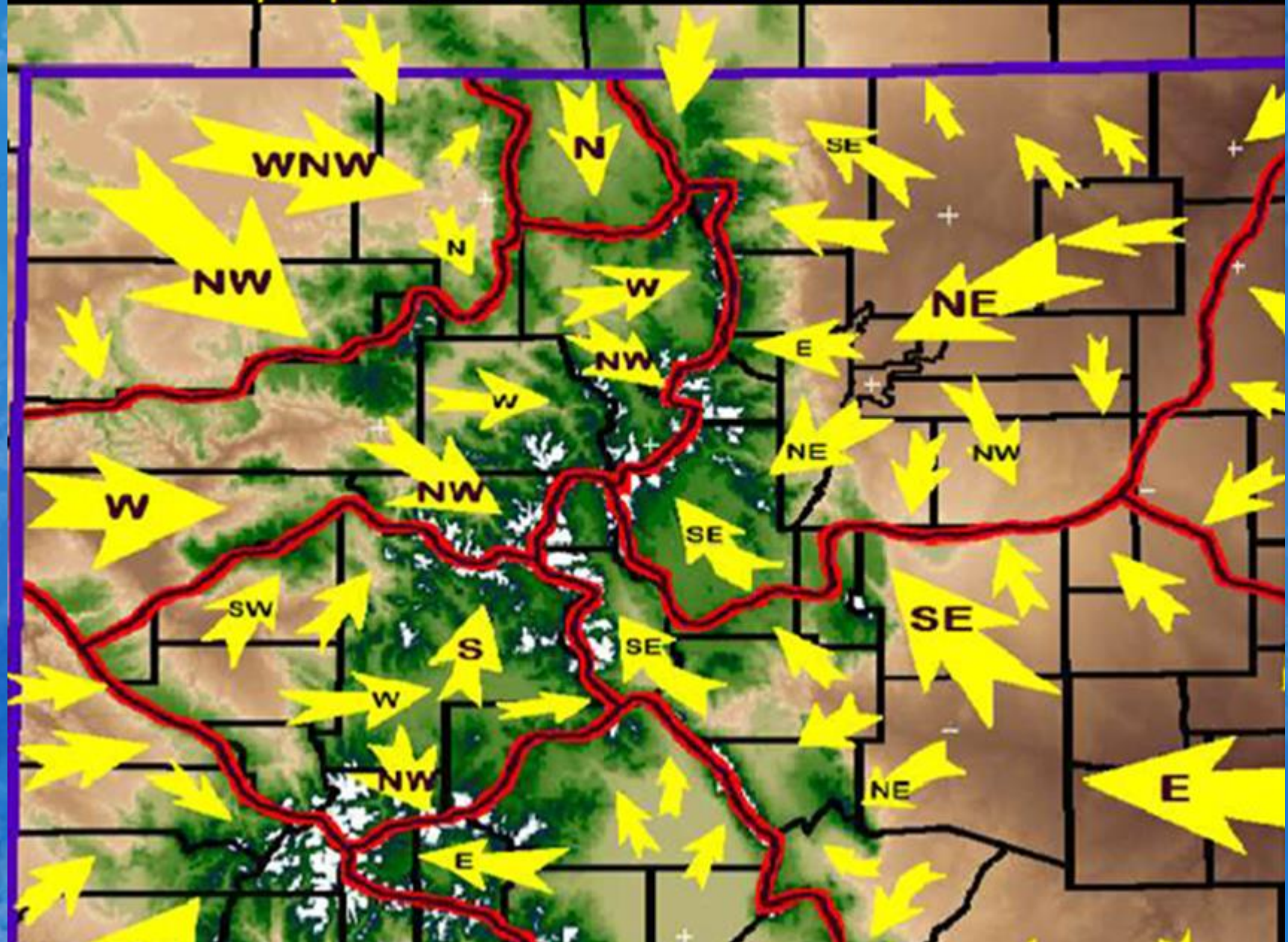
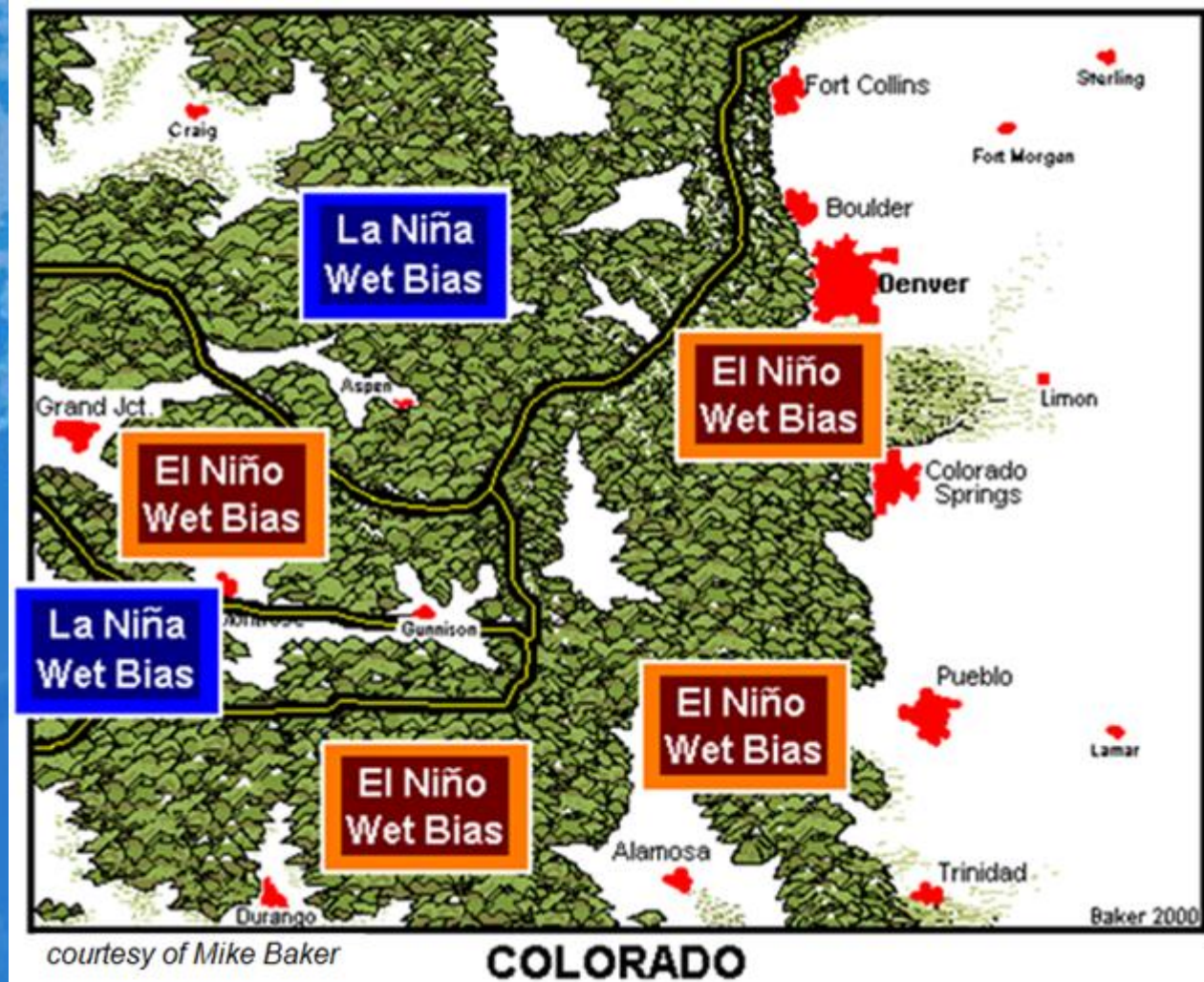


Upslope Flow Patterns at various locations across Colorado

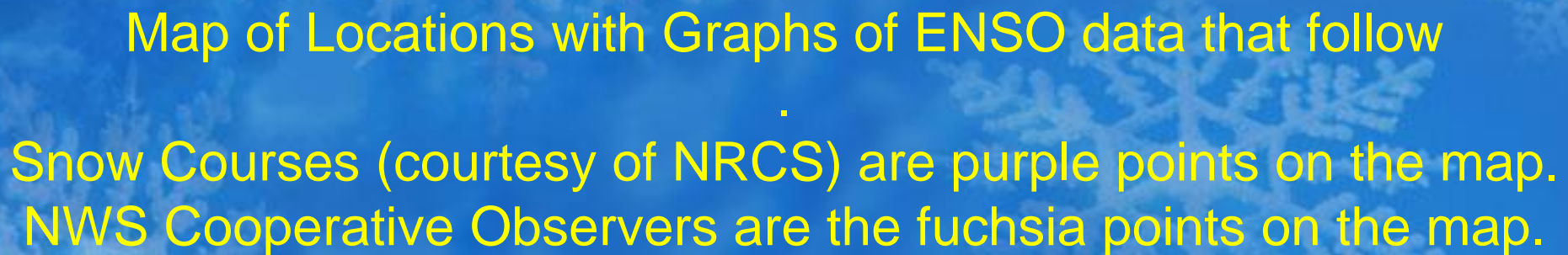




The northerly and westerly upslope flow areas favor a La Nina wet bias. The La Nina impacts may 'spill over' the Continental Divide into the high country of Larimer & Boulder Counties in particular. Lower elevations favor an El Nino wet bias. What do you think? Are correlations for some sites high enough to base a general prediction of higher or lower precipitation or is the correlations not very high?

How Can ENSO Conditions Potentially Impact Winter Precipitation/Snowpack in North Central & Northeast CO

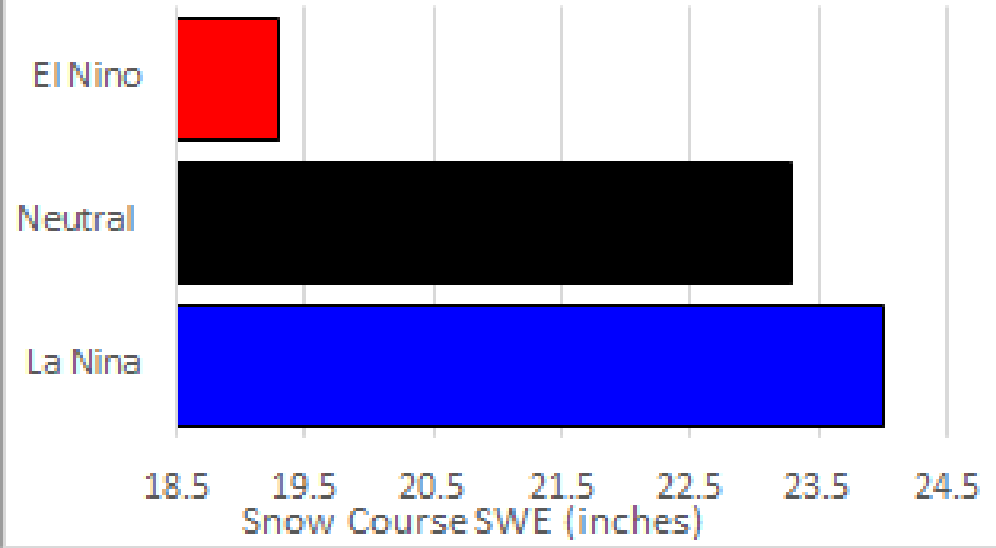
- The previous slide sums up the winter influences of a moderate or strong El Nino & La Nina. The remainder of the slides below just attempt to show if there is a correlation between precipitation & ENSO climate patterns at specific sites.
- Graphs at the top of each page (below) show the snowpack SWE in the spring at NRCS snow course sites & NWS Cooperative Observers for El Nina, La Nina, and neutral ENSO events.
- Graphs farther down show October 15 through April 15th precipitation totals at Airport and NWS Cooperative Observer sites split into El Nino, La Nina, and neutral ENSO events.
- Only winters where the El Nino, La Nina, or neutral ENSO prevailed from the fall into the next spring were included.
- Did not differentiate between weak, moderate or strong El Ninos and La Ninas on the graphs. The stronger the El Nino/La Nina ends up being, the higher chances of the ENSO conditions being a significant influence on the weather pattern. If the El Nino/La Nina is weaker, there are more opportunities for other factors to influence it.
- The maps are elevations contours.
- Results: a lot of year to year variability as shown on the trend graphs. Mixed outcomes at best it seems for many locations?



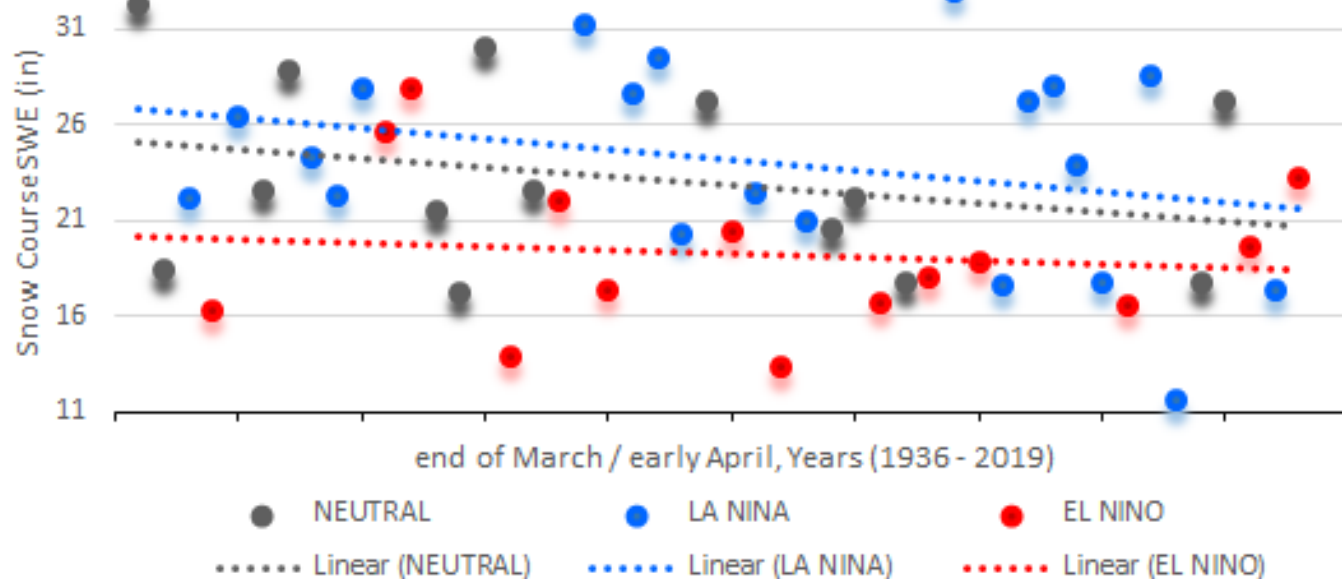
North Central Mountains – North Platte River Basin

Columbine Lodge

13SE of Steamboat Springs,
Jackson County

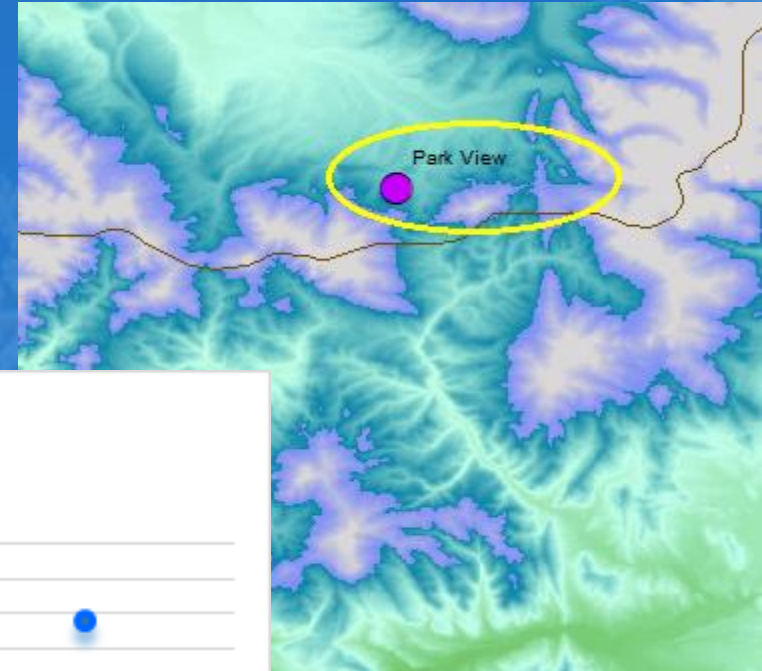
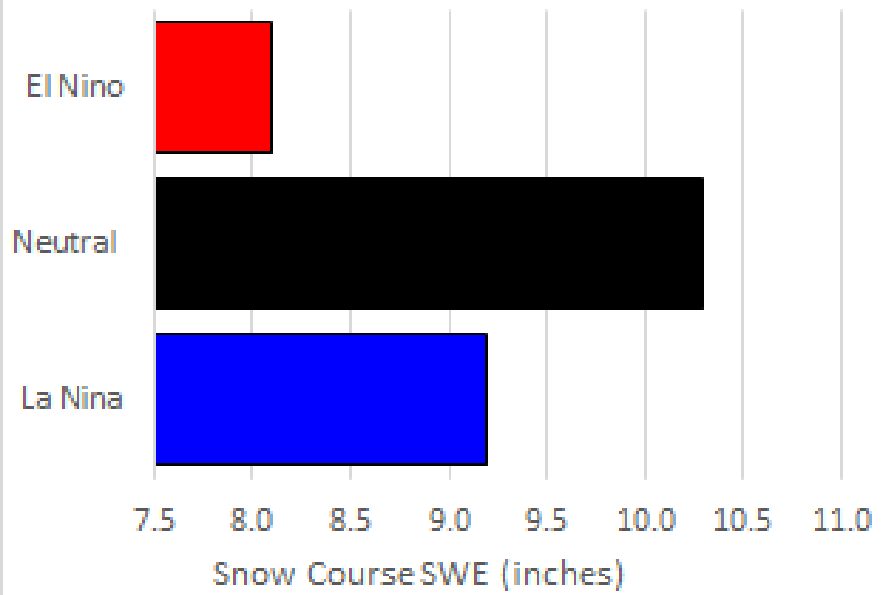


Columbine Lodge - 9160 ft MSL
Jackson County - 13SE Steamboat Springs

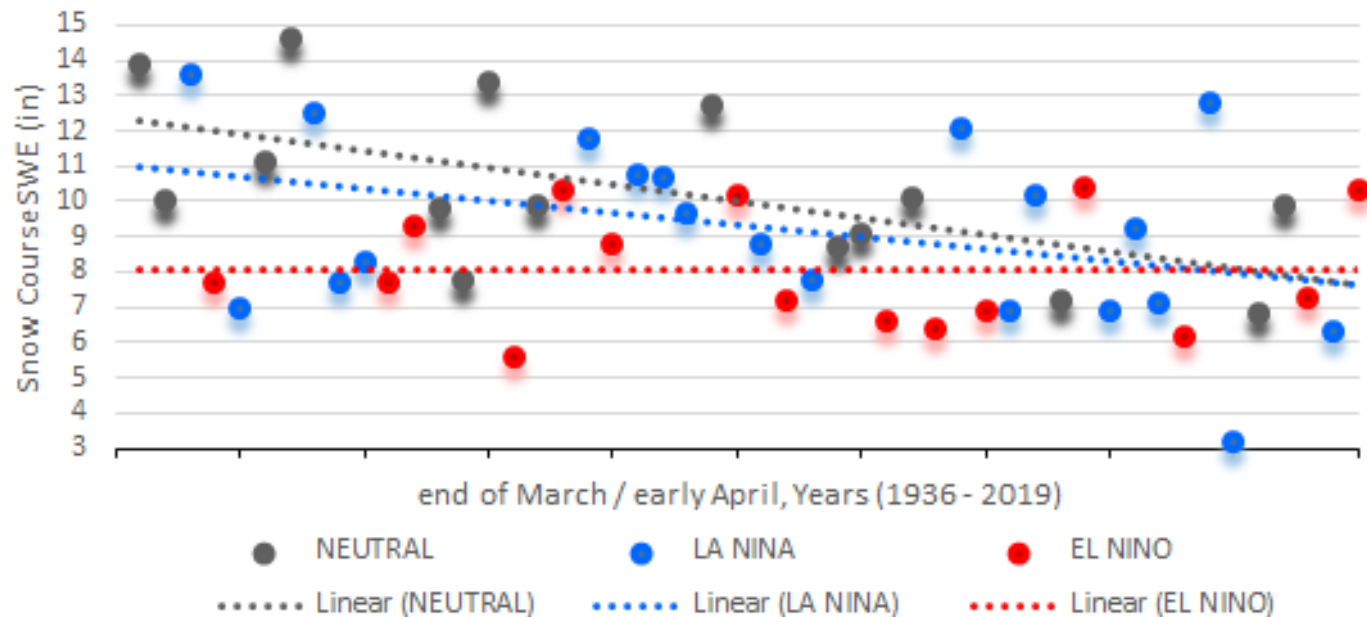


Park View Snow Course

7SE Rand, Jackson County

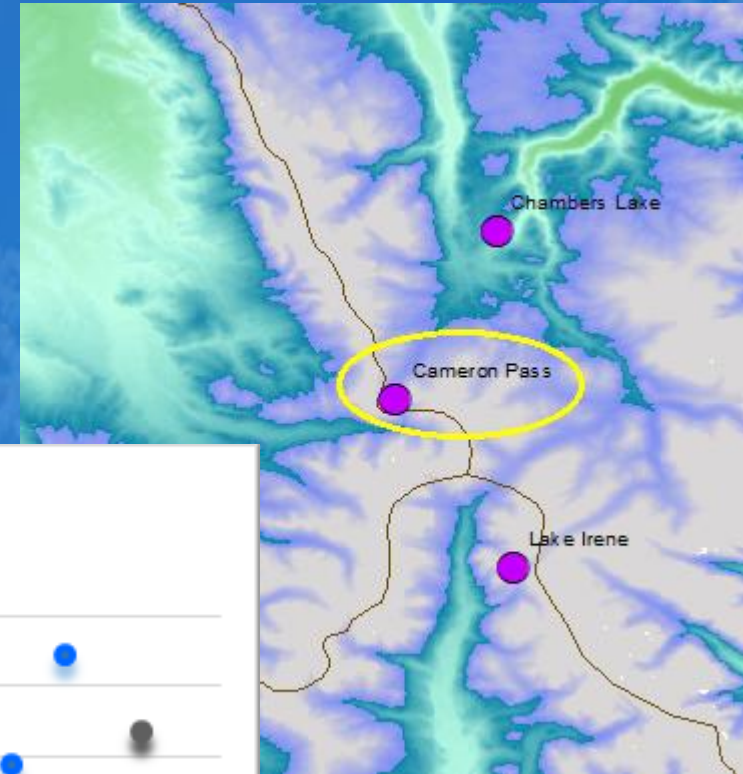
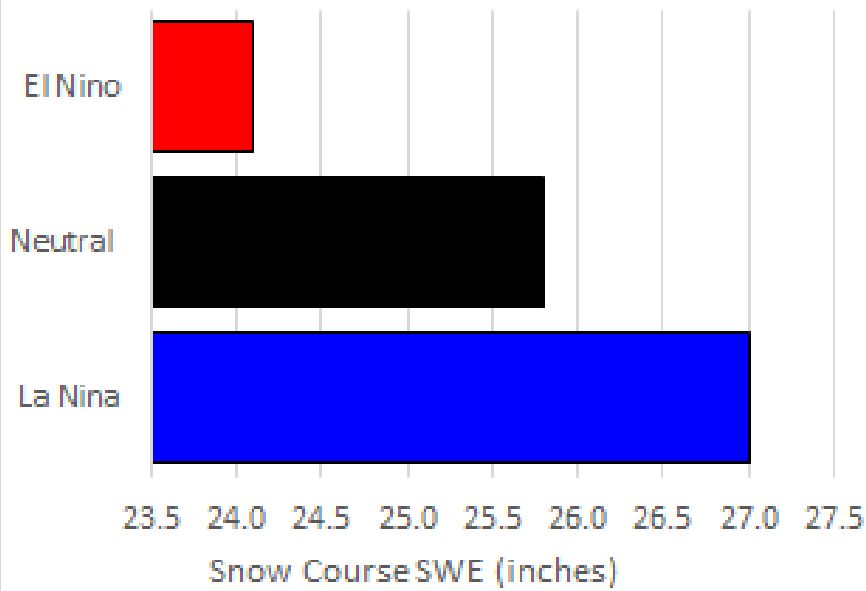


Park View - 9160 ft MSL
Jackson County - 7SE Rand (headwaters Illinois River)

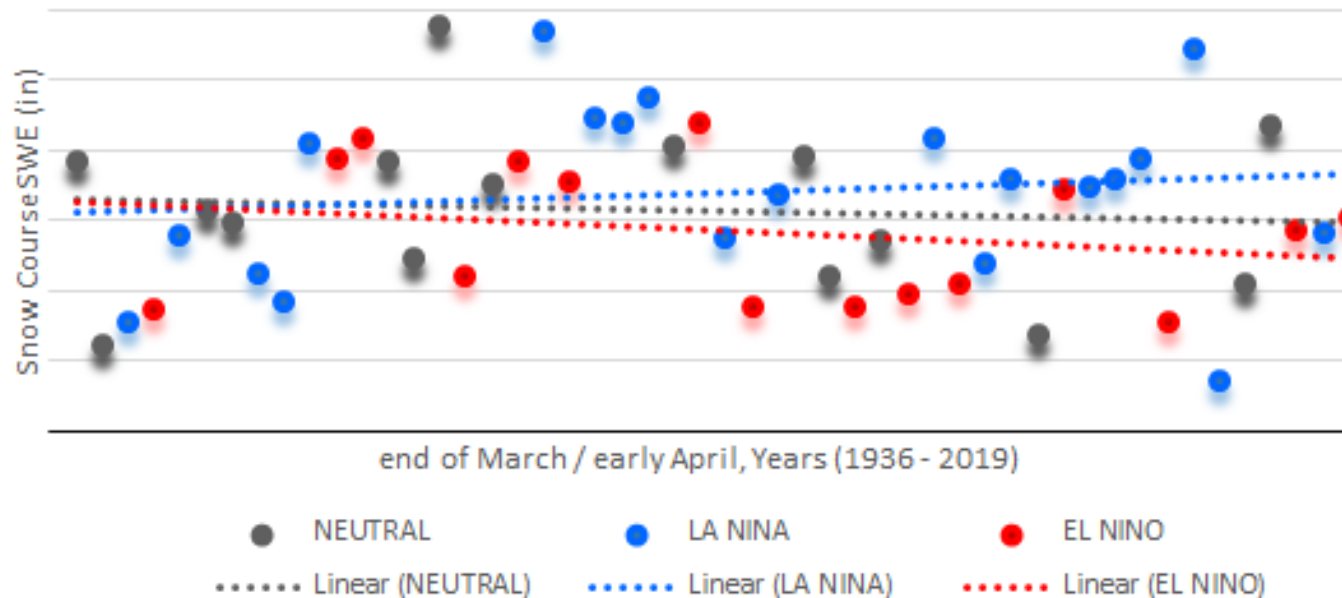


Cameron Pass Snow Course

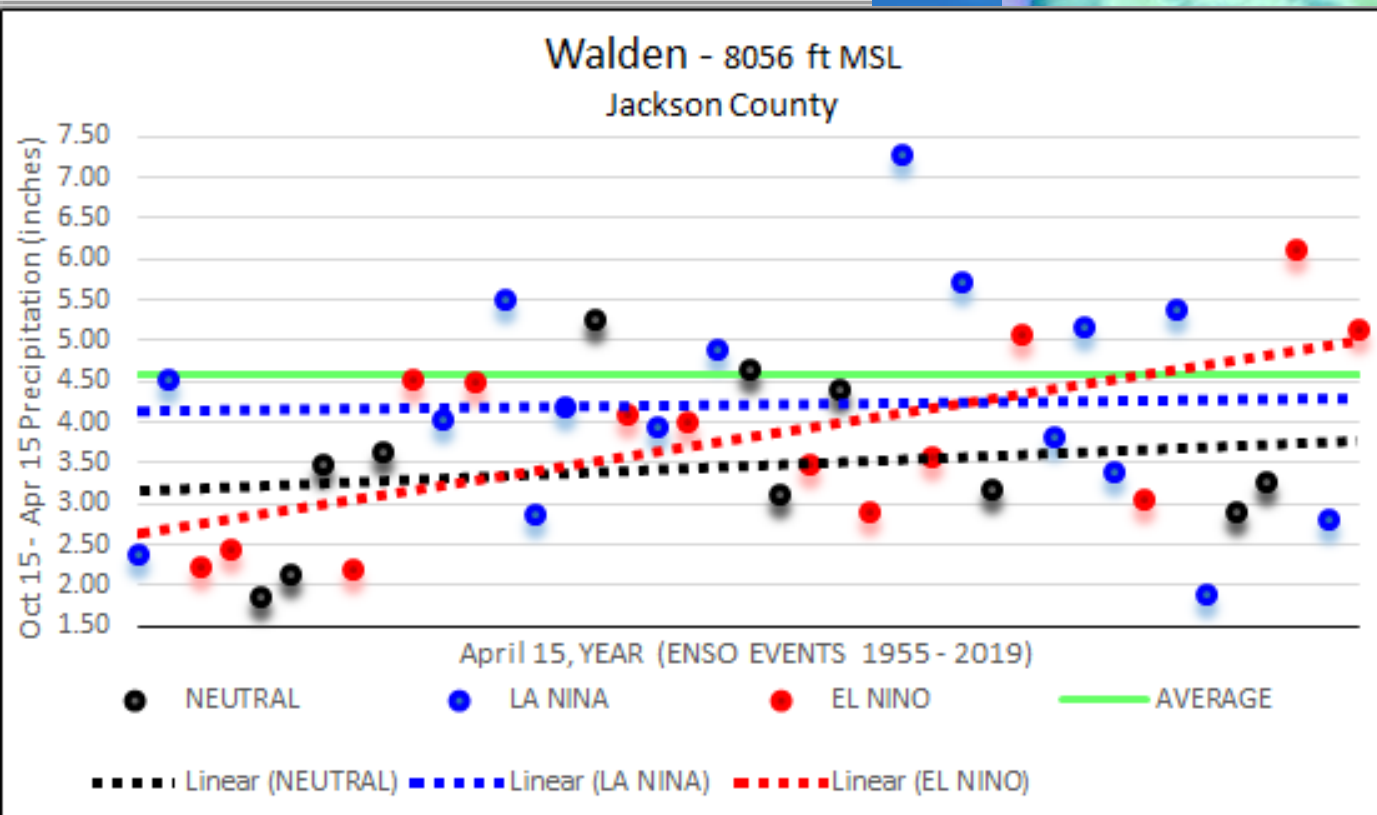
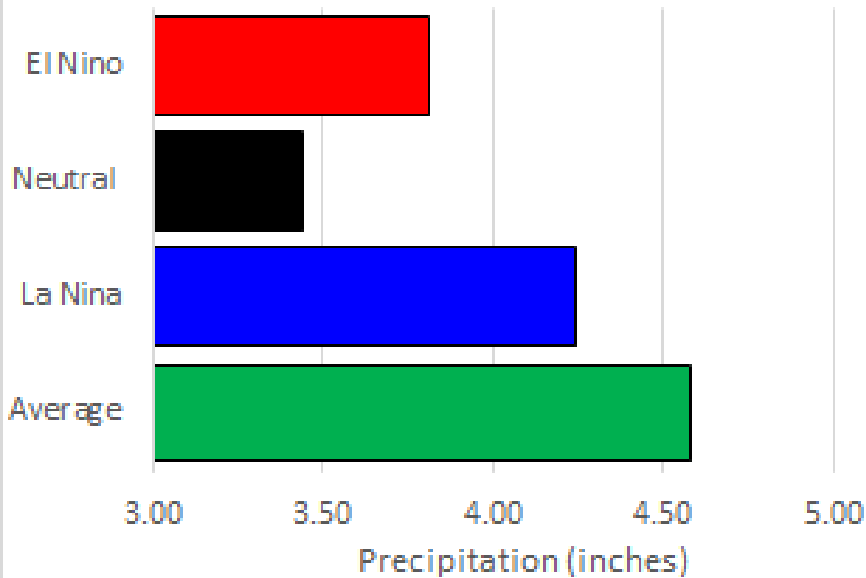
Jackson/Larimer County border



Cameron Pass - 10285 ft MSL
Jackson County

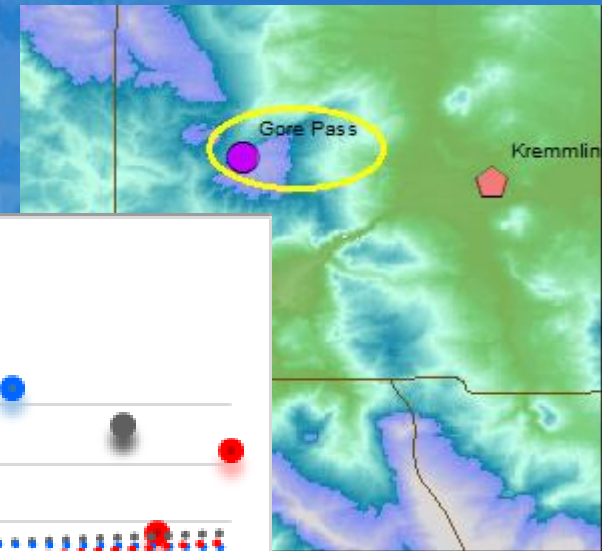
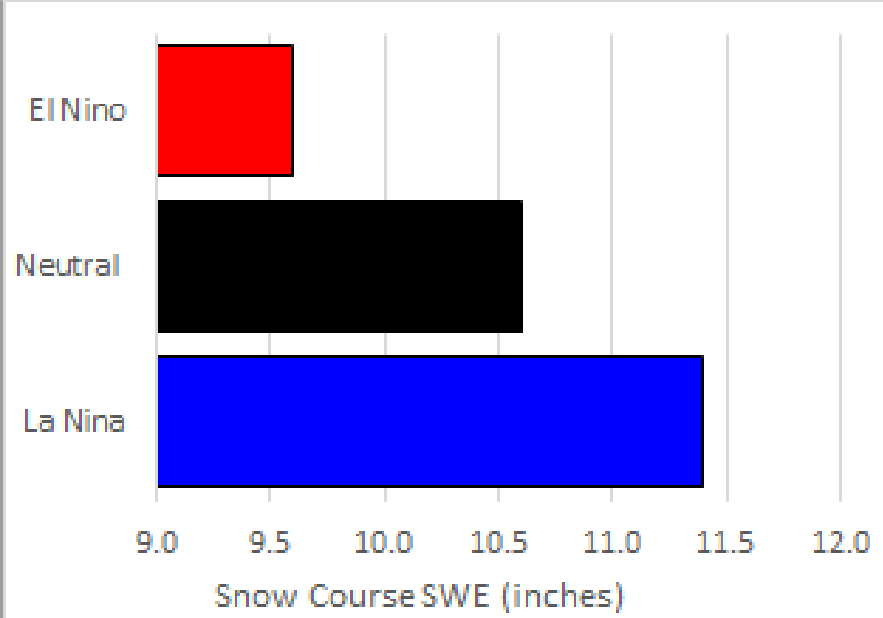


