WFlow – How to setup a model using WTools and the NW2CIS

A WFlow model-setup is presented using WTools GIS-processing tools and meteorological data from the NW2CIS

WFlow:

Python-based distributed hydrological framework.

WTools:

Python-based set of tools to process topographic layers and input for WFlow.

NW2CIS:

National Water, Weather and Climate Information System. A FEWS based system in which all hydroloigcal, meteorological and climatological data of Indonesia is stored.

Author: Daniel Tollenaar
Email: Daniel.Tollenaar@deltares.nl

Deltares
Enabling Delta Life

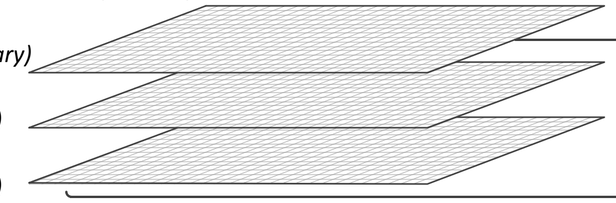
Version: 2015-03-19

Topographic layers

Rasters

Format: GeoTiff (.tif)
Projection: Arbitrary but required

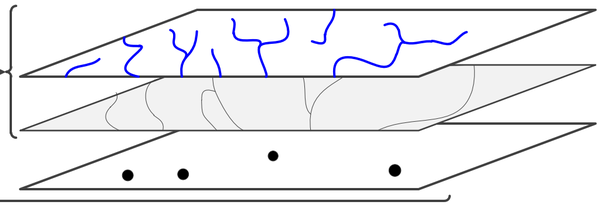
DEM *(compusary)*
Land-use *(optional)*
Soil type *(optional)*



CatchRiver.exe

Vectors

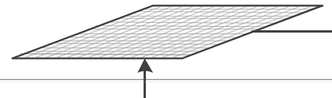
Format: ESRI shape-file (.shp)
Projection: Arbitrary but required



River network(s) *Compulsary*
Catchment(s) *Compulsary*
Hydro-gauges *Optional*

WFlow mask

Format: PCRaster map (.map)
Projection: required (via .prj in shape-file)



StaticMaps.exe

WTools

CreateGrid.exe

Grid.xml

FEWS

NW2CIS

Meteo-data

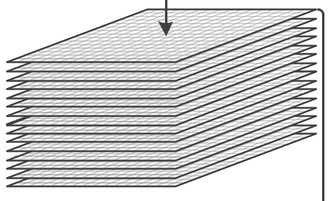
WFlow

WFlow

Model Input

Static input

Format: PCRaster map (.map)
Projection: no

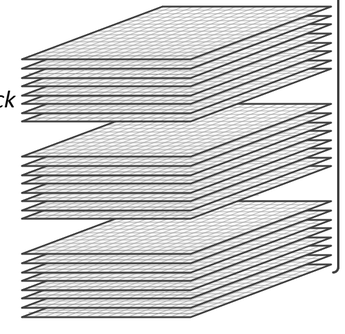


Tables

Format: PCRaster tables (.tbl)

Dynamic input

Format: PCRaster mapstack (#???????.???) (# = P,E or T)
Projection: no



WFLOW_SBM.exe

Precipitation (P) *(compusary)*

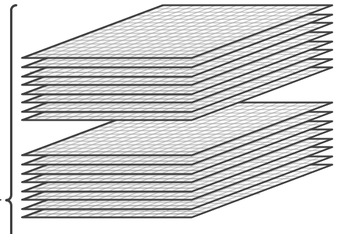
Evapotranspiration (E) *(compusary)*

Temperature (E) *(optional, for snow-module)*

Model output

Output maps

Format: PCRaster mapstack (#???????.???) (# = R,H, etc, etc)
Projection: no



Output series

Format: PCRaster timeseries (#.tss) (# = R,H, etc, etc)
Projection: non-spatial