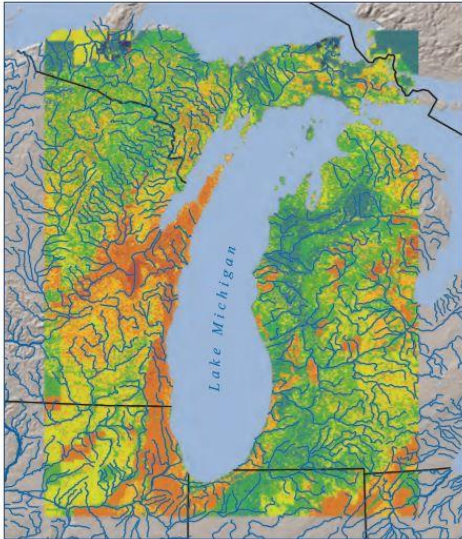


USGS Soil-Water Balance Model



Groundwater Resources Program

SWB—A Modified Thornthwaite-Mather Soil-Water-Balance Code for Estimating Groundwater Recharge

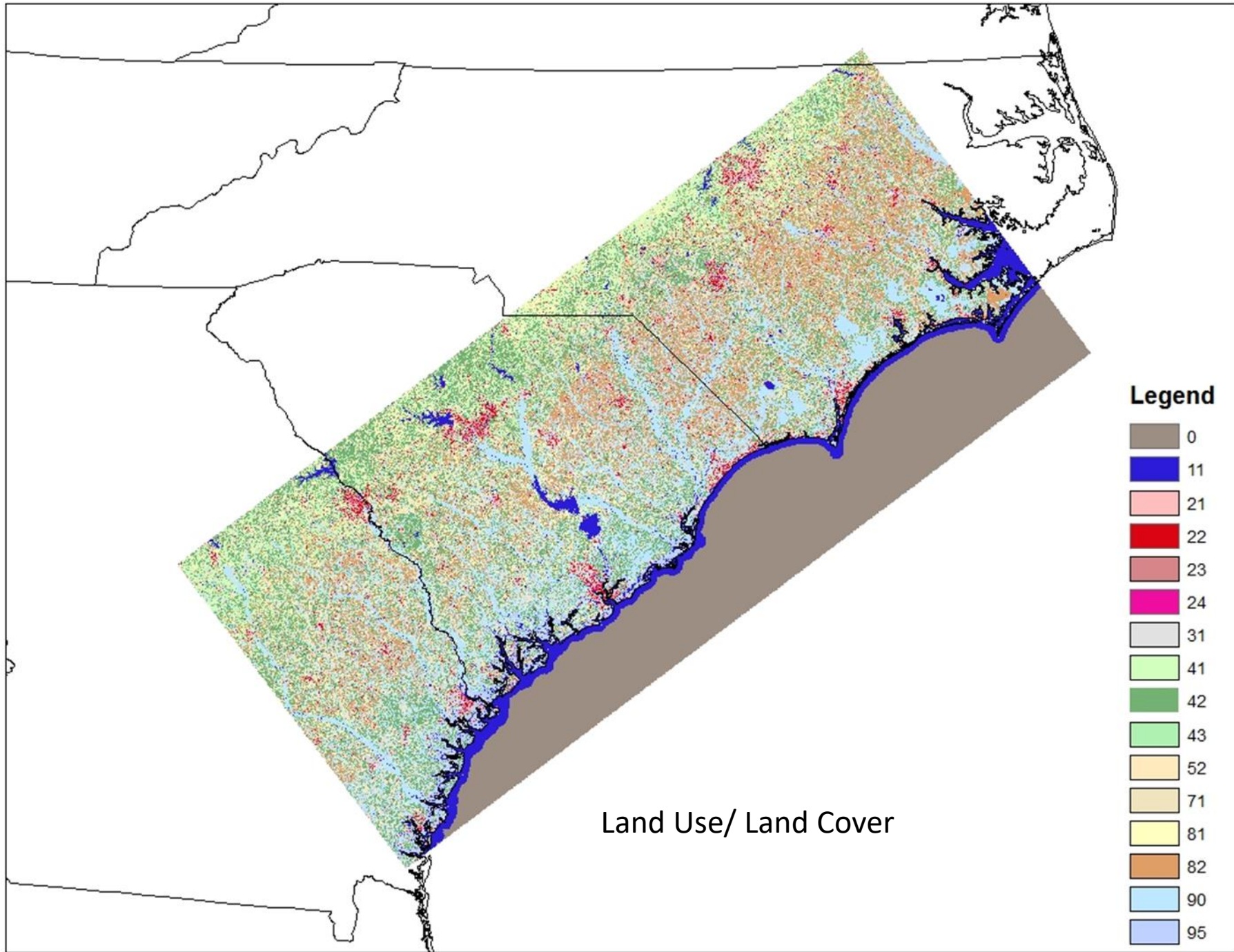


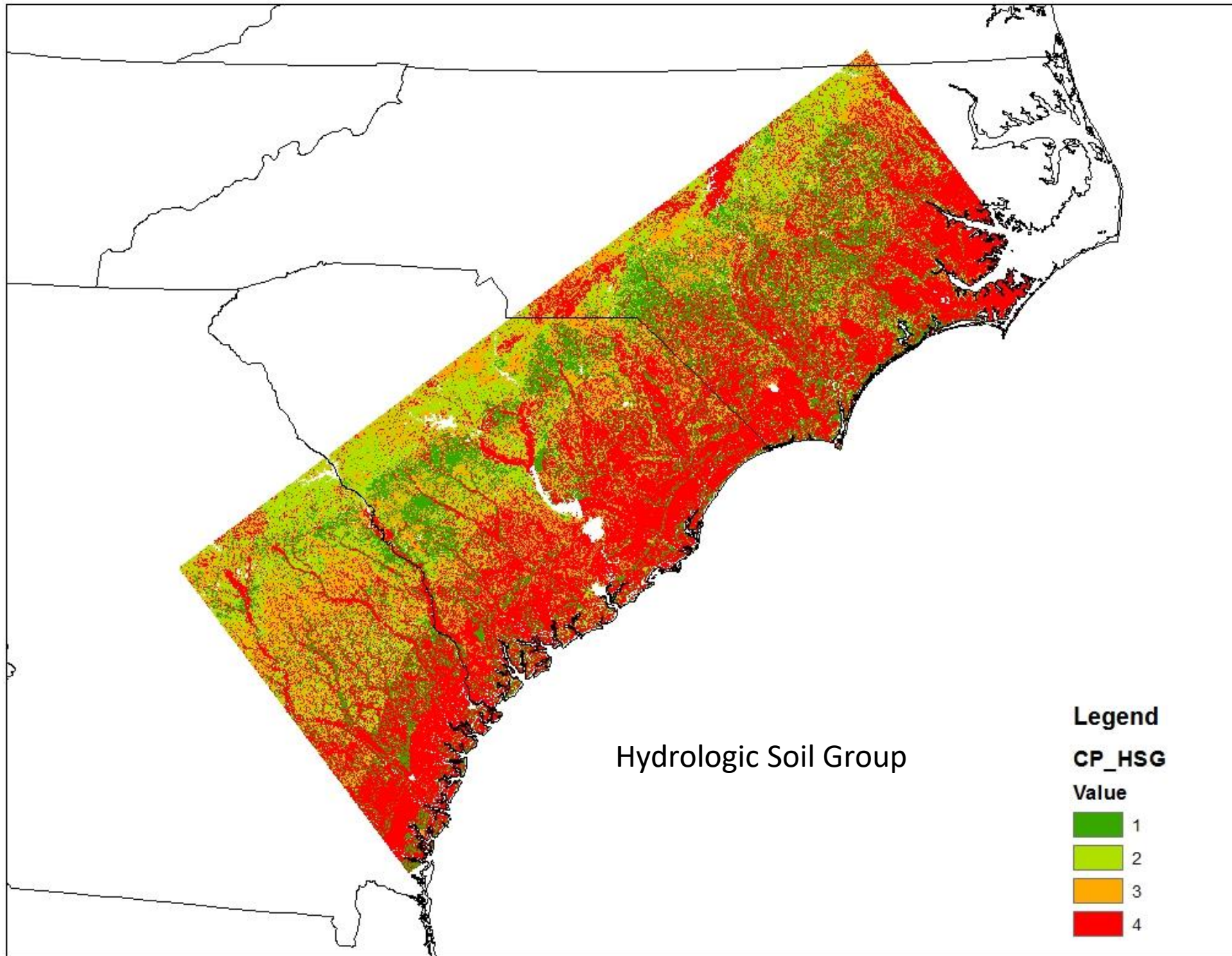
Techniques and Methods 6–A31

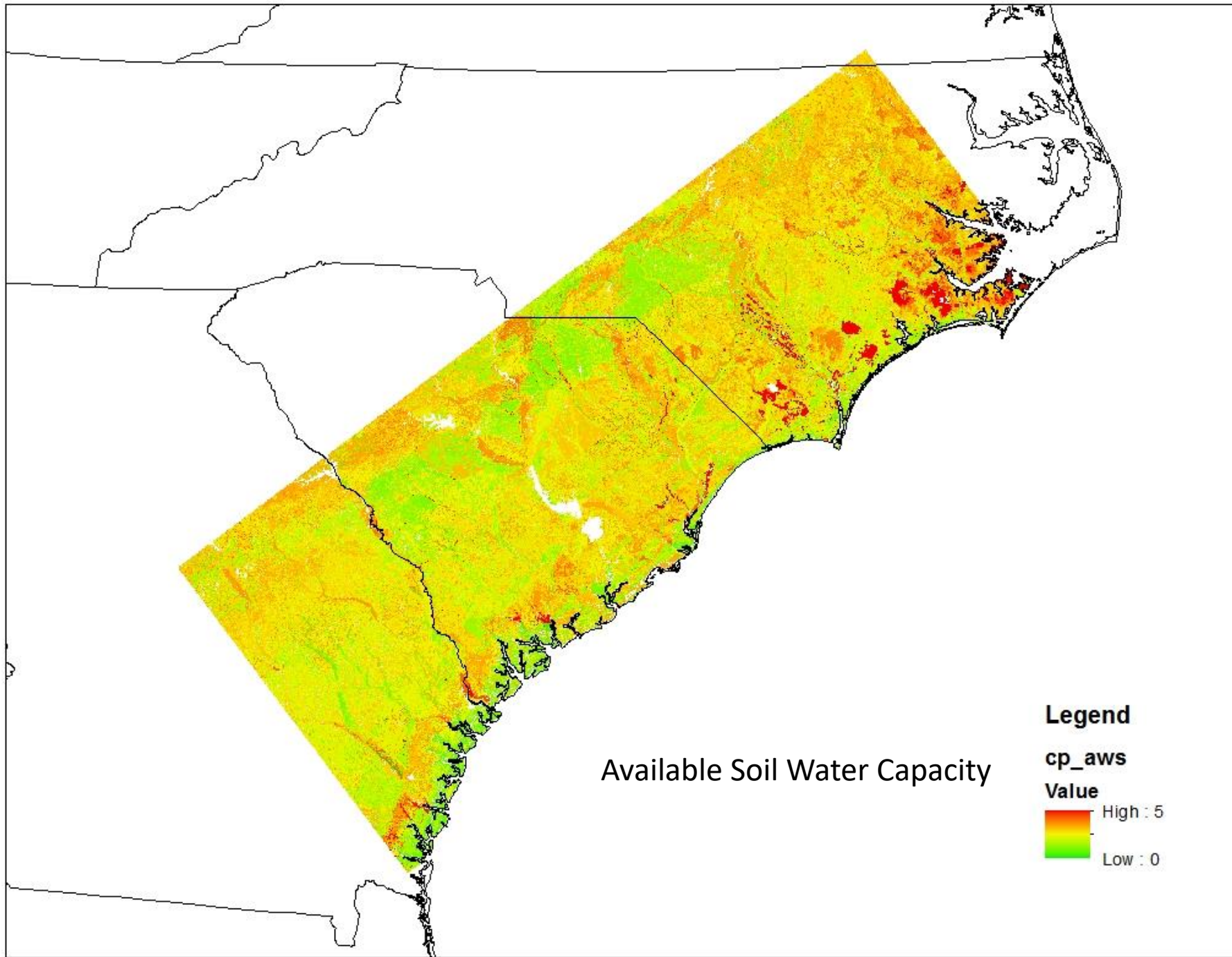
Used to calculate groundwater recharge rates

