, Patrick, University of New England)

#	Ch	From Page	From Line	To Page	To Line	Comment
428	29	28	8	28	9	Would it be most accurate to qualify "not responsible" slightly--little responsible, bear negligible responsibility, etc.? (Mach, Katharine, IPCC WGII TSU)
429	29	28	8	28	10	The sentence starting "Since small islands' ….". This sentence is incorrect. The populations of small islands do contribute to ACC, some have high per capita emissions (Barbados, Bermuda, Bahamas), its just that the percentage is small. (Viner, David, Private)
430	29	28	9	28	9	The statement that "there is little moral imperative" reflects the views of the Authors, not a referenced finding OR, necessarily, the view of Small Islands governments. SIDS HAVE acknowledged the moral imperative of taking mitigation action themselves. This is another example of tone highlighted in the earlier Whole Chapter comments. (UNITED STATES OF AMERICA)
431	29	28	10	28	11	The phrase "Malta and Cyprus are obliged …" should be written as follows "Malta, Cyprus and other small islands such as Canary Islands, Balearic Islands, Azores and Madeira are obliged to do so in line with EU climate and energy policies". There are small islands territories that also belong to the European Union. (SPAIN)
432	29	28	24	28	25	On the other hand the capacity of island residents to cope (insert with) is often related (insert to) income levels, resources endowment, technology and knowledge. (NETHERLANDS)
433	29	28	27	28	27	Casual usage of "likely" should be avoided, as it is a reserved likelihood term. (Mach, Katharine, IPCC WGII TSU)
434	29	28	27	28	28	Does this reference to high costs refer largely to hard adaptation measures? Are "large costs" associated with ALL adaptation options in Small Islands? (UNITED STATES OF AMERICA)
435	29	28	27	28	32	Relative adaptation costs for SIDS will be high but potential damages will likely be much higher. The authors should point out that adaptation is cost avoidance. (UNITED STATES OF AMERICA)
436	29	28	28	28	32	As appropriate, relevant climate/socioeconomic scenarios for these projections should be specified, along with the range of costs estimated beyond their central values. (Mach, Katharine, IPCC WGII TSU)
437	29	28	34	28	42	This paragraph could cross-reference the working group 3 contribution. (Mach, Katharine, IPCC WGII TSU)
438	29	28	36	28	36	Casual usage of "likely" should be avoided, as it is a reserved likelihood term. (Mach, Katharine, IPCC WGII TSU)
439	29	28	41	28	44	Table 29-6 requires referencing (NETHERLANDS)
440	29	28	52	28	53	Coasts will not be abandoned; they will shift landwards. Suggest rephrase. (Nunn, Patrick, University of New England)
441	29	29	20	29	42	There are other examples about opportunities for renewable energy deployment such as El Hierro (Canary Islands, Spain) that should be mentioned here. More information about this issue could be found in Renewable Energy Sources and Climate Change Mitigation. Special Report of the Intergovernmental Panel on Climate Change. Chapter 8 Integration of Renewabel Energy into Present and Future Energy Systems. 8.2.5.5 Case studies. Page 661. (SPAIN)
442	29	29	34	29	41	What about the generation of energy via wind? Are there examples of small islands transitioning to this type of energy source? (UNITED STATES OF AMERICA)
443	29	30	0	31	0	Simplifying the complex and nuanced issues of resettlement and migration and then calling them out in Box 29-1 creates confusion for the reader. It might be more useful to call out the discussion on p. 31 lines 36-48 reducing maladaptation risks. (UNITED STATES OF AMERICA)
444	29	30	5	31	10	Section 29.9 One obviosu gap that has been overlooked and should be explicitly referenced are data collected from large international businesses. This would help offset the academic nature of this review and the poor qwuality of the tourism sector. (Viner, David, Private)
445	29	30	6	30	9	It could be pointed out that the tourism sector expected to be impacted and should pay to promote sustainable tourism. Many adaptation interventions will be costly, the revenue model should be based in part on the benefits principle. (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
