ogh_xarray_landlab

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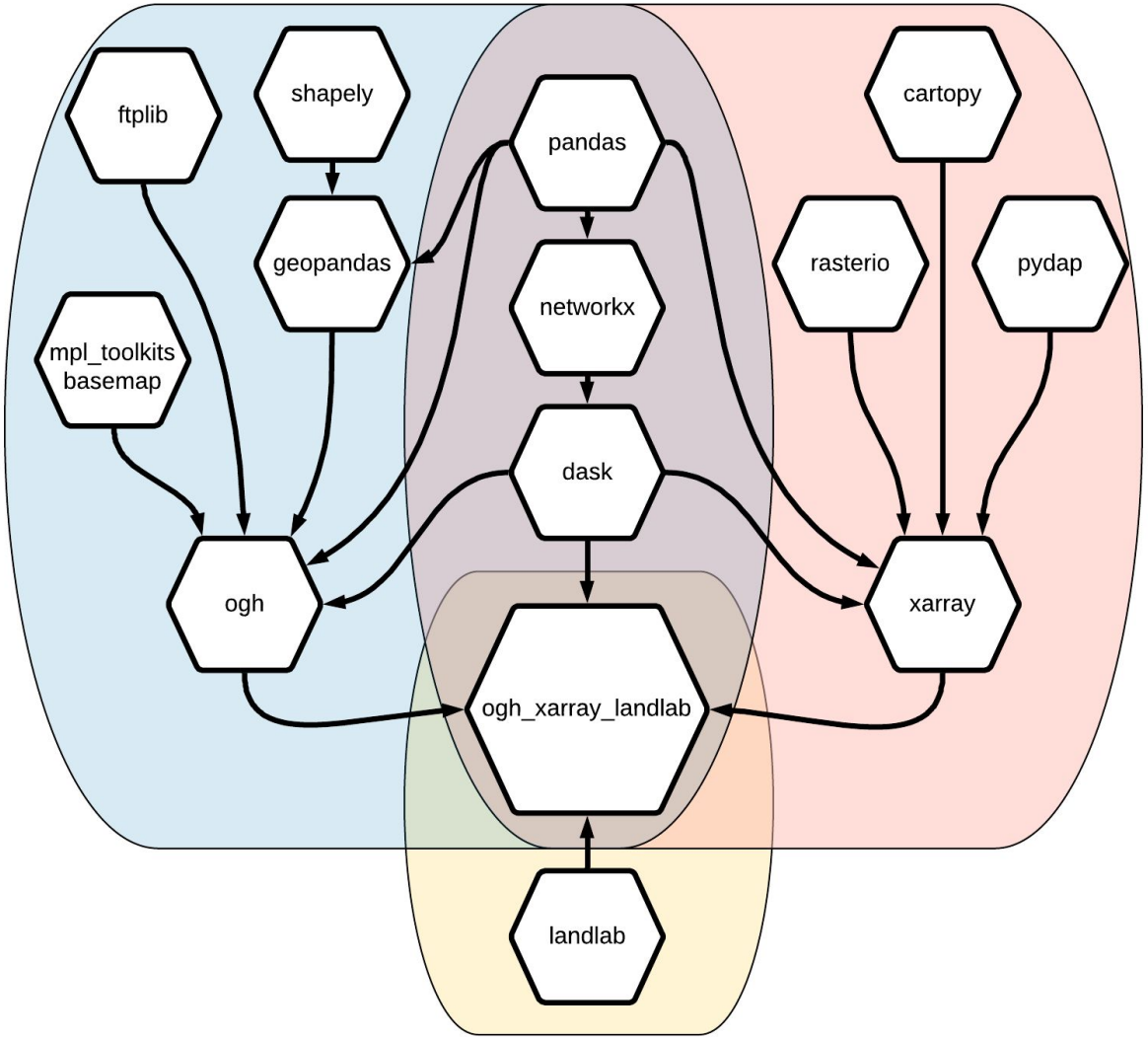
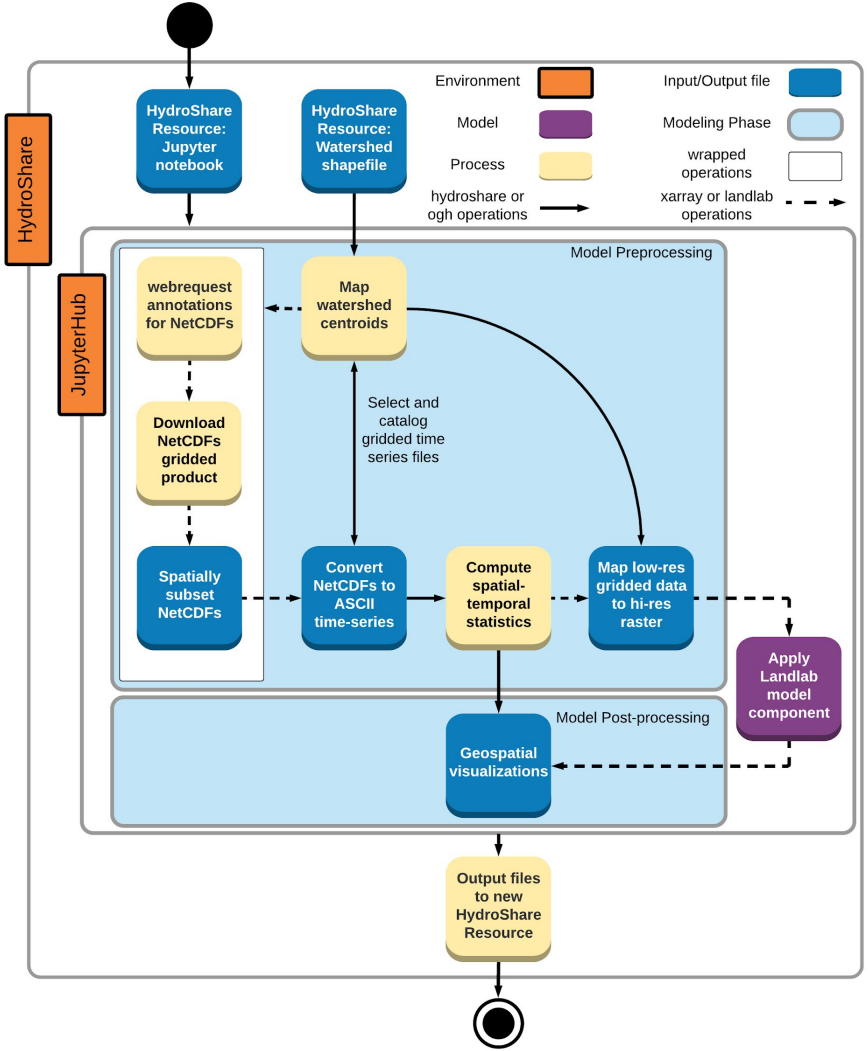
Objectives