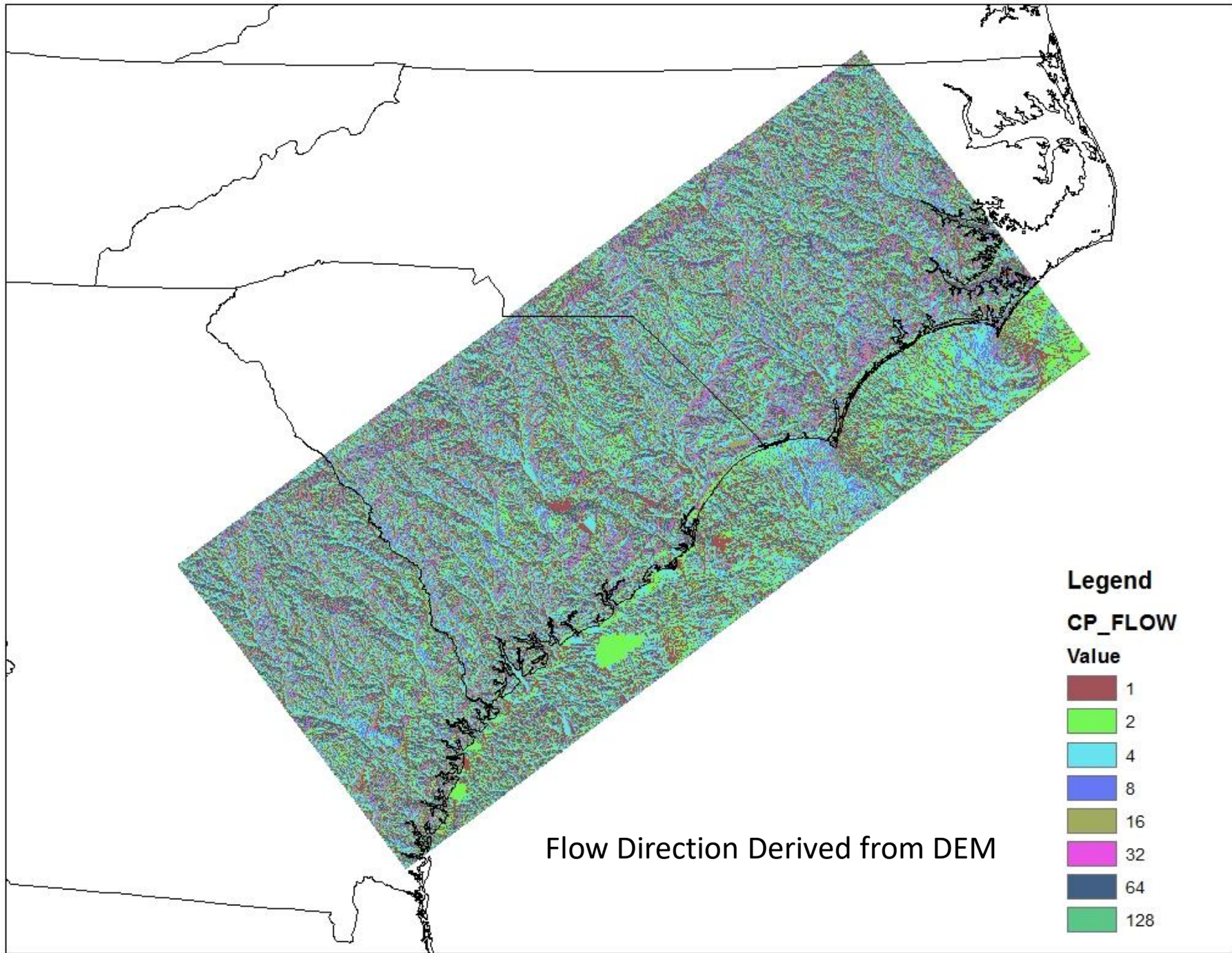
MODEL INPUTS

- Land Use/ Land Cover
- Hydrologic Soil Group
- Available Soil Water Capacity
- Flow Direction Derived from DEM
- Climate Data





