

Comment ID	From Page	From Line	To Page	To Line	Comment	Response
28854	0	0	0	0	This is a useful list but it might easier to deal with if reserved for datasets that authors have used to make direct calculations as would be shorter and more relevant? [Piers Piers Forster, United Kingdom (of Great Britain and Northern Ireland)]	Noted and accepted. The list is now streamlined by more than 50%. In addition to datasets used to make calculations, the purpose of the AR6 Annexes is to list the data sources that are used across more than one chapter.
8136	0	0	0	0	Page and volume numbers needs to be updated for all papers from Journal Science. [Sebastian Naeher, New Zealand]	Noted: Citations will be corrected following the SOD review
8140	0	0	0	0	Doi should be in one format only. Either as website link or as doi number only. [Sebastian Naeher, New Zealand]	Editorial
54042	0				Nice idea to include a paleo data annex! Having just looked through Chapter 2, I was confronted with terminology referring to the "Common Era", which was not familiar to me. Looking through the list of reference periods described on page 1 here, I didn't find the Common Era. Is this an oversight, or is the term used in Ch 2 yet to be accorded acceptance in the paleo community? Some co-ordination may be needed. [Timothy Carter, Finland]	Accepted: The term Common Era defined in CH2 and now added to the IPCC glossary.
9256	0				A good source to find some data references is the paper of Durack et al., 2018, https://doi.org/10.1029/2018EO101751 . It includes references to papers as well as data in the references. [Martina Stockhause, Germany]	Noted: This could be useful for Annex I, but does not include any references to paleo data.
8668	0				It is a lot of work, but the uncertainties need defining better for this table to be useful. Are they measurement error, or a probabilistic estimate of the value of the variable? Are they hard maximal ranges, or more like some (1,2,3?) standard deviation ranges? Also, please make the table available as downloadable data. [Julia Hargreaves, United Kingdom (of Great Britain and Northern Ireland)]	Taken into account: At LAM3, Paleo BOG decided to omit values for each metric in this Annex.
8670	0				I am generally suspicious of the modernity of the citations here. I find it hard to believe that comprehensive new synthesis papers of practically all these variables have been produced since the last IPCC report. It is not correct to only be citing new results based on a small number of measurements if previous syntheses exist. If no new synthesis exists, you can update an older synthesis with the new data points, but should not be throwing away the previous result. [Julia Hargreaves, United Kingdom (of Great Britain and Northern Ireland)]	Taken into account: Previous syntheses are not thrown away, but AR6 (including this Annex) focuses on updates reported in the literature since AR5.
29670	1	1	14	16	I think that this Annex is a good idea! [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Noted: Thanks to the reviewer for the comment.
26164	3	4	3	7	It does not "document". It provides a reference list of all Palea Climate Data Sets [Stephen Taylor, United Kingdom (of Great Britain and Northern Ireland)]	Accepted: revised as suggested
29672	3	5	3	8	I would split this long sentence and put the citation clause later in the paragraph. [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Accepted: revised as suggested
29674	3	11	3	11	and = > as well as [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Accepted: revised as suggested
29696	3	13	3	13	PETM/EECO:global:temperature: despite coming from the same references, the wrt baselines are different. [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Taken into account: At LAM3, Paleo BOG decided to omit values for each metric in this Annex.

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29698	3	13	3	13	ECCO:global:temp: I would remove Huber and Caballero line. Or fold into line above. [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Accepted: Rows combined as suggested
29684	3	13	3	13	MPWP:global:atmo-CO2: Does these error bars represent instrumental uncertainty or glacial-interglacial variability [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Taken into account: At LAM3, Paleo BOG decided to omit values for each metric in this Annex.
29686	3	13	3	13	Making different tables to go with Fig 2.14 would be helpful. [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Not applicable:it is unclear what the reviewer is suggesting.
29688	3	13	3	13	I feel strongly that you ought to be providing an assess value for these lines. Rather than providing multiple rows for individual estimates [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Rejected: The purpose of the Annex is to list the individual data sources that underlie the assessed values. Assessed values are in the text and some are in the summary figure (SOD Fig. 2.33)
29690	3	13	3	13	EI:global:CO2 rate of change: I would scrap this line - looking at the timeseries Figures in Chap 2 are more informative. [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Taken into account: At LAM3, Paleo BOG decided to omit values for each metric in this Annex.
