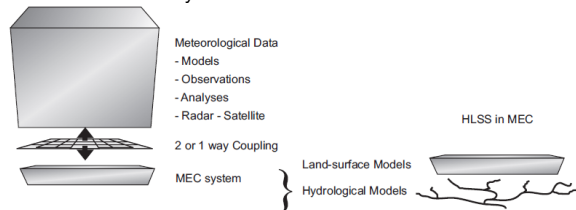


About MESH

MESH (Modélisation Environnementale communautaire - Surface Hydrology) is the hydrology land-surface scheme (HLSS) of Environment and Climate Change Canada's (ECCC's) community environmental modelling system (Pietroniro et al. 2007), and is complimentary to ECCC's GEM-Hydro modelling platform. MESH allows different surface component models to coexist within the same modelling framework so that they can easily be compared for the same experiment using exactly the same forcings, interpolation procedures, grid, time period, time step and output specifications. An important feature of MESH is its ability to read atmospheric forcings from files instead of obtaining them from an atmospheric model. This makes it possible to test changes to the land surface schemes offline and to drive the HLSS with forcing data from other sources such as direct observations or reanalysis products. The main developers and users of MESH are currently with the Global Institute for Water Security (GIWS), located at the University of Saskatchewan.



Early stages in the evolution of Environment Canada's atmospheric-hydrologic-land-surface modelling system are described in Pietroniro et al. (2007). A conceptual framework for model development was initiated using different degrees of model coupling that range from a linked model which requires separate calibration of the atmospheric model and the hydrological model to a complete two way coupled model Soulis et al. (2005). MESH evolved from the WATCLASS model which links WATFLOOD routing model to the Canadian Land Surface Scheme (CLASS), was used as a basis for coupling with both weather and climate atmospheric models.

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