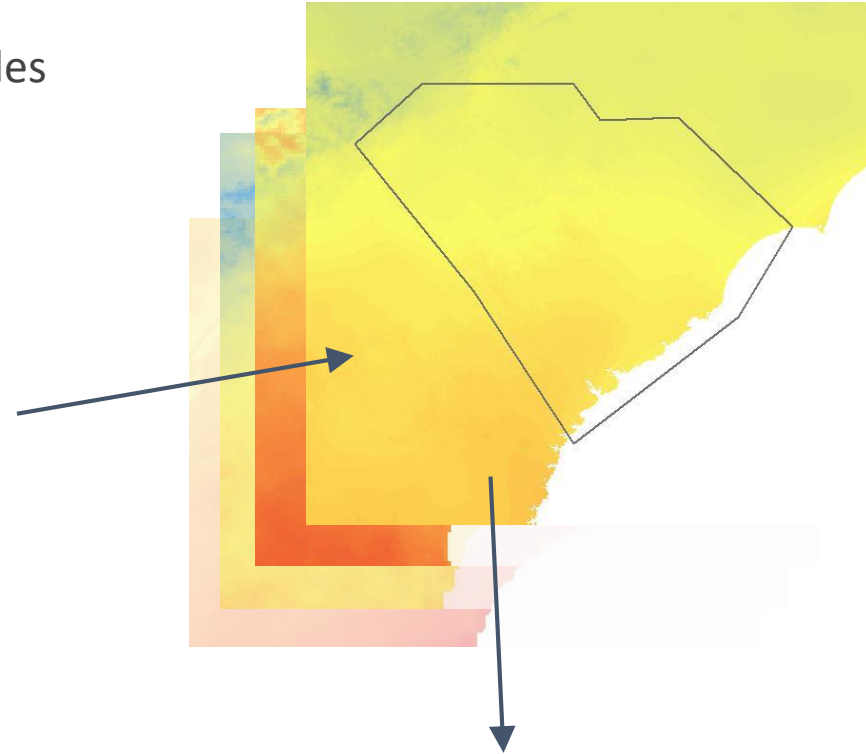
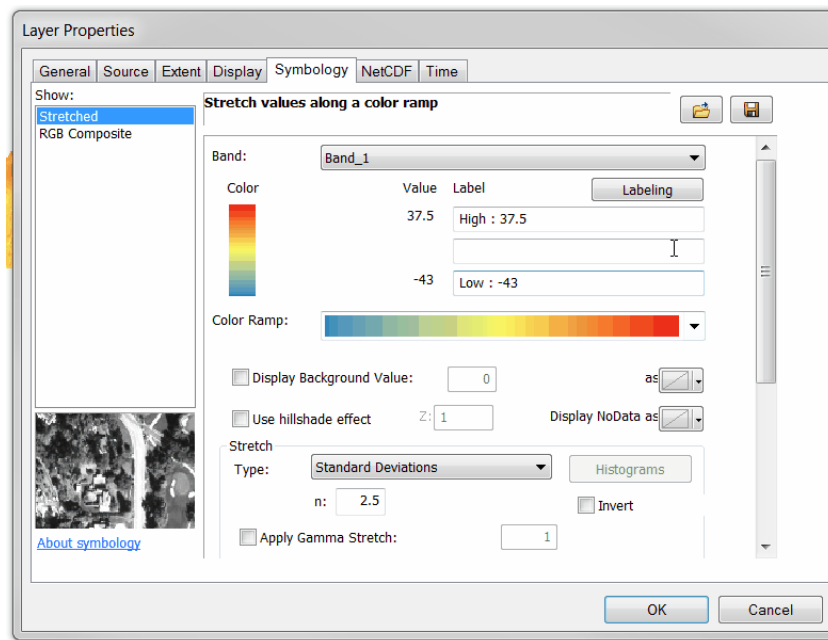






