

Comment ID	From Page	From Line	To Page	To Line	Comment	Response
99947	0				Table AIII.4 would be much easier to read in a gridded form of some kind. There are too many variables for each model and it is often difficult to associate which variable with the correct model. [Dan Helman, United States of America]	Taken into account. HighResMIP models are now documented in a specific table and the CMIP6 table has been reformatted to enhance readability. The address on github where the list of CMIP6 model can be found in a convenient table format has been added.
71563	0				Availability of data in ESGF could vary on time so the date to which the information reflected in the Tables should be included as reference [Sixto Herrera, Spain]	Taken into account. The version of the CMIP6 control vocabularies used in table AII.5 is now indicated in the legend.
71565	0				The description of CORDEX's simulations used around the different Chapters is more detailed in the Chapter Atlas than in this Annex, including, for example, the use of the CORDEX CORE simulations which is not referred here. In order to have a clear idea of which simulations have been used both documents should be coherent. [Sixto Herrera, Spain]	Taken into account. Details on the CORDEX dataset have been consolidated in the Technical Annex including cross-reference in the Atlas.
89573	0				Some chapters include figures from CMIP5 models (e.g. Chapter 12, Atlas, Interactive Atlas). It may be good to have information on these CMIP5 models as a separate subsection here unless these are the same CMIP5 GCMs used in downscaling by CORDEX (Table AIII.3). Furthermore, is the choice of models (CMIP5, CMIP6, CORDEX) consistent across these chapters? Perhaps coordination needed with the other chapters for consistency across the report. [Faye Abigail Cruz, Philippines]	Taken into account. A table listing the CMIP5 models used to constrain CORDEX models has been added.
106013	3	13	3	14	The text should note somewhere that the RCM configurations (such as parameterizations used) likely vary from domain to domain, especially for any community model. [William Gutowski, United States of America]	Taken into account. A table providing the characteristics of CORDEX models has been added.
4259	3	23	3	27	Table III.1: For Region 12, the grid cell resolution(s) considered in MED-CORDEX should be listed here. If they are in km, they could still be approximated in degrees as this is for a region within a small latitude band. The letter (a) currently in the third column can be moved to the first column right after "Mediterranean". That is, "Mediterranean (a)" or "Mediterranean (a)". [Claude-Michel Nzotungicimpaye, Canada]	Accepted
106015	3	24	3	24	Do the text about not considering interpolated domains mean that the table does not consider cases of output interpolated to non-native grids? This should be explained. [William Gutowski, United States of America]	Take into account. Regular interpolated grids are not used in cases where the original grid is available (to avoid duplication). However, there are cases where only the interpolated grid is available and those simulations are included. The table has been modified to include all the simulations, both regular and interpolated.
106017	3	26	3	26	Whatever the server, shouldn't the "Resolution" table cell for Med-CORDEX give the resolution(s) used, and not refer to where the output is archived? The "(a)" is inconsistent with the rest of Table AIII.1 [William Gutowski, United States of America]	Accepted

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32287	4	4	4	4	It would be extremely useful to have a table that gives the forcings used in each RCMs. Several recent studies have highlighted that most current RCMs do not use time-varying anthropogenic aerosol forcing, land use, and do not simulate the physiological impact of CO2 for example. Some RCMs even do not take into account time variations in CO2! It is crucial to have this information to understand inter-RCMs differences, some differences between RCMs and GCMs, and to know whether the results of RCMs can be trusted for a particular application, especially in the IPCC report, which extensively uses results from RCMs. [Eric Brun, France]	Taken into account. A table providing the characteristics of CORDEX models has been added. Note that comprehensive documentation on the CORDEX RCMs is not always available, and only the main model characteristics have been included in order to keep the table within a reasonable length.
