



Responding to complexity: Building an improved modeling infrastructure for CMIP6

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The current phase of the Coupled Model Intercomparison Project (aka CMIP6) is more complex than previous rounds, which has demanded concomitant improvements in our infrastructure for setting up its experiments and processing their output. These include the development of applications to interrogate the CMIP6 data request (which specifies the variables to be output by the models for each experiment) as part of the initialization of each of our model runs. Such applications have also been useful when tracing the evolution of the data request, and in helping us to translate its contents to model-specific parameters in collaboration with science colleagues. In addition, we have integrated the data request into our data production workflow; this includes the post-processing of model output (including automatic quality checking) prior to it being transferred to the ESGF for use by analysts. Other improvements to our infrastructure include the automatic capturing of model configuration data to facilitate experiment preparation.

We describe our enhanced infrastructure for modeling and data processing in this presentation, indicating the improvement over systems which were developed for CMIP5, and how it relates to the work on CMIP6 which is under way elsewhere in the UK.