Python Scripting

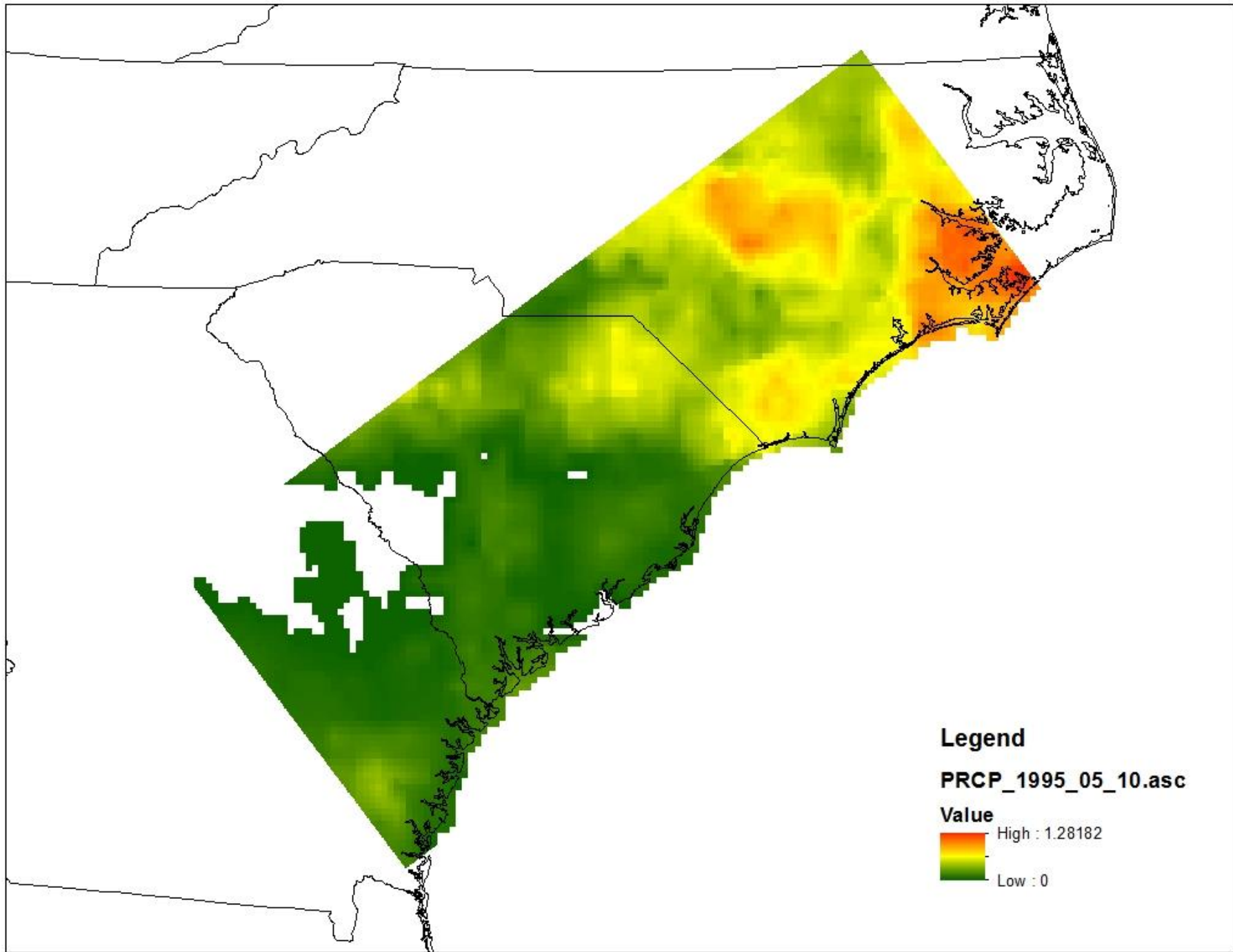
Converting NetCDF files to ASCII

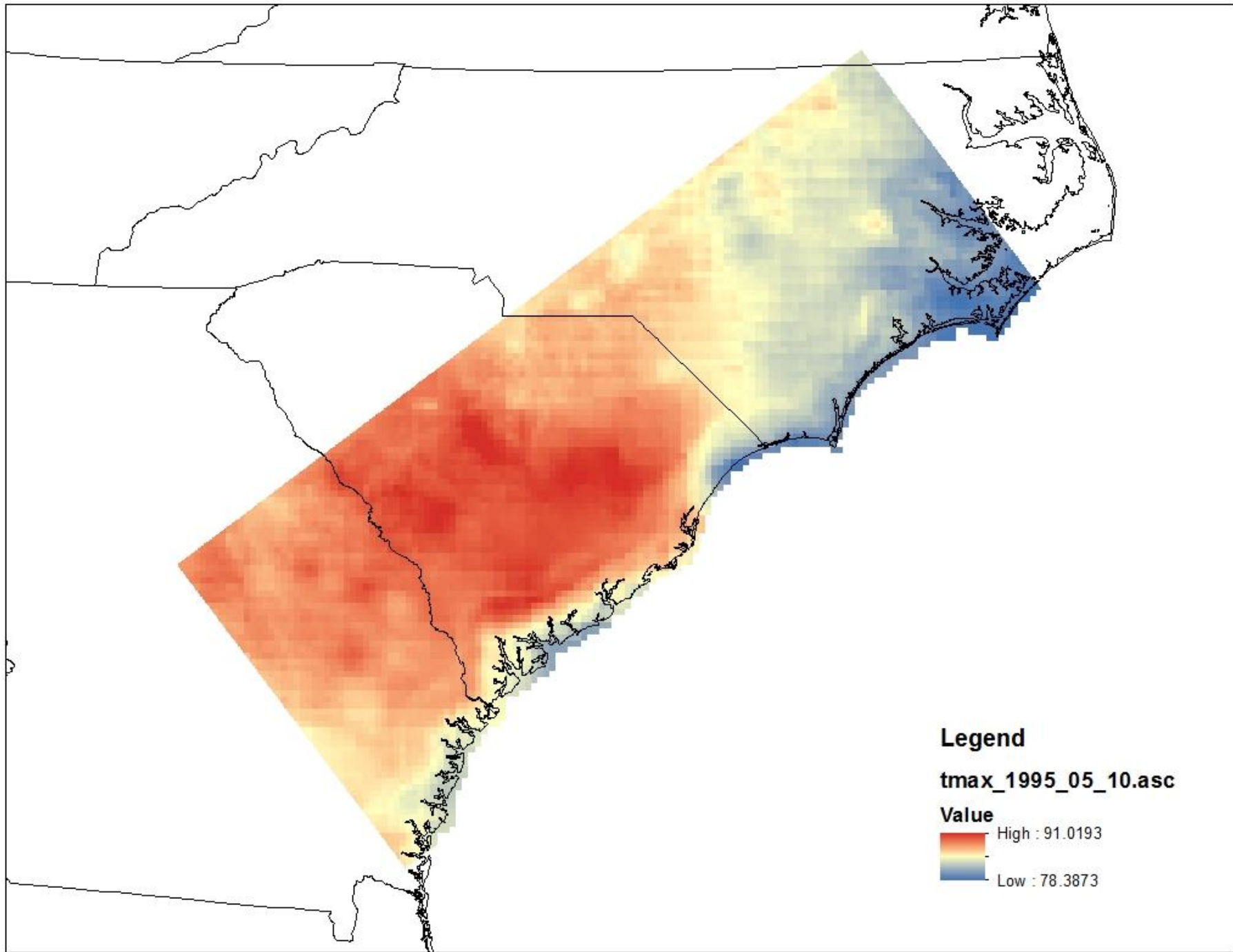
Each day of the year, for 37 years, for 3 variables
= **40,515 operations**