446	29	30	19	30	22	As it is becoming clear that adaptation will not eliminate all the impacts of climate change (Warner and Van der Geest, submitted) the concept of loss and damage as a result of the inability of adaptation is gaining ground (Warner and Van der Geest, submitted; Huq and Roberts, submitted). The concept of loss and damage from climate change impacts has gained increasing prominence in climate change negotiations as it is increasingly recognized that climate change will bring impacts that will neither be mitigated nor adapted to,resulting in residual loss and damage (Huq and Roberts, submitted). (Warner, K. & K. van der Geest 2013. Loss and damage from climate change: Local-level evidence from nine vulnerable countries. Int. J Global Warming, Vol. X, No. x, pp. xx-xx. Huq, S. & E. Roberts 2013. Coming full circle: The history of loss and damage in the UNFCCC process. Int. J Global Warming, Vol. X, No. x, pp. xx-xx.) (Monnereau, Iris, University of the West-Indies)
447	29	30	24	30	24	This is an important finding that seems lost by being placed so far back in the Chapter. The importance of locality (Place) and context to adaptation is significant -- not just in Small Islands but everyhere. The finding is supported by much of the text in this Chapter so it is surprising that it is not highlighted more effectively as one of the findings derived from the Chapter. Perhaps consider inclusion in the Executive Summary. (UNITED STATES OF AMERICA)
448	29	30	32	30	45	This is a very biased view of resettlement and migration, based on a single piece of work. There are many other references where the likelihood of relocation (rather than the charged term "resettlement") is considered likely. You could start with the Moana Declaration of the Pacific Conference of Churches which represents an authentic islander view. (Nunn, Patrick, University of New England)
449	29	30	34	30	34	Regarding "assistance from the international community" Please specify what type of assistance? Is it by doing research, economic assistance? (UNITED STATES OF AMERICA)
450	29	30	34	30	35	This sentence is not supported by the following text about resettlement and migration. While the substance of the quote from Barnett and O'Neil is clear, in the context that it is presented it conveys the notion that there is a push from the international community towards resettlement. There is no evidence presented here that this is the case. (AUSTRALIA)
451	29	30	34	30	45	However, intra-island migration within an archipelagic state can help those at the preiphery to reduce their dependence on state hand-outs and allow family members to boost capital that otherwise would not have been an option. For example, in a fishery facing tightended regulation, young Rodriguans in the Indian Ocean welcome temporary migration options in Mauritius (main island and capital) as there are very few employment options locally for many of the reasons applying to SIDS. Small islands within SIDS themselves may be marginalised and midgration to and fro is an adaptive response to poverty unless it is based on exploitation of cheap migrant labour - e.g. Bunce et al 2008 (Bunce, Matthew, Institute of Marine Engineering, Science and Technology)
452	29	30	36	30	42	Resettlement especially off-island will create obvious disruption and should be a last resort. That is a common sentiment and true but contingencies should be developed in the event a move is imminent. Again sensitivity as to when to make the call is important and the call may not be handled well. (UNITED STATES OF AMERICA)
453	29	30	40	30	45	It would seem preferable to integrate this quote into the paragraph, assessing the material instead of conveying verbatim. (Mach, Katharine, IPCC WGII TSU)
454	29	30	49	30	49	Where "this option" is referred to, it would be preferable to specify what option is meant. (Mach, Katharine, IPCC WGII TSU)
455	29	30	53	31	3	A sentence about what the residents of Nauru actually did in this case study would be very helpful (UNITED STATES OF AMERICA)
456	29	31	2	31	3	Delete "premature". It represents a value judgement. (Nunn, Patrick, University of New England)