29692	3	13	3	13	XX:global:CH4 conc: I feel that including present (or past-decade) concentrations may be helpful in this table. [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Taken into account: At LAM3, Paleo BOG decided to omit values for each metric in this Annex.
29694	3	13	3	13	MH:?:dust emissions: I wonder if these are accurate enough to be precisely quantified in this Annex at the moment. [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Noted: The goal is to document datasets that underlie assessments in the report, including both certain and low certainty statements. In addition, at LAM3, Paleo BOG decided to omit values for each metric in this Annex.
15434	3	16	3	16	PPWP' should be changed with 'MPWP'. [Feng SHI, China]	Accepted: Corrected
56164	3	16	3	16	The acronym should be mPWP (or MPWP) rather than PPWP. [Ning Zhao, Germany]	Accepted: Corrected
29676	3	16	3	16	PPWP => MPWP [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Accepted: Corrected
29678	3	16	3	16	remove "late". Whilst this is in the late Pliocene, it previously was commonly known as the "mid-Pliocene" so the literature will be confusing. Specification of "late" is not required. [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Accepted: Corrected
40342	3	16			PPWP should be MPWP [Chenxi Xu, China]	Accepted: Corrected
29680	3	24	3	24	Rename? The geologist have an official definition of "present" as 1950. Your definition is different. May I suggest "Past Decade", which coincidentally has the same acronym as present-day. [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Accept: revised as suggested
7228	3	26	3	31	Division by time period makes most sense for organization. I can envision scenarios wherein there are multiple overlapping "major Earth spheres" and it would be challenging to organize cross-listings. While this is also likely to happen for time periods, it is easier to mentally organize in chronological order. [Hillman Aubrey, United States of America]	Noted: Agreed that subdivision by period makes sense, although many datasets apply to multiple periods. Adopted compromise approach (deep past versus post glacial)
29714	3	33	3	33	MPWP:global:atmo-CO2: Does these error bars represent instrumental uncertainty or glacial-interglacial variability [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Taken into account: At LAM3, Paleo BOG decided to omit values for each metric in this Annex.
29716	3	33	3	33	Making different tables to go with Fig 2.14 would be helpful. [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Not applicable:it is unclear what the reviewer is suggesting.

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29718	3	33	3	33	I feel strongly that you ought to be providing an assess value for these lines. Rather than providing multiple rows for individual estimates [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Reject: The purpose of Annex II is to document datasets that underlie assessments in the report, not to present the outcome of the assessment. Best values are assessed in text.
29720	3	33	3	33	EI:global:CO2 rate of change: I would scrap this line - looking at the timeseries Figures in Chap 2 are more informative. [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Reject: While looking at time series is informative, it does not substitute for a table of values. Nonetheless, At LAM3, Paleo BOG decided to omit values for each metric in this Annex.
29722	3	33	3	33	XX:global:CH4 conc: I feel that including present (or past-decade) concentrations may be helpful in this table. [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Taken into account: At LAM3, Paleo BOG decided to omit values for each metric in this Annex.
29724	3	33	3	33	MH:?:dust emissions: I wonder if these are accurate enough to be precisely quantified in this Annex at the moment. [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Taken into account: At LAM3, Paleo BOG decided to omit values for each metric in this Annex.
19230	3	33	3	33	please add Dyez et al. 2018 to MPWP CO2 estimates; there are also two rows for the MPWP, which can be combined [Baerbel Hoenisch, United States of America]	Not sure which paper the reviewer is referring to. Dyez et al. ,2018 (doi: 10.1029/2018PA003349) is on early Pleistocene, not MPWP.
29726	3	33	3	33	PETM/EECO:global:temperature: despite coming from the same references, the wrt baselines are different. [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Taken into account: At LAM3, Paleo BOG decided to omit values for each metric in this Annex.