Walden Cooperative Observer Jackson County

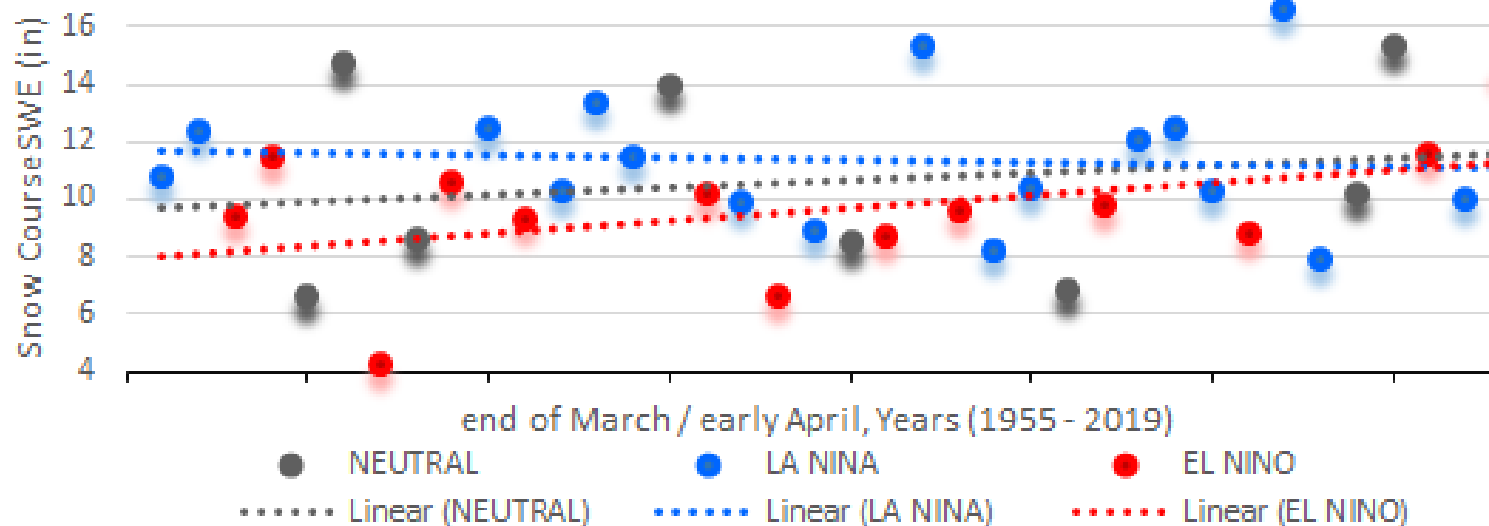


North Central Mountains – West of the Divide

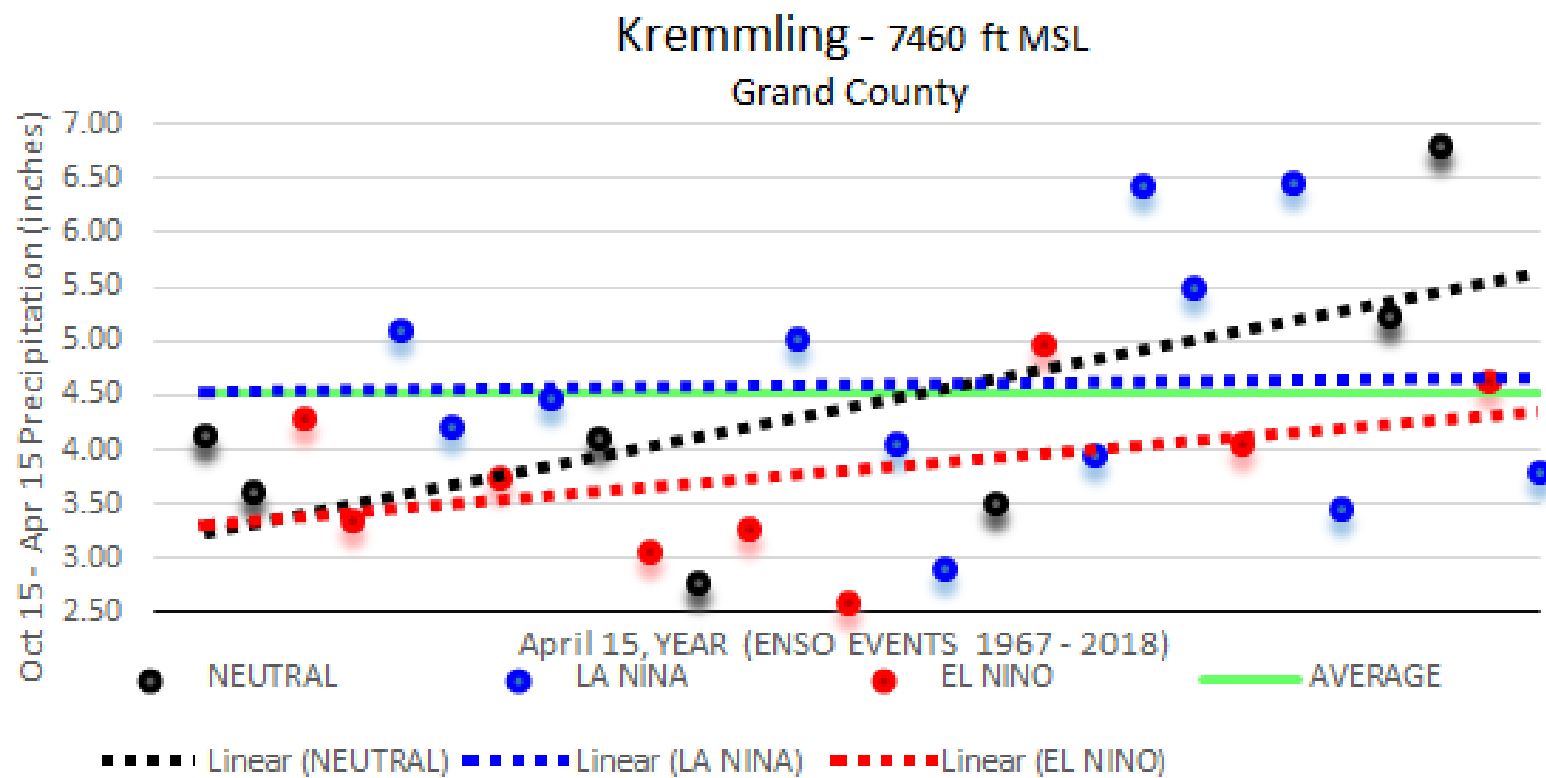
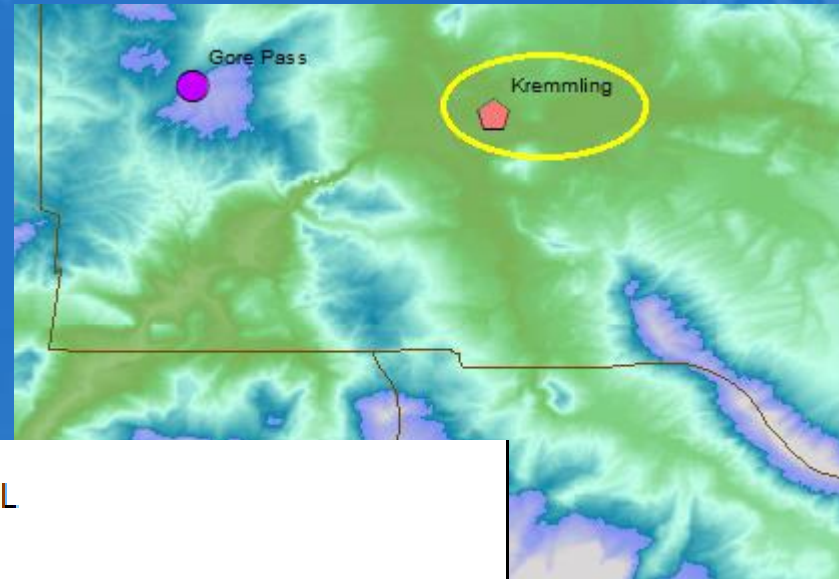
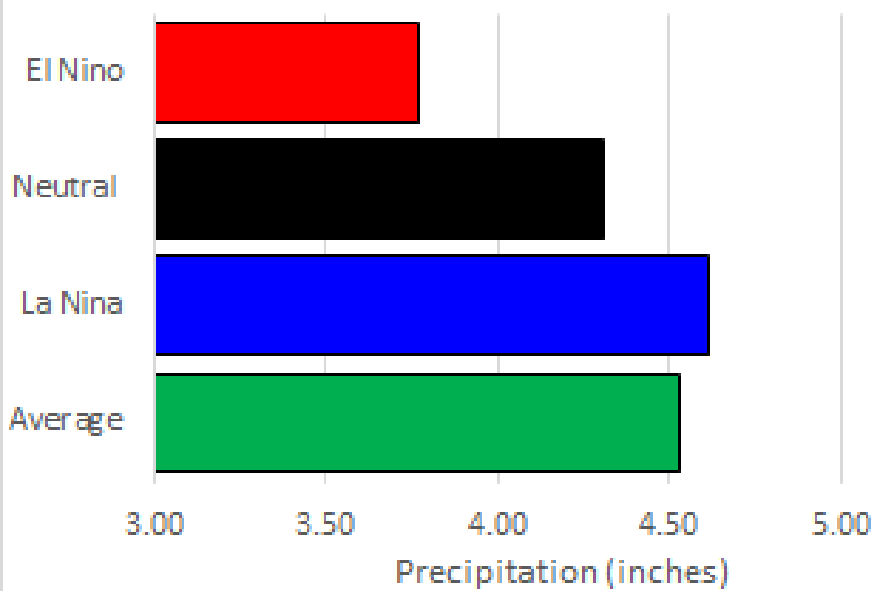
Gore Pass Snow Course 9WNW Kremmling, Grand County



Gore Pass - 9400 ft MSL
Grand County - 9WNW Kremmling

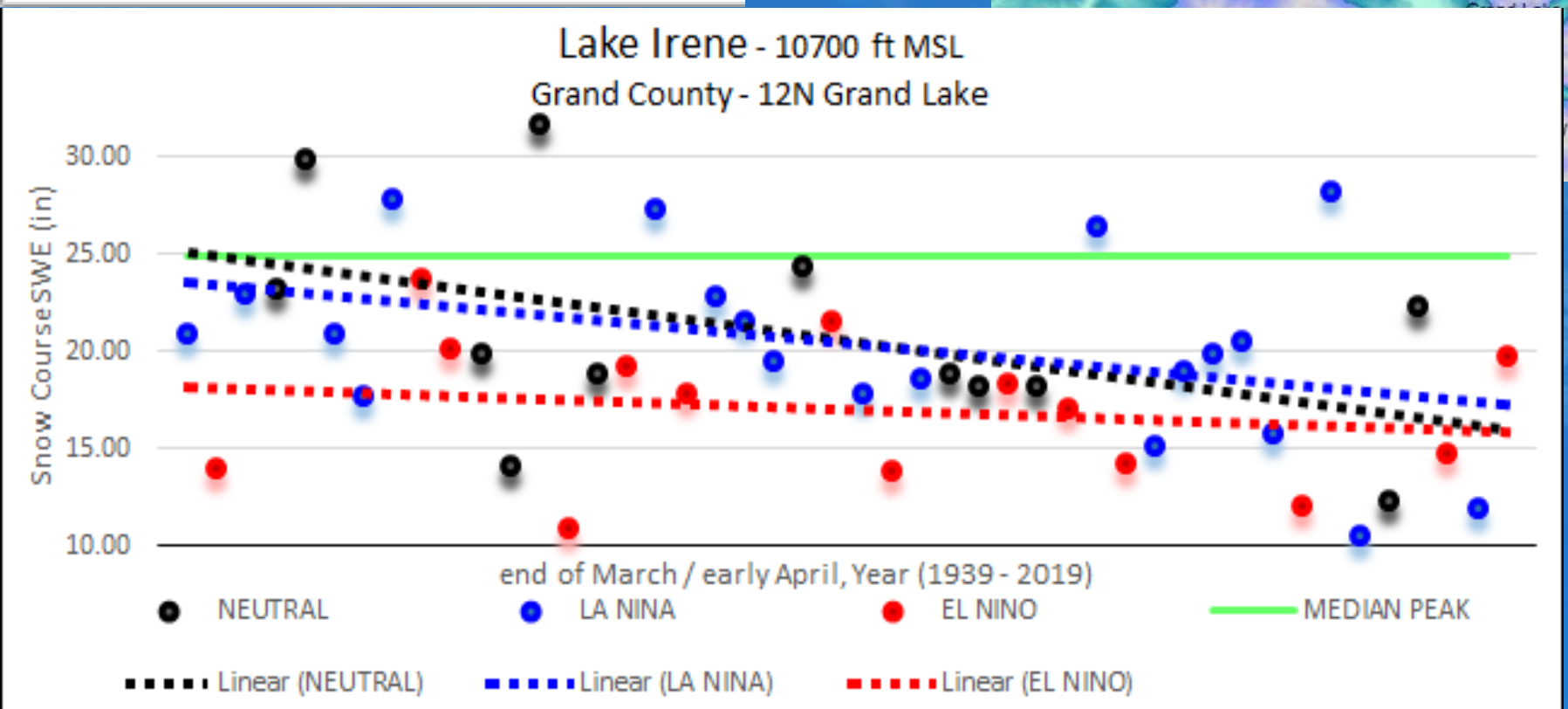
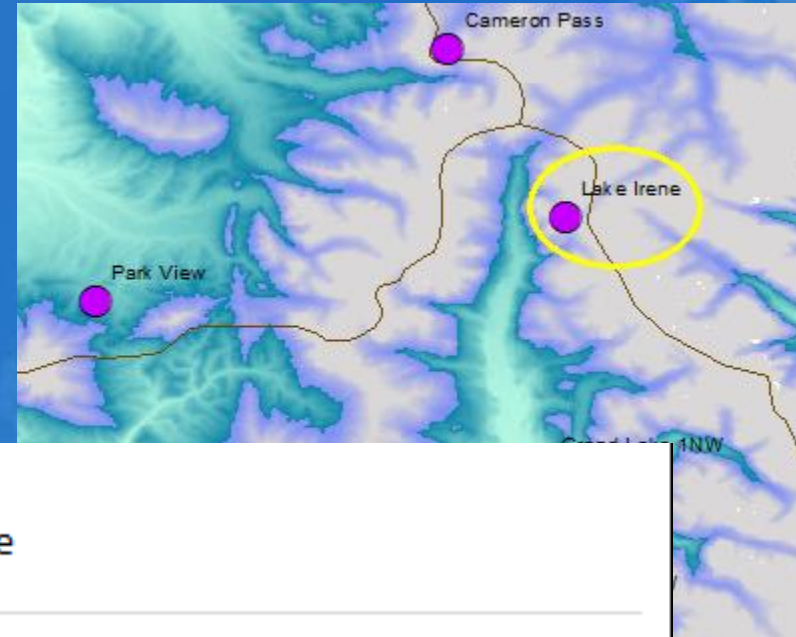
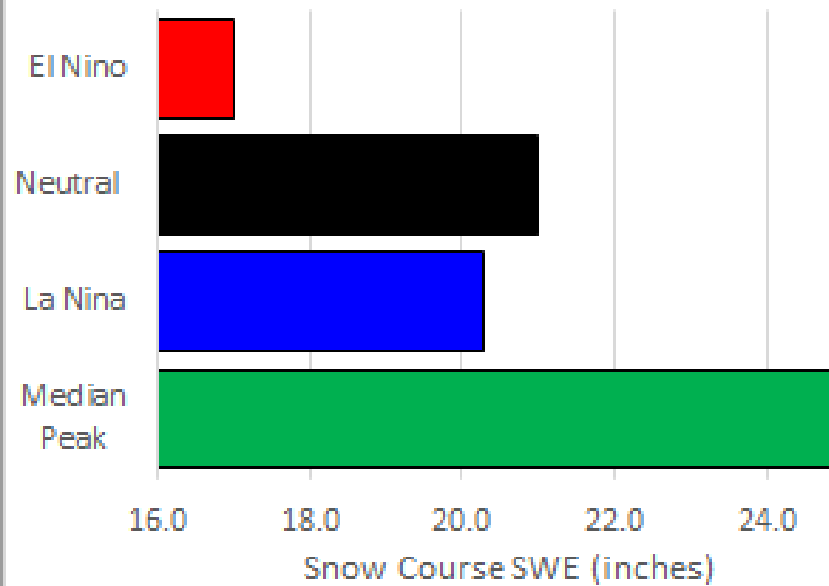


Kremmling Cooperative Obs. Grand County



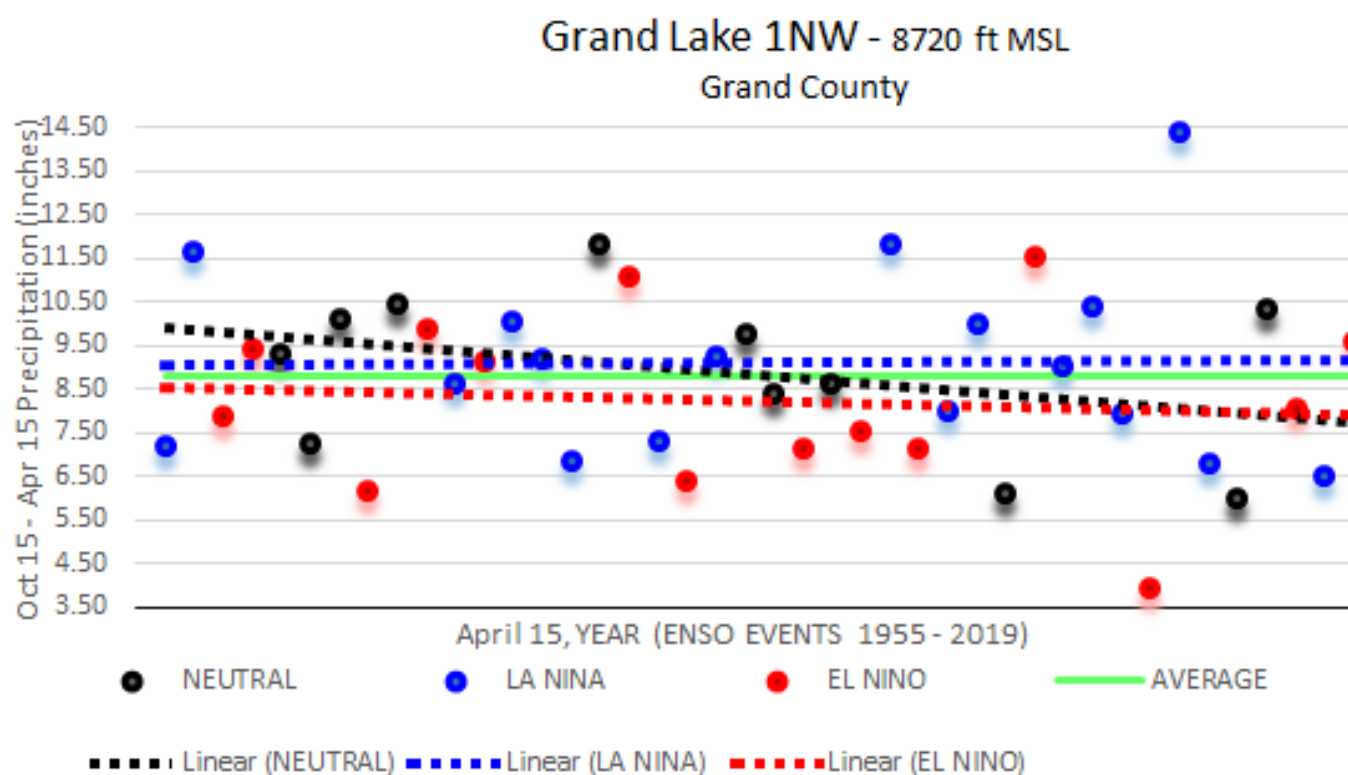
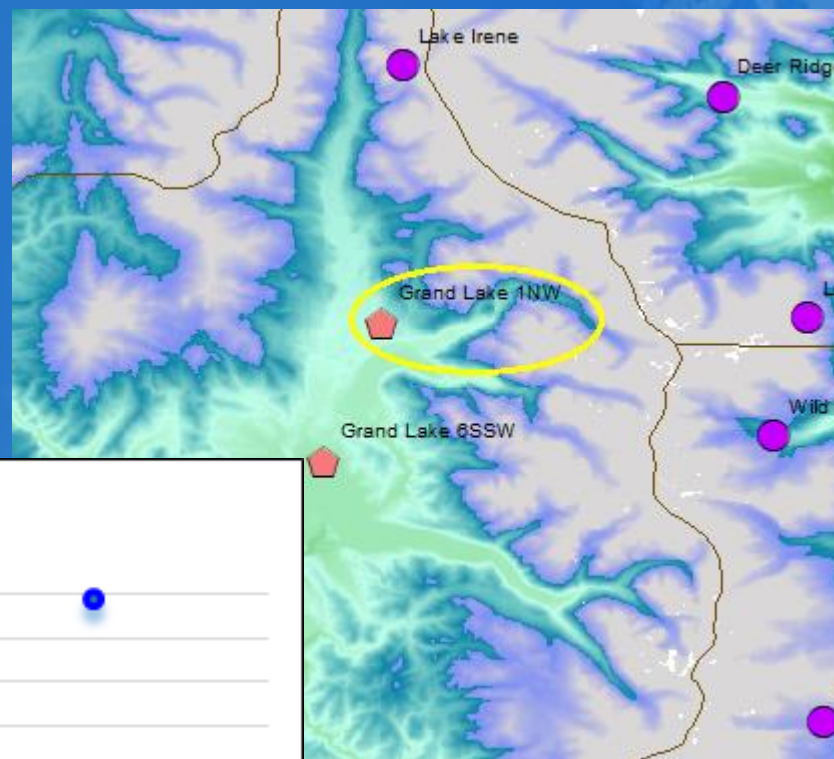
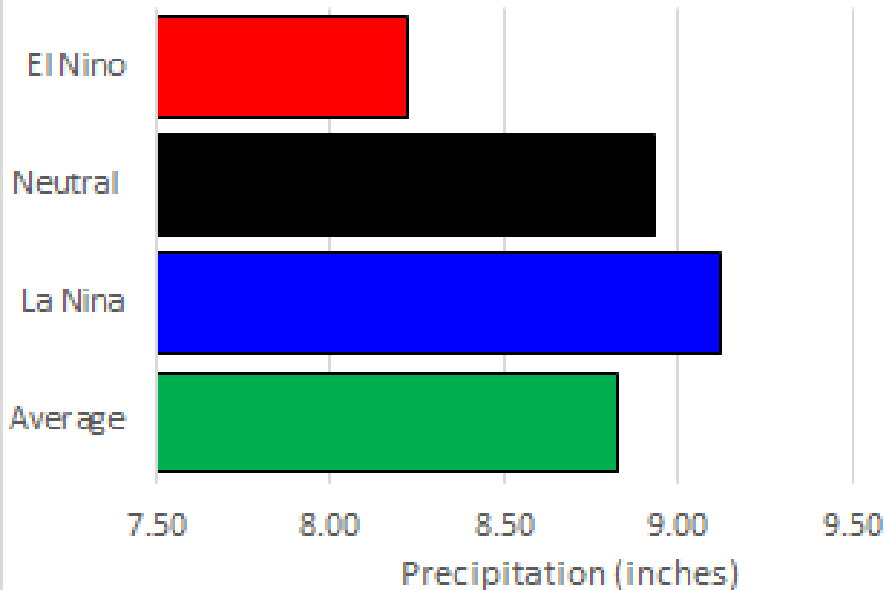
Lake Irene Snow Course

12N Grand Lake, Grand County

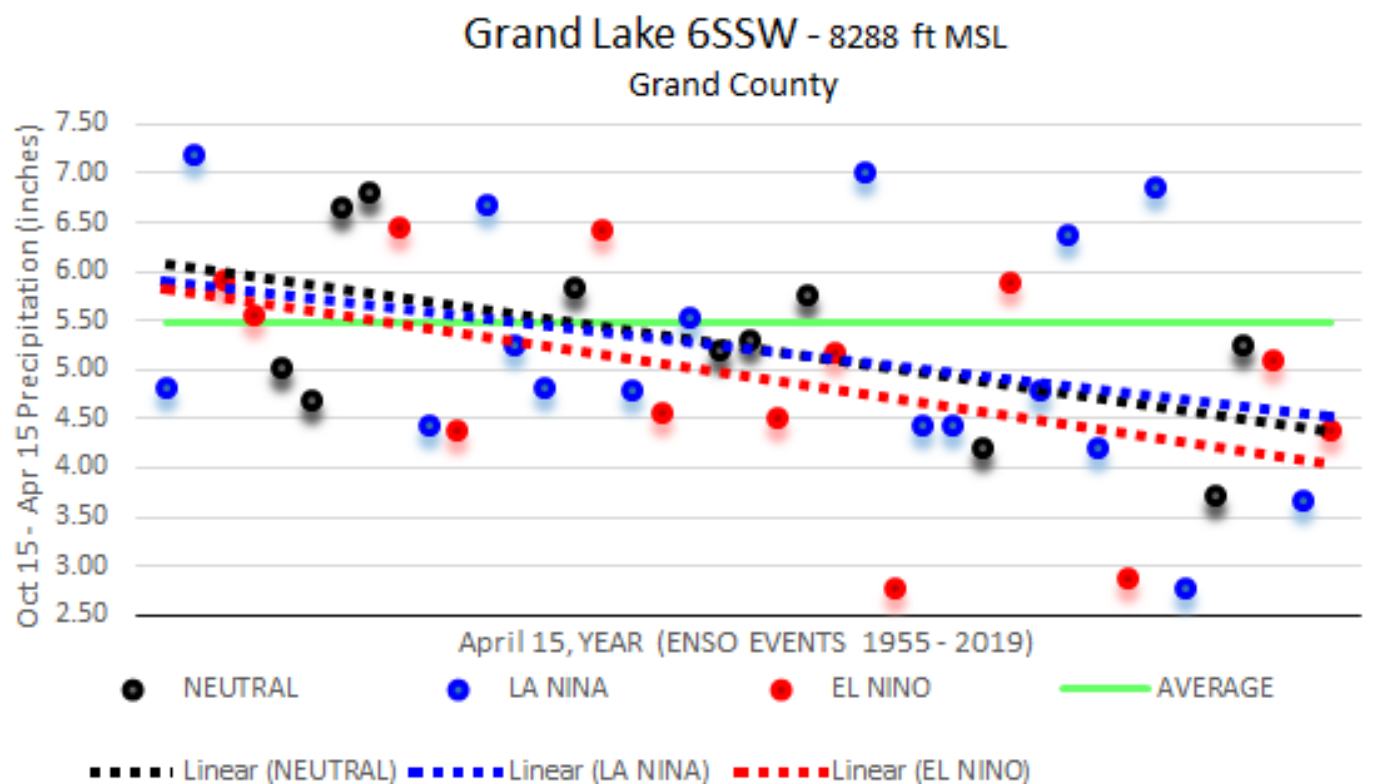
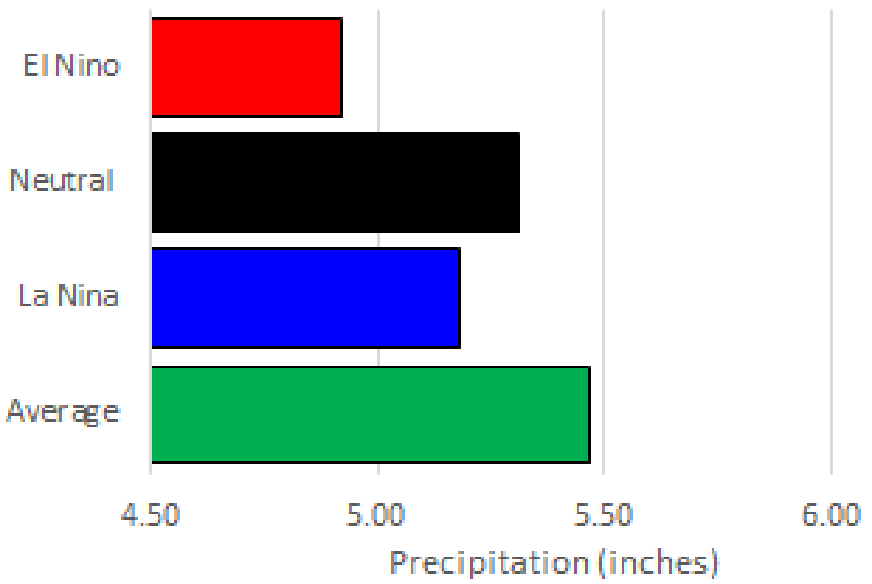


Grand Lake 1NW

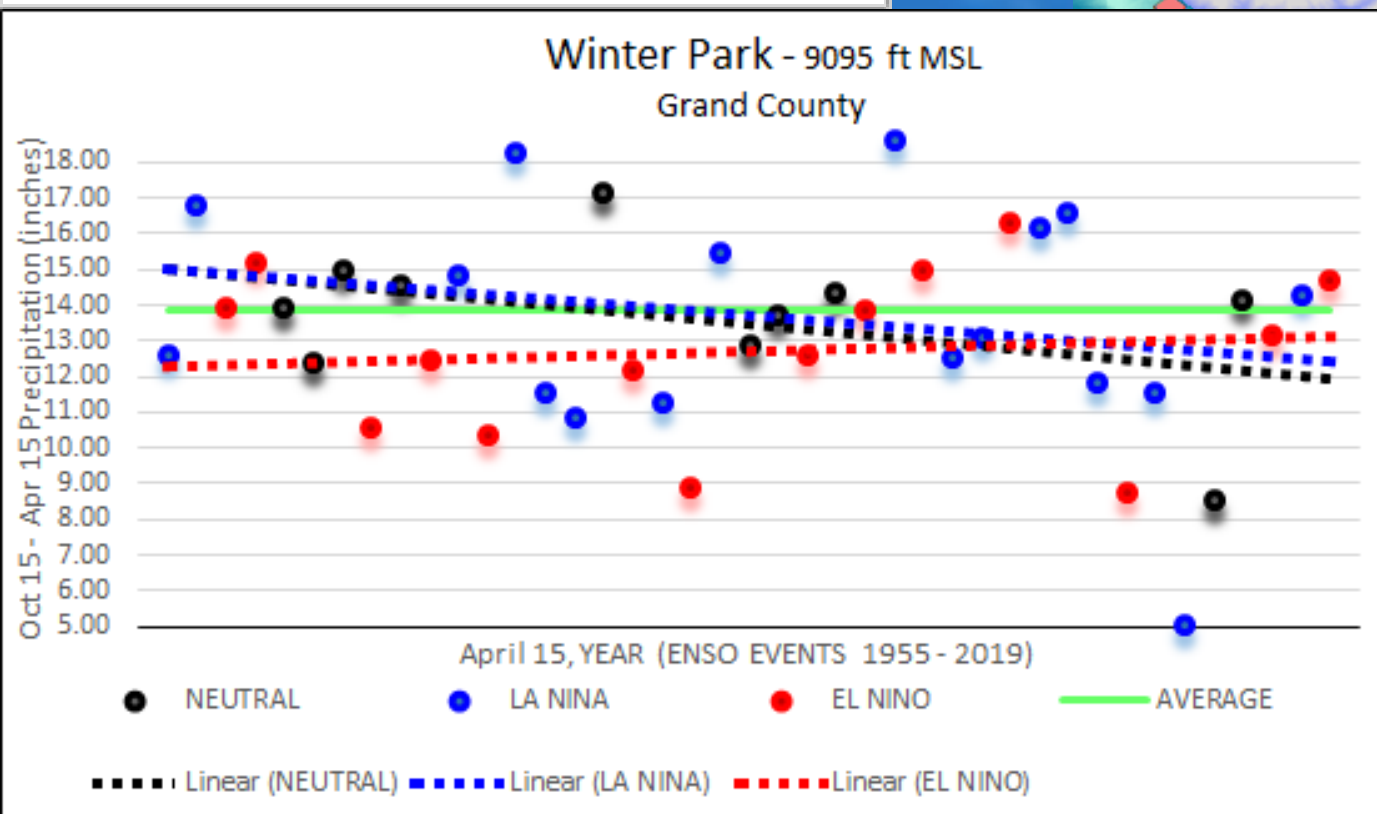
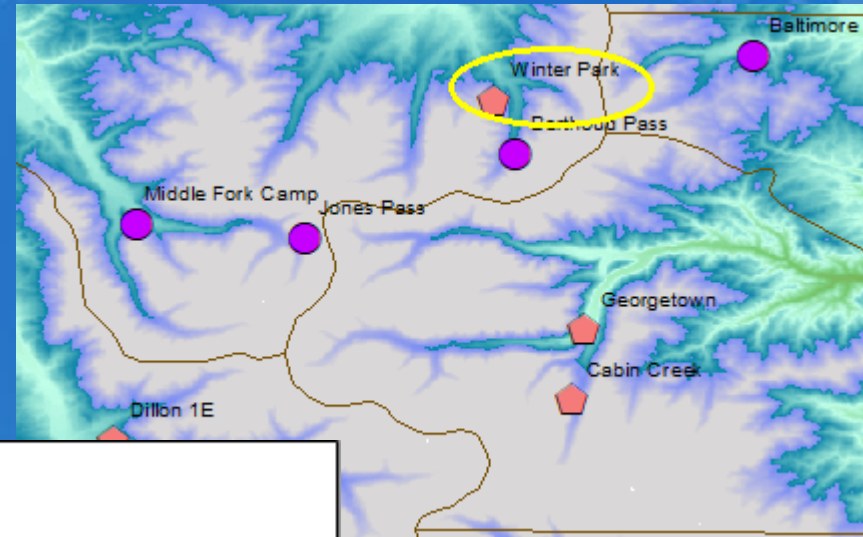
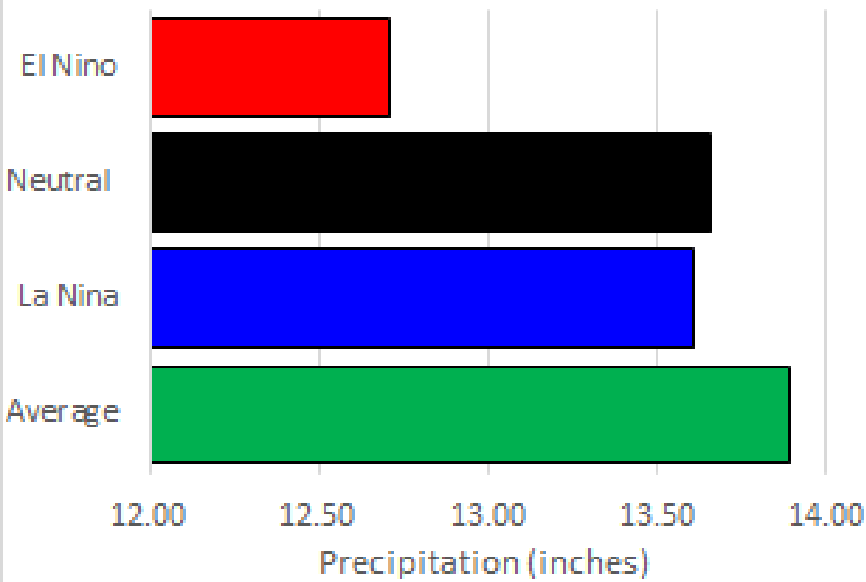
Grand County



