Decide the type of hydrological model

(i.e. empirical or physically based, distributed or lumped)

No

Is there available enough data for the chosen model?

Yes

Choose data that will be used

(i.e. DEM resolution, Rain gauges, land-use data)

Process Data to get relevant parameters

(i.e Define Subcatchment areas, identify rainfall or snowmelt events from flow

No

Is the chosen data usable to identify parameters of the model?

Yes

Carry a sensitivity analysis with the parameters of the model

Select the most sensitive parameters Calibrate the model against an observed event i.e. Rainfall or Snowmelt Choose other events to validate the model Save model and calibrated parameters to be used as a hotstart for the online model