



A flexible tool for diagnosing water, energy, and entropy budgets in climate models

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We have developed a new flexible software for studying the global energy budget, the hydrological cycle, and the material entropy production of global climate models. The program receives as input radiative, latent and sensible energy fluxes, with the requirement that the variable names are in agreement with the Climate and Forecast (CF) conventions for the production of NetCDF datasets. Annual mean maps, meridional sections and time series are computed by means of Climate Data Operators (CDO) collection of command line operators developed at Max-Planck Institute for Meteorology (MPI-M). If a land-sea mask is provided, the program also computes the required quantities separately on the continents and oceans. Depending on the user's choice, the program also calls the MATLAB software to compute meridional heat transports and location and intensities of the peaks in the two hemispheres. We are currently planning to adapt the program in order to be included in the Earth System Model eValuation Tool (ESMValTool) community diagnostics.