**Motivation of region**

The chosen region is the Hudson River Watershed. This region is chosen because of the occurrence of floods, mostly related to heavy rainfall and snowmelt. It is interesting to model the water flows and see how the water evaluates through the region.

There is plenty rainfall data, hourly data can be found on <https://www.ncei.noaa.gov/maps/hourly/?layers=001>. The discharge stations are given in the Hudson map from the USGS. In the watershed, there are lakes and large rivers. The two hydrological processes are snowmelt, evaporation and groundwater.