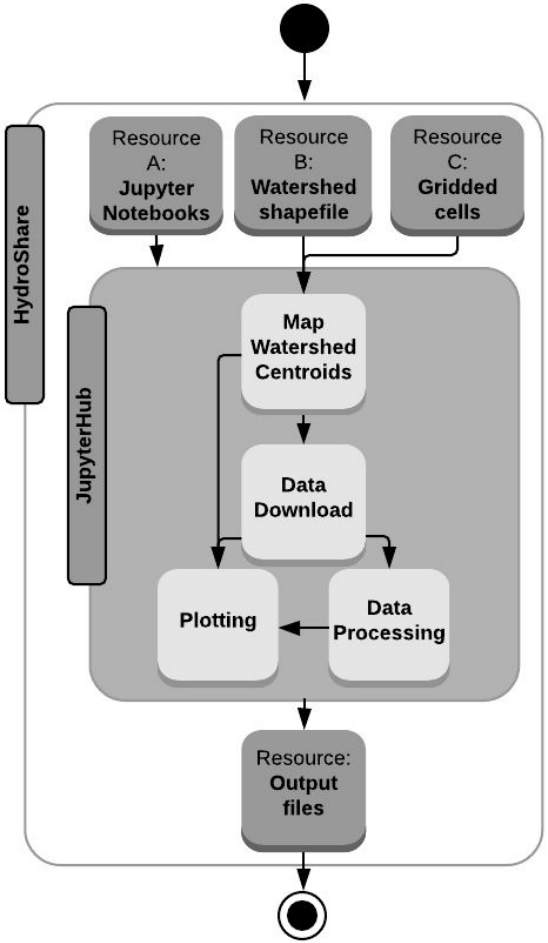
1. Read in netcdf gridded data sets from third-party web-services
2. Crop netcdf files to the watershed of interest at the time of download
3. Assemble 1D-ASCII time-series for the period of interest
4. Extract metadata from netcdf files to guide analyses
5. Generate high-resolution raster from user-defined *dx* and *dy*
6. Map low-res data products ($1/16^{o}$) to high-res raster dimensions (1kmx1km)

