IS-ENES3 Milestone M9.2
Release of enhanced ESMValTool version for WP7/VA2 activity

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ABSTRACT

A diagnostics portal has been set up as part of WP7/VA2. The portal facilitates the display of results by the recipes available in the ESMValTool. This document describes and gives an insight of the structure of the portal, showing the web interface that the user can navigate.

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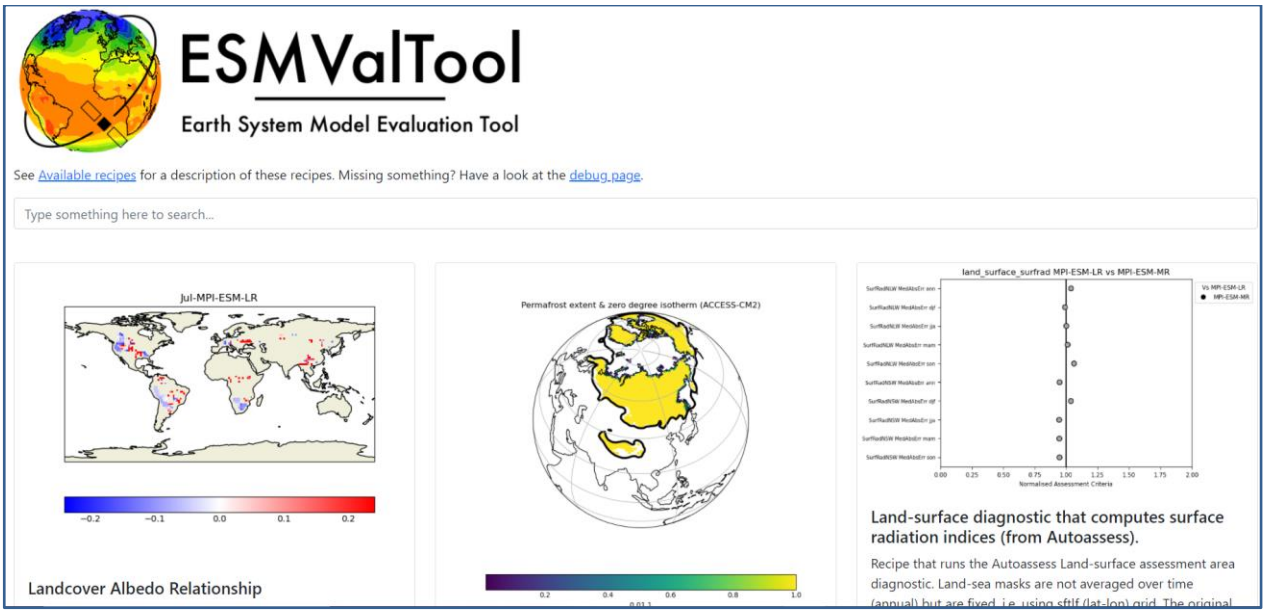
1. Objectives

As part of the activities carried out in WP7/VA2, a web interface has been set up in order to showcase the results of the diagnostics integrated in the Earth System Model eValuation Tool (ESMValTool). The diagnostics portal, hosted at DKRZ, allows for the exploration of data files, figures, provenance records and full logs that get generated for recipes available in version 2.4 of the ESMValTool.

Furthermore, within the same Virtual Machine (VM) that hosts the diagnostics portal, an additional page displays an interactive result viewer for climate impact analysis.