Grand Lake 6SSW Coop Obs Grand County

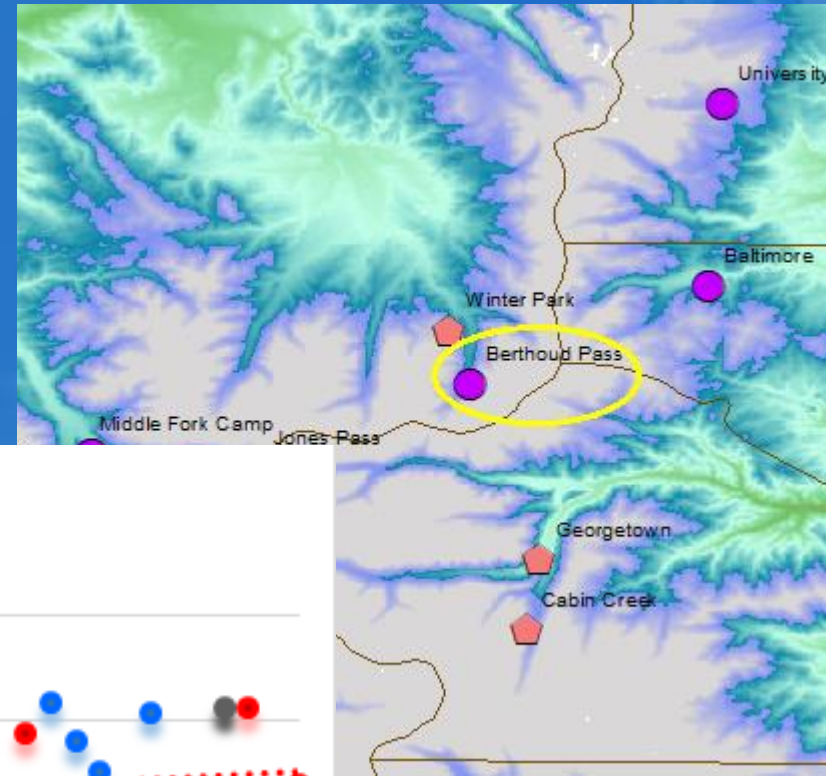
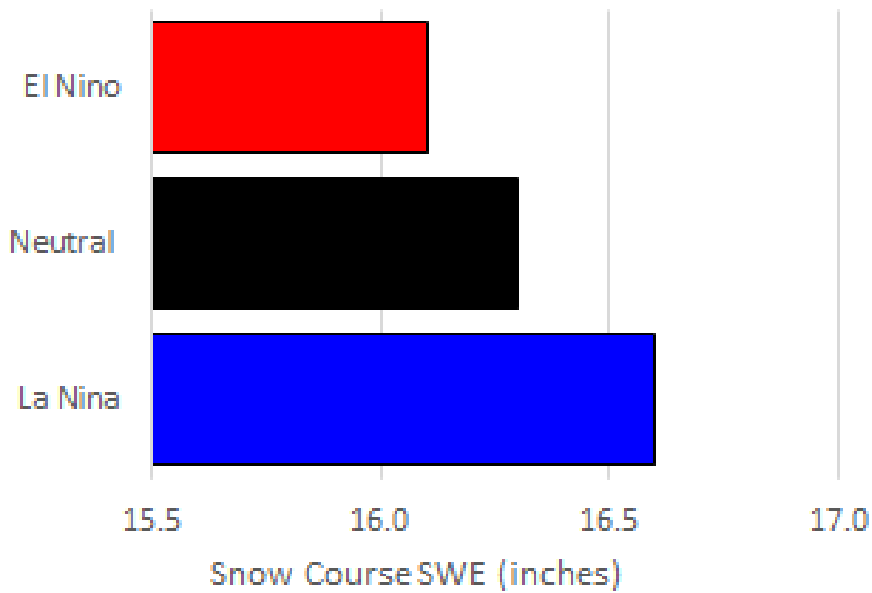


Winter Park Cooperative Obs Grand County

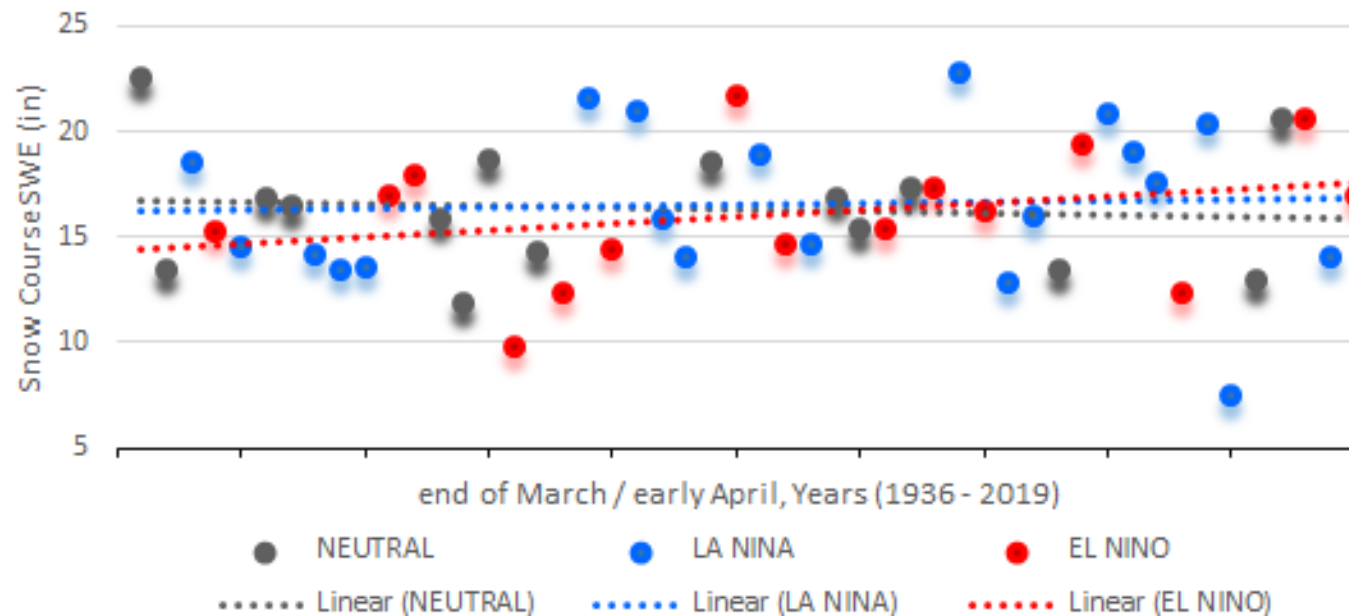


Berthoud Pass Snow Course

Grand County

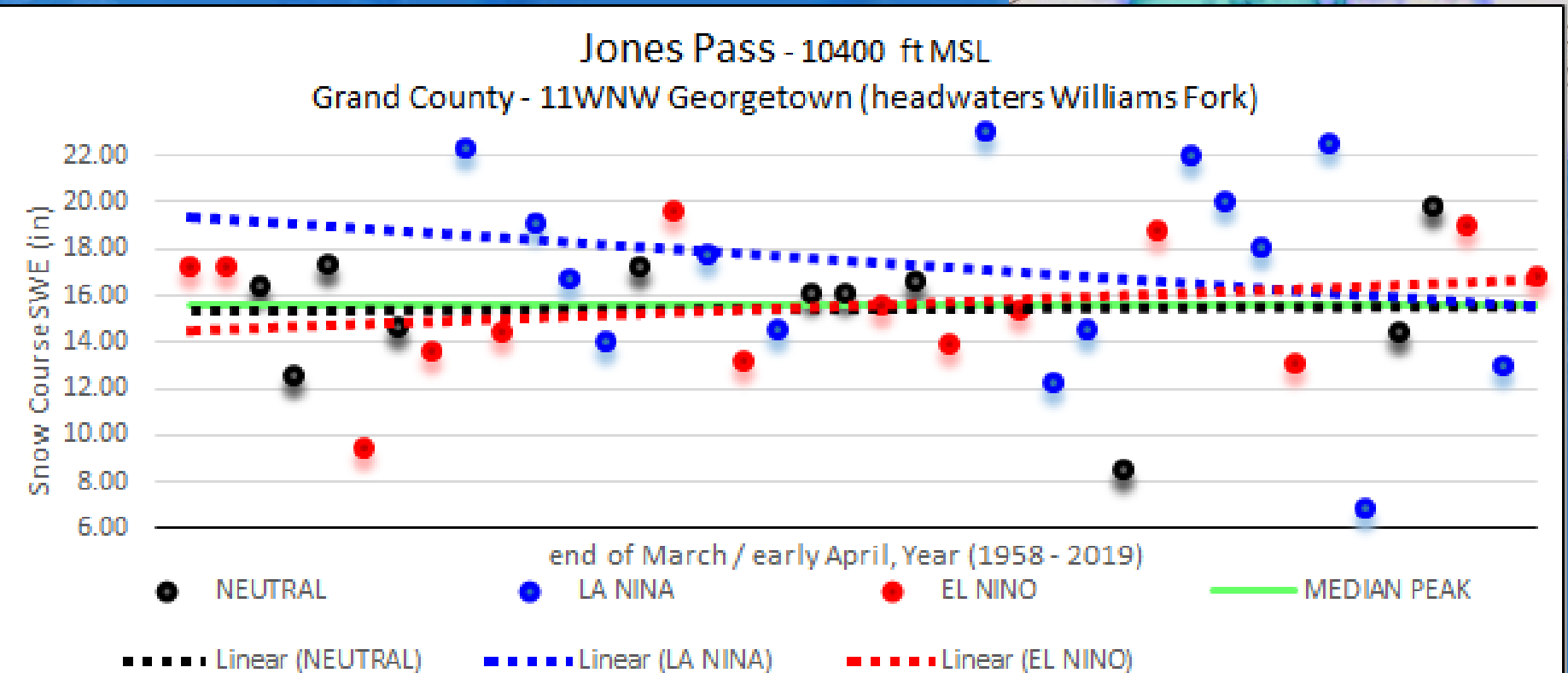
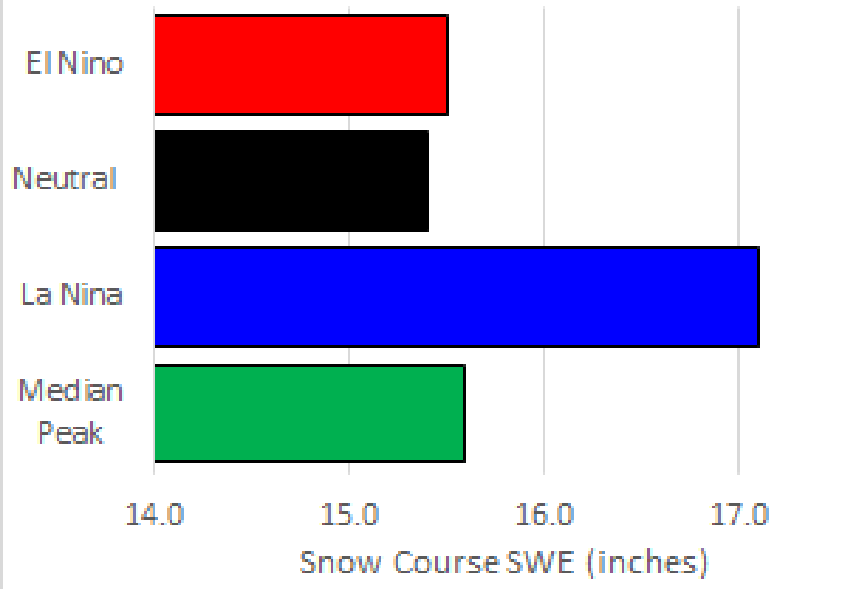


Berthoud Pass - 9700 ft MSL
Grand County



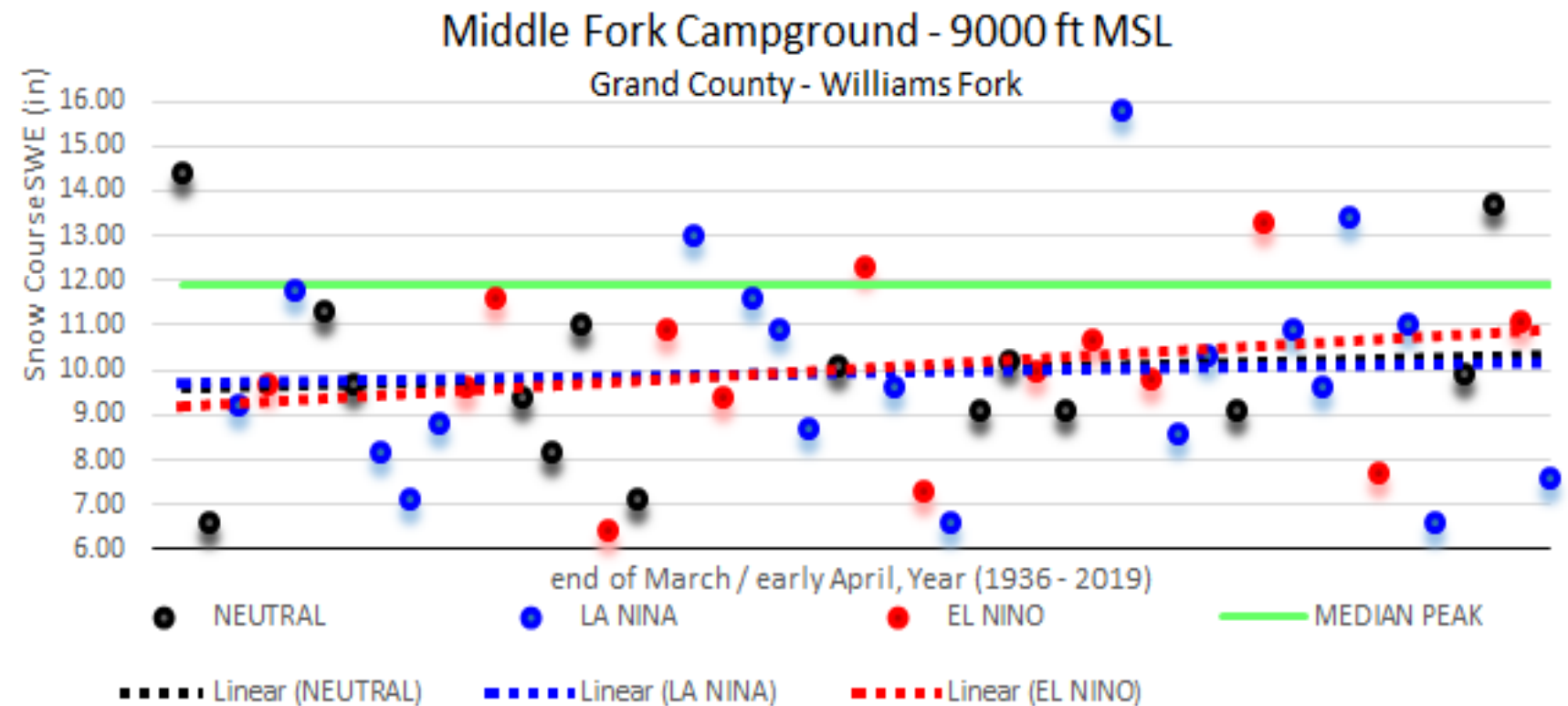
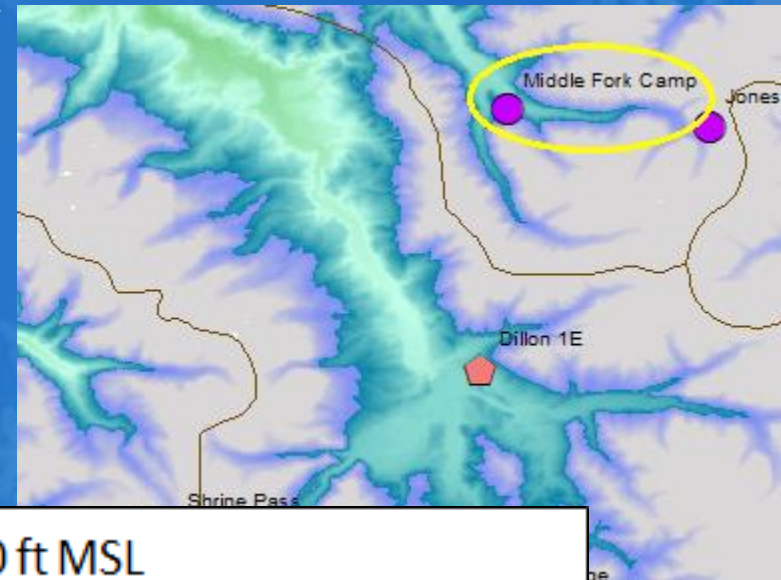
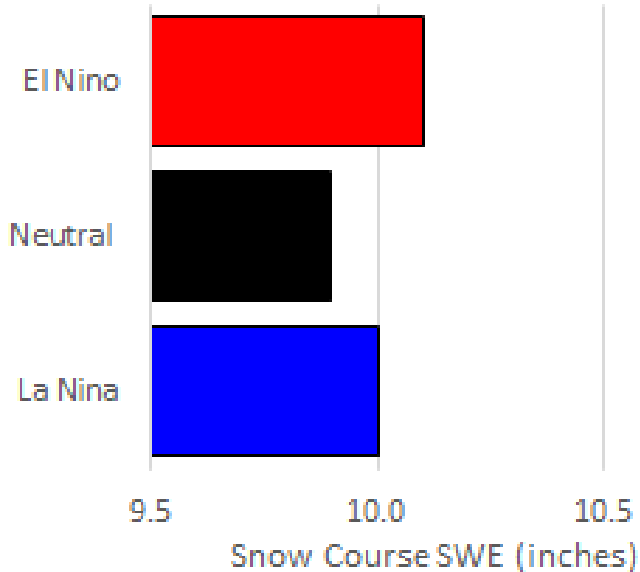
Jones Pass Snow Course

11WNW Georgetown, Grand County



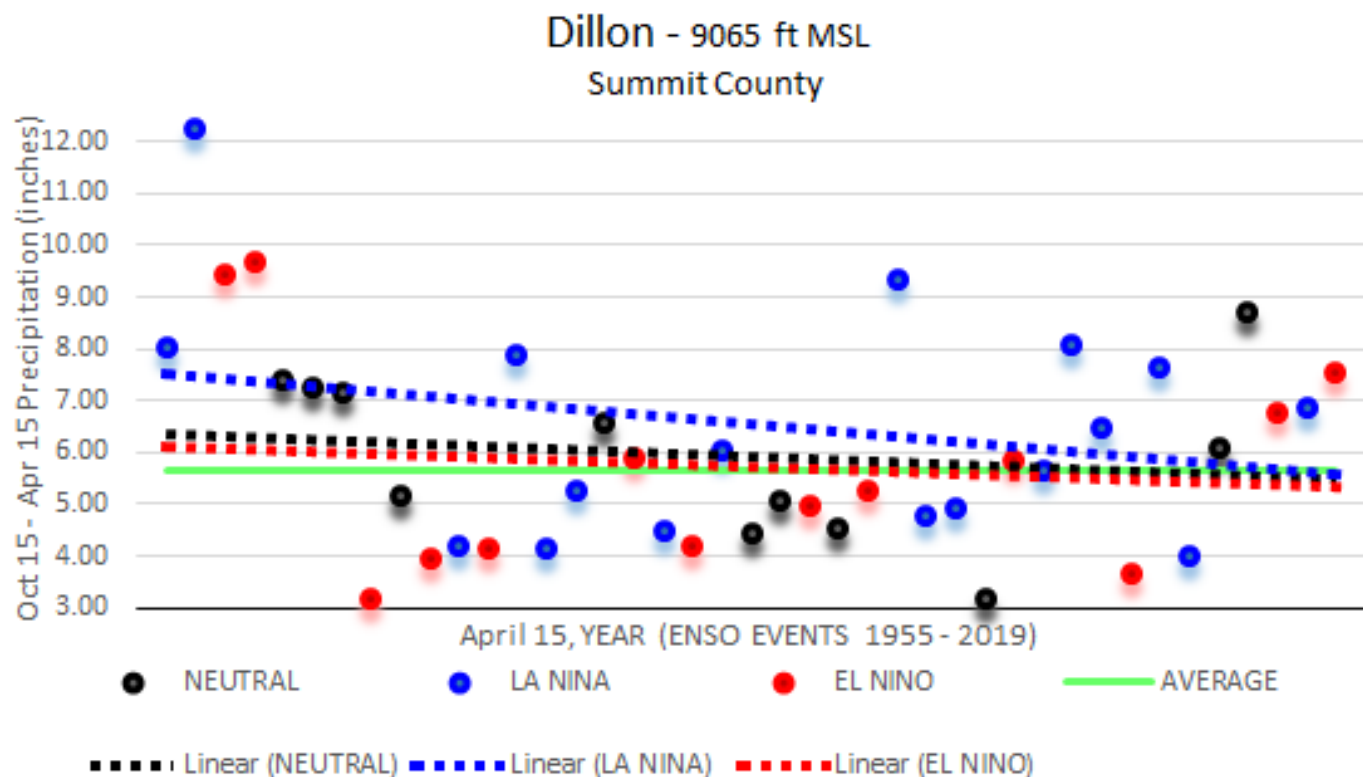
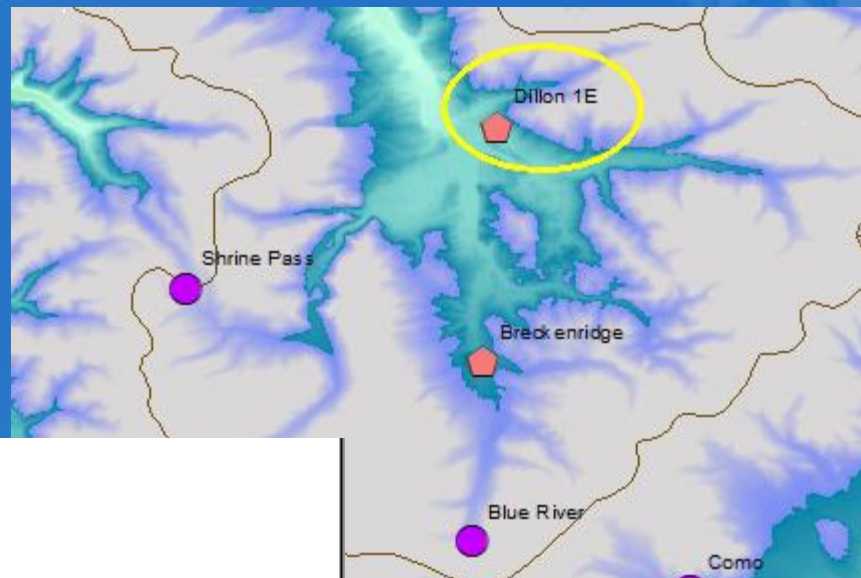
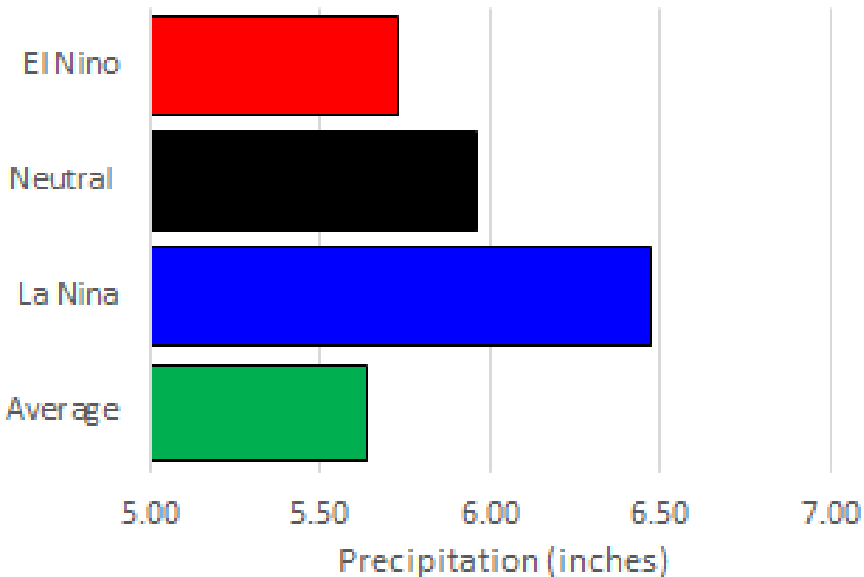
Middle Fork Camp Snow Course

Grand County



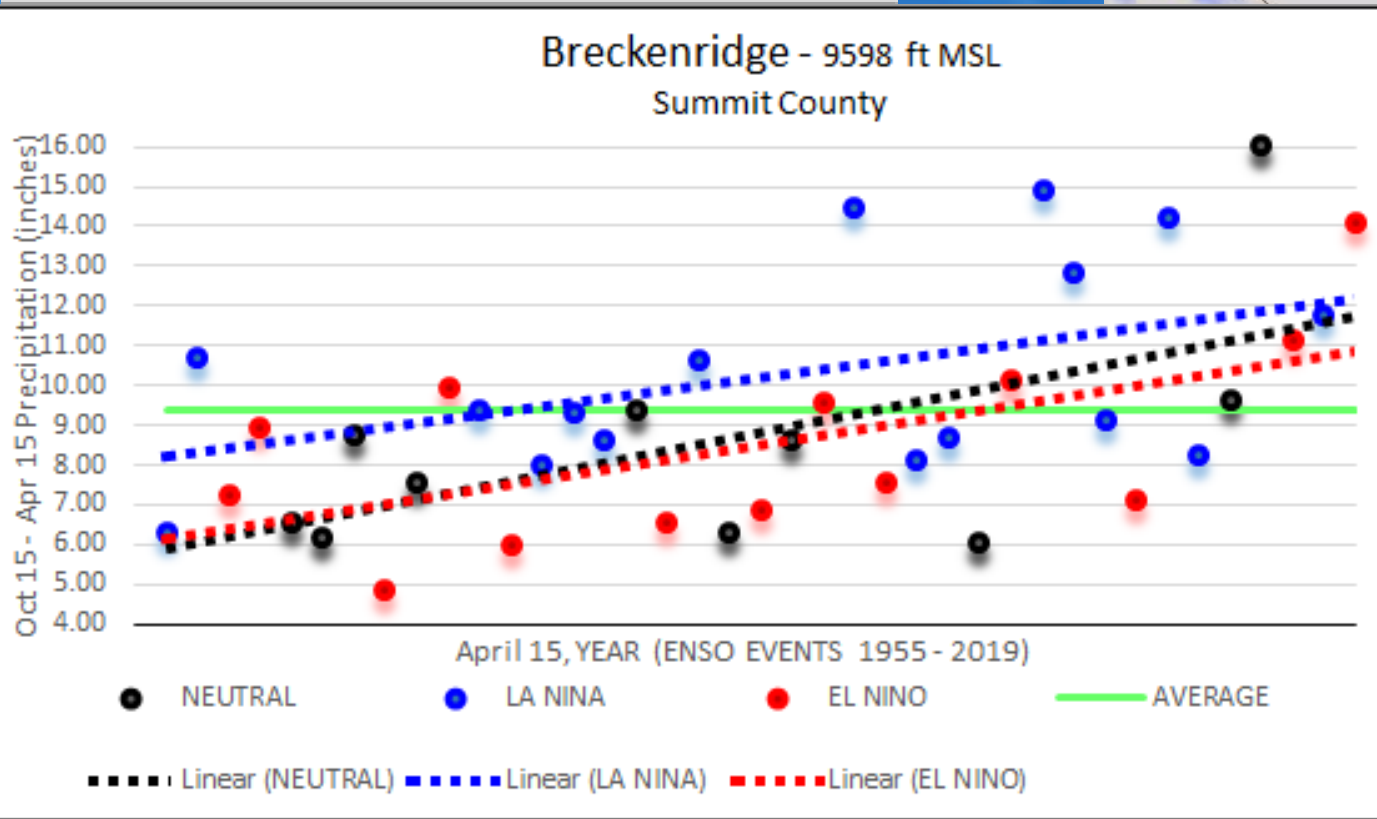
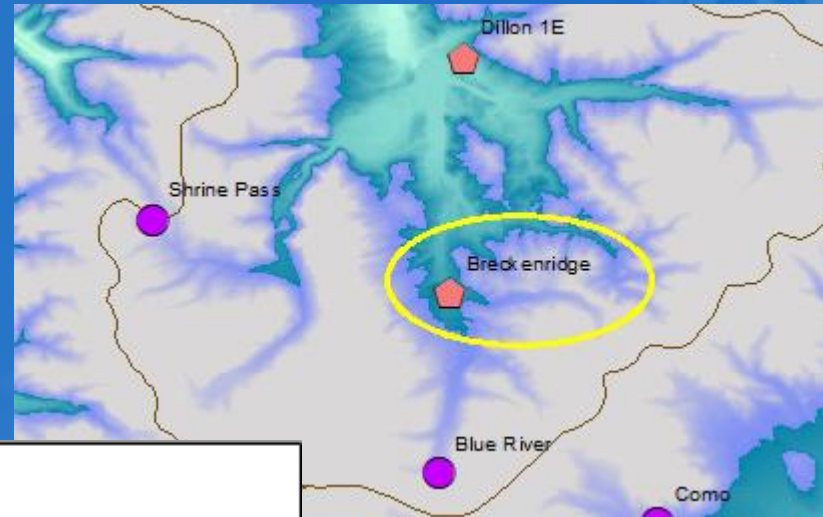
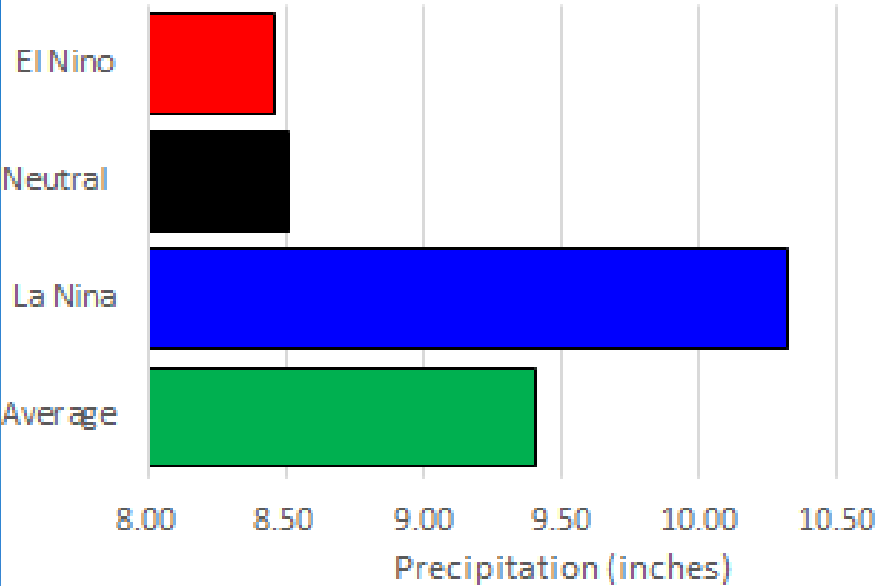
Dillon 1E Cooperative Observ