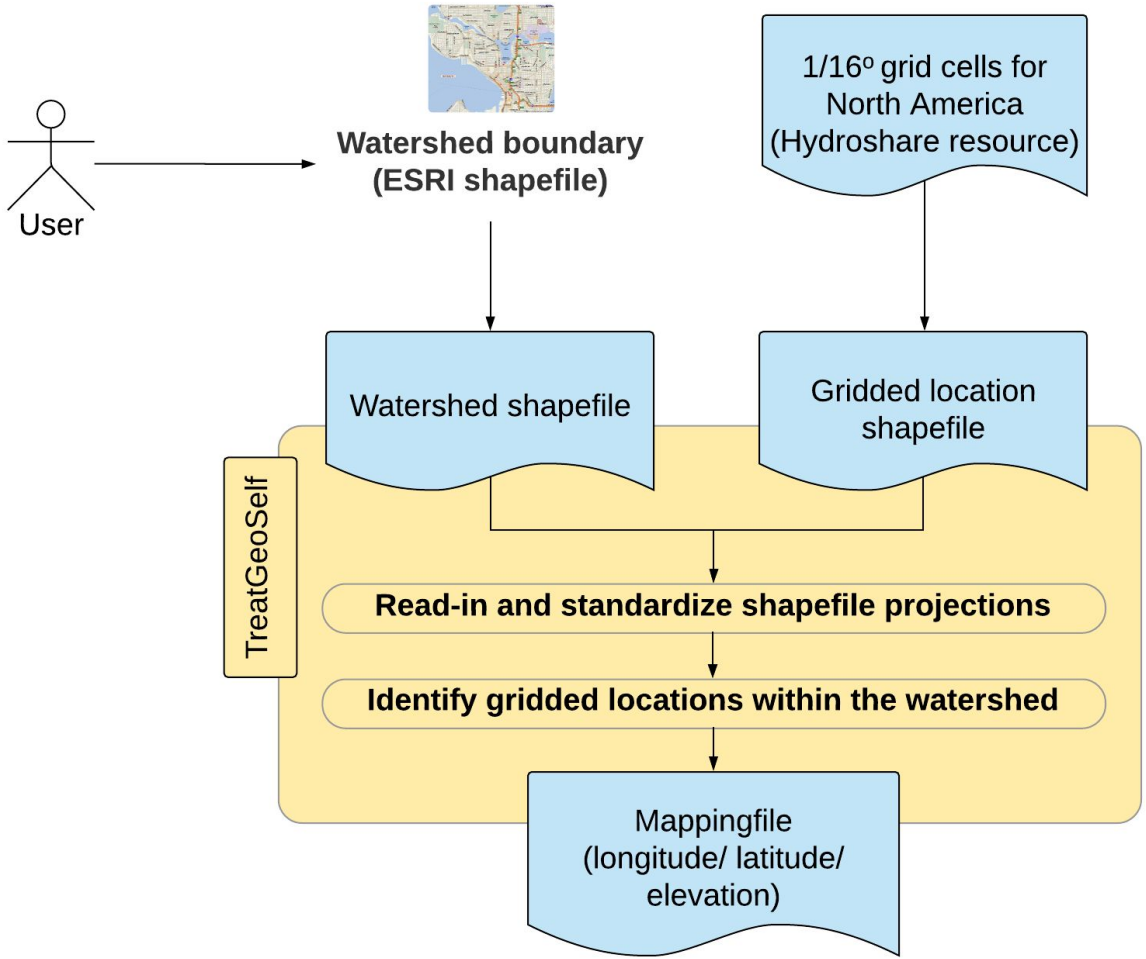
Python dependency tree of ogh_xarray_landlab