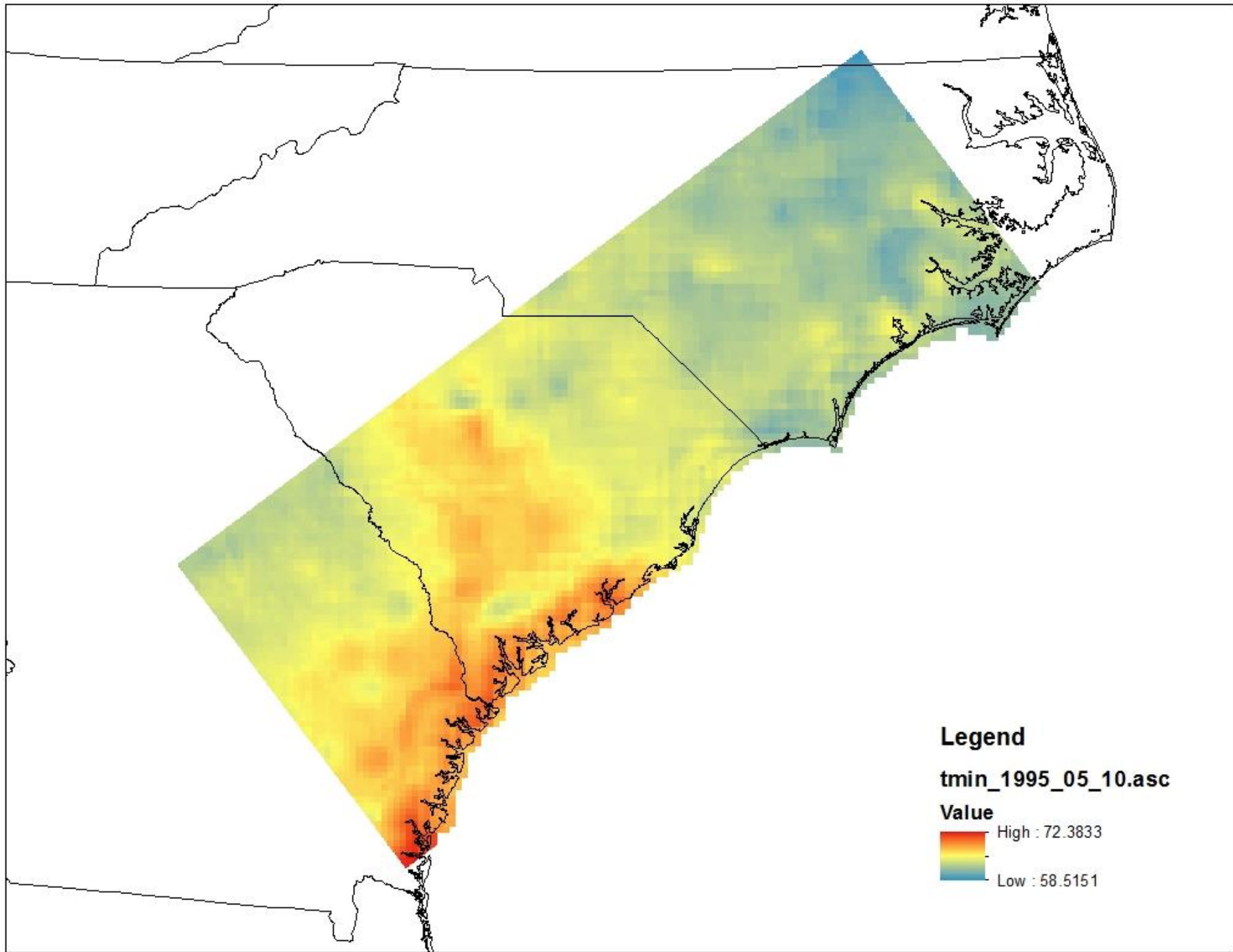


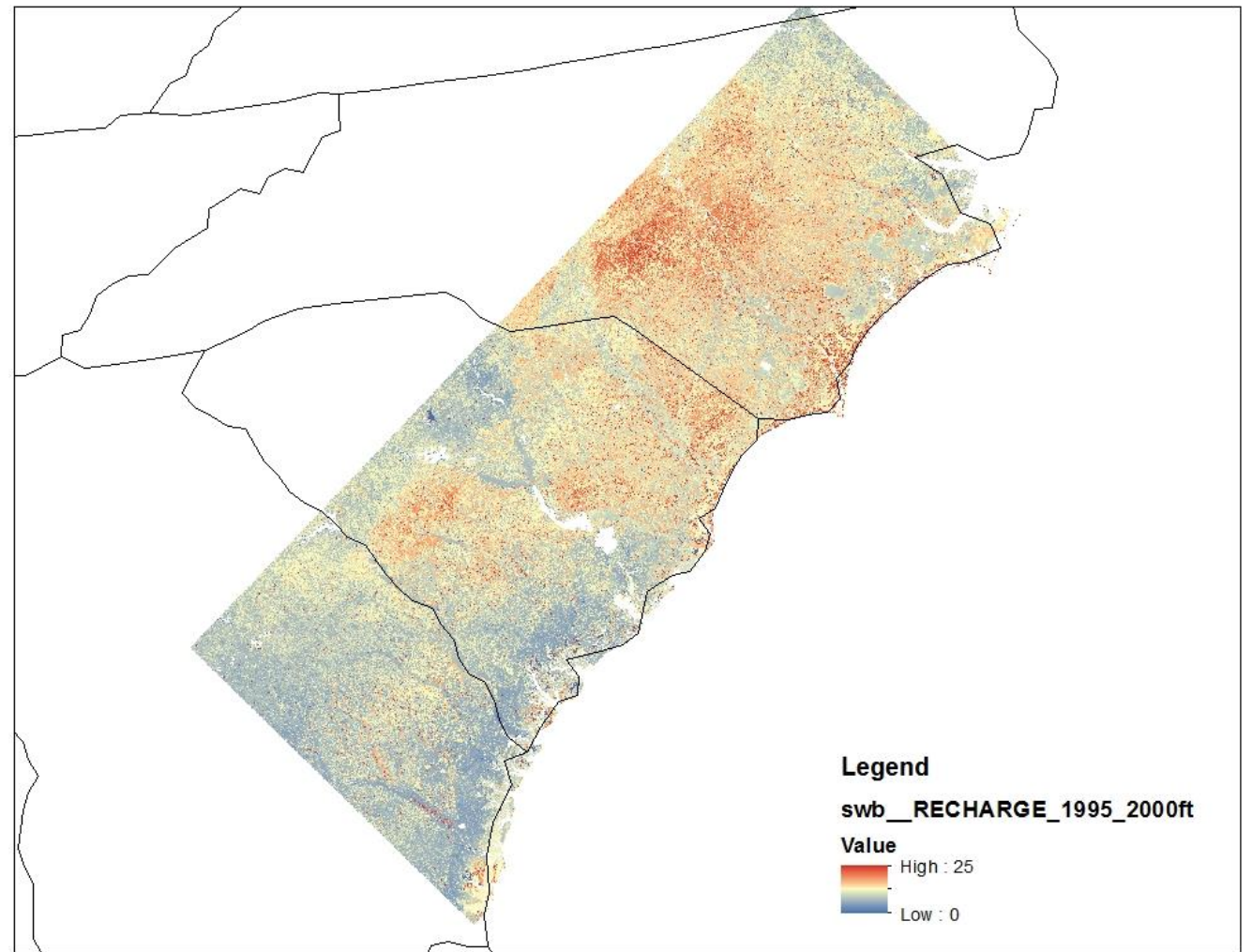