#	Ch	From Page	From Line	To Page	To Line	Comment
457	29	31	5	31	20	Please cross-check these conclusions for consistent with other "insurance" sections of this report, which seem to be more favorable to the instrument. So far, there is limited evidence that Caribbean countries have not been able to afford "exorbitant" premiums, with those who could not afford it (such as Haiti) subsidized under donor-funded activities. (Bettencourt, Sofia, World Bank)
458	29	31	5	31	20	To add to the literature on the application of insurance mechanisms in small island contexts, the following literature review (UNFCCC 2012) provides a section on appraoches in SIDS: Reference: UNFCCC. 2012. A literature review on the topics in the context of thematic area 2 of the work programme on loss and damage: a range of approaches to address loss and damage associated with the adverse effects of climate change. FCCC/SBI/2012/INF.14. Available from: http://unfccc.int/documentation/documents/advanced_search/items/6911.php?priref=600007098#beg (Zissener, Michael, United Nations University Institute for Environment and Human Security (UNU-EHS))
459	29	31	31	31	31	sound basis for assisting destinations (replace with pathways) with the implementation of appropriate adaptation interventions. (NETHERLANDS)
460	29	31	50	31	52	Recommend caution in directing specific policy direction to any player (in this case the donor community) in an IPCC Assessment Report. (UNITED STATES OF AMERICA)
461	29	31	50	31	53	This is a very important conclusion, and indeed adaptation and mitigation initiatives in SIDS have been largely driven by external financing windows, and the need to prepare standarized stand-alone documents like NAPAs, NAPs, NAMAs, etc. (Bettencourt, Sofia, World Bank)
462	29	31	50	32	2	This paragraph provides an excellent opening to assess studies that demonstrate (1) greater coordination among donors and (2) development of mechanisms to share best practices (e.g., the "Adapting to a Changing Climate" toolkit developed in Micronesia has been adapted for use in the Coral Triangle and discussions are ongoing regarding adapting the toolkit for use in the Caribbean; see http://pimpac.org/activities.php?pg2=2&pg3=8) (UNITED STATES OF AMERICA)
463	29	31	52	32	2	Do the three cited articles, on balance of other evidence available, justifiy the text 'There is some concern...'? Also, this text seems to contradict the assertion on Ch 29, Pg 22, Line 45-46 that there is little evidence that capacity to adapt to current risks can be correlated to the ability to adapt to future climate change, which goes on to discuss in Lines 46-48 that traditional practices can only be used to examine existing stressors. (AUSTRALIA)
464	29	32	7	32	8	Significant advances in our understanding of the actual impacts and potential effects of climate change on small islands have been made since the AR4. Significant refers to a lot of information whereas it is said in the text that (page 13 line 44 to 45, page 14 line 14 to 16) evidence of climate change impact on islands is quite limited. (NETHERLANDS)
465	29	32	17	32	17	The Pacific Climate Change Science Program (PCCSP), delivered by BoM and CSIRO, presented a detailed assessment and analysis of 15 Partner countries in the Pacific region encompassing latitudes 25°S-20°N and longitudes 120°E-150°W, excluding the Australian region south of 10°S and west of 155°E. Dynamical and statistical downscaling techniques were used resulting in small-scale (60 km over the PCCSP region and to 8 km for selected islands) climate projections. This program not only projected temperature, including extreme temperature events, and sea-level changes, but also future rainfall conditions (annual mean, extreme events, wet season and dry season), changes in the frequency of drought and cyclone events and future ocean acidity levels. (AUSTRALIA)
466	29	32	17	32	21	Yes, need for better country specific information but as we move from continental to regional and sub-regional scale, there is still some information that we can be using now to develop scenarios and identify vulnerabilities. (UNITED STATES OF AMERICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