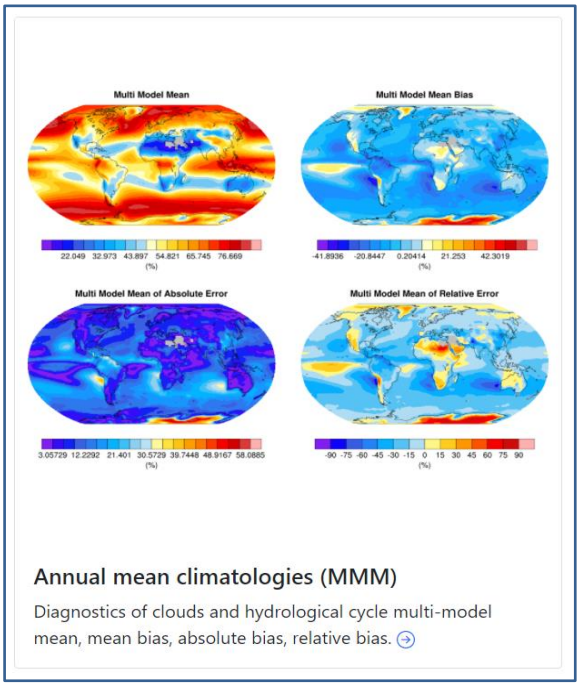
2. Description of work: Methodology and Results

As a first step, a cylc suite was developed and integrated into the ESMValTool in order to automatise the execution of all the recipes. The suite can be found within the testing utils of the ESMValTool, and the steps to register and execute the suite have been included in the ESMValTool documentation. Once all recipes have been run successfully, the results are displayed in the diagnostics portal as showcased in the following figure:

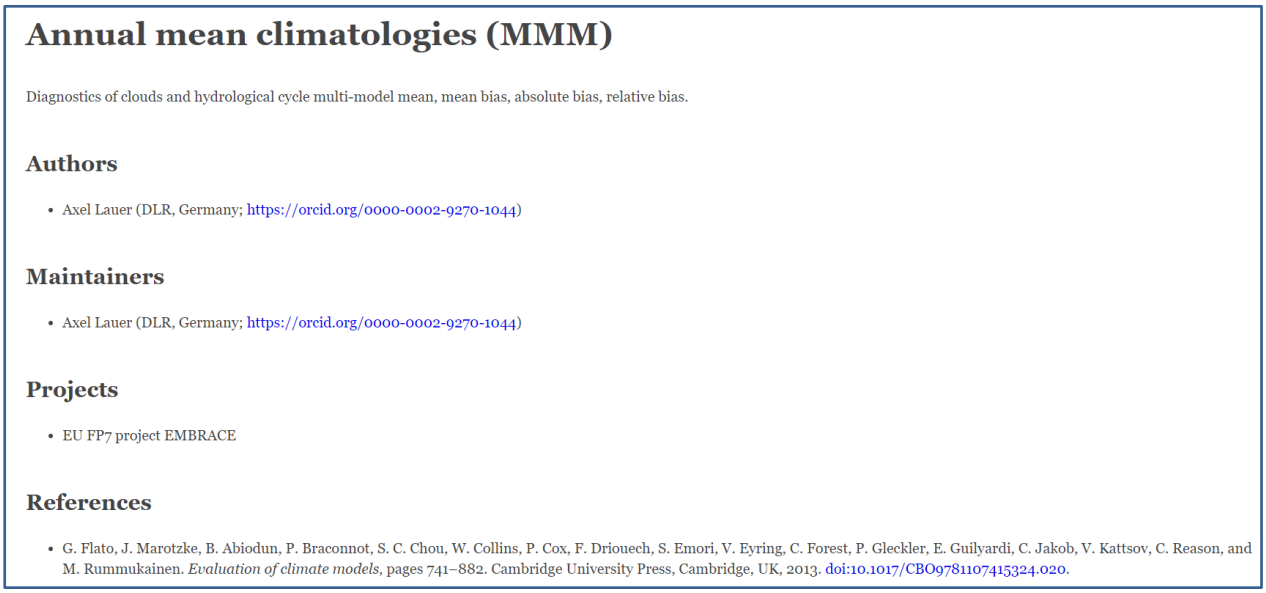


The frontpage of the portal links to all the available recipes in order to facilitate the access to their full description, as well as to the debug logs.

In the frontpage, each recipe is summarised with a title, a representative plot of the results and a short description of the aim of the recipe.



