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## Integrated environmental modelling - an R approach

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Model integration is a necessary requirement in developing the next generation of environmental models. For instance, global circulation model results are now regularly propagated into hydrological models, to predict the effect of climate change on hydrological processes. This generates theoretical challenges about propagating and amplifying uncertainty, scaling issues and commensurability. But it also has practical consequences. Most environmental models are still very much stand alone applications. They have specific requirements with regard to computer hardware, operating system and installed software. Additionally, there are no standards for data input and output. This makes combining different models, whether in a model chain or in a model averaging framework, a tedious and impractical task. Existing efforts to standardize communication protocols and model interaction, such as the HarmonIT project, seem to fail to take of. We will present a different approach that rides the wave of the popular R data analysis language. R has already a large variety of statistical, data processing. and geographical functions that can readily be used for pre- and postprocessing of model data. Writing environmental models as dynamic libraries allows for the wrapping of these code blocks as R functions. As such, models can be called directly, and R can effectively function as a platform for data exchange, processing and visualisation. An example of the implementation of the venerable TOPMODEL in R is given as an example.