467	29	32	19	32	19	Please note that projections of temperature, rainfall and many other variables for 15 individual Pacific countries were published by Australian Bureau of Meteorology and CSIRO (2011b) for 2030, 2055 and 2090 for B1, A1B and A2 emissions. Data were supplied by the Pacific Climate Futures web-tool. Challenges remain for generating data in formats that are suitable for use in risk assessments. (Hennessy, Kevin, Commonwealth Scientific and Industrial Research Organisation)
468	29	32	21	32	21	climates and socio-economic conditions at comparable scales (requires full stop) (NETHERLANDS)
469	29	32	22	32	22	Clarify that the Authors mean anthropogenic climate change here (UNITED STATES OF AMERICA)
470	29	32	22	32	24	The attribution question is not unique to small islands, and it would be worthwhile to stress that here. (UNITED STATES OF AMERICA)
471	29	32	25	32	29	Another problem of tone as well as clarity -- Small Island governemnts, communities and business absolutely are and will continue to move out on adaptation even in the absence of peer-reviewed scientific literature providing detailed information impacts The closing sentence of this bullet would be a more appropriate way to capture the intent of this bullet. (UNITED STATES OF AMERICA)
472	29	32	25	32	29	While recognzinng that uncertainty will continue to exist, the authors should consider the need to communicate trends and to identify vulnerabilities so that effective adaptation plans can be developed and implemented. (UNITED STATES OF AMERICA)
473	29	32	26	32	26	delete "adequate". It represents a value judgement. (Nunn, Patrick, University of New England)
474	29	32	30	32	30	The Pacific Climate Change Science Program (PCCSP), delivered by BoM and CSIRO, presented a detailed assessment and analysis of 15 Partner countries in the Pacific region encompassing latitudes 25°S-20°N and longitudes 120°E-150°W, excluding the Australian region south of 10°S and west of 155°E. Dynamical and statistical downscaling techniques were used resulting in small-scale (60 km over the PCCSP region and to 8 km for selected islands) climate projections. This program not only projected temperature, including extreme temperature events, and sea-level changes, but also future rainfall conditions (annual mean, extreme events, wet season and dry season), changes in the frequency of drought and cyclone events and future ocean acidity levels. (AUSTRALIA)
475	29	32	30	32	34	Climate projections have been made for variables other than temperature and rainfall; the key point is that we need to improve the reliability of projections for the other parameters such as rainfall and tropical cyclones. (Lough, Janice, Australian Institute of Marine Science)
476	29	32	30	32	34	Please note that projections of temperature, rainfall, drought, cyclones, wind, solar radiation, humidity, evaporation, sea level, ocean acidification and salinity for 15 individual Pacific countries were published by Australian Bureau of Meteorology and CSIRO (2011b) for 2030, 2055 and 2090 for B1, A1B and A2 emissions. Challenges remain for generating data in formats that are suitable for use in risk assessments. (Hennessy, Kevin, Commonwealth Scientific and Industrial Research Organisation)
477	29	32	39	32	41	Is this typology needed specifically for IPCC? If so, recommend clarifying this as it could be interpreted outside the IPCC world in a very different way. (UNITED STATES OF AMERICA)
478	29	33	5	33	6	Regarding terminology "there is some evidence", what is meant by this? It is not clear how much weighting there is behind this statement or exactly how much confidence we have in the findings. What is the sample size to have confidence in this statement? (AUSTRALIA)
479	29	33	5	33	7	Question the amount of evidence available to make the assertion that 'longer term climate change adaptation policies and programs in small islands are compromising more immediate development objectives'. (AUSTRALIA)
480	29	33	5	33	10	Considering the concerns and issues faced by small islands, attention on regional adaptation would be useful, e.g. greater cooperation and establishment of regional adaptation networks for small islands especially in the Indian Ocean. (Wong, Poh Poh, National University of Singapore)