Summit County



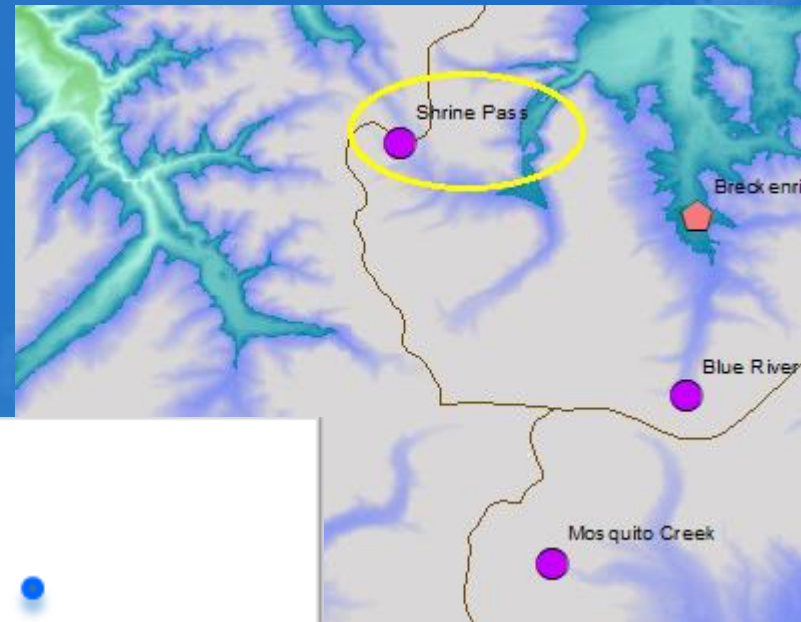
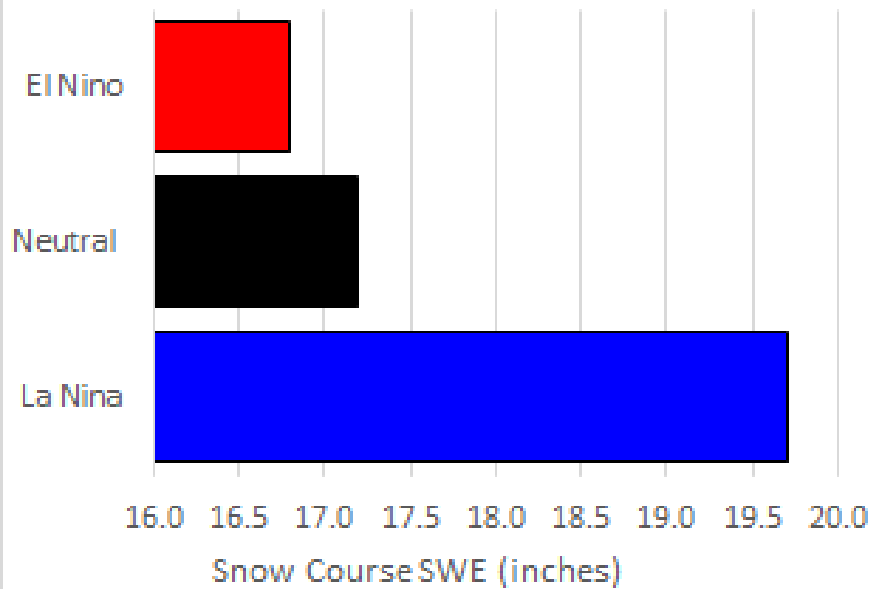
Breckenridge Coop Observer

Summit County

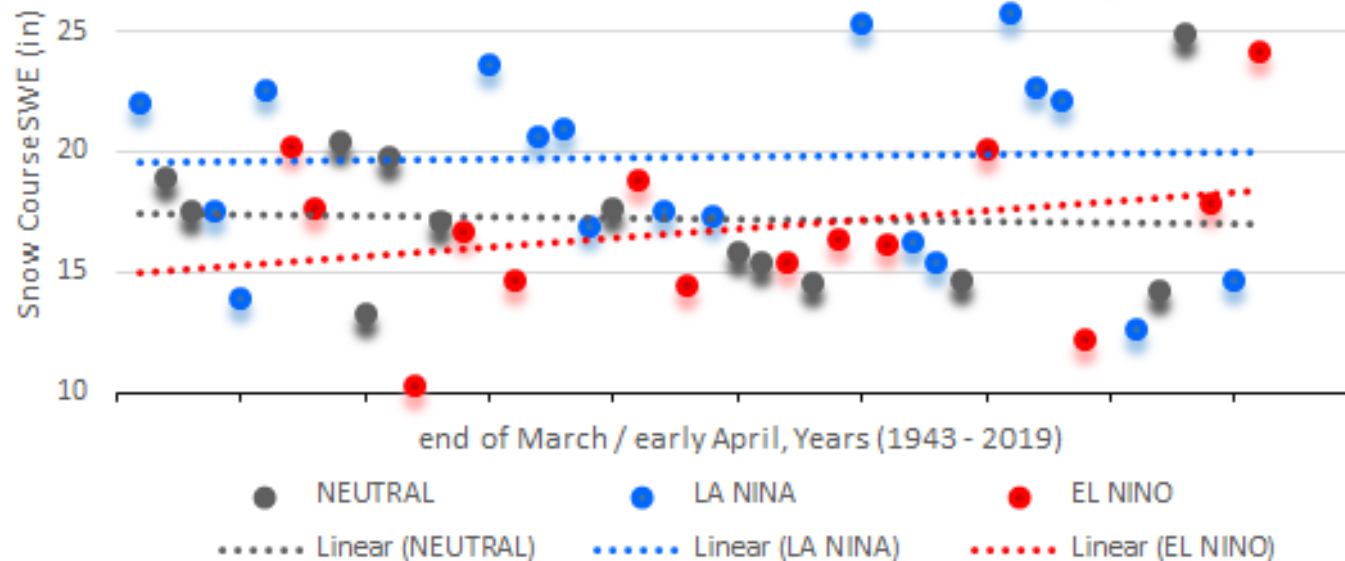


Shrine Pass Snow Course

7SW Frisco, Summit County

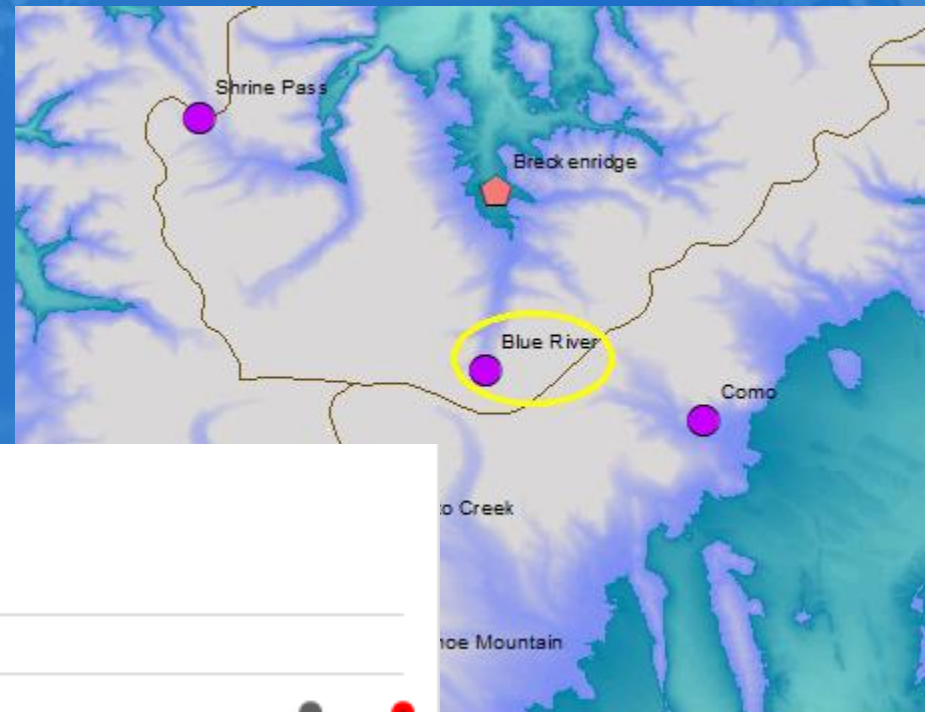
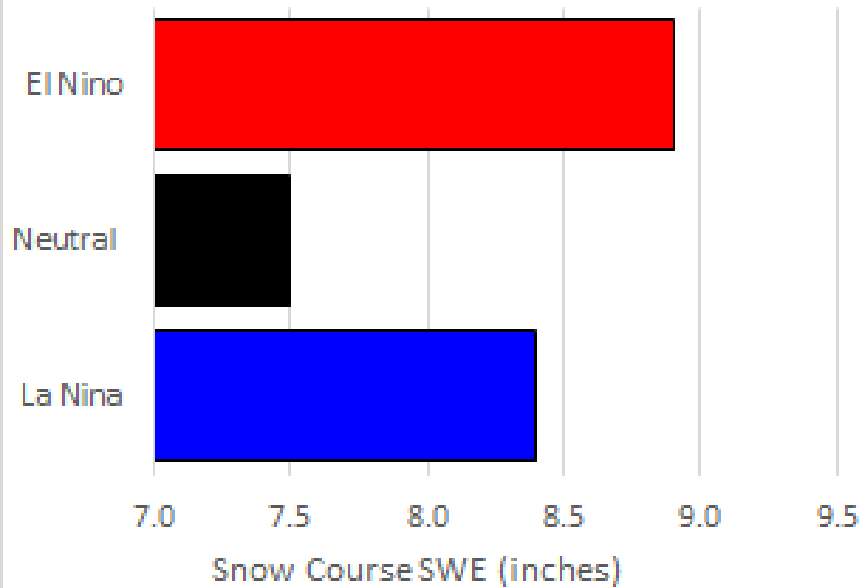


Shrine Pass - 10700 ft MSL
Summit County - 7SW Frisco

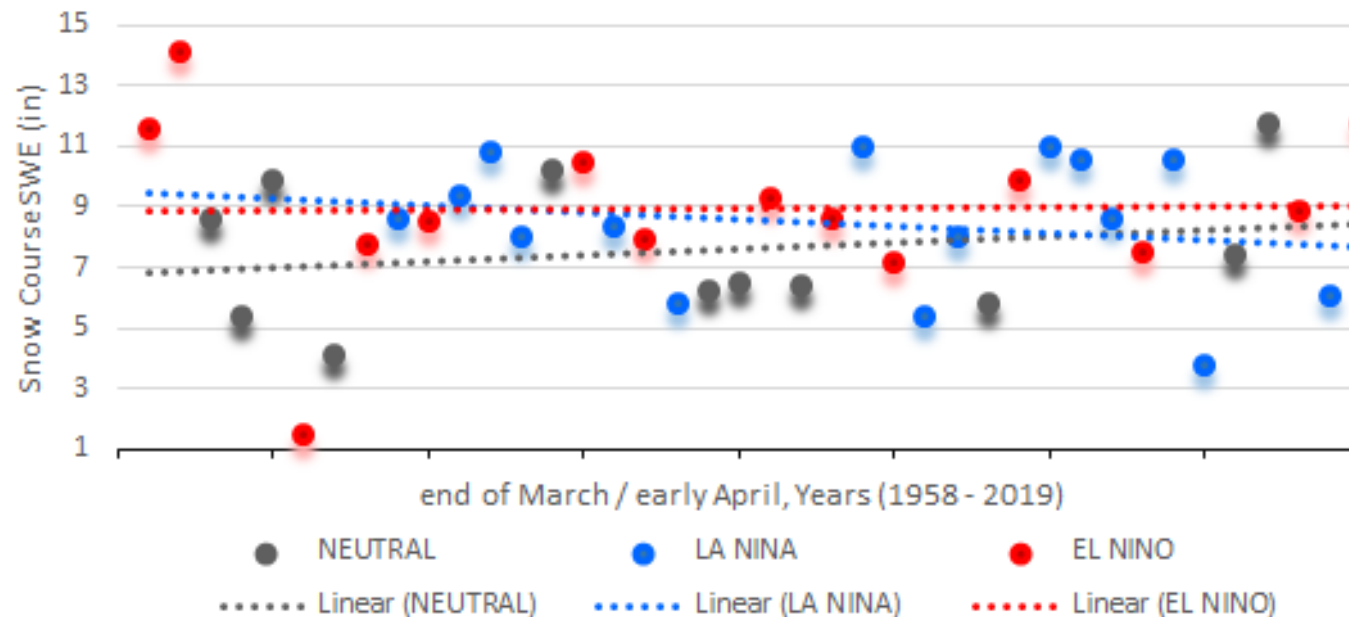


Blue River Snow Course

Summit County

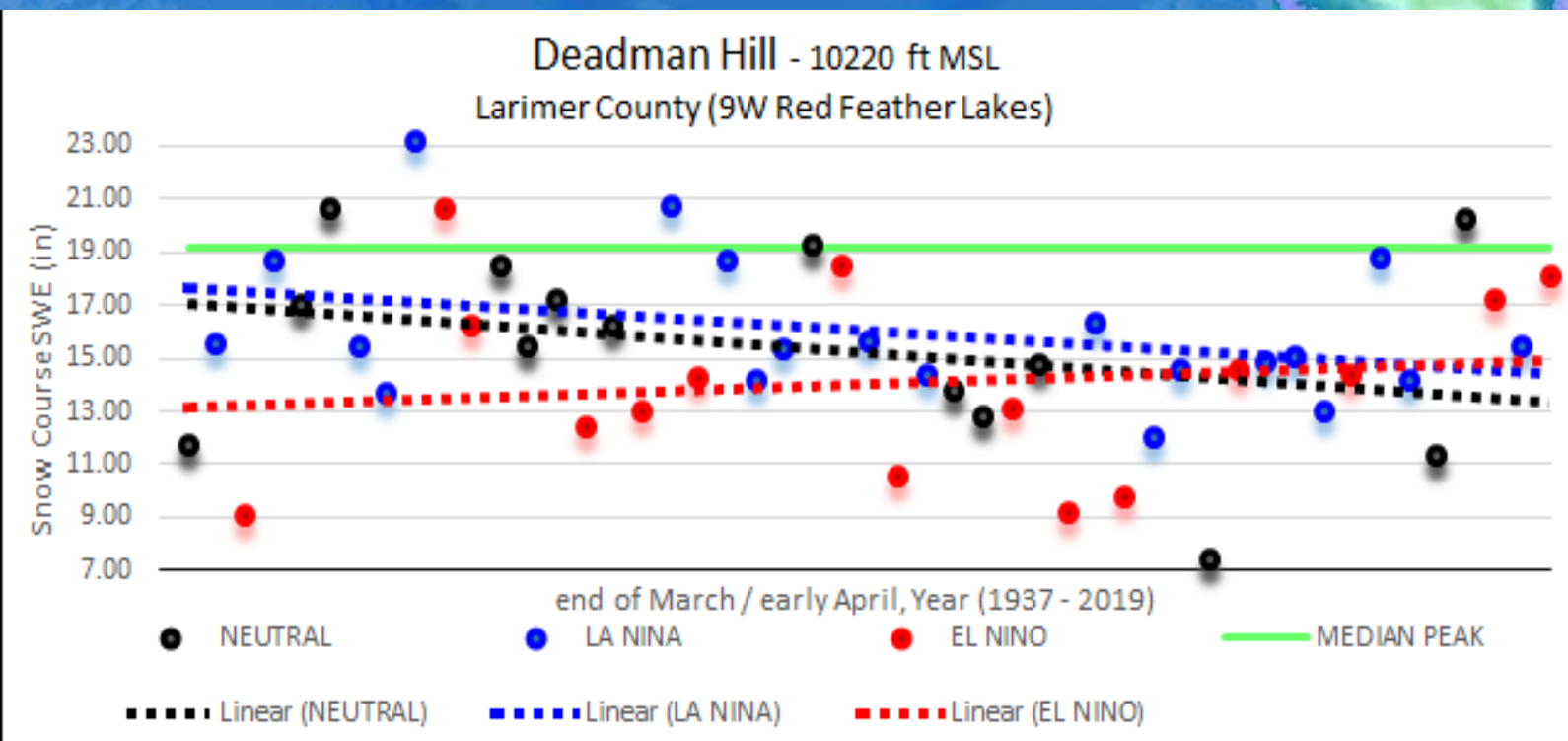
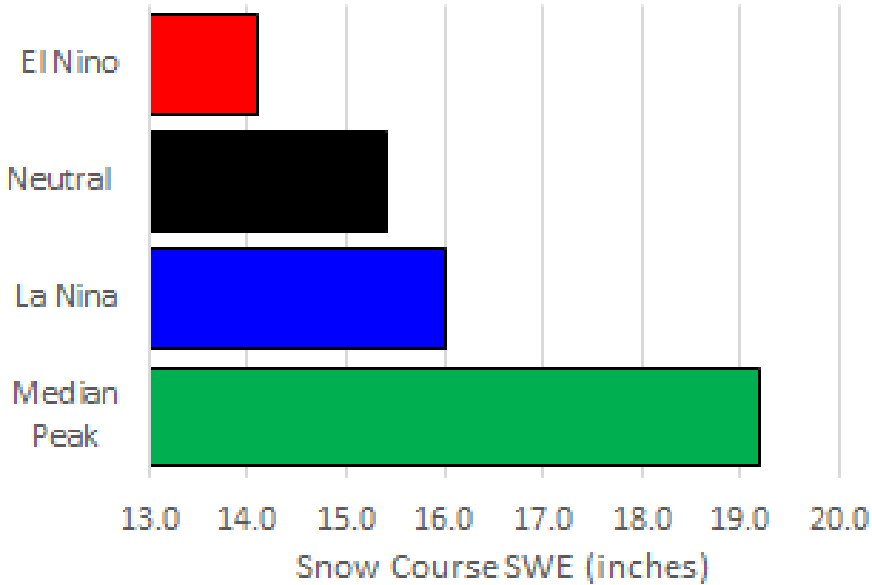


Blue River - 10500 ft MSL
Summit County - 4NNE Blue River



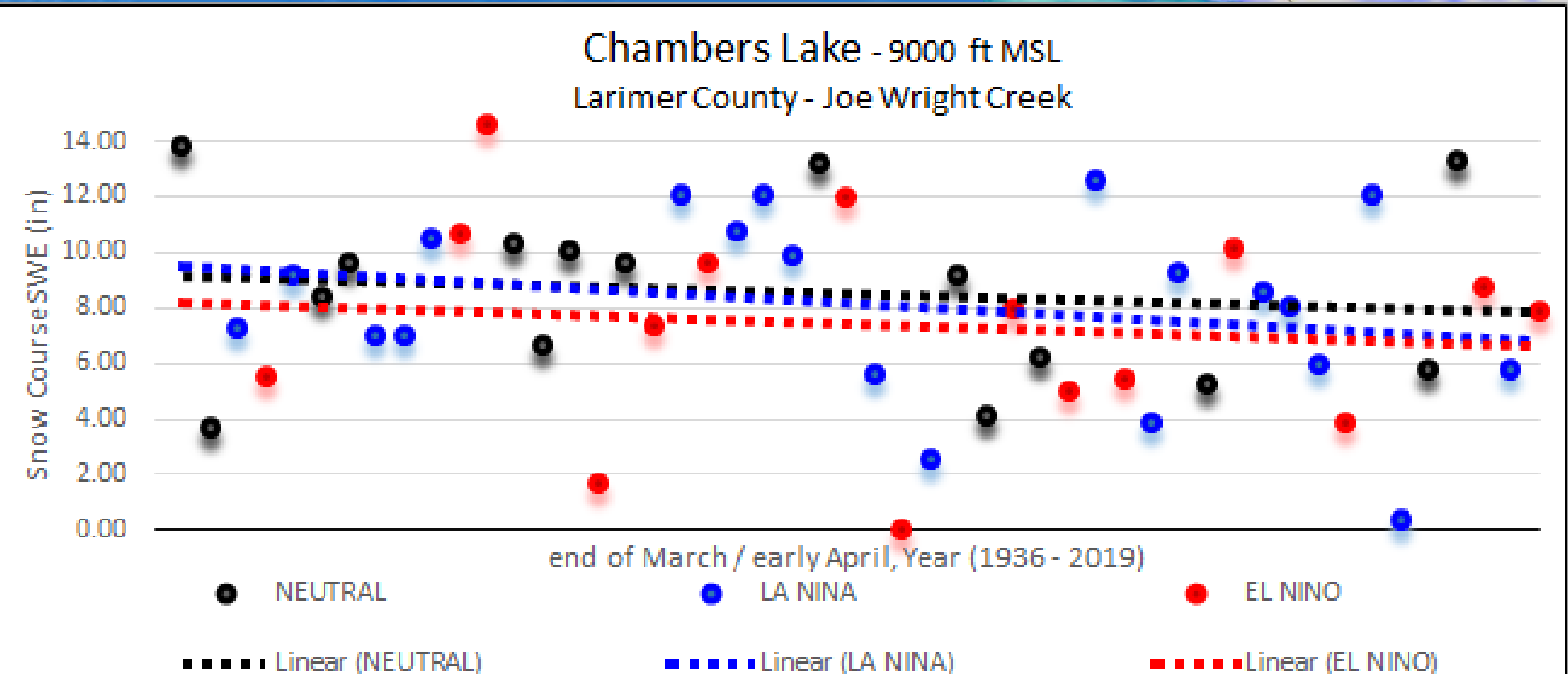
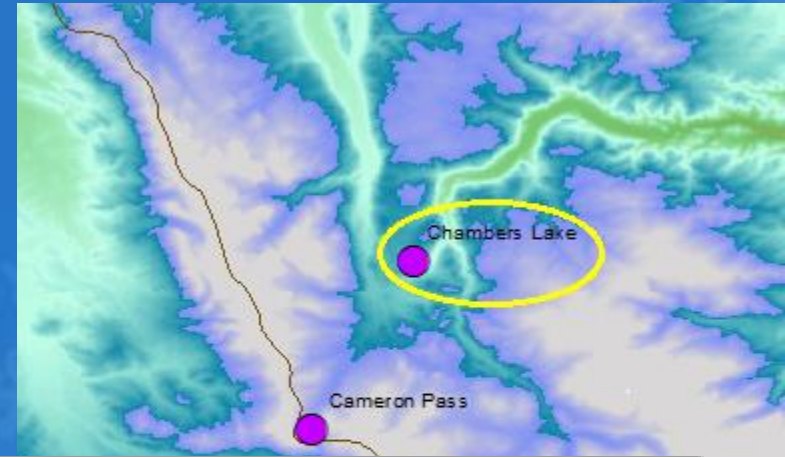
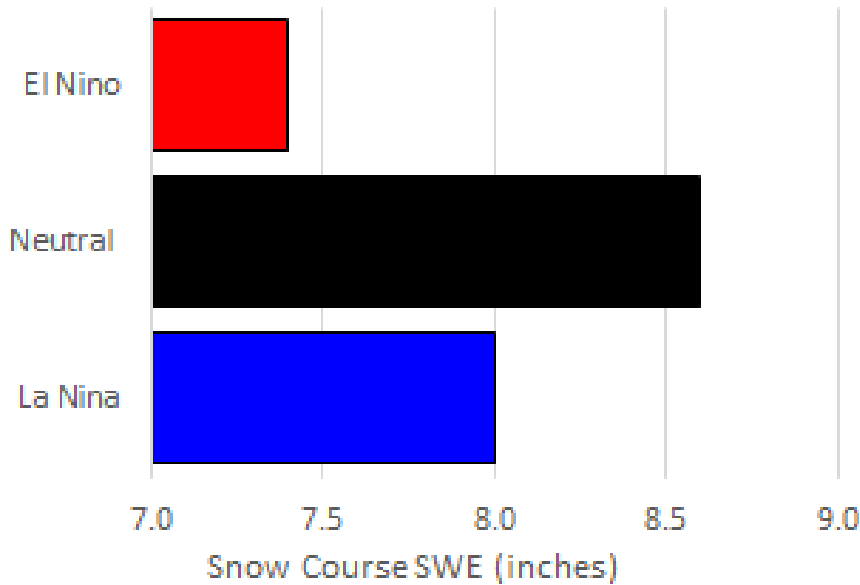
North Central Mtns – East of the Divide

Deadman Hill Snow Course 9W Red Feather Lakes, Larimer County



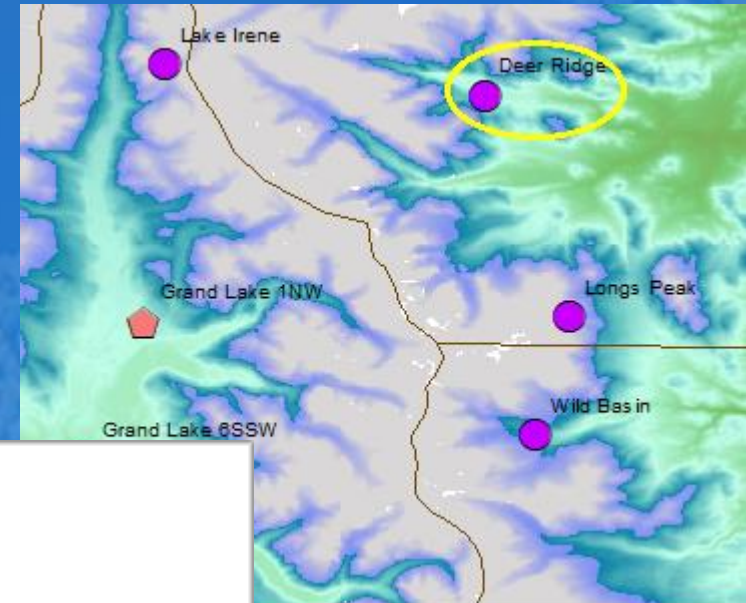
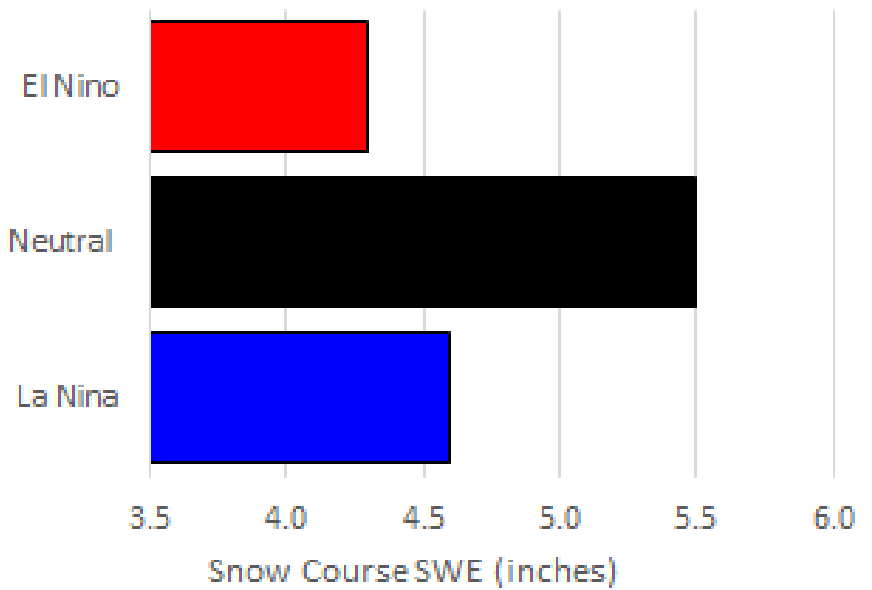
Chambers Lake Snow Course

Larimer County

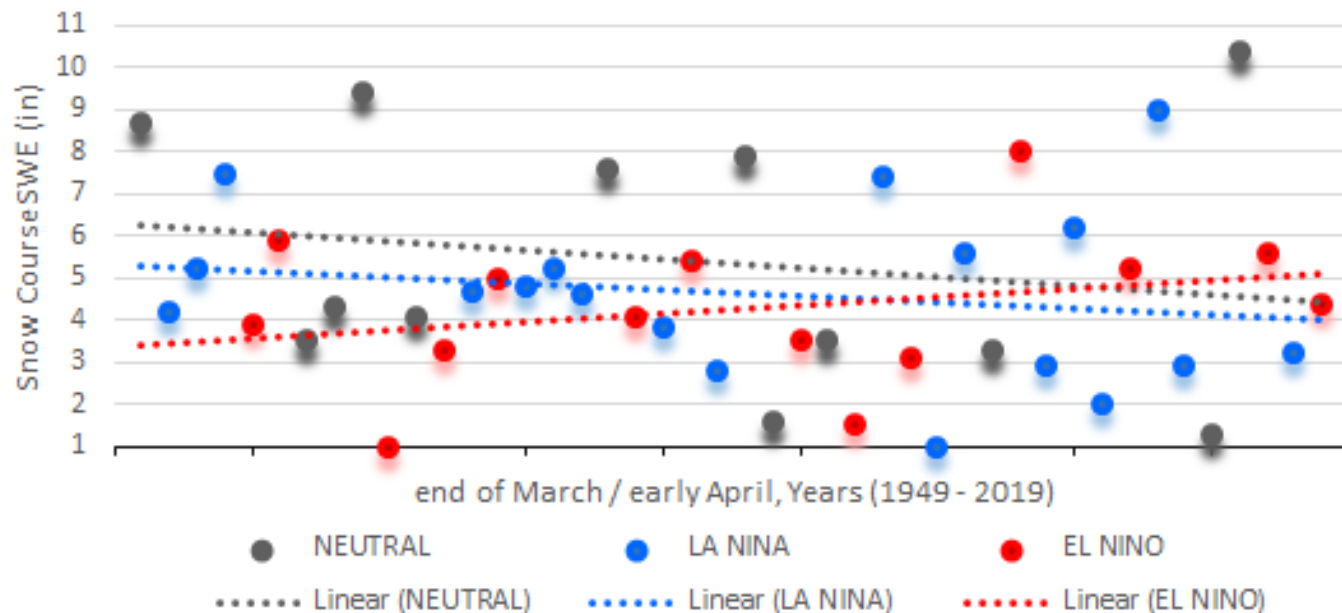


Deer Ridge Snow Course

6WNW Estes Park, Larimer County

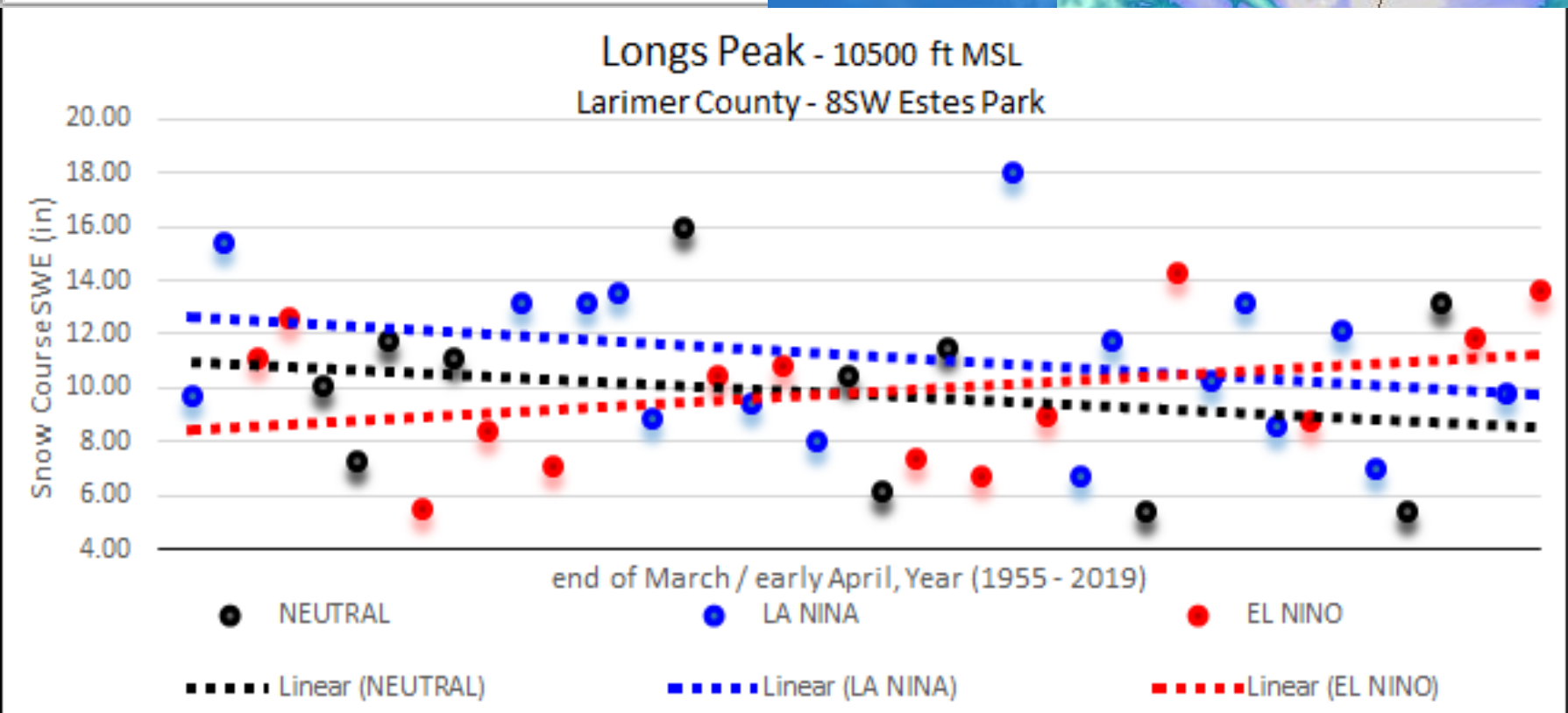
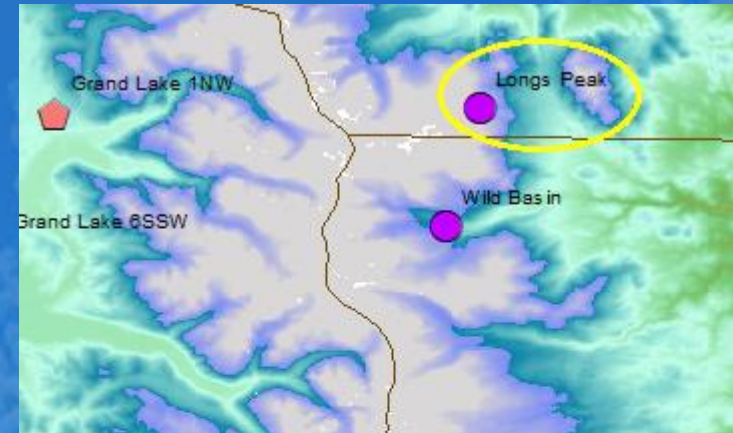
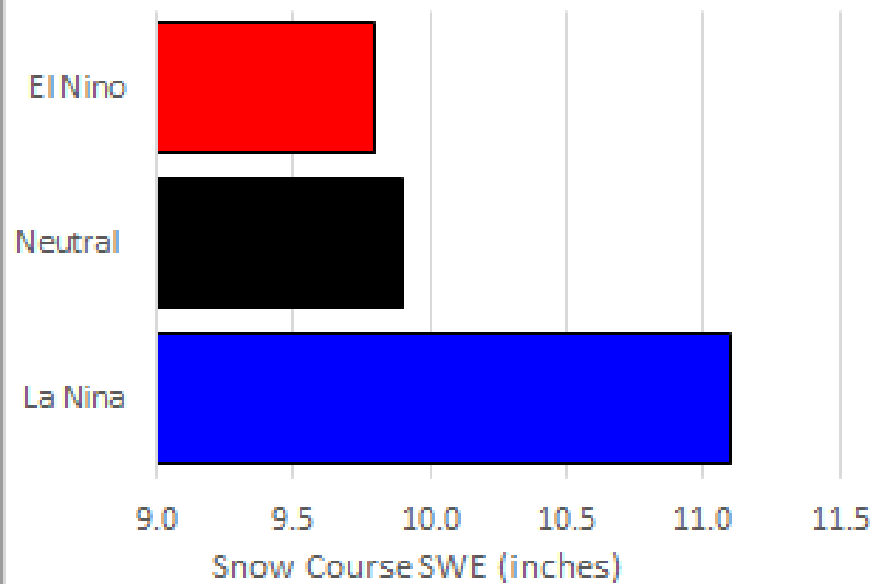