Upon clicking a given recipe from the frontpage, the web interface redirects to a page that shows the full documentation of the recipe, as defined by the scheme required by the ESMValTool, listing the authors, the maintainers, the projects for which the recipe was developed as well as the list of references to be cited in case the recipe is used.



Annual mean climatologies (MMM)

Diagnostics of clouds and hydrological cycle multi-model mean, mean bias, absolute bias, relative bias.

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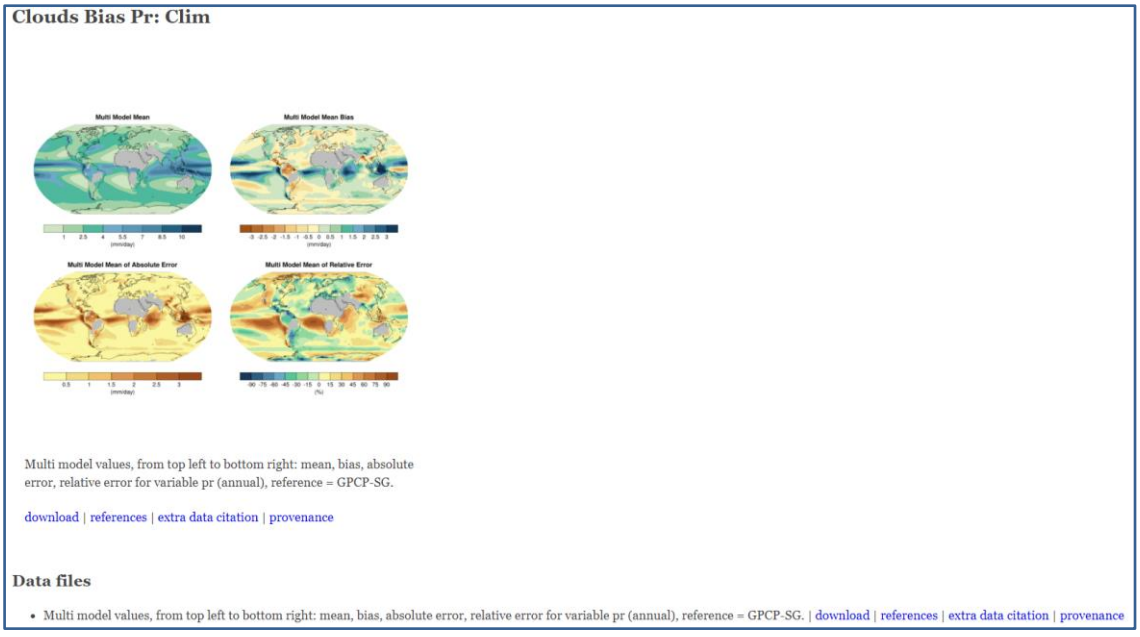
Projects

- EU FP7 project EMBRACE

References

- G. Flato, J. Marotzke, B. Abiodun, P. Braconnot, S. C. Chou, W. Collins, P. Cox, F. Driouech, S. Emori, V. Eyring, C. Forest, P. Gleckler, E. Guilyardi, C. Jakob, V. Kattsov, C. Reason, and M. Rummukainen. *Evaluation of climate models*, pages 741–882. Cambridge University Press, Cambridge, UK, 2013. doi:10.1017/CBO9781107415324.020.

Furthermore, the webpage shows all the figures generated by each diagnostic called in the recipe and offers the possibility of downloading the data used to generate the figures, a BibTeX file with the citation information for the figure, additional data citation references, as well as access to the full provenance.



Regarding the climate impact result viewer, the interactive browser allows for the display of results for either CMIP5 or CMIP6 datasets. The user navigating the webpage can zoom in the datasets of interest, as well as select the points of interest in order to highlight them. Upon hovering each one of the points, a small panel appears indicating the name of the dataset, the ensemble member (e.g. r1i2p1f1) as well as the project the dataset belongs to (CMIP5 or CMIP6).