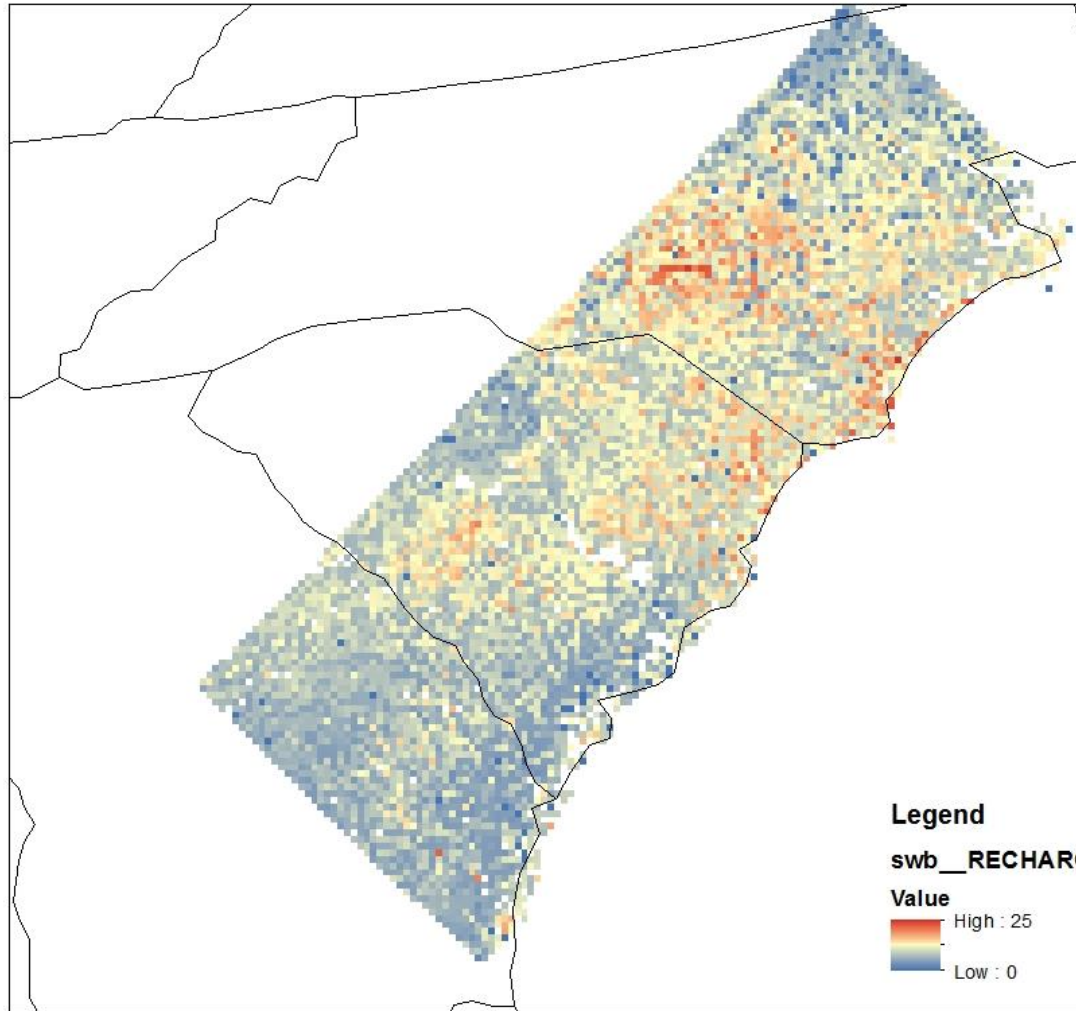
- Clip to area
- Resample
- Align to SWB data
- Save to ASCII