Deer Ridge - 9000 ft MSL
Larimer County - 6WNW Estes Park



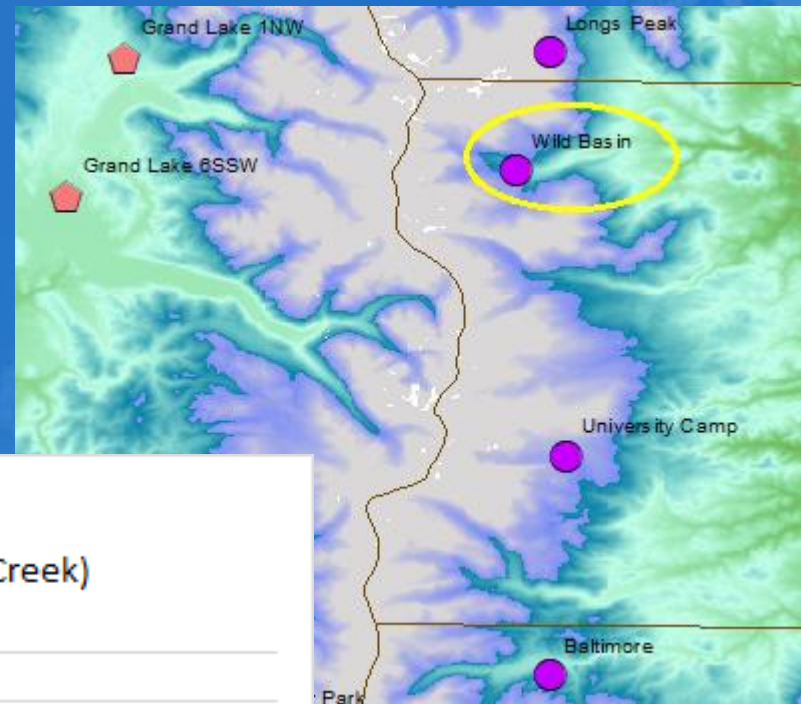
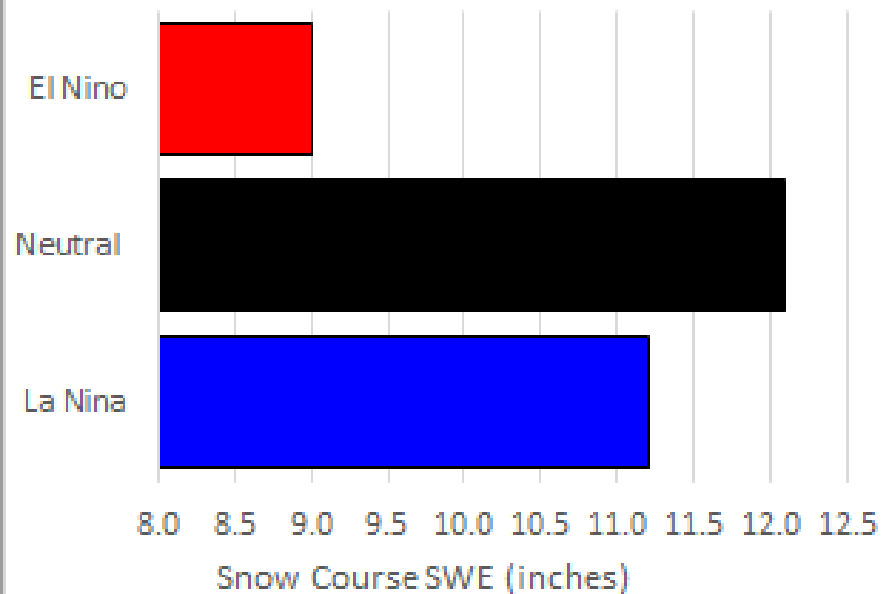
Longs Peak Snow Course

8SW Estes Park, Larimer County

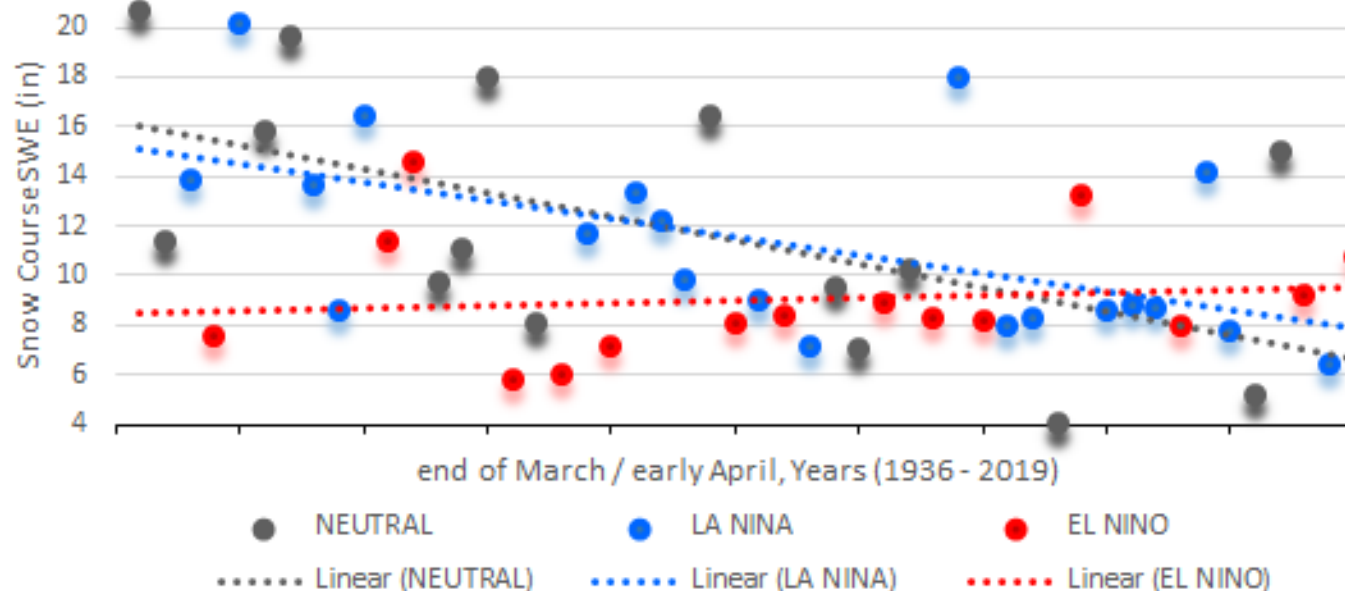


Wild Basin Snow Course

14S Estes Park, Boulder County

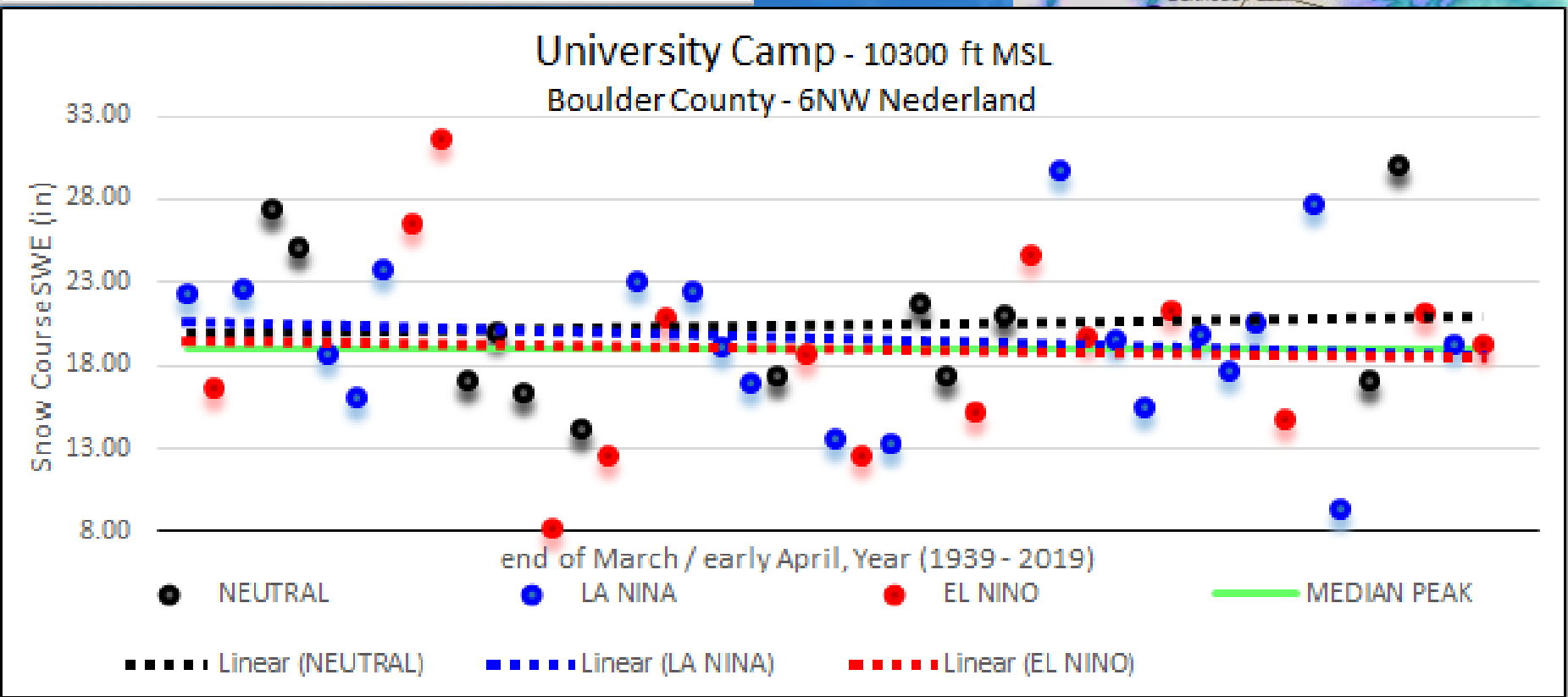
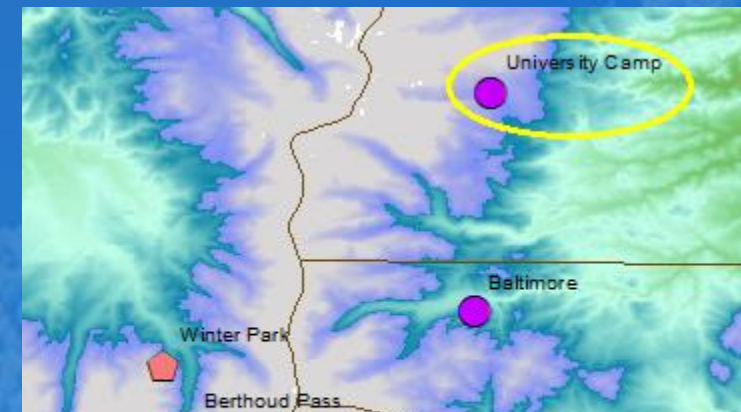
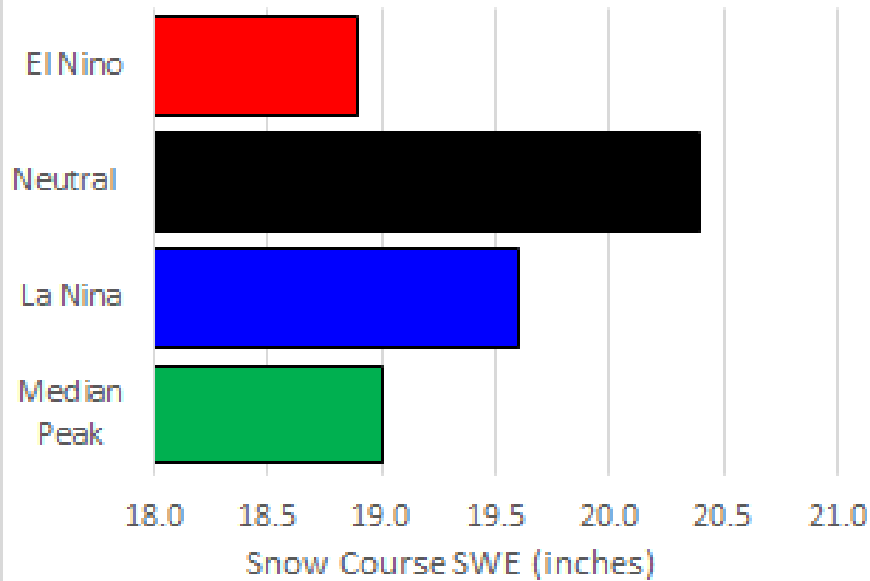


Wild Basin - 9600 ft MSL
Boulder County - 14S Estes Park (North Saint Vrain Creek)



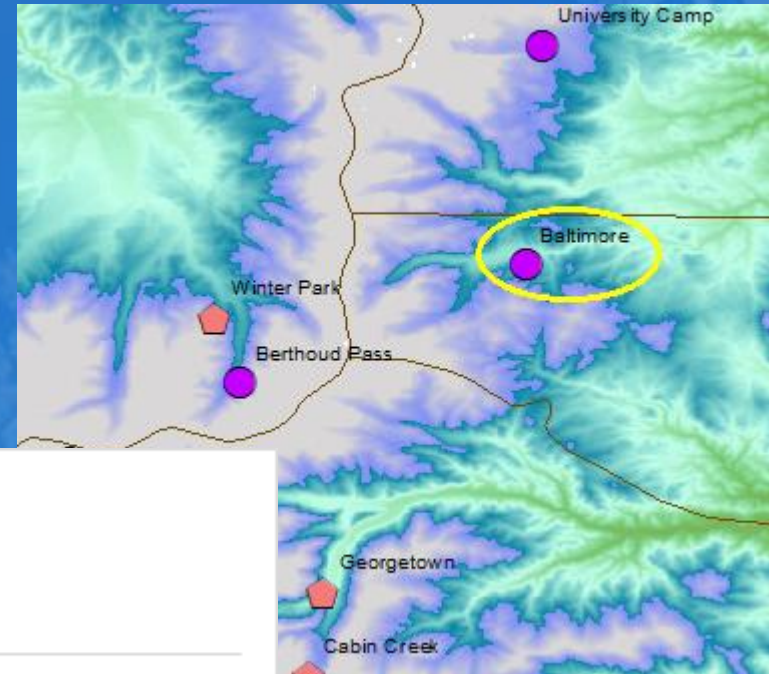
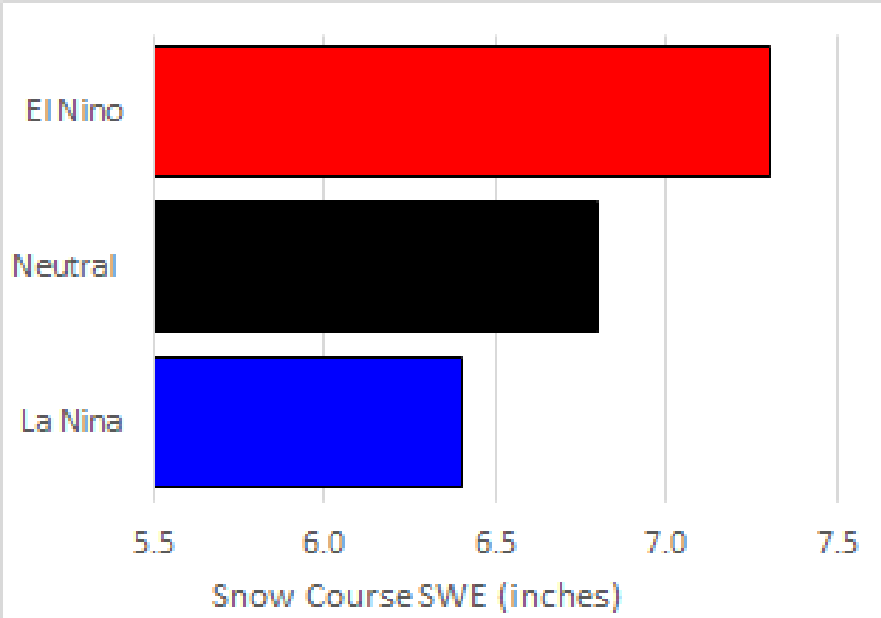
University Camp Snow Course

6NW Nederland, Boulder Count

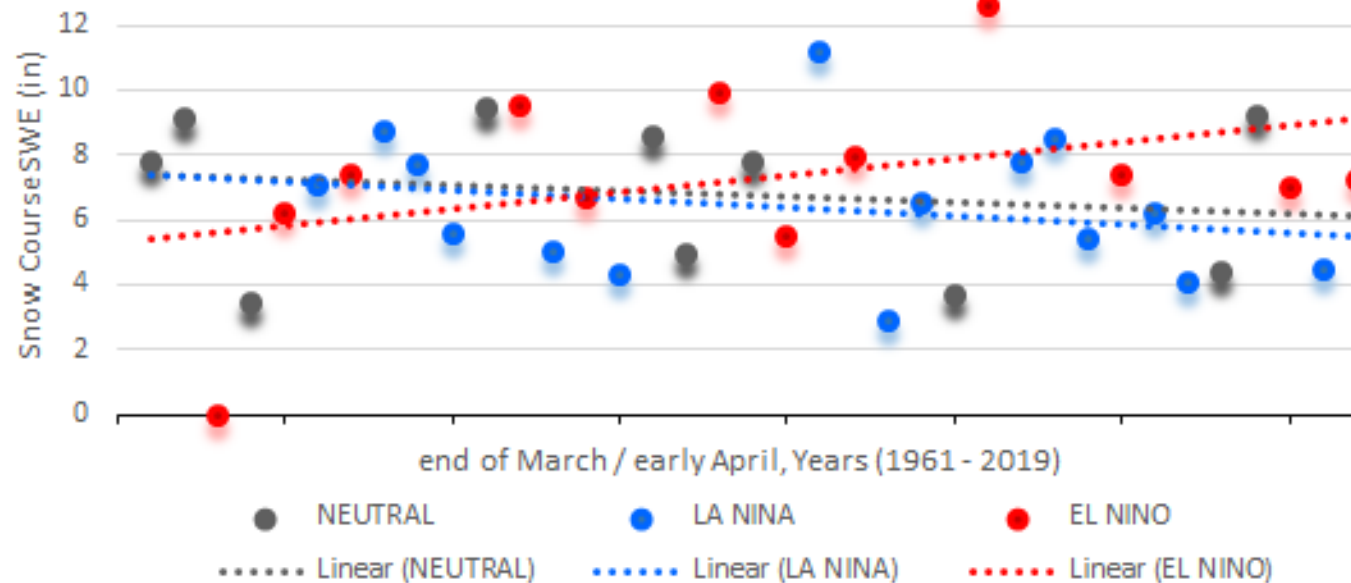


Baltimore Snow Course

4WSW Rollinsville, Gilpin County

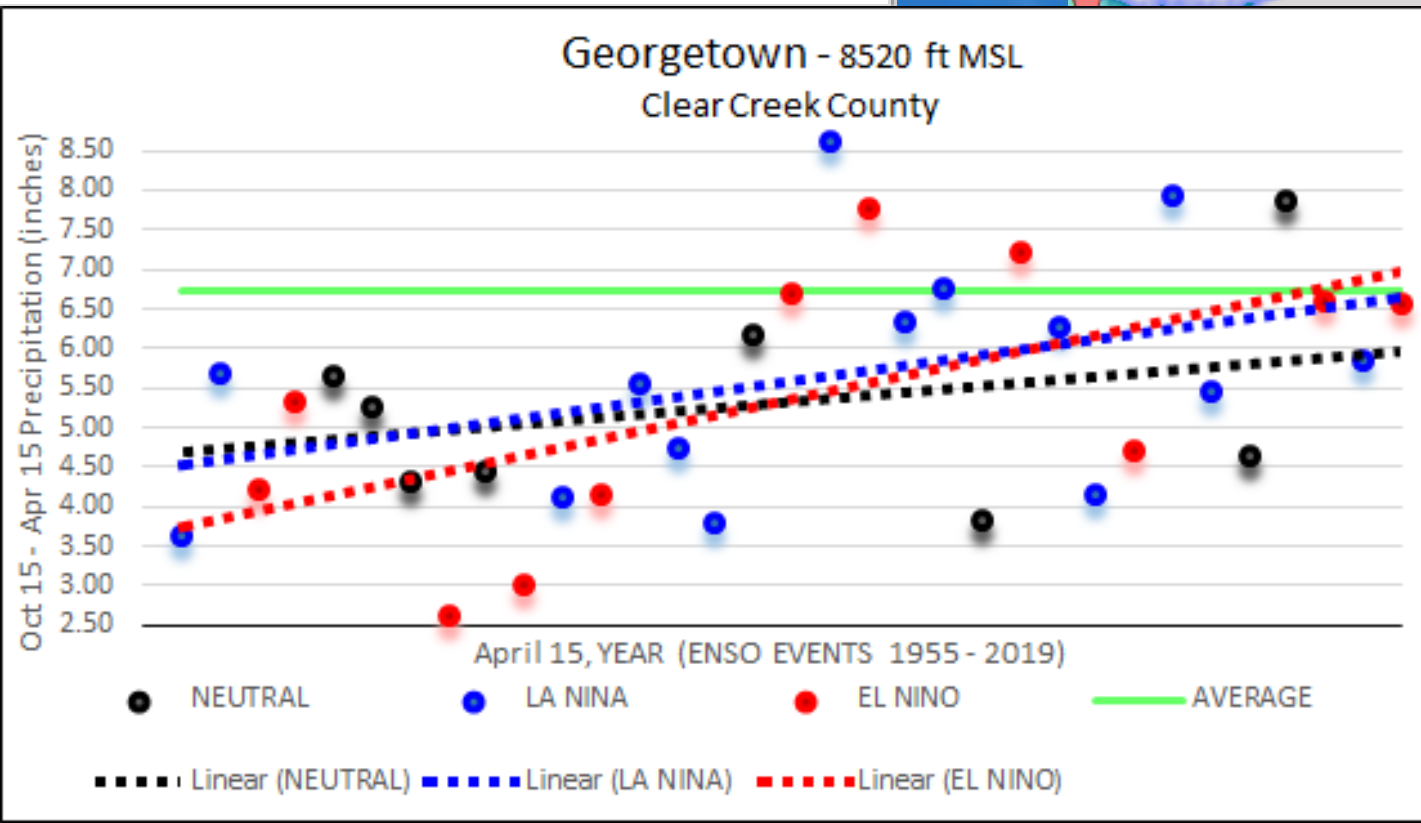
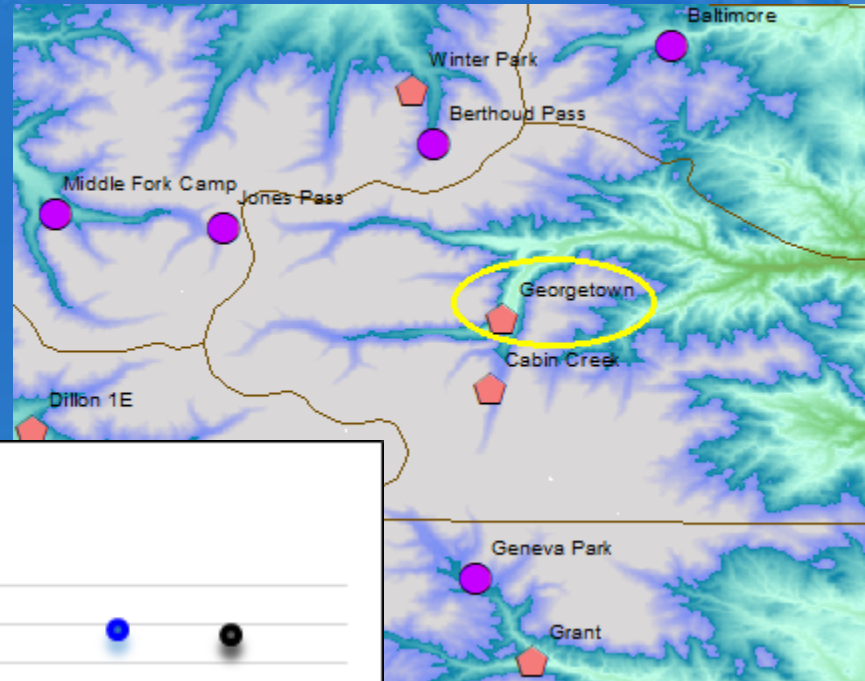
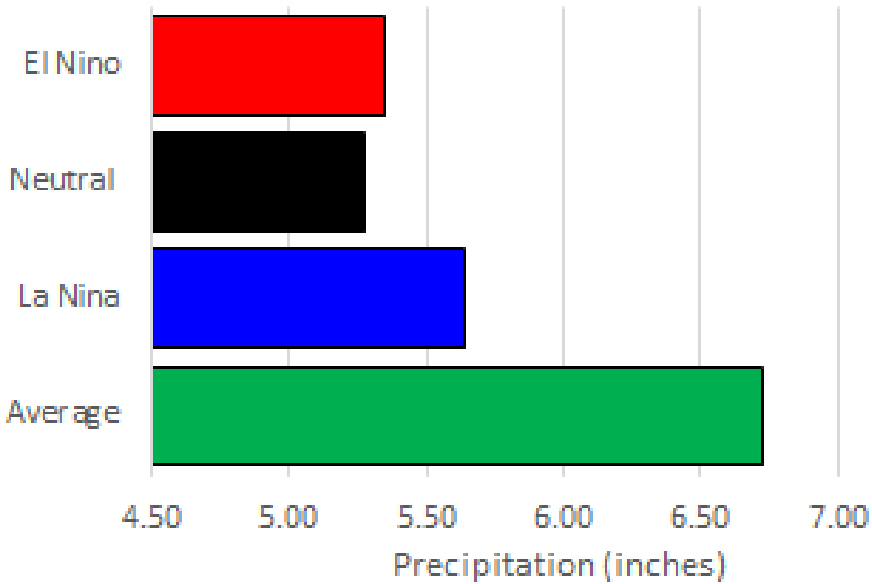


Baltimore - 8800 ft MSL
Gilpin County - 4WSW Rollinsville (South Boulder Creek)



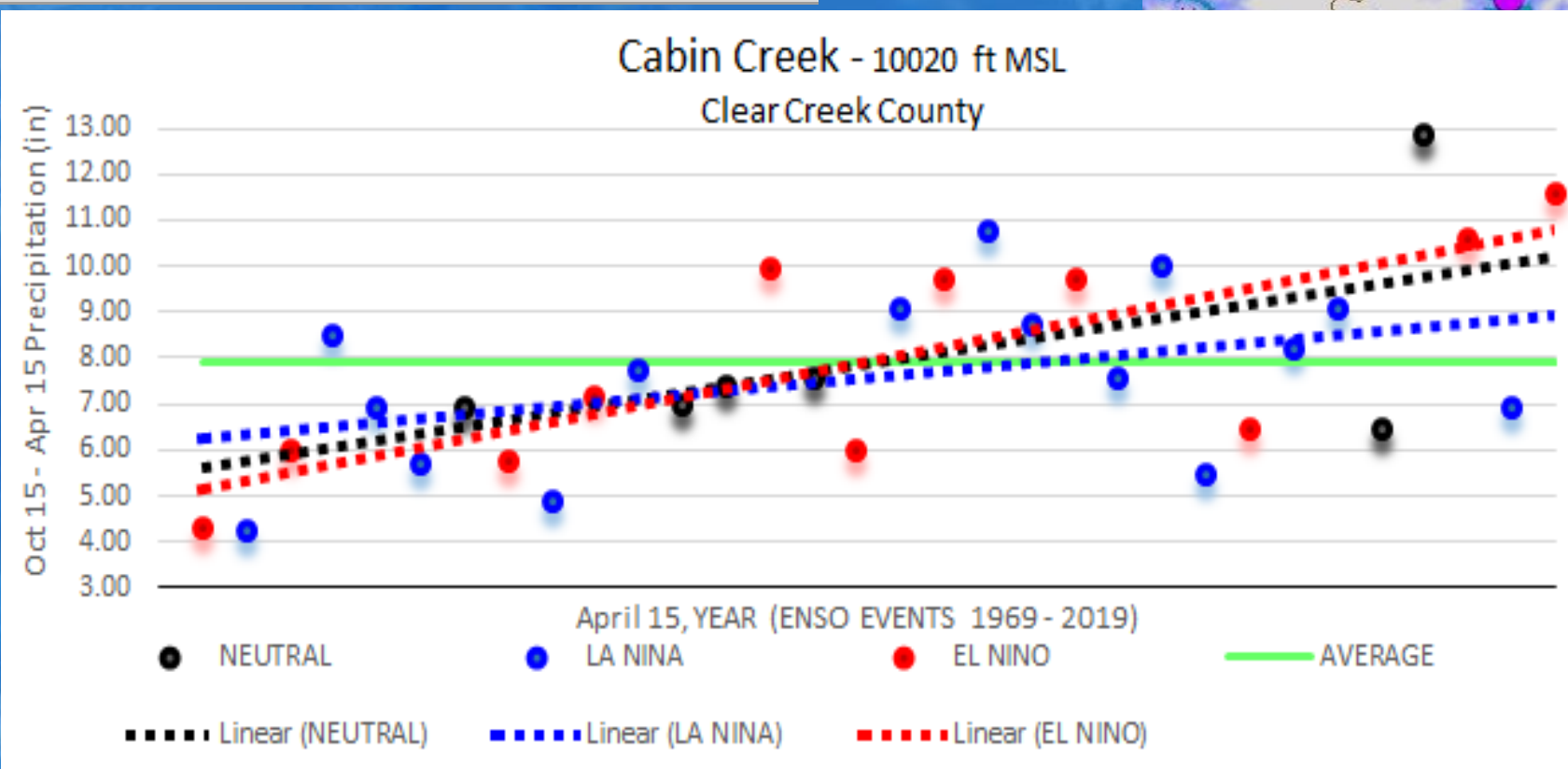
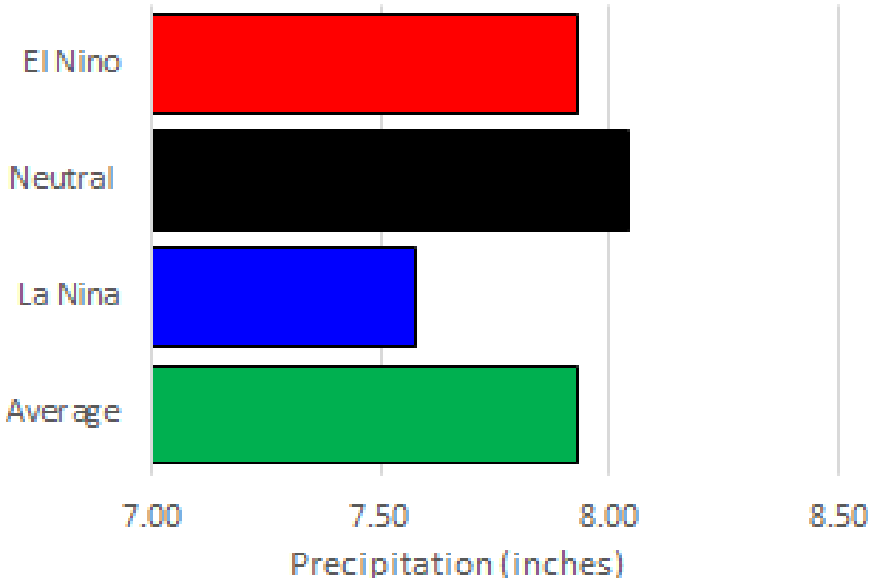
Georgetown Coop Observer