#	Ch	From Page	From Line	To Page	To Line	Comment
481	29	33	12	33	14	If those gaps are filled, needs satisfied and research achieved, it might be that the general view that small islands are highly vulnerable to climate change, and, that they have low adaptive capacity, may well be challenged by some nations as well as in some sectors and/or regions within small island states.' should be replaced by 'If those gaps are filled, needs are satisfied and research is achieved, then the view that small islands are highly vulnerable to climate change, and, that they have low adaptive capacity, may well be challenged by some nations as well as in some sectors and/or regions within small island states.' (NETHERLANDS)
482	29	33	18	33	18	FAQs should cover more aspects of the chapter than at present (Hay, John, University of the South Pacific)
483	29	33	18	34	5	As stated in previous comments, the FAQ section leaves the reader with the impression that there's little evidence of climate change impacts on small islands, which is not supported by the literature nor by other chapters in this document. Rather than focusing almost exclusively on the uncertainty surrounding projections of SLR and storm surge, suggest parsing our the high-certainty/high confidence trends and projections from the medium- and low-certainty ones; this would create a more nuanced and realistic picture of how climate change is affecting small islands in the present, and provide some sideboards for planning future impacts at the global, regional, and sub-regional scales. (UNITED STATES OF AMERICA)
484	29	33	20	0	0	FAQ 29-1 Is this challenge of attributing really unique to small islands? Besides research gaps are there other smaall islands aspects that makes it difficult to isolate role of climate change? (Chatterjee, Monalisa, IPCC WGII TSU)
485	29	33	20	33	31	I think there is evidence that small islands (at least in the Pacific) are already experiencing climate change such as warming of air and sea temperatures (see, for example, Bell et al 2011 and ABOM/CSIRO 2011). (Lough, Janice, Australian Institute of Marine Science)
486	29	33	20	33	31	The inclusion of a FAQ entitled "Are small islands experiencing the impacts of climate change?" might need reconsideration, as it might send the signal that they might not be experiencing it. SIDS are among the first in line to suffer CC impacts. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
487	29	33	20	33	31	The first part of this FAQ answer represents a minority view. There is abundant evidence of shoreline erosion (for island vulnerability) in the published literature. For non-atoll islands, reference should be made to Romine and Fletcher (Journal of Coastal Research, 2012, DOI: 10:2112/jcoastres-D-11-00202) and for atolls, almost everything published in the last 5 years plus Yates et al. (Journal of Coastal Research, DOI 10:2112/jcoastres-D-12-00129.1) on French Polynesia, Ford on Wotje (Remote Sensing of Environment, 135, 130-140 (2013)), Rankey on Kiribati, and so on.. (Nunn, Patrick, University of New England)
488	29	33	20	33	31	To add to the literature on the question "Are small islands experiencing the impacts of climate change?", it might be helpful to also refer to most recent research by: Warner, K., van der Geest, K., Kreft, S., Huq, S., Harmeling, S., Kusters, K., and A. de Sherbinin (2012): Evidence from the frontlines of climate change: Loss and damage to communities despite coping and adaptation. Loss and Damage in Vulnerable Countries Initiative. Policy Report. Report No. 9. Bonn: United Nations University Institute for Environment and Human Security (UNU-EHS). Warner, K. & K. van der Geest (under review). Loss and damage from climate change: Local-level evidence from nine vulnerable countries. Int. J Global Warming, Vol. X, No. x, pp. xx-xx. Monnereau, I. & S. Abraham (under review). Limits to autonomous adaptation in response to coastal erosion in Kosrae, Micronesia. Int. J Global Warming, Vol. X, No. x, pp. xx-xx. Roberts, E. & E. Wilson (under review). The rising tide: Addressing loss and damage from sea level rise in vulnerable countries. Int. J Global Warming, Vol. X, No. x, pp. xx-xx. (Zissener, Michael, United Nations University Institute for Environment and Human Security (UNU-EHS))

