

3.4.3 Coupling Hydrological Models to Regional Climate Models

Emphasising improvement in the hydrological components of regional climate models (RCMs), existing hydrological models for large catchments should be coupled to RCMs. Various coupling procedures should be tested and the performance of the models compared. The feasibility of common coupling procedures and common routing systems shall be investigated and optimum coupling procedures defined for a range of system applications. For validation, means and variability of present-day climate simulations from the coupled models at different scales should be compared to meteorological and hydrological observations. Of particular importance is the ability to model extreme hydrological and meteorological events. Thus, detailed frequency studies of modelled as well as observed time series should be performed and compared. New satellite techniques (*e.g.* the Gravity Recovery and Climate Experiment “GRACE”) should be used for validation.