Clear Creek County

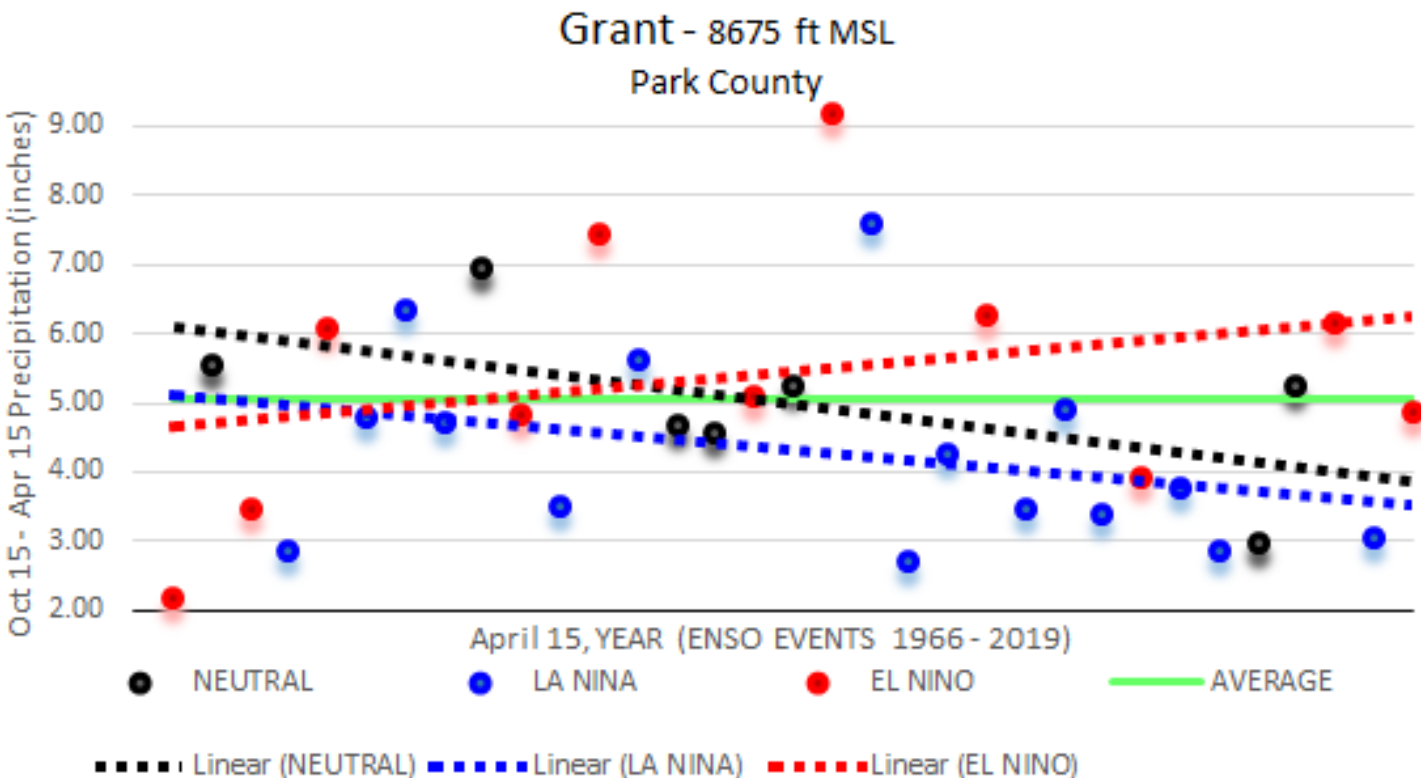
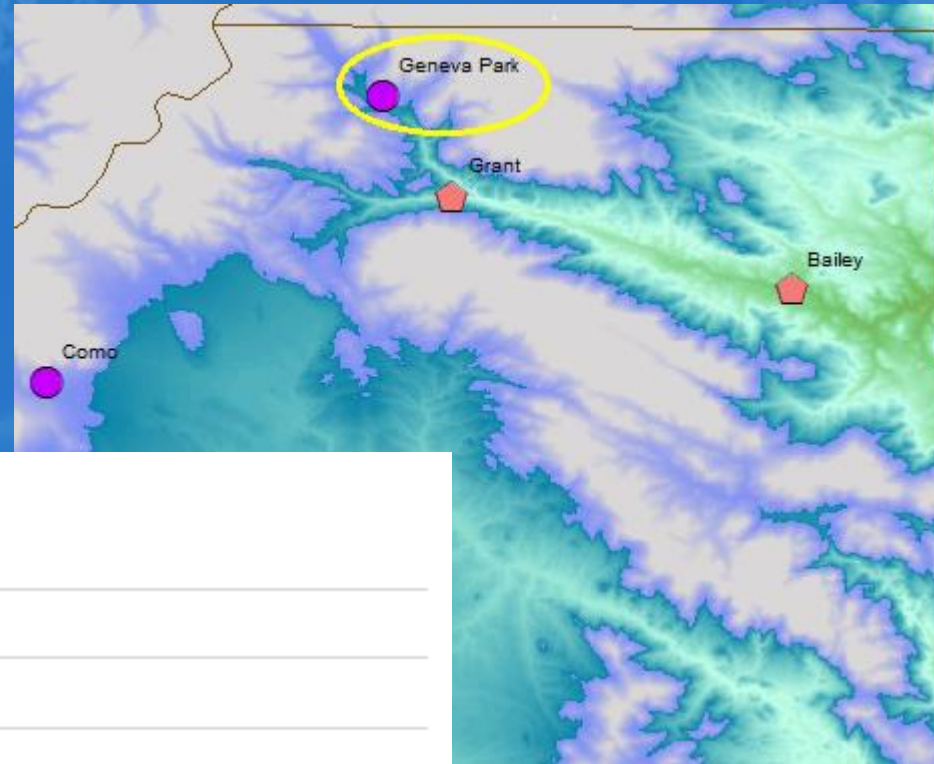
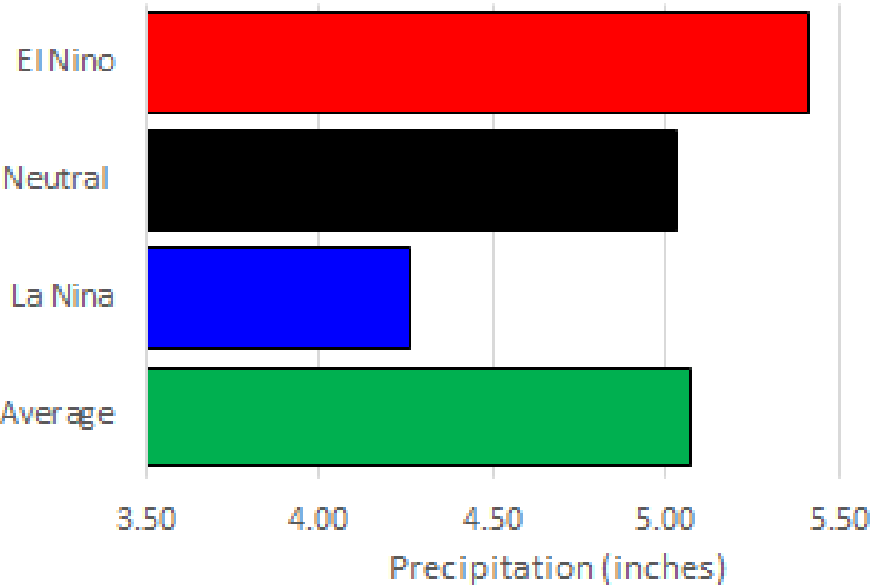


Cabin Creek Coop Observer

Clear Creek County

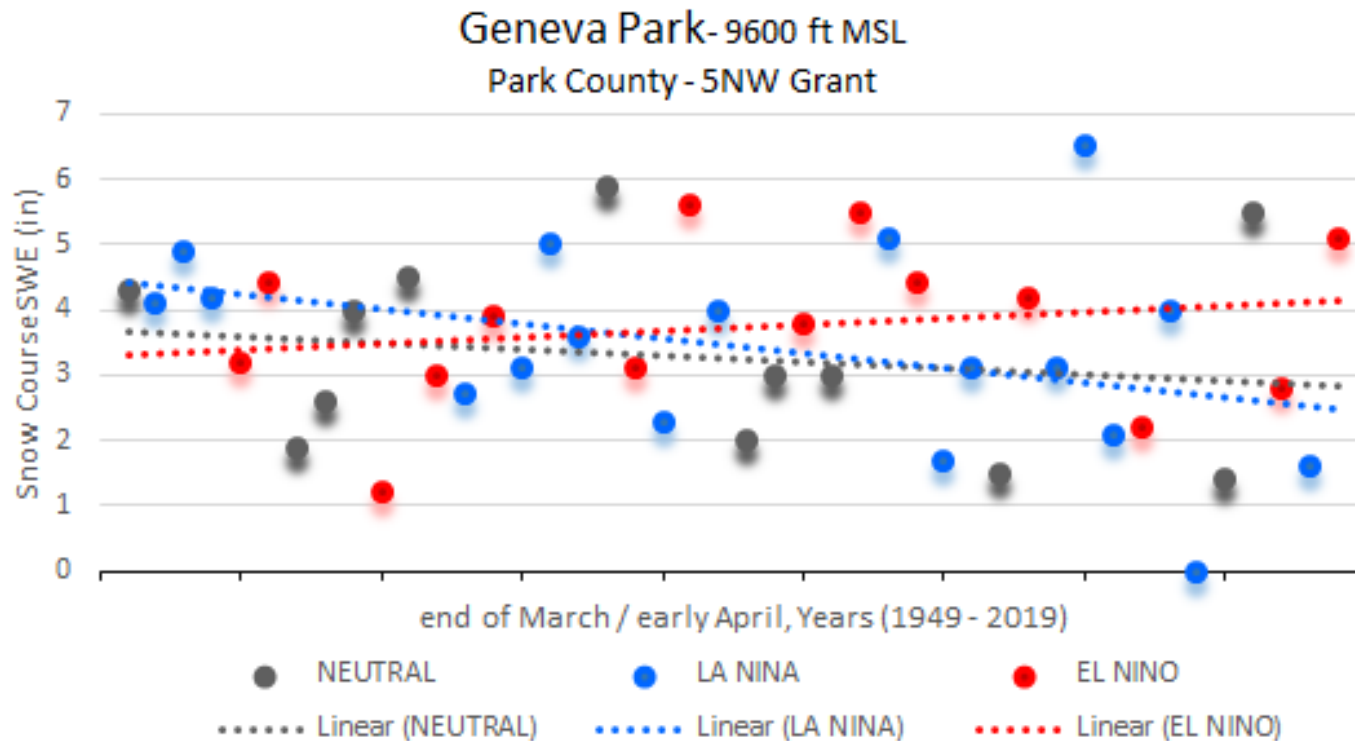
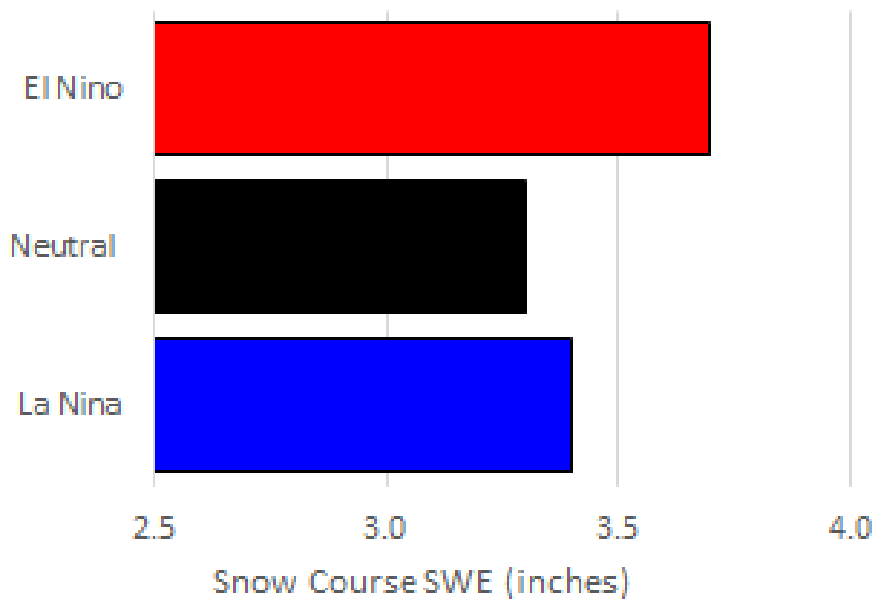


Grant Cooperative Observer Park County



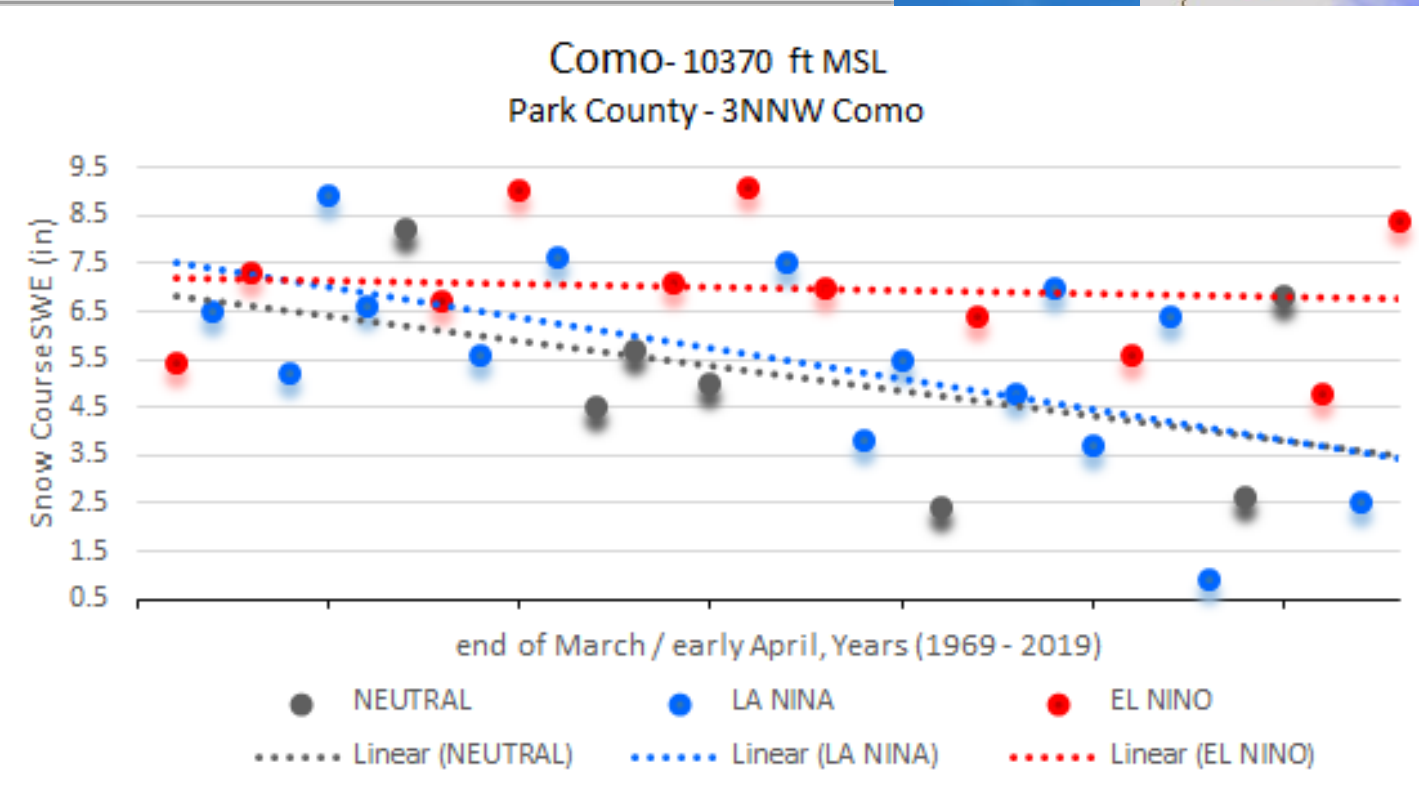
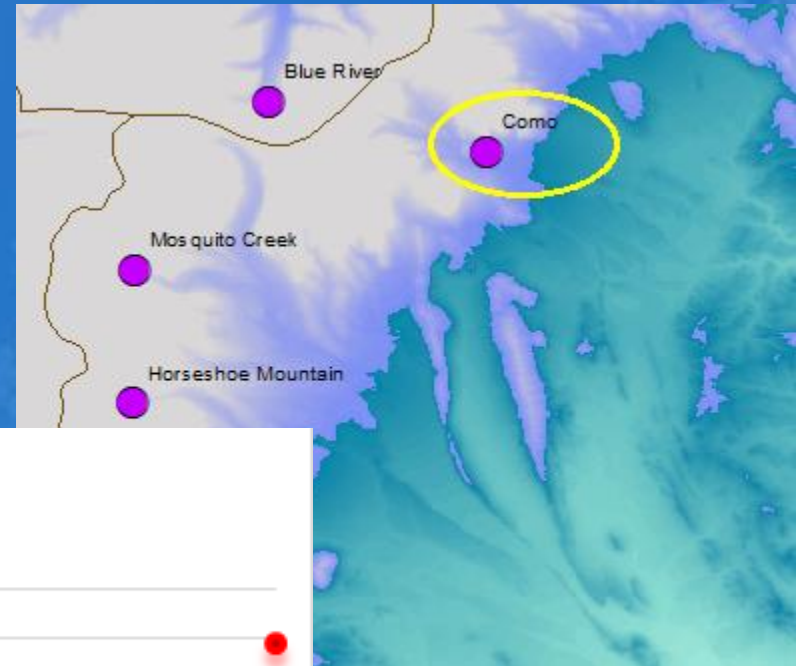
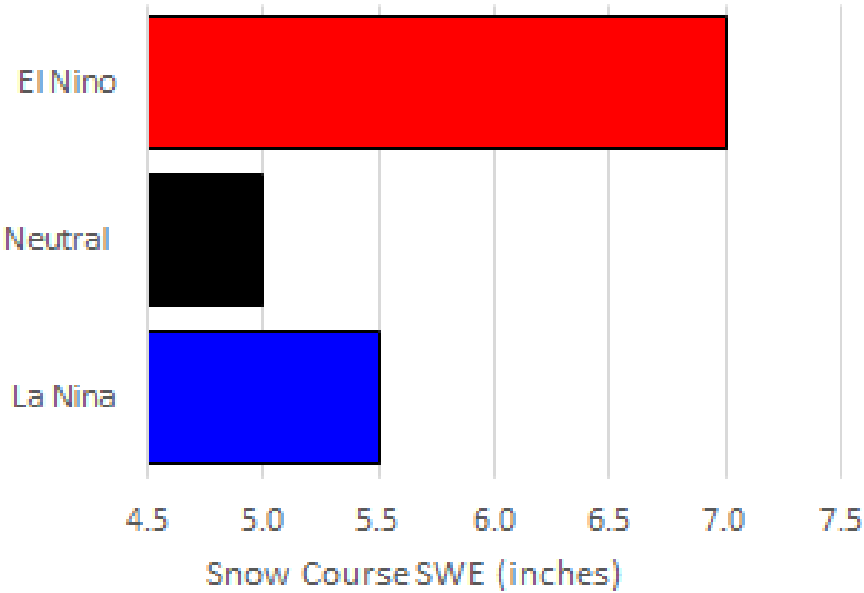
Geneva Park Snow Course

5NW Grant, Park County



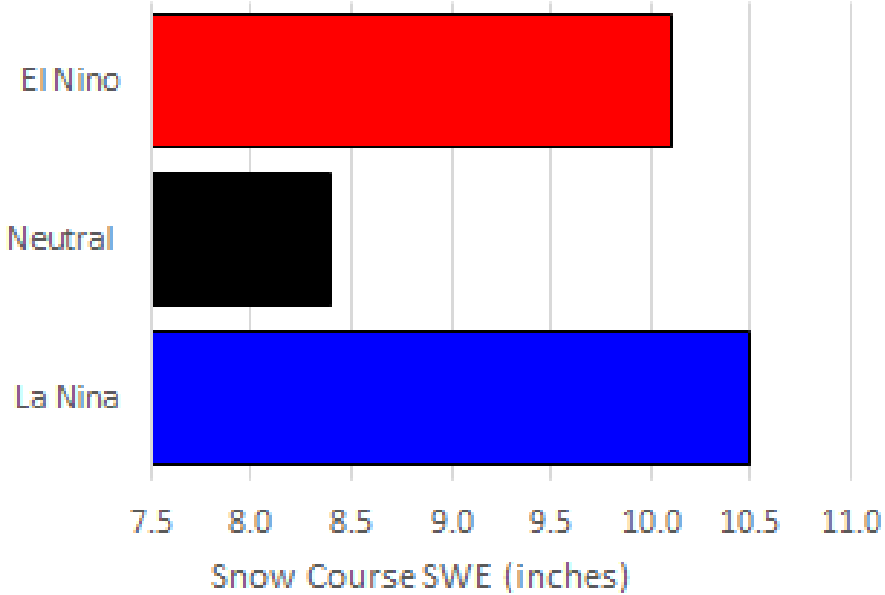
Como Snow Course

3NNW Como, Park County

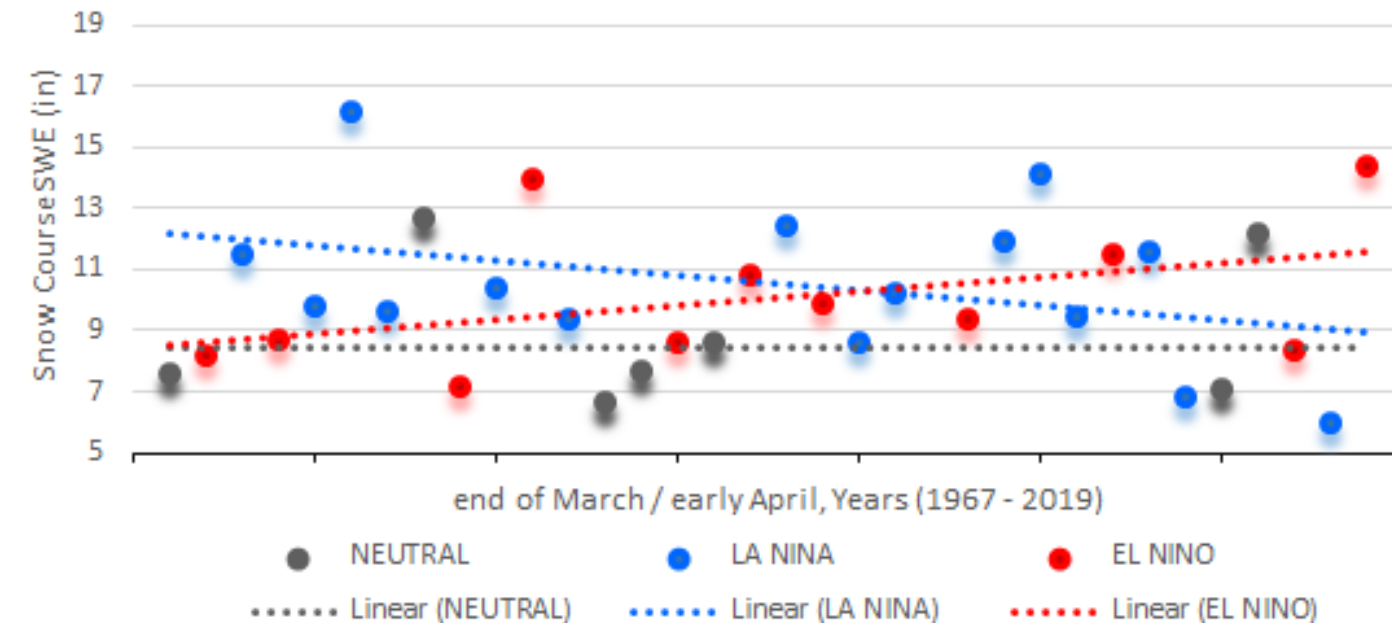


Horseshoe Mtn Snow Course

7WSW Fairplay, Park County

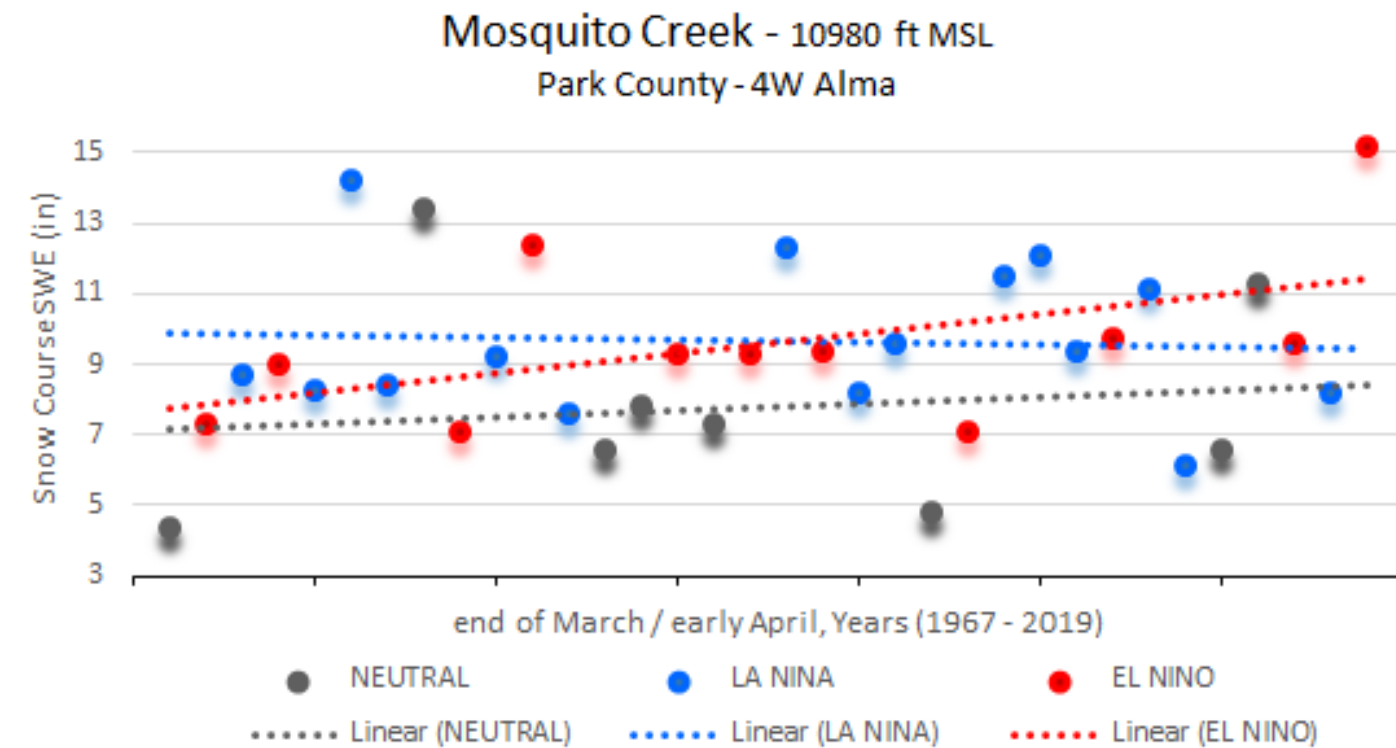
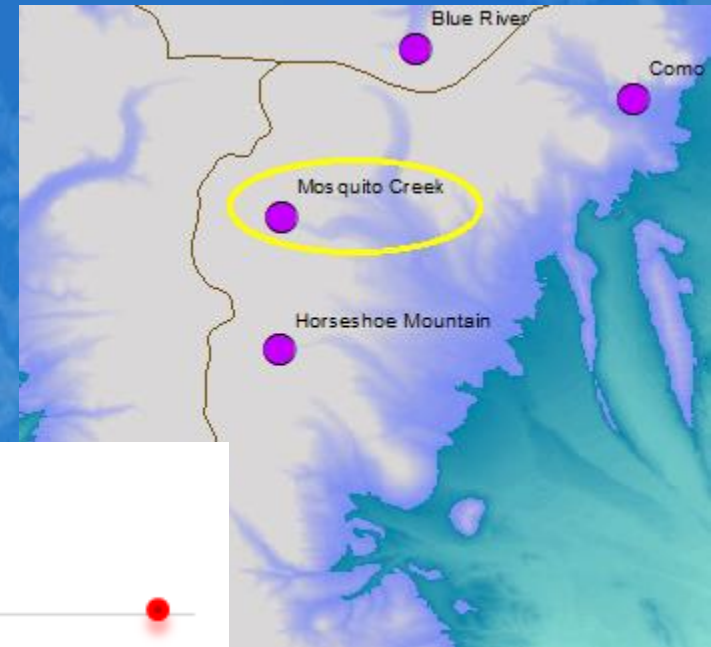
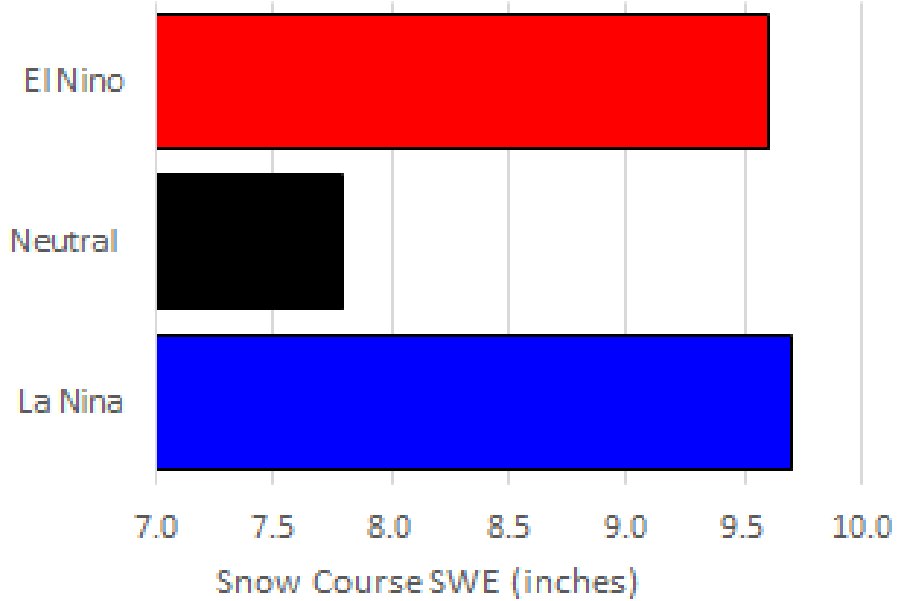


Horseshoe Mountain - 11220 ft MSL
Park County - 7WSW Fairplay

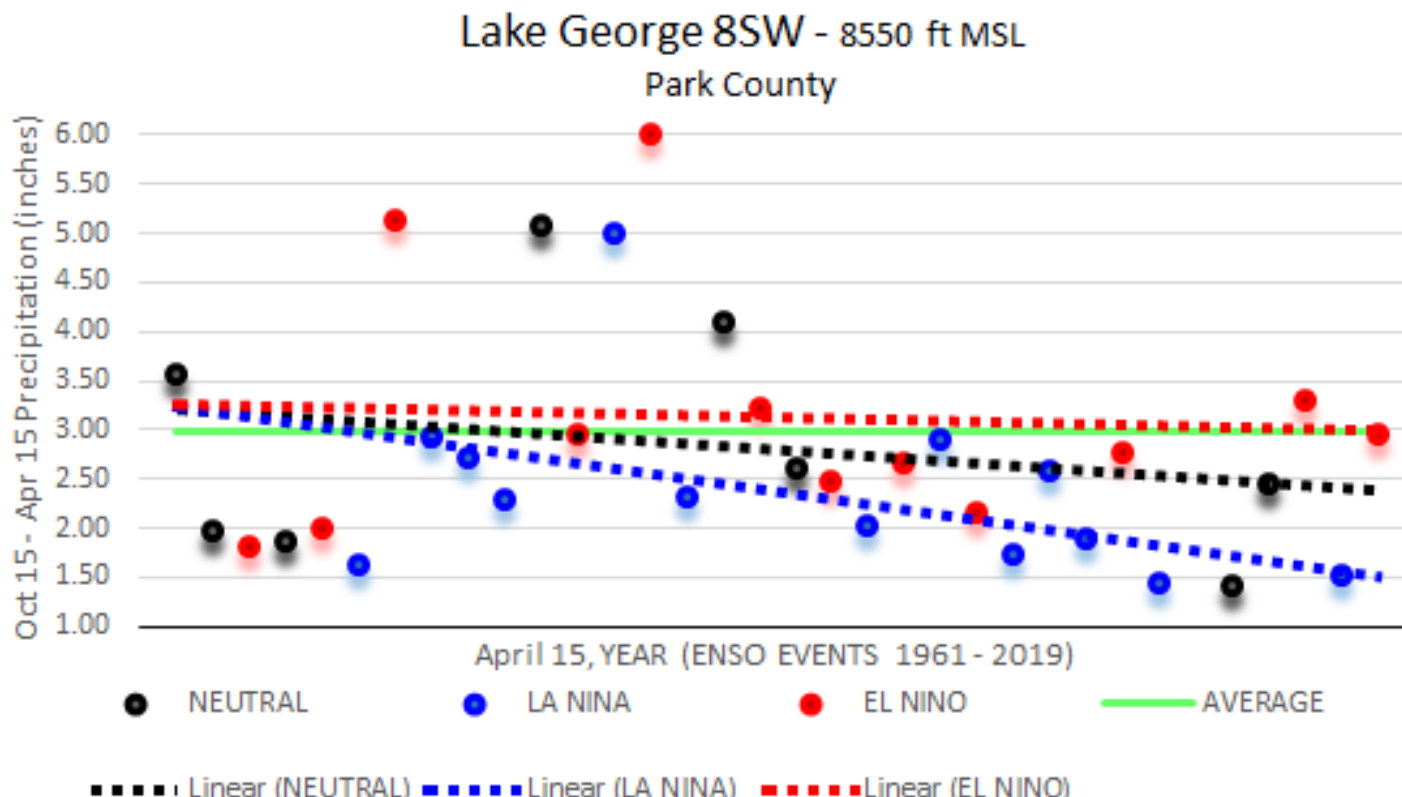
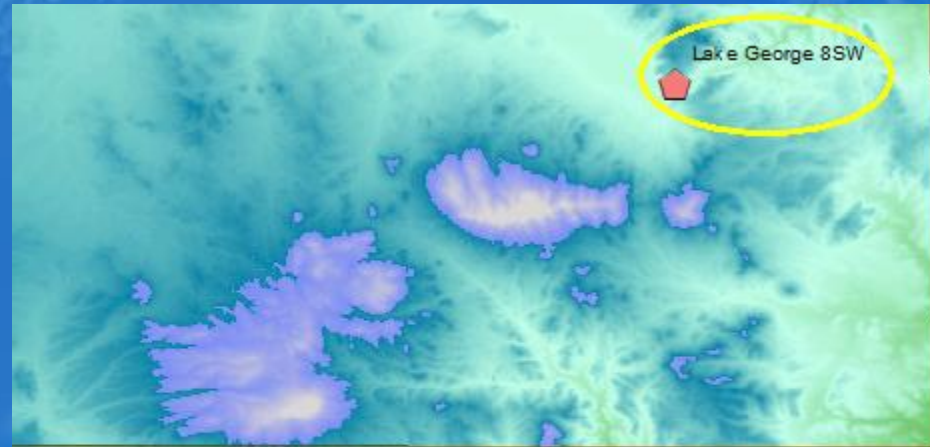
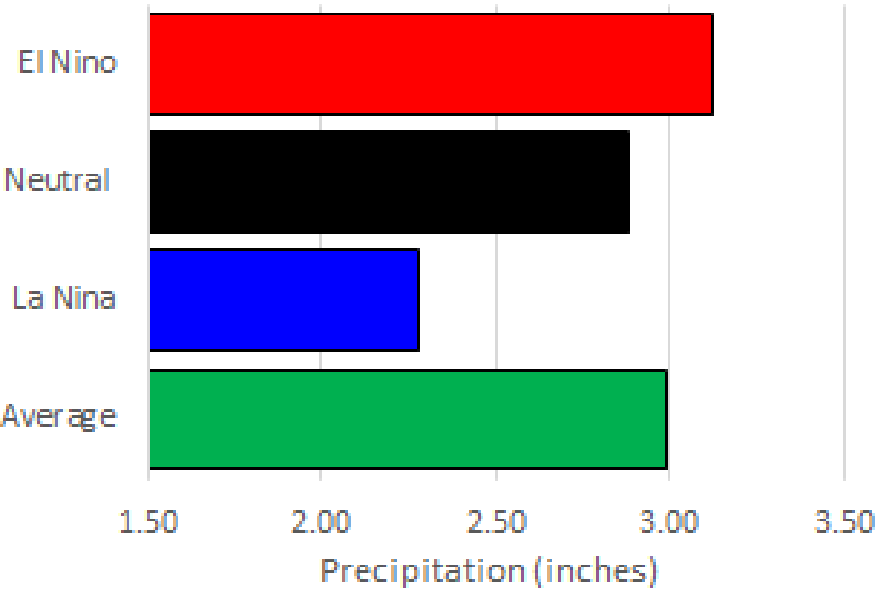