29728	3	33	3	33	EECO:global:temp: I would fold Huber and Caballero into above line to better reflect the sentence upon 2-34-38. [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Accepted: Citations have been combined
29730	3	33	3	33	Given the preponderance of Kopp email as a reference, perhap Robert Kopp should be brought onboard as a contributing author. [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Taken into account. Email citations omitted. Additions to author list solicited
29732	3	33	3	33	EI:global:CO2: These feel duplicated. Can you please assess and provide common value? Including the value for the present may also be informative for CO2 [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Reject: The purpose of Annex II is to document datasets that underlie assessments in the report, not to present the outcome of the assessment. Best values are assessed in text.
29734	3	33	3	33	MPWP/LIG:global:temp_ann: You need more information about the Snyder scaling. Perhaps a footnote. [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Taken into account: At LAM3, Paleo BOG decided to omit values for each metric in this Annex.
29736	3	33	3	33	LGM/MH:land:temp: Complete wrt ?? For Harrison et al (2015) [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Taken into account: At LAM3, Paleo BOG decided to omit values for each metric in this Annex.
29738	3	33	3	33	LGM:global:temp_variability: needs better specification for the "wrt Holocene". 0-5ka, I think. [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Taken into account: At LAM3, Paleo BOG decided to omit values for each metric in this Annex.
29740	3	33	3	33	Holocene:Ant/NH:scaling: It's hard to understand what these numbers mean. Personally, I would remove - not discussed in Chap 2. [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Not sure what this comment is referring to, but NH:Ant scaling not included in SOD
29742	3	33	3	33	MH:Nam/EU:temp: Why do the two Marsicek numbers have different baselines? [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Taken into account: At LAM3, Paleo BOG decided to omit values for each metric in this Annex.

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29744	3	33	3	33	CE:global:temp: The Common Era is not defined as time period on lines 14-24 [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Accepted, define CE in reference periods and Glossary
29746	3	33	3	33	CE:global:temp: Is this metric not just detecting the Industrial increase using less accurate dataset than instruments [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Taken into account: CE = past 2000 years; instruments extend back about 150 years only
29748	3	33	3	33	PAGES2k: As this are the only sources for the variables, is it really worth including in the PalaeoAnnex. I feel this would be better discussed with a few sentences in Chap2 [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Accepted: PAGES 2k data are discussed in CH2. The database is also included in the Annex 2000 yr GMST is included in other chapters.
29750	3	33	3	33	?:N-Hemi:temp-gradient: Would it be possible to have an LGM value for this? [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Taken into account: At LAM3, Paleo BOG decided to omit values for each metric in this Annex.
29752	3	33	3	33	P:N-Hemi:temp-gradient: The present-day value is given as in brackets in the PETM/EECO temp_annual rows. Please be consistent [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Taken into account: At LAM3, Paleo BOG decided to omit values for each metric in this Annex.
29754	3	33	3	33	?:?:bio_forest turnover: Can you explain a little more about the variable. I do not intuitively know if it getting higher or lower is good or bad. Perhaps a footnote [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Taken into account: Variable is described in CH2 text.
29756	3	33	3	33	EECO:treeline: Citation missing [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Accepted: Citation will be added following the SOD review.
29758	3	33	3	33	MCA:LIA:El:treeline: Is there are much to be gained by including all three common era values here? [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Noted: That the values are the same is the basis for increased confidence.
29760	3	33	3	33	MH:Europe:open land: What is open land? If is defined as anything that is not forest, then perhaps "unforested" is more understandable. [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Accepted: added "non-forested"
29762	3	33	3	33	El:forcing:aerosol: Please assess into a combined row [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Accepted: Combined as suggested
29764	3	33	3	33	MH-El:global:irradiance: Would adding a NH-only equivalent be useful to highlight the orbital changes? [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Reject: No hemisphere-specific assessment of irradiance or orbital forcing is conducted in AR6.
29766	3	33	3	33	MH:glacier: relative to El is in the wrong column. [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Accepted: Corrected
29768	3	33	3	33	MPWP:hydro: surname is spelt Fedorov [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Taken into account: indicator no longer included in table.
29770	3	33	3	33	MCA/LIA:NOA: A better description is needed of the units, as I had to refer to the Chap text to understand them [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Taken into account: NOA no longer included because metric is not explicit.
29772	3	33	3	33	LGM/EH:AMOC: several additional more recent references are included in the Chap 2 text [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Noted: AMOC no longer included in Annex II because no/limited quantitative values are available.