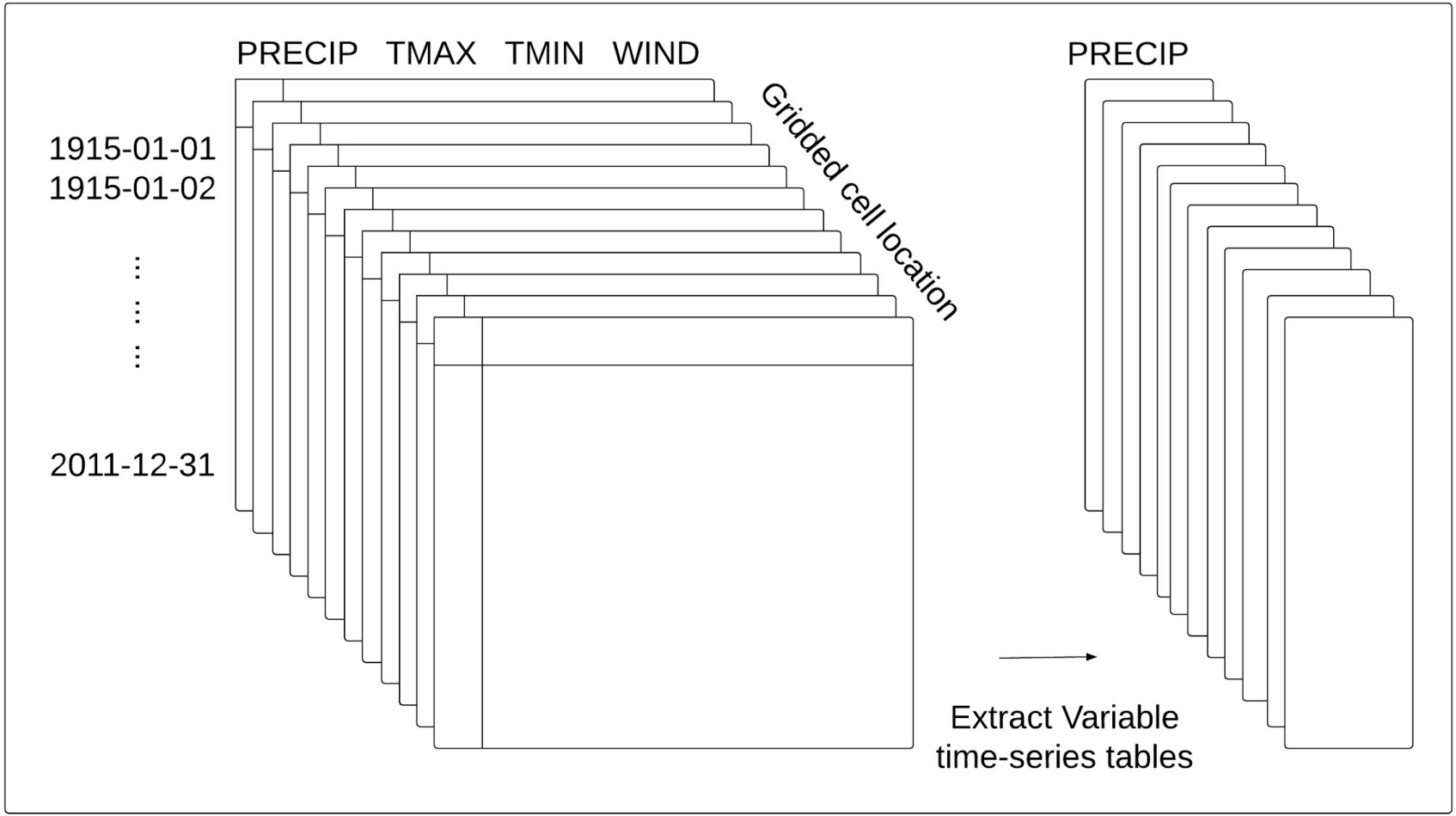


Workflow of the tutorial notebook: ogh_usecase7_xmapLandlab

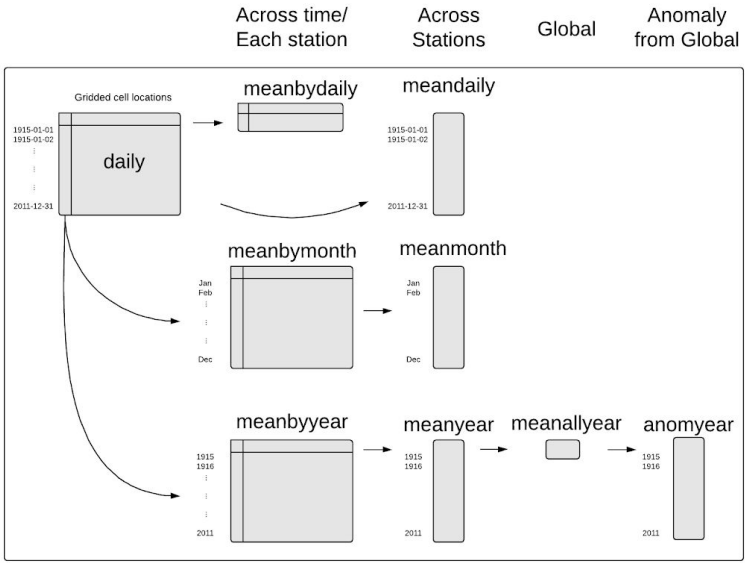



HydroShare
Resource A: Jupyter Notebooks
Resource B: Watershed shapefile
Resource C: Gridded cells
JupyterHub
Map Watershed Centroids
Data Download
Plotting
Data Processing
Resource: Output files


User
Watershed boundary
(ESRI shapefile)
1/16º grid cells for
North America
(Hydroshare resource)
Watershed shapefile
Gridded location
shapefile
TreatGeoSelf
Read-in and standardize shapefile projections
Identify gridded locations within the watershed
Mappingfile
(longitude/ latitude/
elevation)


PRECIP TMAX TMIN WIND
Gridded cell location
1915-01-01
1915-01-02
2011-12-31
PRECIP
Extract Variable
time-series tables

A) *aggregate_space_time_average*



B) *aggregate_space_time_sum*