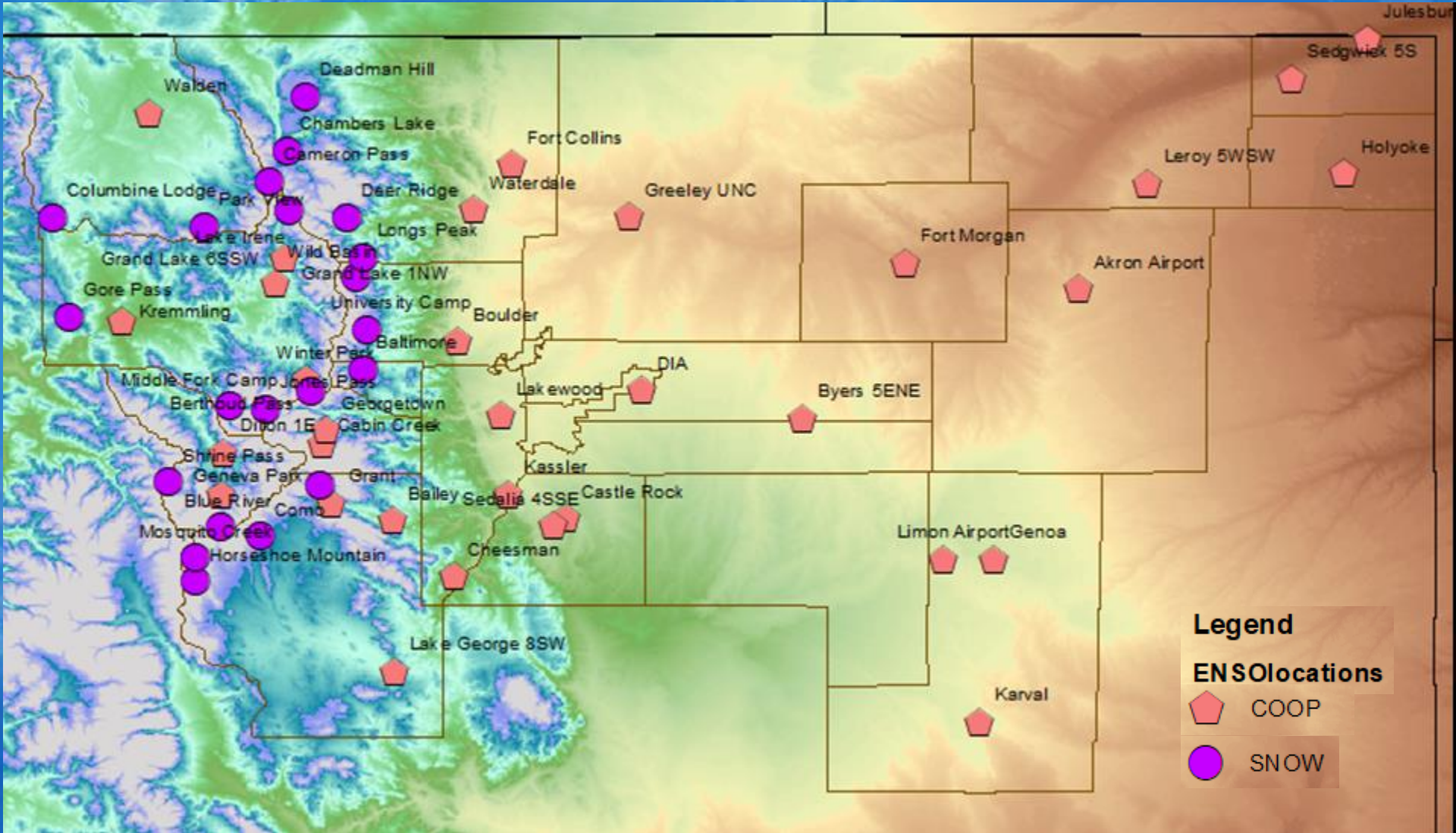
Mosquito Creek Snow Course

4W Alma, Park County

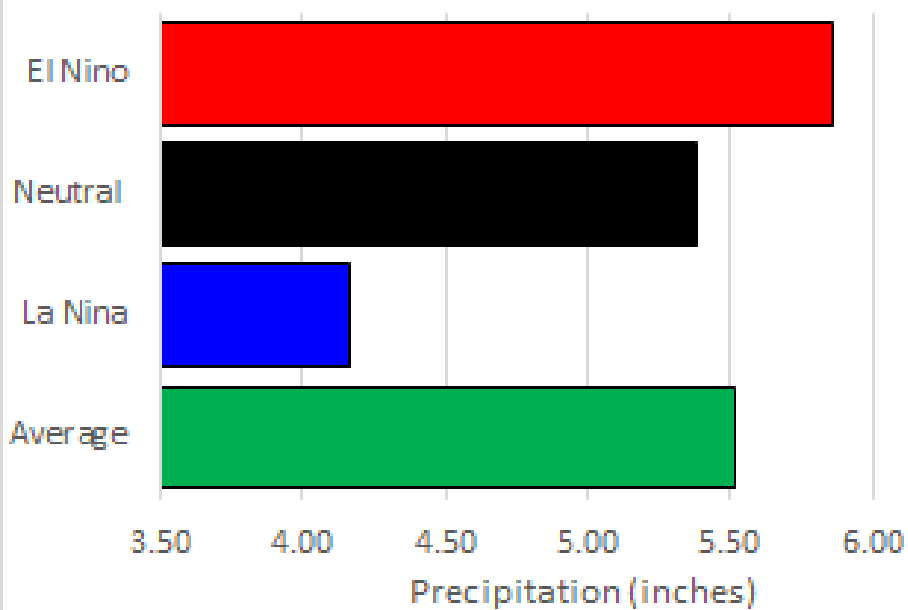


Lake George 8SW Coop Obs Park County



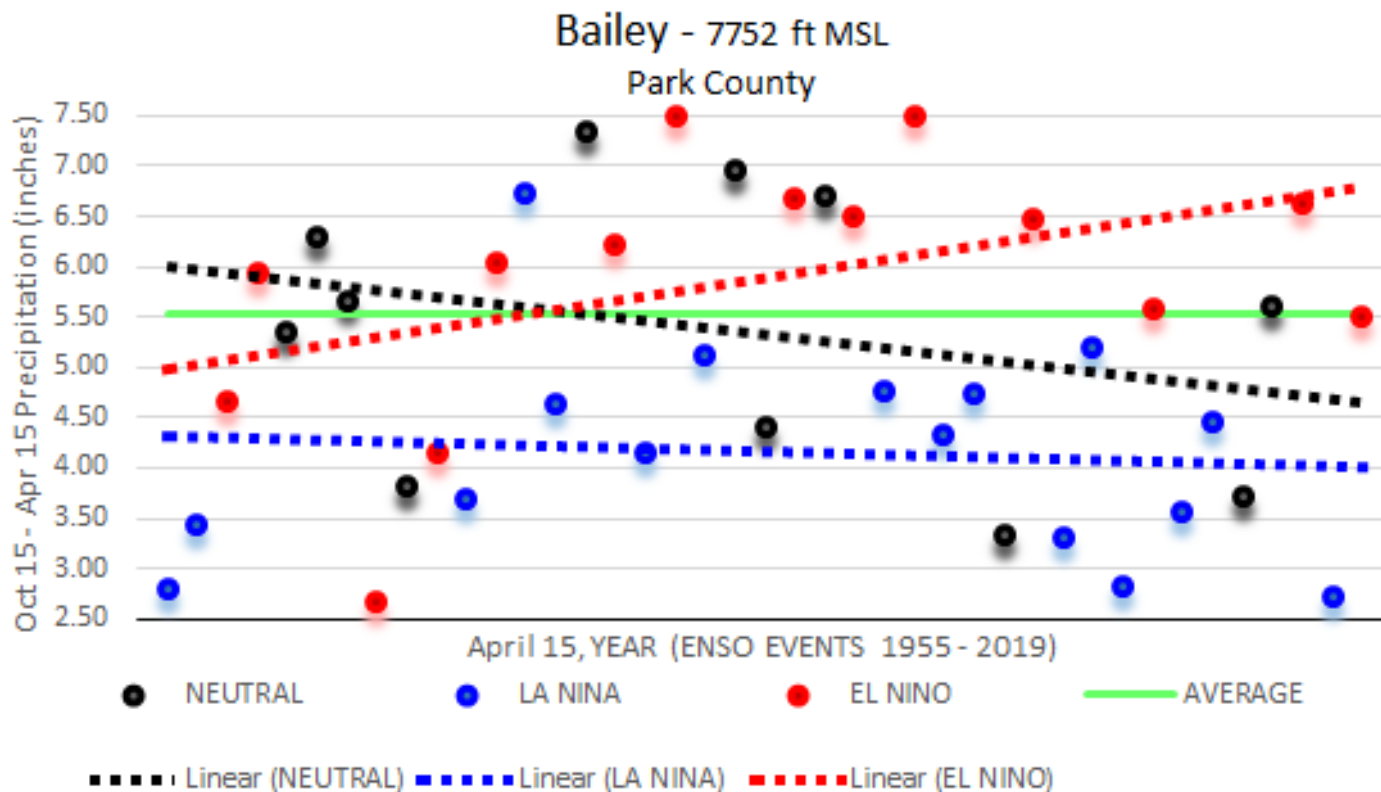
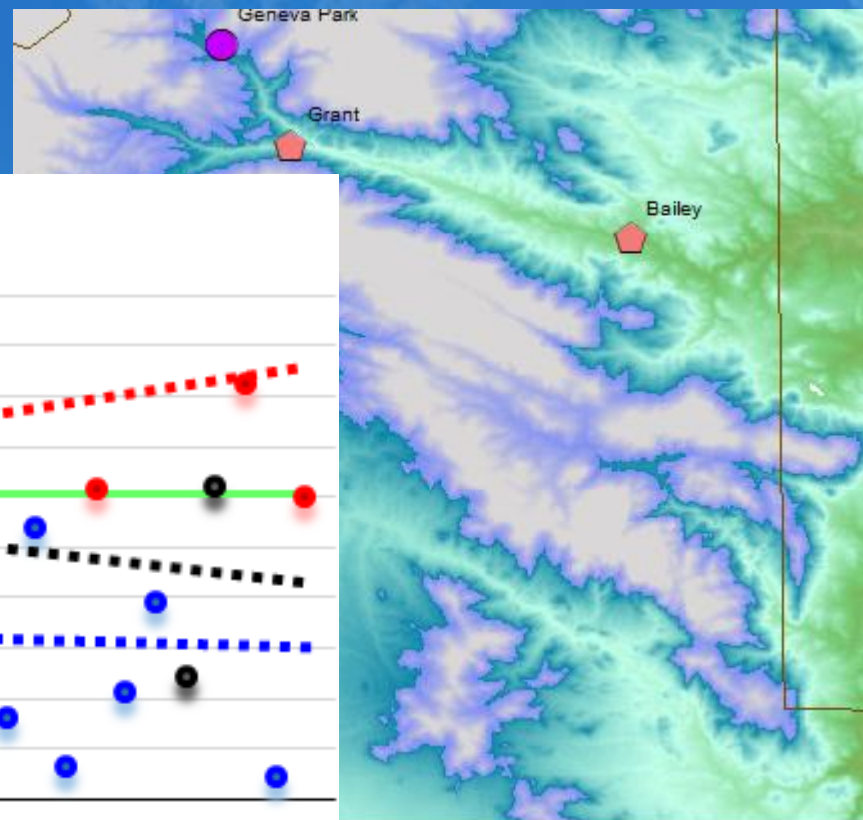


NWS Cooperative Observer & Airport Precipitation:



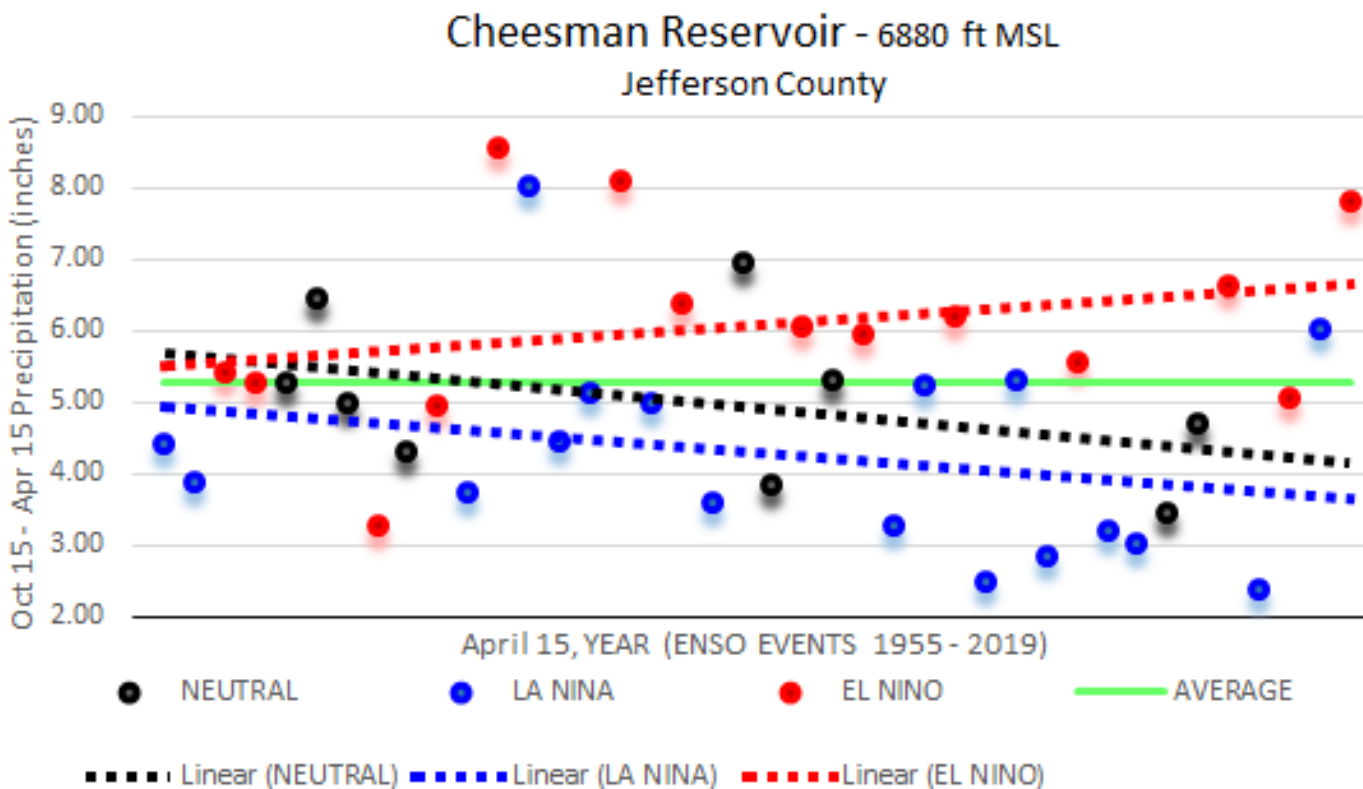
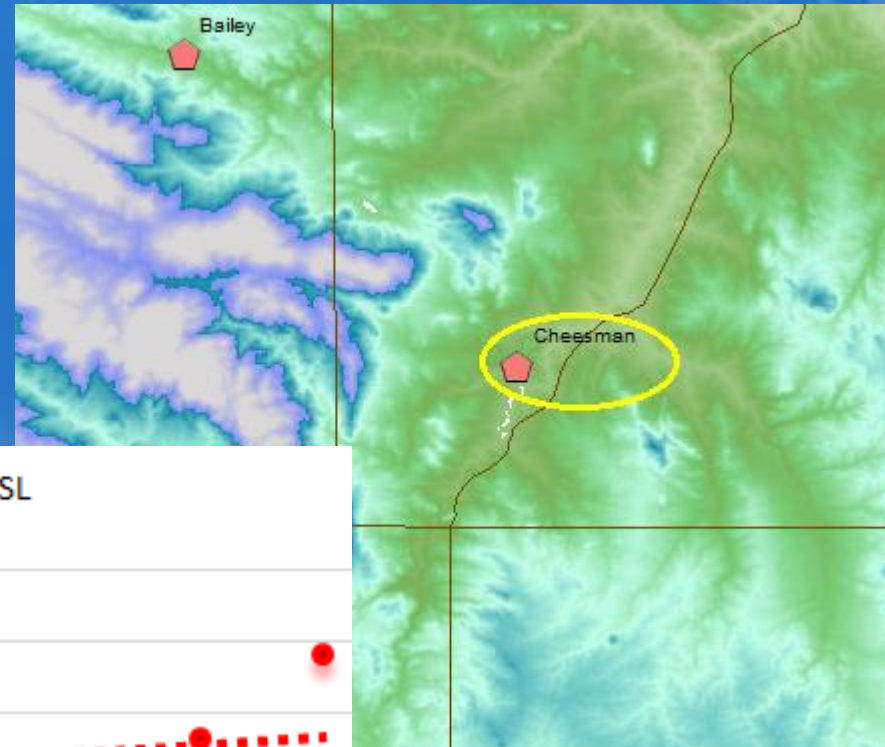
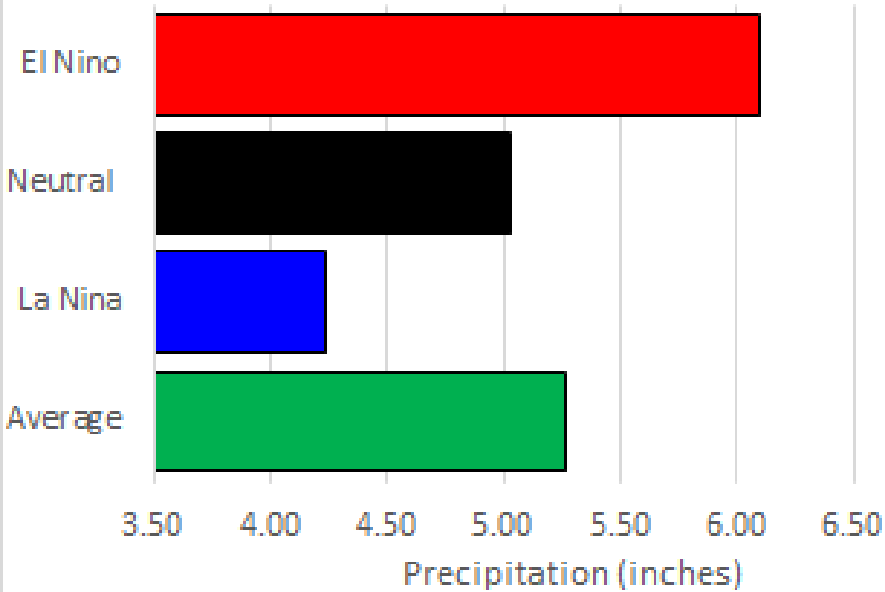
Front Range Foothills

Bailey Cooperative Observer Park County



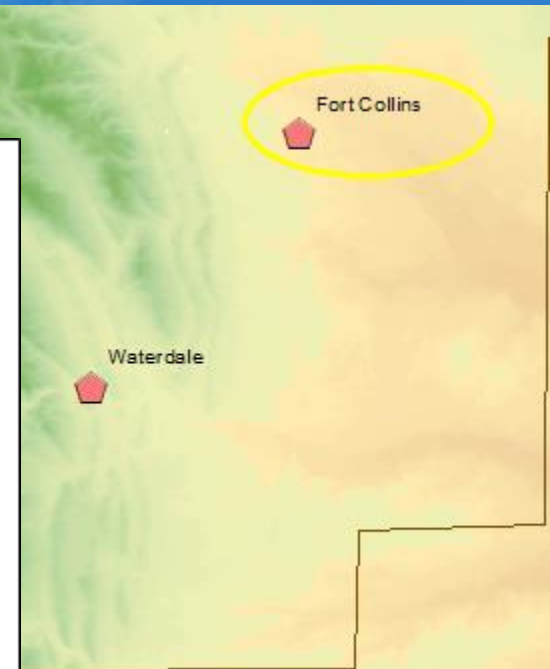
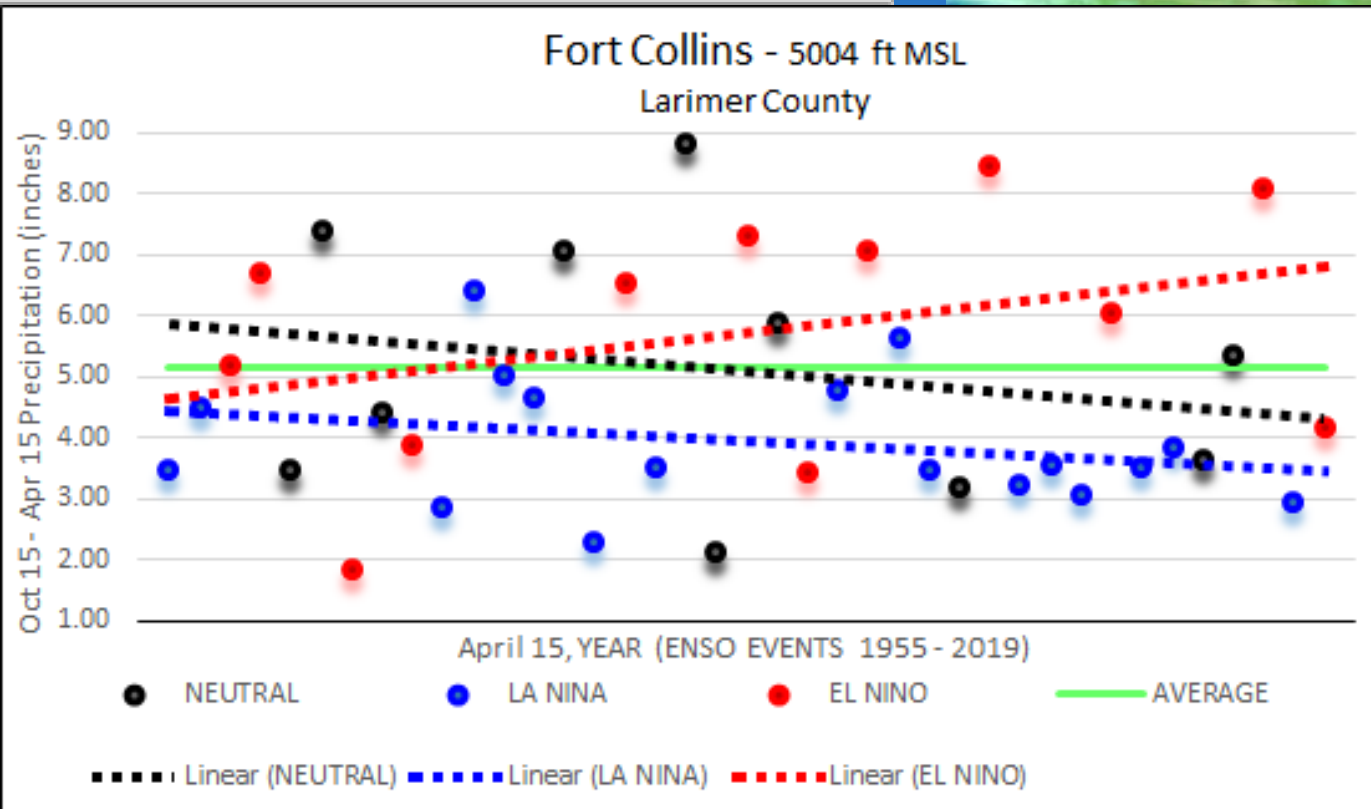
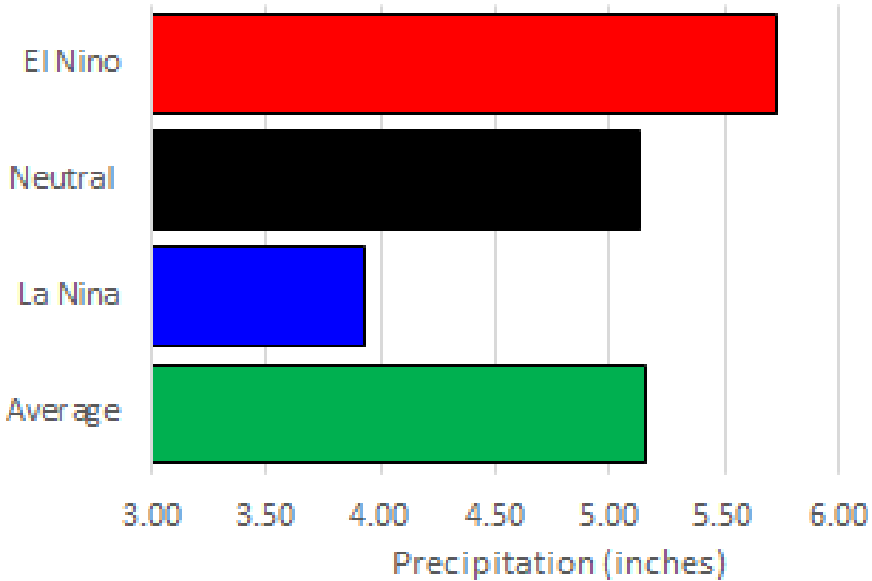
Cheesman Reservoir Coop

Jefferson County



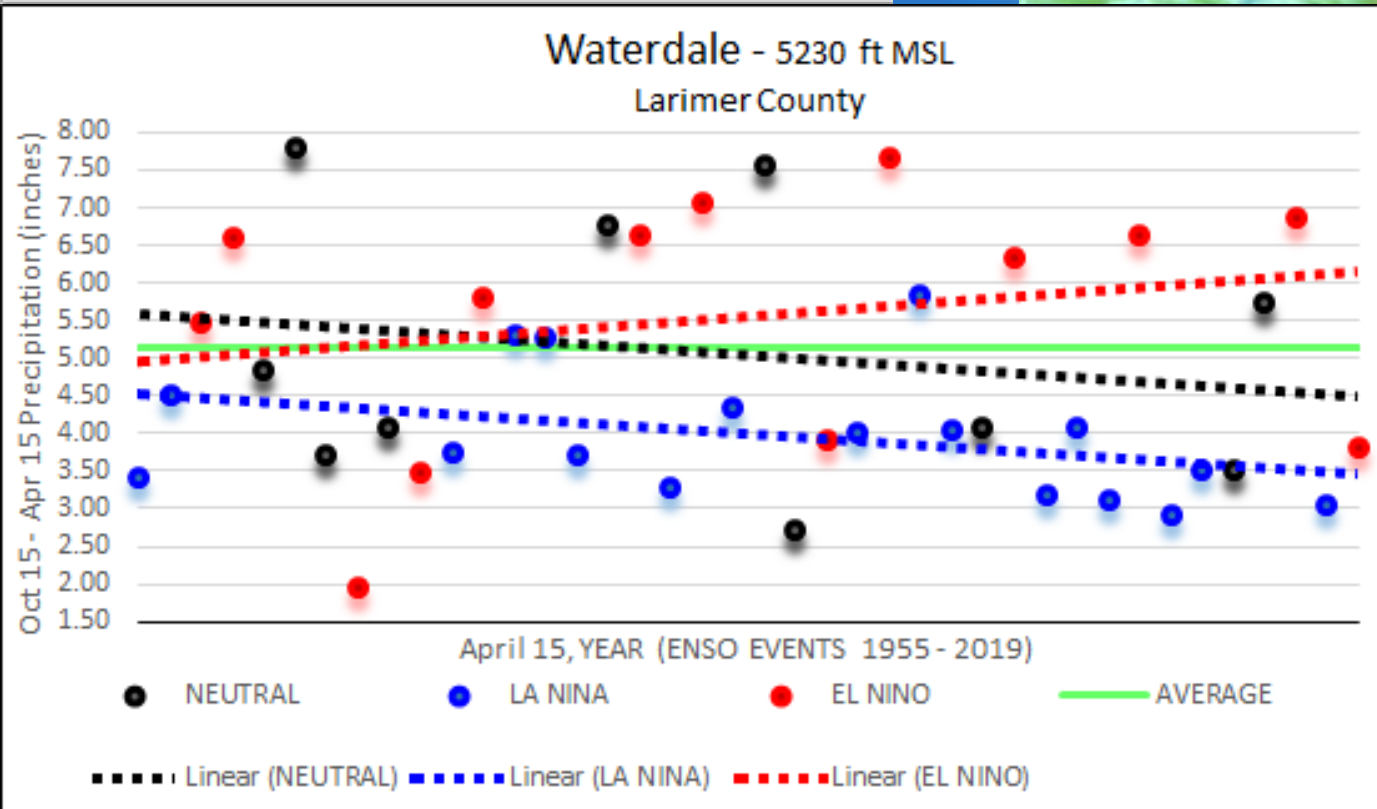
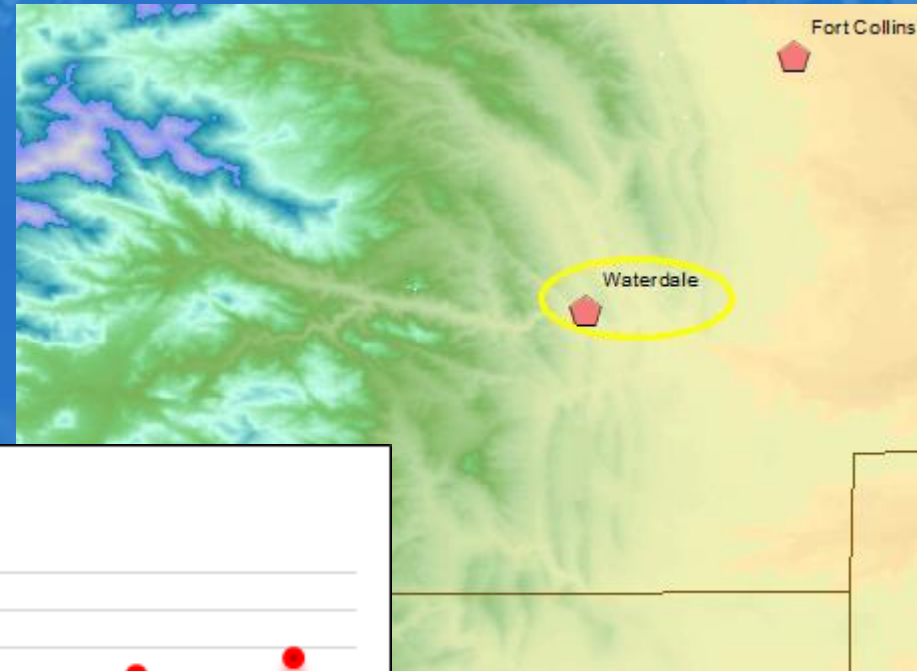
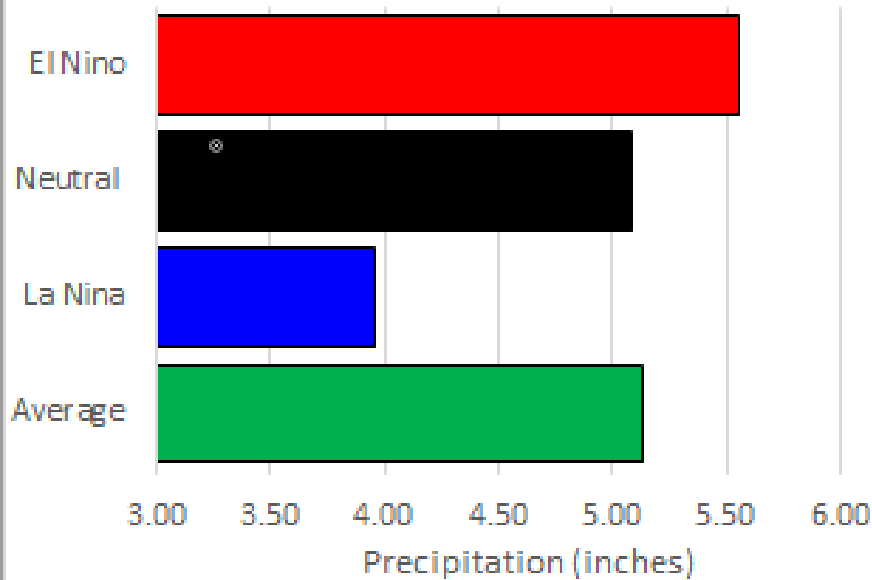
Urban Corridor