29774	3	33	3	33	?:?:global:sea_level: Please separate mean and rate of changes to be separated blocks of rows [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Accepted: as suggested

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29776	3	33	3	33	?:global:sea_level: There are an excessive amount of columns. These would benefit strongly from being combined into single rows with IPCC assessed values and/or ranges. Bring in help if needed [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Taken into account: At LAM3, Paleo BOG decided to omit values for each metric in this Annex.
29778	3	33	3	33	P:global:SLR: Either provide the present value for all, or none of the variables. [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Taken into account: At LAM3, Paleo BOG decided to omit values for each metric in this Annex.
29780	3	33	3	33	LIG:SST: The thw Hoffmand and Capron papers should be assessed to form combined rows. [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Taken into account: Integrated into atmospheric indicators (GMST)
29682	3	33	3	33	MPWP:global:atmo-CO2: The Haywood et al (2016) reference seems out of place. These authors do not reconstruct CO2 themselves, so must be referring to literature. PlioMIP2 has a CO2 leve of 400ppm. [Chris Brierley, United Kingdom (of Great Britain and Northern Ireland)]	Noted: omit as suggested
51738	3				This definition of present is inconsistent with the definition used in radio-carbon dating [Heather Pardoe, United Kingdom (of Great Britain and Northern Ireland)]	Noted: the reference period call "present" is defined in Cross-Chapter Box 1.2, which is now cited Annex II
51740	3				Perhaps you could produce a separate table for each of the reference periods [Heather Pardoe, United Kingdom (of Great Britain and Northern Ireland)]	Noted: Table is now divided by deep-past versus post glacial. Subdividing further would require repeating the same dataset for multiple sub-tables, which would be cumbersome.
51744	3				Could averages be separated out from rate of change? [Heather Pardoe, United Kingdom (of Great Britain and Northern Ireland)]	Taken into account: At LAM3, Paleo BOG decided to omit values for each metric in this Annex.
51742	4				Could you standardise to either ppm or ppb [Heather Pardoe, United Kingdom (of Great Britain and Northern Ireland)]	Reject: CO2 is traditionally reported as ppm while CH4 as ppb
51746	7				Is it relative to 2 degrees C or 20 degrees C [Heather Pardoe, United Kingdom (of Great Britain and Northern Ireland)]	Unclear what this comment is referring to.
8138	10	12	10	12	Paper currently in review, currently only discussion paper. Needs to be updated with final reference when published. [Sebastian Naeher, New Zealand]	Noted: references updated as they progress from in-review to published.
19232	12	42	12	47	Martinez-Boti et al. 2015 reference is duplicated and listed as a and b [Baerbel Hoenisch, United States of America]	Accepted: reference corrected

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46836					For the MCA and the LIA, as well as for other time periods, it is important to provide an “envelope” of different temperature estimates as in the Palaeo chapter of IPCC AR5 (2013) and not just cite a single study (that may or not be representative). The range of estimates are very wide and to a high degree data dependent. Studies including more proxies typically also provide a lower amplitude as a higher proportion of the proxies has a low signal-to-noise ratio. [Charpentier Ljungqvist Fredrik, Sweden]	Taken into account: The FOD Annex II is in its early form and awaiting for input from other chapters. However, AR6 is focused on updates reported in the literature since AR5 was published. Annex II is not a comprehensive review of all available data. Regarding CH2 text: While many studies have reported regional temperatures for MCA and LIA, as well other for other time periods, CH2 is focused on global mean surface temperature, for which there are few estimates. The text focuses on the one study because (1) it is based on the most comprehensive and recent data synthesis; (2) it addresses methodological differences -- seven different statistical procedures are reported in the one study; (3) it is the only study that reports GMST, except for Tardif et al., 2018, which is not highlighted because it is more model-dependent; (4) the underlying data have been shown to yield reconstruction that are less method dependent (Wang et al., 2015); (5) as stated, the reconstruction agrees with the patterns reported in previous reconstructions; and (6) the length of text devoted to 2k temperature must be balanced against that devoted to all other reference periods in context of the exceedingly limited number of words available for assessing GMST of past climate states. Finally, the PAGES 2k reconstruction is now compared with GMST based on a new compilation of borehole temperatures.