  daymetProcessing.tbx
1) Split Band Rasters
2) Convert to ASCII

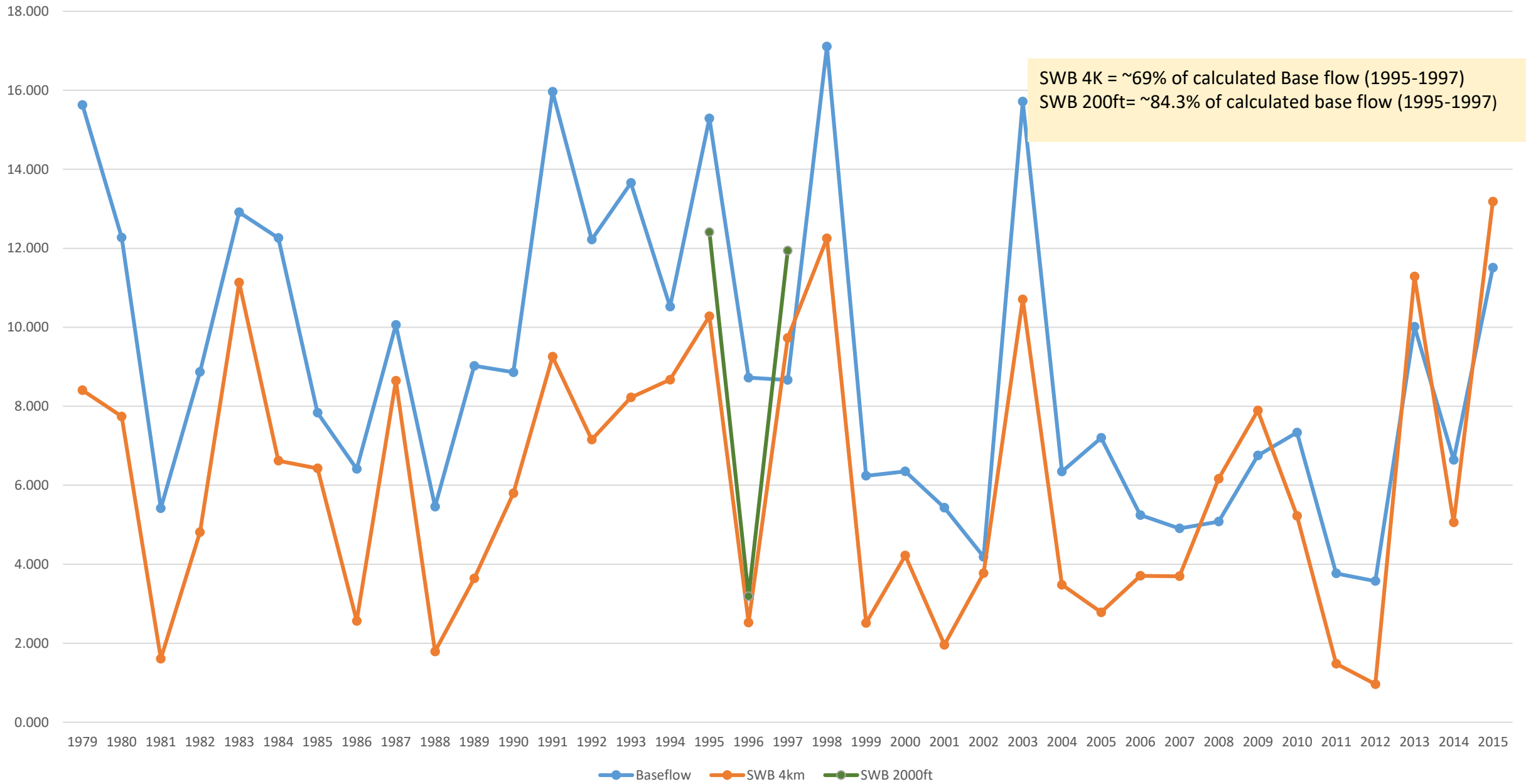








2175000 Edisto River near Givhans, SC



2130910 Black Creek near Hartsville, SC

SWB 4k= 57.9% of Base flow (1995-1997)
SWB 2000ft= 66.4% of Base flow (1995-1997)

