

WorkBlock 1: Past Century Global Water Cycle

Major Milestones for the full project duration



Work package	Milestone	Date* month	Description	Relevance to policy makers
WP1.1	M1.1-1	6	Global model forcing data sets in common data format made available to Task 1.1.4	A universal format for the driving data will be made available to WATCH partners for their use. This data will be applied to the models used in WATCH. This will assist in the flow of data between different working groups in the project.
WP1.3	M1.3-1	12	Land surface models consistent with common grid and common data format.	A universal format for the driving data will be applied to the Land surface models used in WATCH. This will assist in the flow of data between different working groups in the project.
WP1.1	M1.1-3	18	Regional forcing data set for Europe from re-analysis completed.	Through the use of satellites new data sets (for snow cover, wetland extent and surface temperature) will be identified and incorporated into the same common format (M1.1-1). These new data sets will be used to validate the Global water cycle.
WP1.1	M1.1-4	30	Regional forcing data set for all regional studies from re-analysis completed.	
WP1.2	M1.2-1	18	Improvements to groundwater parameterisation identified from initial land surface model validation.	To ensure uniformity of parameter representation. For example land surface hydrological models are to include more of the processes required to model the movement of water horizontally as well as vertically. This link between models (e.g. atmospheric and hydrological) is to be improved so a more complete representation of the global water cycle is produced
WP1.2	M1.2-2	18	Improvements to crops and irrigation parameterisations identified from initial land surface model validation.	Water cycle and land surface models are to include a better representation of cropland and irrigation.
WP1.2	M1.2-3	18	Improvements to dams parameterisation identified from initial land surface model validation	Water cycle and land surface models are to include a better representation of dams and reservoirs.
WP1.2	M1.2-4	18	Improvements to river routing scheme identified from initial land surface model validation	Water cycle and land surface models are to include an improved representation of rivers and their pathways.
WP1.3	M1.3-2	18	Initial runs from each individual land surface model completed.	First set of runs for each land surface model completed
WP1.1	M1.1-2	24	Weather generator for	The weather generator produces a

* Project started 02/2007 all months are counted from this starting date

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			downscaling low temporal resolution data sets completed	synthetic time series of weather data (e.g. precipitation, temperature, humidity) for a selected region, this allows seasonality to be represented in the models
WP1.2	M1.2-5	24	Improvements to land surface models combined	Combining dam, reservoir and river representation in to models
WP1.3	M1.3-3	30	20th C global runs complete	Model runs using data from the past century completed
WP1.3	M1.3-4	30	20th C global runs complete	
WP1.4	M1.4-1	36	Complete global sensitivity (of human influence on water cycle) runs for 20th C	Global Water data sets will be outputted from high-resolution land surface models where human activity has been the changing factor. This will provide an assessment of how sensitive the Global water cycle is to human activities such as land use, irrigation, dams etc.
WP1.4	M1.4-2	36	Complete regional sensitivity (of human influence on water cycle) runs for 20th C	Sensitivity experiments will be undertaken to identify changes in the water cycle to human activities. Working on a regional scale has the benefit of a higher spatial resolution than offered by the global water cycle datasets. Through this comparison the impact of scale will be assessed.
WP1.4	M1.4-3	36	Detection and Attribution analysis of impact of human activity on 20th C global water cycle	The sensitivity experiments (Global data) plus observational datasets will be used to detect and attribute changes in the global water cycle due to human intervention. This will enable cause-affect estimates to be made.