5751	4	4	4	10	Table III.2: If the table is meant to show models, then the first column should be "models", not "institution". [Joachim Rock, Germany]	Accepted
106019	4	6	4	6	Giving sponsoring institutions will be a challenge, since the institutions running the RCM listed could be many, and giving the "home" institution could be misleading. RegCM, for example, originates from ICTP, but it is run by many institutions around the world, with configurations established by the users for their purposes. I'm not sure how useful listing the sponsoring institution is, other than crediting those institutions for original development of the model. [William Gutowski, United States of America]	Taken into account. Details on the institution running the simulations should be included in the metadata of the files, but it is not always the case that the institution running the simulation is properly acknowledged there.
71567	4		4		Table AIII.2 is incomplete. [Sixto Herrera, Spain]	Accepted. This has been updated considering the official CORDEX inventory available by 3 November 2020
106021	5	1	6	1	Table AIII.3 is a very nice list and the authors should be commended for the effort in assembling it. It may need constant updating until the data deadline for AR6 WG1. [William Gutowski, United States of America]	Accepted. This table has been updated.
106023	7	10	7	11	The text should be "the World Climate Research Programme's Working Group on Coupled Modeling (WGCM)" for the correct formal name. [William Gutowski, United States of America]	Accepted
32289	7	28	7	28	We hope that this information will be available and easy to find and summarize in the "frozen" version of ES-DOC, but to be "safe" it would be useful to have the information given in Table 12.1 of the AR5 report for CMIP5 models for CMIP6 models here, i.e. the forcing agents used in the different CMIP6 GCMs, whether they are calculated interactively or prescribed, whether the secondary effects of aerosols or the physiological forcing of CO2 are taken into account or not etc. Including new information would also be useful e.g. whether forest fires are simulated or not, what kind of interactive vegetation is used etc. It is increasingly clear that for some applications it is not possible to really correctly interpret the results of GCMs without these information. [Eric Brun, France]	Taken into account. The table has been expanded to include more specific information on the aerosols and the carbon cycle.
4261	7	28	7	28	By Table 8, do you mean Table III.4? [Claude-Michel Nzotungicimpaye, Canada]	Accepted. Yes, sorry for the wrong table reference.
2953	8	1	8	2	Models countries, Taiwan is not a country. Please use "country or region". [Zong Ci Zhao, China]	Taken into account. The column title of this table has been modified to say Country or Region.

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4263	8	1	19	1	Table III.4: As currently structured, the table is not easy to read for anyone interested in either GCMs or ESMs (not the two model types together). We suggest that the table be divided into two (sub-)tables without creating a new table: first list GCMs by alphabetical order with a clear header "GCMs"; then list ESMs by alphabetical order with a clear transition header "ESMs". [Claude-Michel Nzotungicimpaye, Canada]	Noted. We recognized that the table was not easily readable. However, because GCMs and ESMs share many characteristics, we have kept them in the same table, and we have created a different table for HighResMIP high resolution models.
98729	8	1	19	2	The layout of this table needs to be greatly improved. Some horizontal lines separating the information about different models would help, with vertical lines for the different columns. Alternating background color (white, light grey) would help. [Sonya Legg, United States of America]	Taken into account. The format of the table has been improved.
14437	8	4	19	10	Table AIII.4. It is recommended check table format for facilitate reading. [Maria Amparo Martinez Arroyo, Mexico]	Taken into account. The format of the table has been improved.
38397	8	10	8	10	Taiwan is a province of China, not an independent country. The current expression is seriously wrong. The term "Taiwan" in Table AIII.4 shall be changed to "Taiwan, province of China". [Yaming LIU, China]	Noted. The information in that table is consistent with the CMIP6 registration data.
54345	12		12		MPAS-Ocean uses a z* coordinate Table AIII.4 has z coordinate [Luke Van Roekel, United States of America]	Accepted. Correction made.
9579	14		14		The top level for IPSL-CM6A-LR is 80,000 m rather than 40,000 m (the latter is an error in the CMIP6 netcdf metadata). I am not sure what the N96 for LMDZ refers to. NEMO has an enhanced resolution in the tropics. ORCHIDEe's presentation paper is in preparation (Peylin et al., GMD, 2020). [Olivier Boucher, France]	Taken into account. References updated.
