Working Group I Training on Data Access and Software Development
6-7 June 2019
Oberpfaffenhofen, Germany

Meeting agenda and information

Organisation Committee

Rodrigo Manzanas, IPCC Working Group I Technical Support Unit

Martina Stockhause, IPCC Data Distribution Centre

Martin Jukes, IPCC Data Distribution Centre

Anna Pirani, IPCC Working Group I Technical Support Unit

Objectives

Provide training to empower IPCC authors to use services at DKRZ and CEDA to develop chapter analyses (e.g. use of CMIP6 data via the ESGD), developing community software to produce chapter figures, and provide guidance on the documentation of data/software used in the AR6 for its publishing and curation.

Background

Both DKRZ and CEDA are hosting large volumes of climate data, and have powerful computers available to support data analysis. National scientists make heavy use of these services in both countries. There are two advantages: firstly, it avoids the overhead of transferring and storing data at their own institutes and, secondly, it makes collaborative work much easier. Both these advantages are highly relevant to the IPCC.

Funding to cover the costs associated with providing access to these services to IPCC scientists is provided through German and UK support for the IPCC Data Distribution Centre. Additional access is provided through the ESMVal project, funded by BMBF as part of the national CMIP6 funding.

Location and Timing

DLR site Oberpfaffenhofen, Germany, building 120, room 003, June 6, 2019 – June 7, 2019

Who

The event targets TSU staff and chapter scientists for a train-the-trainer approach. Follow-up activities will use web-conferencing to reach the broader IPCC author audience, including by means of future web-training events.

List of participants :

Lisa BOCK	Chapter Scientist AR6 WGI Chapter 3
Ezequiel CIMADEVILLA	IT AR6 WGI Atlas
Mathias HAUSER	Chapter Scientist AR6 WGI Chapter 11
Carley ILES	Chapter Scientist AR6 WGI Chapter 12
Maialen ITURBIDE MARTINEZ DE ALBENIZ	Chapter Scientist AR6 WGI Atlas
Martin JUKES	DDC
Martin JURY	Chapter Scientist AR6 WGI Atlas
Hui-Wen LAI	Chapter Scientist AR6 WGI Chapter 1
Rodrigo MANZANAS	WGI TSU
Robin MATTHEWS	WGI TSU
Anna PIRANI	WGI TSU
David SMYTH	Chapter Scientist AR6 WGI Chapter 2
Martina STOCKHAUSE	DDC
Sabin TP	Chapter Scientist AR6 WGI Chapter 8
Tim WATERFIELD	WGI TSU

Content

- Structure and content of the CMIP6 archive;
- Exploring the archive using ESGF search; access via the ESGF portal, climate4impact.eu;
- Servers at CEDA and DKRZ: access to machines, access to data, pre-installed software, libraries, installing project software;
- Contributing Atlas and ESMVal scripts.
- Hands on testing
- Best practices, documenting data and script use in the AR6

Meeting Agenda

Thursday 6th June 2019

13h00-14h00   General Introduction (scope and objectives of meeting and the development of a common development framework for WGI tables and figures) [Anna]

Collaborative frameworks and best practices (provenance and documentation, storing data underlying figures and tables, data referencing) [Martin]

IPCC Virtual Machines (figure and table development, data sharing, navigating and accessing CMIP6, reanalyses and large observational datasets) [Martina, Martin on CEDA]

14h00-15h00   Debrief on the preparation of the First Order Draft (Chapter Scientists) - data challenges, figure generation experience so far

15h00-15h30   Coffee Break

15h30-17h30   Getting started on the Virtual Machines (setting up accounts, libraries, installing software from GitHub etc), incl. working through an example [Martin, Martina]

Introduction and discussion on managing software and community work. Adopting the WGI GitHub Project [Rodri, Anna]

More discussion on objectives and needs of each chapter

19h00   Evening group dinner hosted by WGI TSU

Friday 7th June 2019

09h00-9h30   CMIP6 data needs and access by WGI authors [Martin, Martina]

9h30-10h00   Working on own scripts on the virtual machines and getting started on GitHub

10h00-10h30   Introduction to ESMValTool, examples from AR5 and current work on AR6 [Lisa]

Getting started on ESMValTool

How chapters will contribute ESMValTool recipies and hands on session working through an example

10h30-11h00   Coffee Break

11:00-11h30   Introduction to the WGI Atlas and the Climate4R package [Rodri, Maialen]

How chapters will contribute to the Atlas and hands on session working through an example

11h30-13h00   Hands on session cont.

13h00-14h00   Lunch

14h00-14h30   Stock-take of development environments and chapter needs

14h30-15h00   Provenance and publishing data and scripts - developing a common procedure for collecting documentation, metadata [Martin, Martina]

The approach followed in the Atlas for metadata [Rodri]

15h00-16h00   Developing a common WGI framework [Rodri, Martin, Martina]

Best practices for WGI community work on script development and data documentation

How to review the Atlas [Rodri]

Where are the gaps, future support needs (for GitHub and other issues)

Working with WGI authors going forwards (timeline, technical support and training)

16:00   Coffee Break

From 16h30   Continue hands on session [Maialen, Lisa]

Resources

- All resources for the IPCC author training are collected in a google folder: https://drive.google.com/drive/folders/194HoqlRZaMsxurc96wHhWMhEMKEA9Dv5
- Guidance on Data Referencing for IPCC Authors (Draft)
- TGICA Vision (from IPCC Expert Meeting on Future of TGICA and DDC) (with annex on proposed index of data resources also as google doc).
- ESMVal Tool Instructions
- The DKRZ CMIP data pool (DKRZ CDP)
- CEDA Interactive Server - User Guide (v1.1, Dec 2018)
- WCRP: Information on CMIP6 scientific objectives

CMIP6 Resources:

- Guidance documents: (https://pcmdi.llnl.gov/CMIP6/)
- ESGF CMIP6 data archive (https://esgf-node.llnl.gov/projects/cmip6/)
- Available model output data (https://pcmdi.llnl.gov/CMIP6/ArchiveStatistics/esgf_data_holdings/)
- CMIP6 ESMValTool evaluation and analysis results (https://cmip-esmvaltool.dkrz.de/)
- Terms of Use (https://pcmdi.llnl.gov/CMIP6/TermsOfUse), including Data Citation Guidelines (http://bit.ly/2gBCuqM)
- Forcing datasets (https://esgf-node.llnl.gov/projects/input4mips/)
- Participating Modelling Groups
  (https://rawgit.com/WCRP-CMIP/CMIP6_CVs/master/src/CMIP6_institution_id.html)
- Model and experiment documentation (https://search.es-doc.org/)