#	Ch	From Page	From Line	To Page	To Line	Comment
489	29	33	20	33	31	it is contradictory and misleading to put this question here. People are going to be reading the Executive Summary and the FAQ's first, at which point they might decide to read the chapter - there extensive information on impacts in the preceeding 32 pages, and it is odd to dismiss them with this comment. Is this comment addressed consistently across other chapters? (UNITED STATES OF AMERICA)
490	29	33	20	33	31	More appropriate language might be "Conclusive, scientific evidence of observed impacts of anthropogenic climate change does not exist" followed by the text that highlights the existing dcocumentation of impacts of climate-related changes on Small Islands. (UNITED STATES OF AMERICA)
491	29	33	33	0	0	FAQ 29-2 The first two FAQs can be combined. Again it is not clear how these challenges are unique to small islands. (Chatterjee, Monalisa, IPCC WGII TSU)
492	29	33	33	33	33	This FAQ should be combined with the preceding FAQ (Hay, John, University of the South Pacific)
493	29	33	33	33	45	The answer to this question fails to adequately consider the extent to which natural variability (at interannual and interdecadal scales) contributes to the “difficulties when attempting to detect and attribute changes on small islands to climate change” (Marra, John J., NOAA)
494	29	33	38	33	41	Please add also evidence from Atlantic ocean SIDS (e.g. the Geoville report in Sao Tome and Principe, sent as WB-FinalReport_CoastalChange-STP_GeoVille_v2.pdf as supporting documentation to this review) (Bettencourt, Sofia, World Bank)
495	29	33	47	0	0	FAQ 29-3 Isolation of small islands have to be explicitly mentioned in the explanation of high costs in the answer. It is not clear why simple phrasing like 'cost of 100 m long seawall in small islands costs 10 times more than 100 m sea wall in larger territory. Not clear why the one tenth of 1 km long sea wall is being used. (Chatterjee, Monalisa, IPCC WGII TSU)
496	29	33	47	33	47	This FAQ, and the response, sends all the wrong signals. One should not discuss costs without also discussing benefits; and also discussion of costs and benefits of adaptation should acknowledge very clearly that many of the benefits of adaptation cannot be quantified in monetary terms (Hay, John, University of the South Pacific)
497	29	33	47	34	5	The cost of SOME adaptation -- particularly hard adaptation approaches that require infrastructure -- is high. It is misleading to suggest that ALL adaptation in Small Islands carries large costs. While recognizing the authors' intent, there is concern that the current language would/could be misconstrued. (UNITED STATES OF AMERICA)
498	29	33	49	0	0	"lumpy costs" does not make sense. Perhaps the authors mean "lump sum" or "upfront" costs? (CANADA)
499	29	34	48	34	51	years should be 2011a and 2011b. Replace ", 1-257" with "1-257" and replace ", 1-273" with "1-273". (Hennessy, Kevin, Commonwealth Scientific and Industrial Research Organisation)
500	29	41	16	41	17	When reading the text, no reference could be found in the body of the chapter (NETHERLANDS)
501	29	41	18	41	19	When reading the text, no reference could be found in the body of the chapter (NETHERLANDS)
502	29	44	21	44	22	When reading the text, no reference could be found in the body of the chapter (NETHERLANDS)
503	29	44	44	44	44	This reference is incorrect. Is should read: "Nicholls, R. J., Marinova, N., Lowe, J. A., Brown, S., Vellinga, P., de Gusmão, D., Hinkel, J. and Tol, R. S. J., 2011: Sea-level rise and its possible impacts given a ‘beyond 4°c world’ in the twenty-first century. Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences, 369 (1934), 161-181." (de Gusmao, Diogo, Met Office Hadley Centre)
504	29	51	0	0	0	Comment on Table 29-2: Please mention that this table applies to projected tuna catches in the Pacific Ocean. (Bettencourt, Sofia, World Bank)
505	29	51	0	0	0	Table 29-1. It would be preferable to use material from the working group 1 contribution to the 5th assessment report, rather than the 4th assessment report. In particular, could material from the working group 1 Atlas be used instead? (Mach, Katharine, IPCC WGII TSU)

