*Reads in data, separates out into variables, and applies quality and measurement flags*

ghcnd\_applyflags.r 🡪 ak\_ghcnd\_screened2.RData

*Additional screening for temperature, inconsistencies in rain/snow, etc. and counts up number of good years of data*

ghcnd\_screen.r (ak\_ghcnd\_screened2.RData) 🡪 ak\_ghcnd\_screened3.RData, good\_yrs\_prcp.txt,

good\_yrs\_snow.txt, good\_yrs\_snow.txt, good\_yrs\_snow.txt

*Removes data associated with stations that have less than 30 years of 90% complete data for any given month. Calculates derivative variables (e.g., wet day), and calculates monthly averages*

prep\_ak\_daily\_tt.r(ak\_ghcnd\_screened3.RData, good\_yrs\_prcp.txt) 🡪 ak\_daily\_prepped.RData

*Tidies up and calculates a couple more variables*

p.snow\_m.tave\_decave\_prep.r (ak\_daily\_prepped.RData )🡪 m.tave\_p.snow.RData

*Places stations into NOAA regions on the basis of their location and visually (note; this was done visually, so there’s no scripted documentation to back this up)*

noaa\_regions.r (ak\_data\_inventory.csv {station site location; note it has more stations than were used,}); called in scripts

*Calculates resampled 10-year averages of data for each month and stations and separates them out by region*

resample\_data.r(m.tave\_p.snow.RData, noaa\_regions.r) 🡪 resampled\_10yrave.RData

*Pulls in the regional resampling and adds matrices of resampled data for all sites. Note – not sure why I have this, as the all stations resampled data are never used.*

resample\_data\_akwide,r(resampled\_10yrave.RData) 🡪 resampled\_10yrave.RData

The following scripts calculate the coefficients of the logistic equations separately for each region,

decave\_model\_arctic\_12mo500b.r(resampled\_10yrave.RData) 🡪 coefs.arcticB.RData

decave\_model\_cookinlet\_5mo500b.r(resampled\_10yrave.RData) 🡪 coefs.cookinletB.RData

decave\_model\_interior\_5mo500b.r(resampled\_10yrave.RData) 🡪 coefs.interiorB.RData

decave\_model\_southcoast\_5mo500b.r(resampled\_10yrave.RData) 🡪 coefs.southcoastB.RData

decave\_model\_swinterior\_5mo500b.r(resampled\_10yrave.RData) 🡪 coefs.swinteriorB.RData

decave\_model\_swisland\_5mo500b.r(resampled\_10yrave.RData) 🡪 coefs.swislandB.RData

decave\_model\_west\_5mo500b.r(resampled\_10yrave.RData) 🡪 coefs.westB.RData

*Averages the coefficients, applies to gridded temperature data to get snow fraction*

calc\_Fsb.r, calcFs\_a1bb, calcFs\_a2b.r (coefs.arcticB.RData, coefs.cookinletB.RData, coefs.interiorB.RData, coefs.southcoastB.RData, coefs.southcoastB.RData, coefs.swinteriorB.RData, coefs.swislandB.RData coefs.westB.RData, tas files, shapefiles of region {split in ArcGIS}) 🡪 output data; these should have created dates in November 2012