23729	14		14		ES2L: (Hajima et al., submitted) should be changed as: Hajima et al. 2020 (https://doi.org/10.5194/gmd-13-2197-2020) [Tomohiro Hajima, Japan]	Accepted, reference updated.
42049	15	0	15	0	Please clarify: ICON-ESM-LR is not an official model version. ICON-ESM in R2B4 configuration is planned to be used for DECK experiments (pi-Ctrl, 1%CO2,4xCO2) with JSBACH4 as "Land surface" model (not JSBACH3.20 as indicated in the table for "ICON-ESM-LR"). Reference should probably be: Giorgetta et al., 2018 (Giorgetta, M. A., et al., 2018: ICON-A, the atmosphere component of the ICON Earth System Model. Part I: Model description, J. Adv. Model. Earth Sy., 10, 1613–1637, https://doi.org/10.1029/2017MS001242 , 2018) [Julia Nabel, Germany]	Noted. ICON-ESM has not provided data for the CMIP6 deck, historical simulation or ScenarioMIP before the cut-off date, the line has been removed from the table.
17375	15		15		MPI-ESM_HAM does not belong to MPI-M, remove it from the 'Models' column and the 'Atmospheric Chemistry' column. Also the references (Neubauer et al., 2019; Tegen et al., 2019) do not belong to MPI-M and need to be removed here. [David Neubauer, Switzerland]	Accepted. Correction made.
2955	19	4	19	7	Please add reference for CIESM model: Lin et al., Community Integrated Earth System Model (CIESM): description and evaluation, Journal of Advances in Modeling Earth Systems, submitted [Zong Ci Zhao, China]	Accepted. reference to published paper added.
23731	20	46	20	48	This reference has published: Hajima et al. (2020), https://doi.org/10.5194/gmd-13-2197-2020 [Tomohiro Hajima, Japan]	Accepted. Reference updated.
84089	191	2	14	2	2nd row, first column of the table in Page 14 - The name "National Institute for Space Research" appears twice. Only one is necessary. [Marco Tulio Cabral, Brazil]	Noted. The row in the table has been deleted because no data has been provided on ESGF before the deadline to be used in this report.
16023	AIII-8	4	19		The references for CMIP6 models should be updated. [Lijuan Li, China]	Accepted. References updated.

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116801					Thanks for this well developed Annex III. Could it be possible to highlight novel datasets compared to AR5, or major changes to datasets compared to AR5, in the Introduction? Please also make sure that the Annex is cited in relevant chapters (provide guidance). It would also be good if there would be links to specific chapters or elements of chapters using model results (in the introduction). Finally, could all types of models be included? I have in particular in mind the ice sheet modelling framework (see chapter 9) (which can combine global, regional, and ice sheet models) but there could also be relevance on the carbon cycle side (land models). Emulators also need to be included (see chapters 4, 7, in particular). [Valerie Masson-Delmotte, France]	Thanks for these remarks which we have taken into account. The introduction has been expanded, and references to the chapter have been added. A new section, including 3 tables, has been added to document ice sheet models. Regarding emulators, we feel that the information provided in chapter 1 is sufficient.
5099					Apart from a table with model documentation information, tables for model data should be added similar to Annex I for observations including data papers and data citations and all additional specifications on possible subsets of cited data used like specific ensemble members. [Martina Stockhause, Germany]	Noted. This information is found in another annex (Annex I for observations and reanalyses)
5101					For the tables on model data used in AR6 Part 1, information from ch 1, 4 and 10 should be collected. Those chapter should reference the table in Annex III. [Martina Stockhause, Germany]	Taken into account. References to this table have been added in the corresponding chapters.
5103					Adding not only a data reference table for CMIP6 but also for CMIP5 and CORDEX model data would make Annex III more complete in terms of used model data. [Martina Stockhause, Germany]	Taken into account. A table listing the CMIP5 models used to constrain CORDEX models has been added, as well as a table providing the characteristics of CORDEX models.