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506	29	51	0	0	0	Table 29-2. As much as possible, information presented in this table should reference data assessed in Chapter 6 and 30. Within the table caption, the year should be 2035 instead of 2030. Additionally, for all of the tuna projections, it would be preferable to specify the range of outcomes projected, not just the central estimate. (Mach, Katharine, IPCC WGII TSU)
507	29	52	0	0	0	Table 29-4. Within the table caption, the usage of bold versus non-bold text should be clarified. (Mach, Katharine, IPCC WGII TSU)
508	29	52	0	52	0	Table 29-3 Comment - Suggest adding to Table 29-3 the number of high islands and low atoll islands by nation, the level of human population size on high versus low islands, and the number of unique island species associated with high islands and low islands. (UNITED STATES OF AMERICA)
509	29	53	0	0	0	Table 29-5. Within this table, it would be preferable to use calibrated uncertainty language from the guidance for authors if possible, in place of the "likely" descriptors used. (Mach, Katharine, IPCC WGII TSU)
510	29	54	0	0	0	Fig.29-2 is very helpful in unpack the impactsof climate variability from those of long-term cliamtge change. (Weir, Tony, University of the South Pacific)
511	29	54	0	0	0	Fig 29-1 could be very useful but should be stretched vertically. Also it is Vanua Balavu (not Balevu) and "Caribbean" is not a country, whereas all the other examples are. (Nunn, Patrick, University of New England)
512	29	54	0	0	0	Figure 29-2. Within the figure caption, the levels of confidence provided should be italicized for clarity. Within the figure itself, it would be preferable to specify the geographic scope relevant for all examples--all small islands, most/many small islands, a few small islands, etc. Additionally, beyond examples 1 and 2, should information also be provided for sea level rise at lower rates than the global mean? (Mach, Katharine, IPCC WGII TSU)
513	29	55	0	0	0	Fig 29-3: A useful figure but surely one that should be complemented by a comparable one showing sea level, which will be the more obvious stressor on islands to many readers. I suggest you adapt graphs from those shown for countries/subregions in the reports of the Pacific Climate Change Science Program, together with similar for islands elsewhere. (Nunn, Patrick, University of New England)
514	29	56	0	0	0	Figure 29-4: Which part of the diagram shows a) Example of tropical cyclone impacts; and b) example of extra tropical cyclone? It not entirely clear how to follow this figure. The author team should further develop the caption for this figure to provide a guide for the reader in interpreting the concepts and processes depicted. (Estrada, Yuka, IPCC WGII TSU)
515	29	56	0	0	0	Figure 29-4. Within the figure caption, it would be helpful to clarify what is meant by parts A and B of the figure, given that they are not labeled in the figure itself. (Mach, Katharine, IPCC WGII TSU)
516	29	57	0	0	0	Figure 29-5. There are several aspects of this figure that could benefit from clarification. 1st, the secondary X and Y axes could be clarified. How is climate resilient/adaptive capacity to be interpreted with respect to "index of other stressors"? Additionally, how is disaster risk reduction/vulnerability reduction to be interpreted with respect to "index of climate stressors"? Clarifying these axes would help the reader understand the examples given within the table. 2nd, within the table, it could be very helpful to provide additional columns indicating specific instances or examples of each action/policy given, in order to help the reader understand what is meant. 3rd, for example B, it is confusing that disaster risk reduction is involved in the example, even though in the figure itself disaster risk reduction is on a perpendicular axis. For the same example, climate resilience also seems to be on the axis perpendicular to the movement illustrating "creating climate resilience." 4th, for example D, climate resilience appears to be on the axis perpendicular to the movement illustrated, and interpretation could be clarified. (Mach, Katharine, IPCC WGII TSU)
517	29	57	0	57	0	Figure 29-5 Comment - This figure is extremely confusing even to someone active in the field. Recommend revisiting the explanation/description to enable all readers to understand its meaning when viewed on its own. (UNITED STATES OF AMERICA)