Fort Collins Coop Observer Larimer County

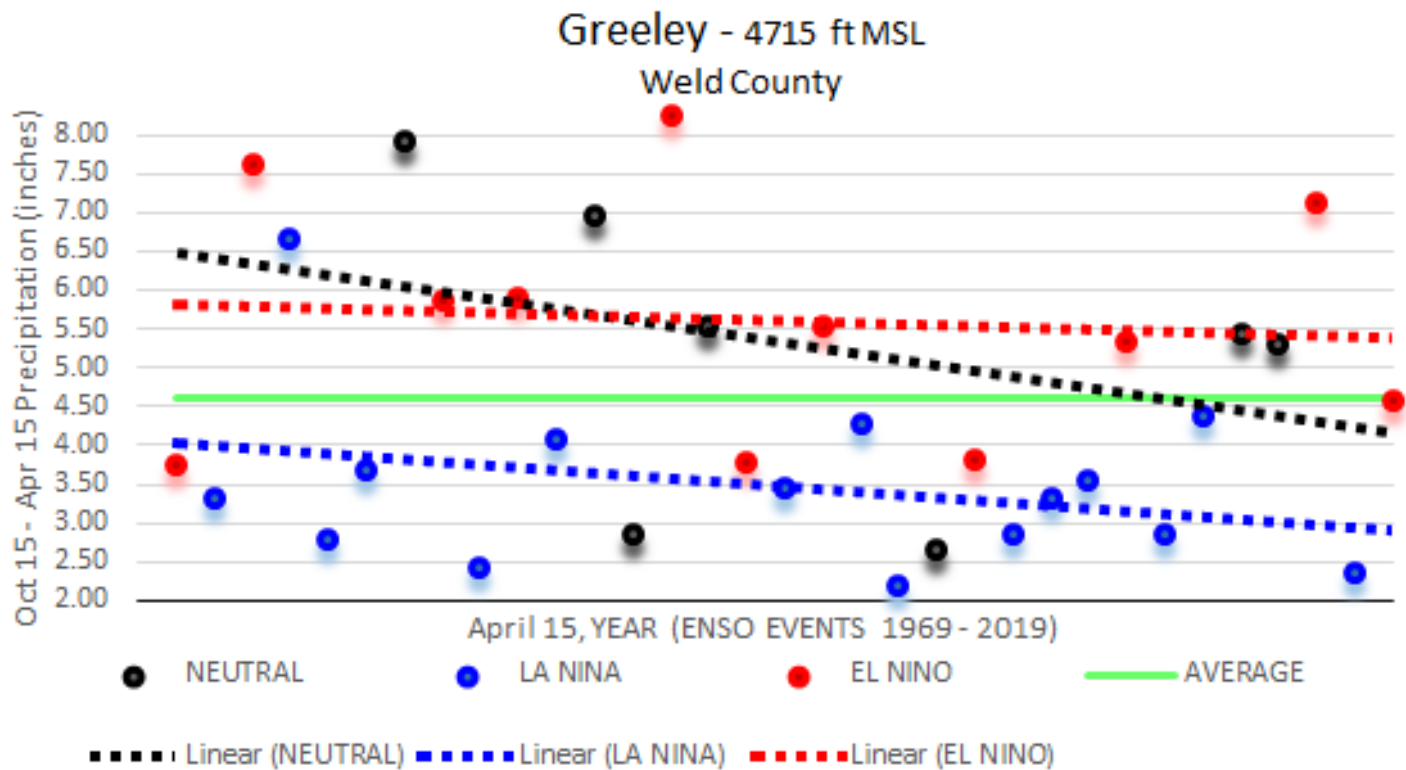
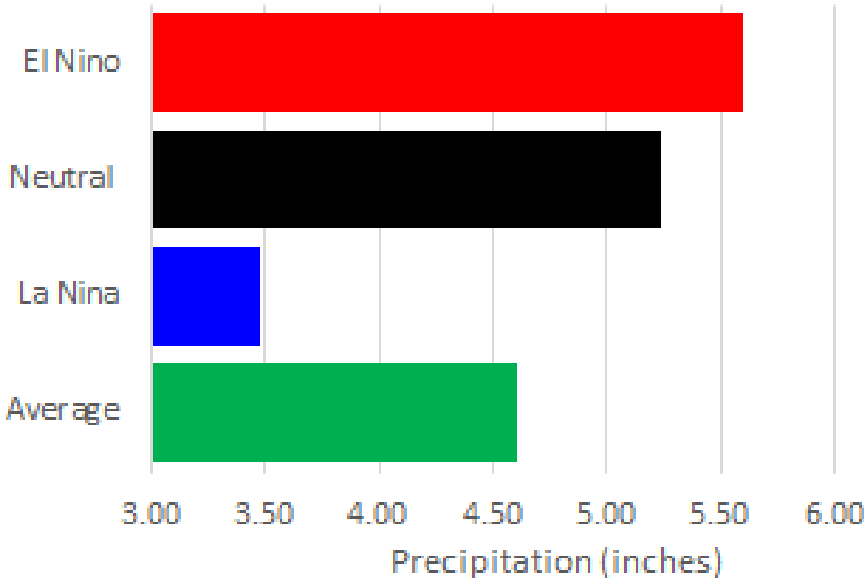


Waterdale Cooperative Obs

Larimer County

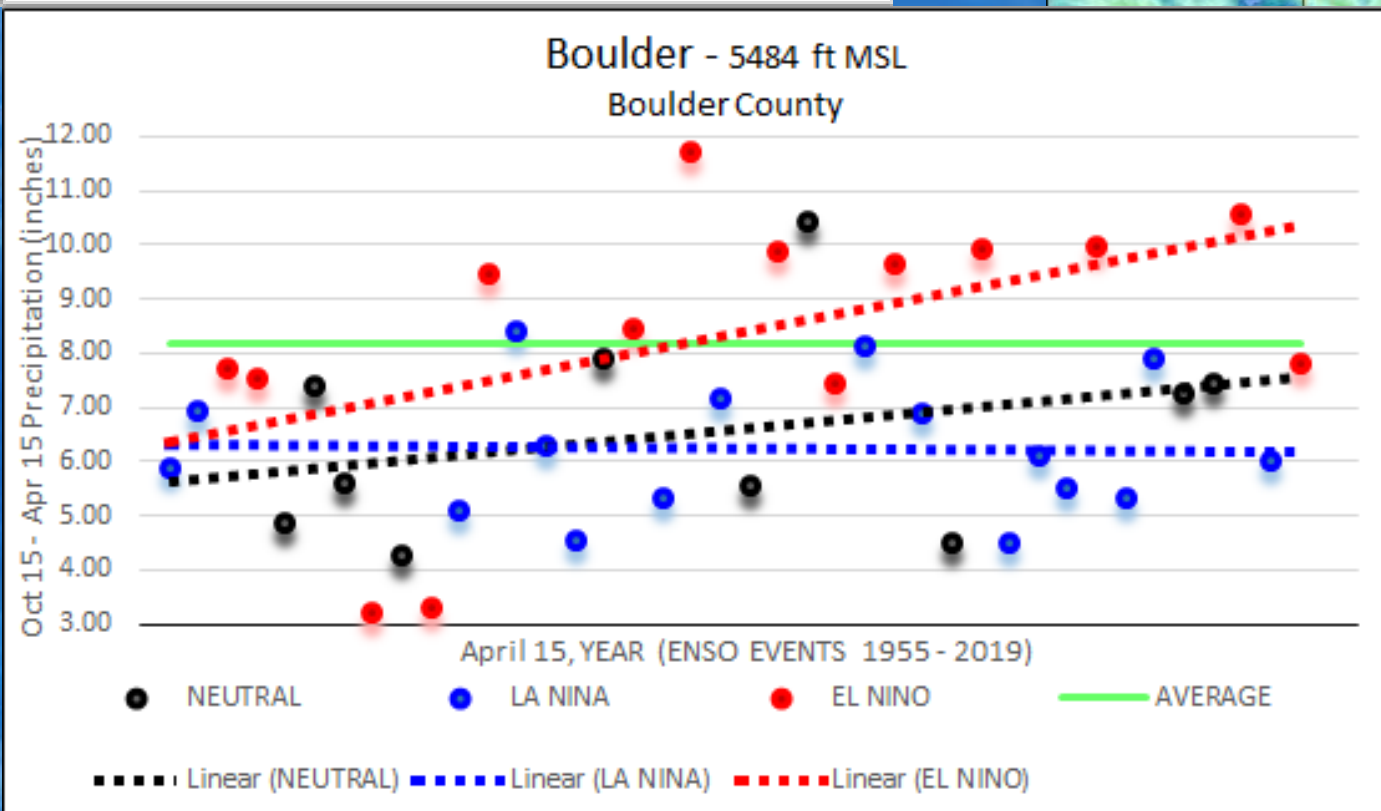
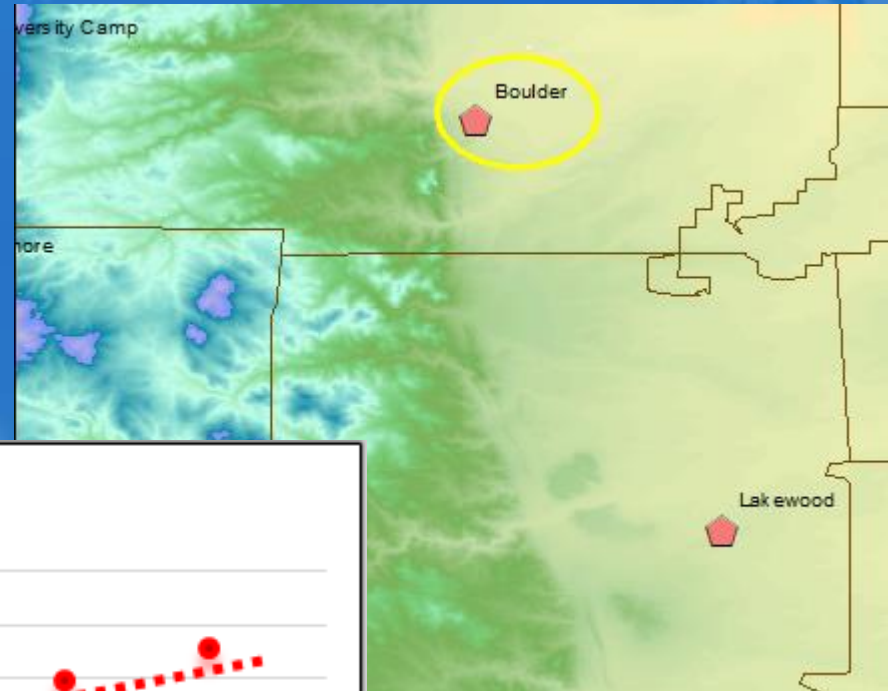
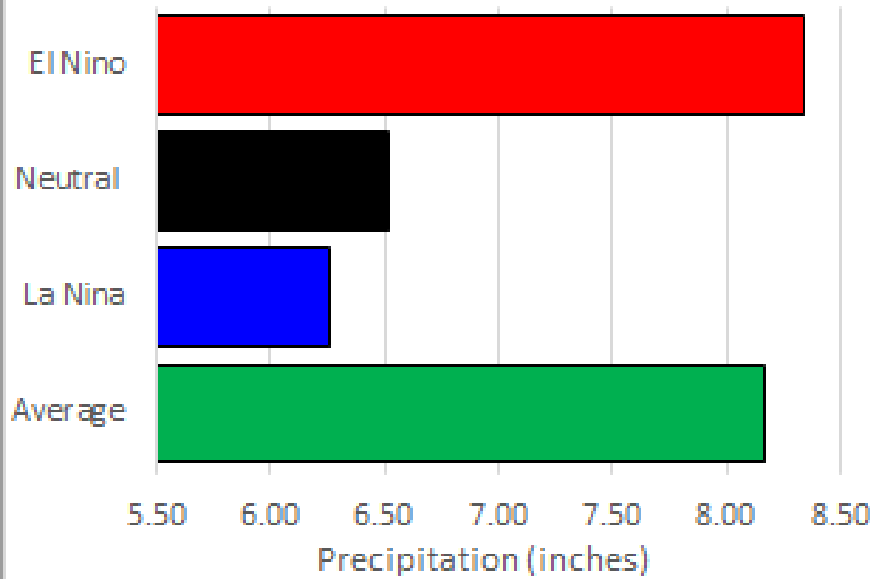


Greeley Cooperative Observer Weld County

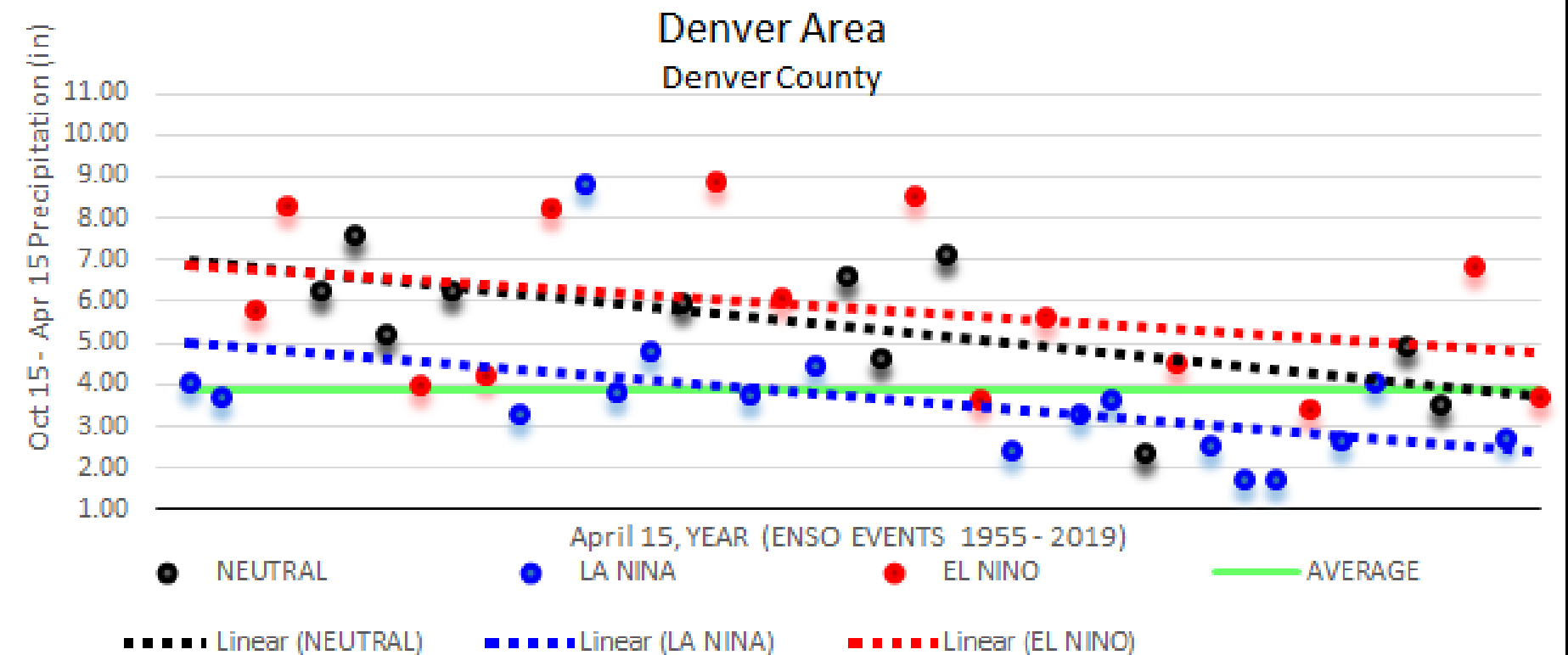
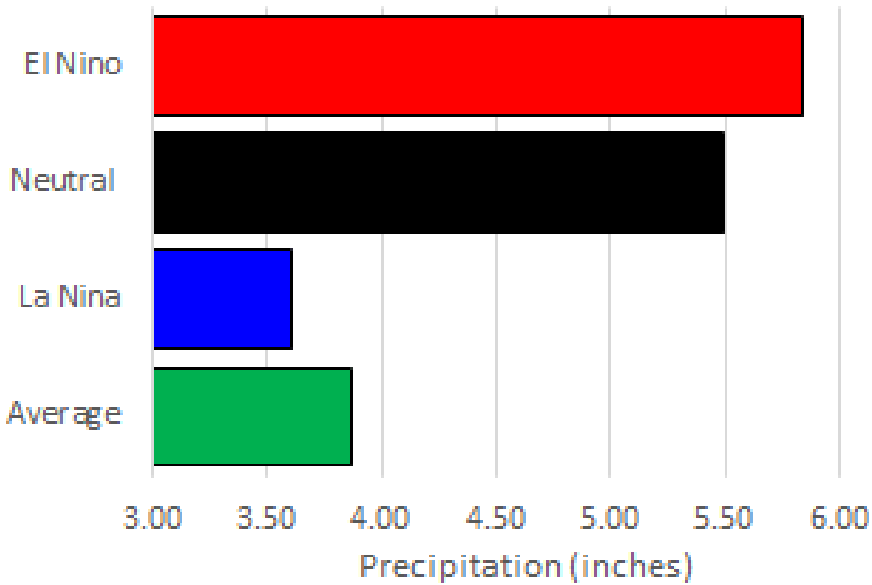


Boulder Cooperative Obs

Boulder County

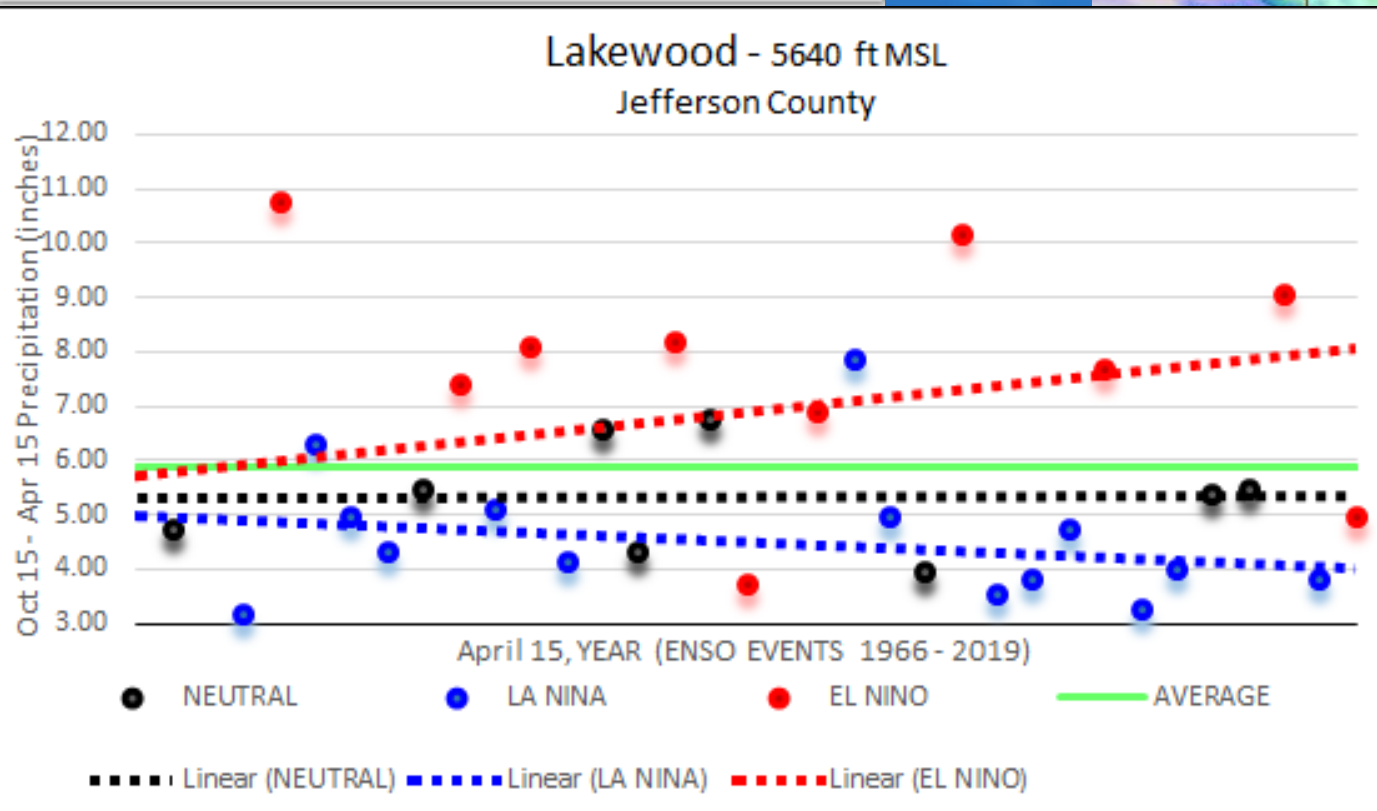
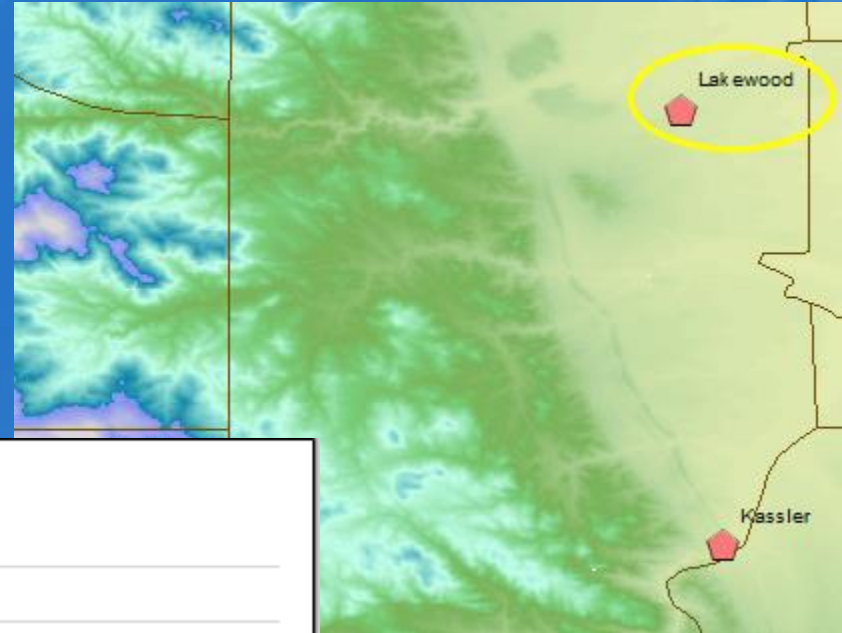
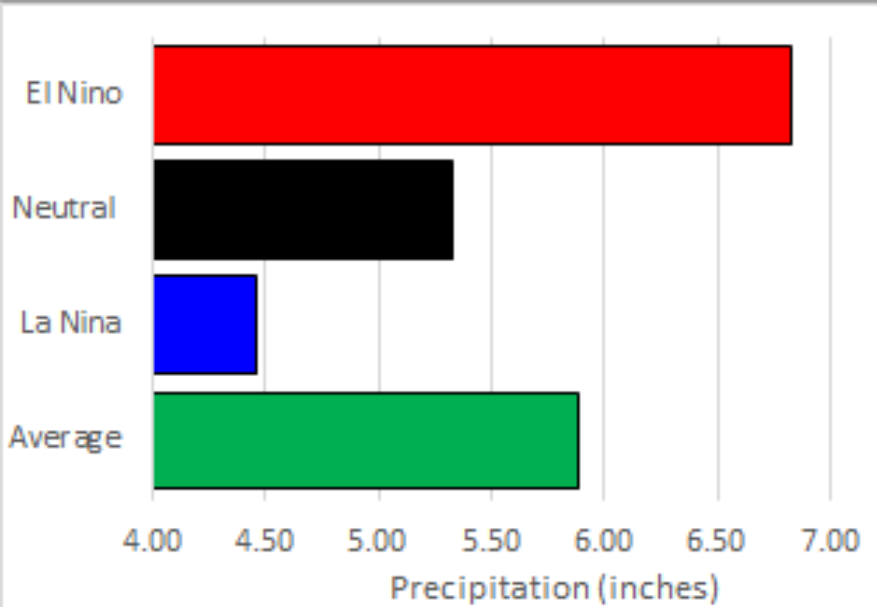


Denver Area Denver County

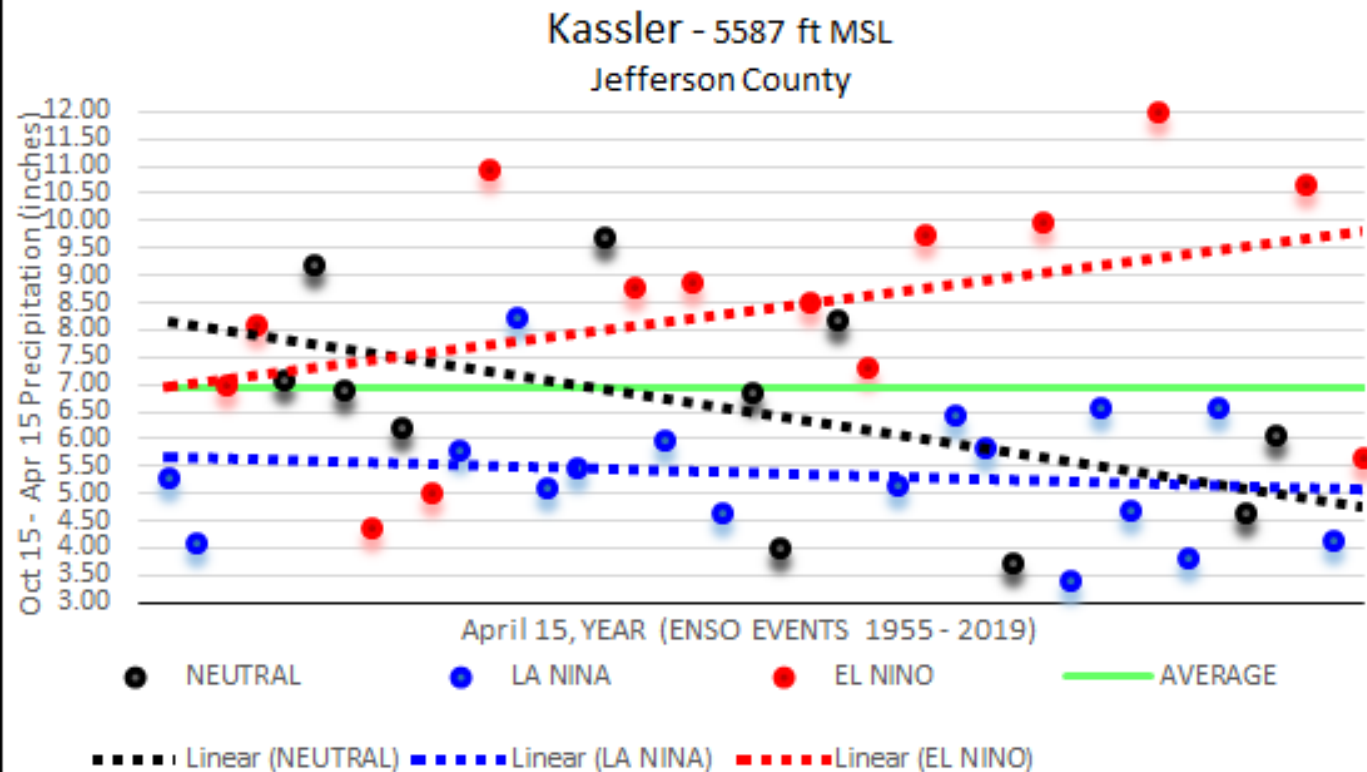
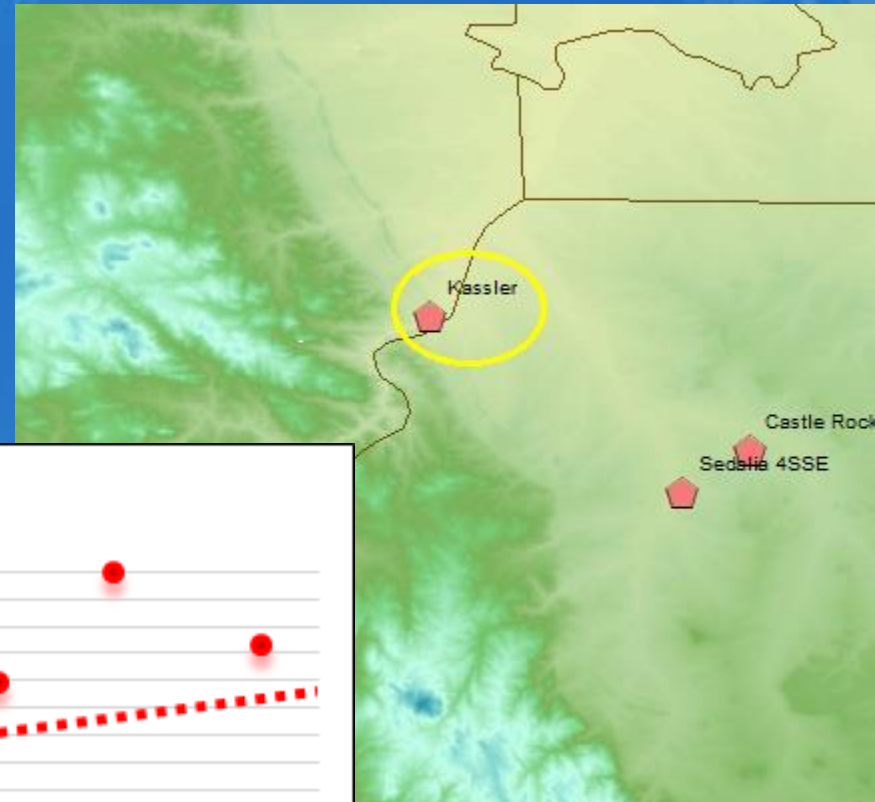
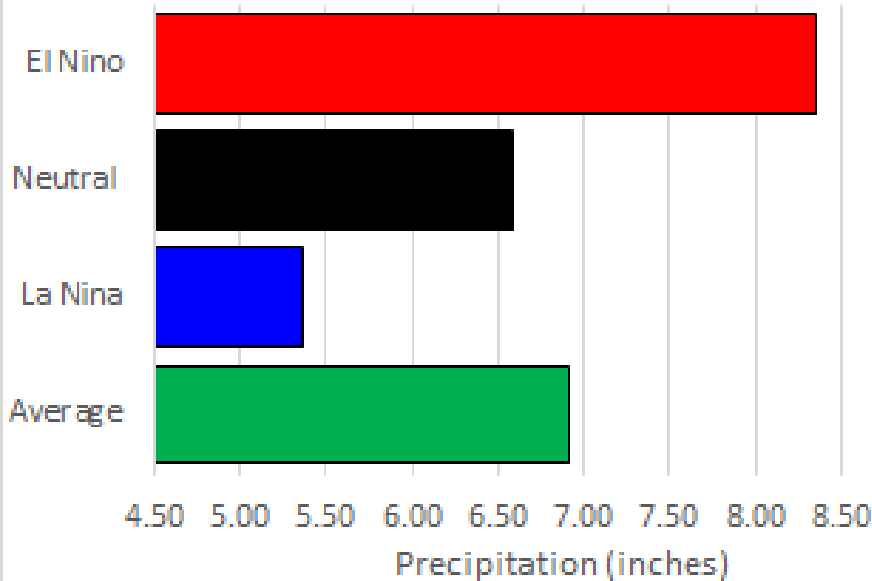


Lakewood Cooperative Obs

Jefferson County

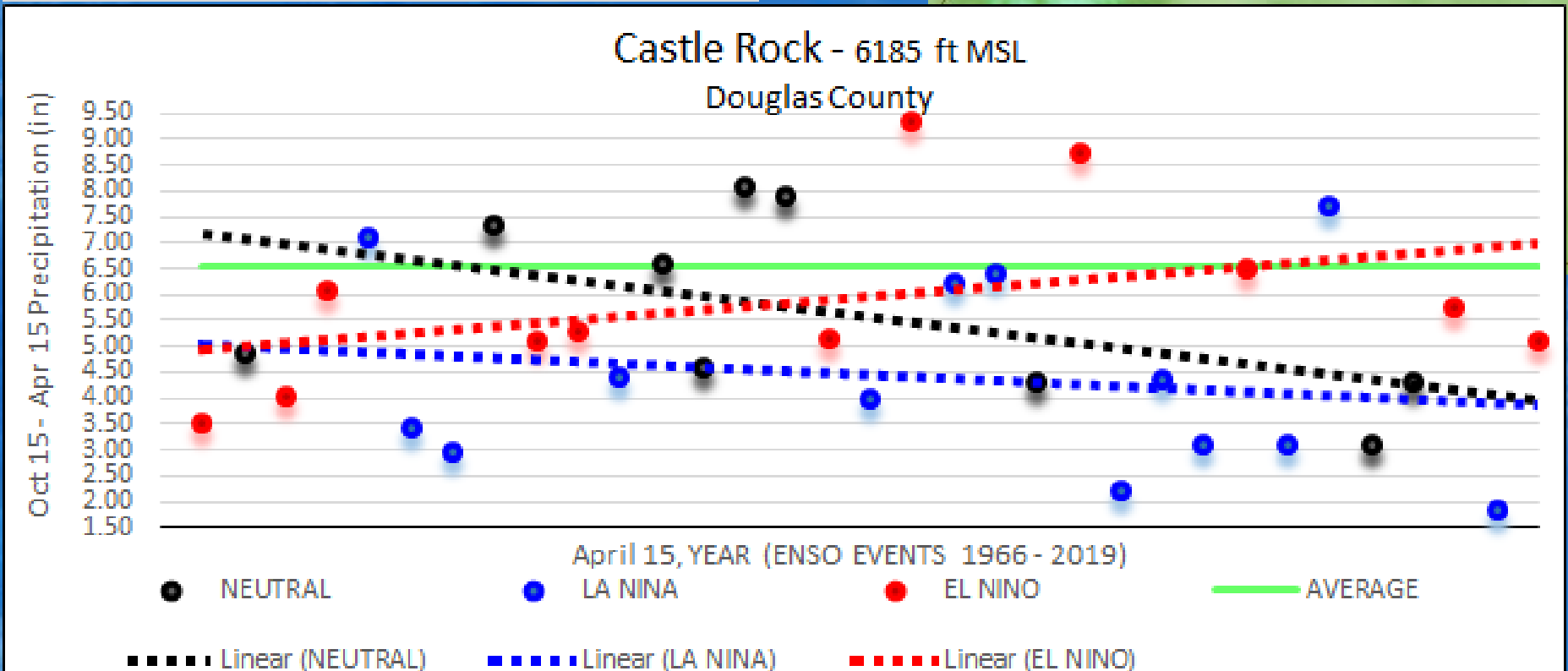
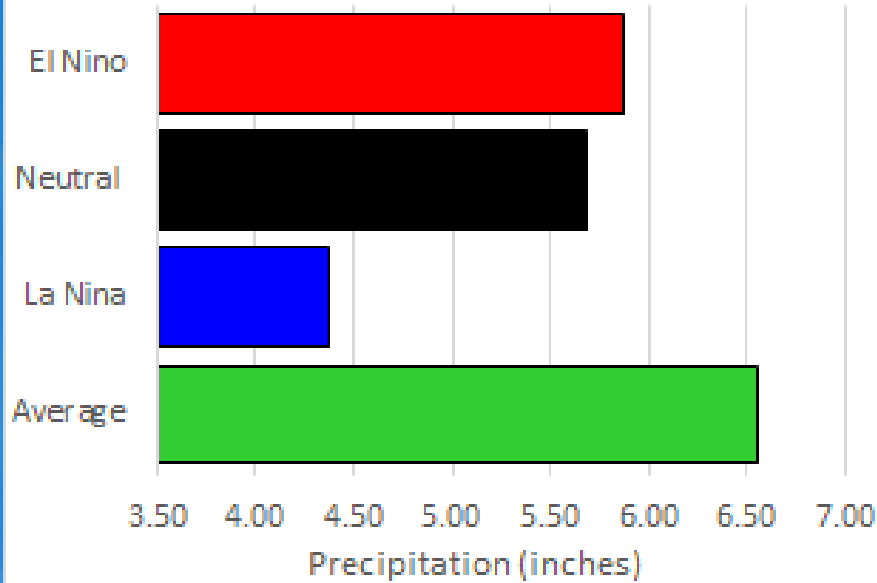


Kassler Cooperative Obs Jefferson/Douglas County border



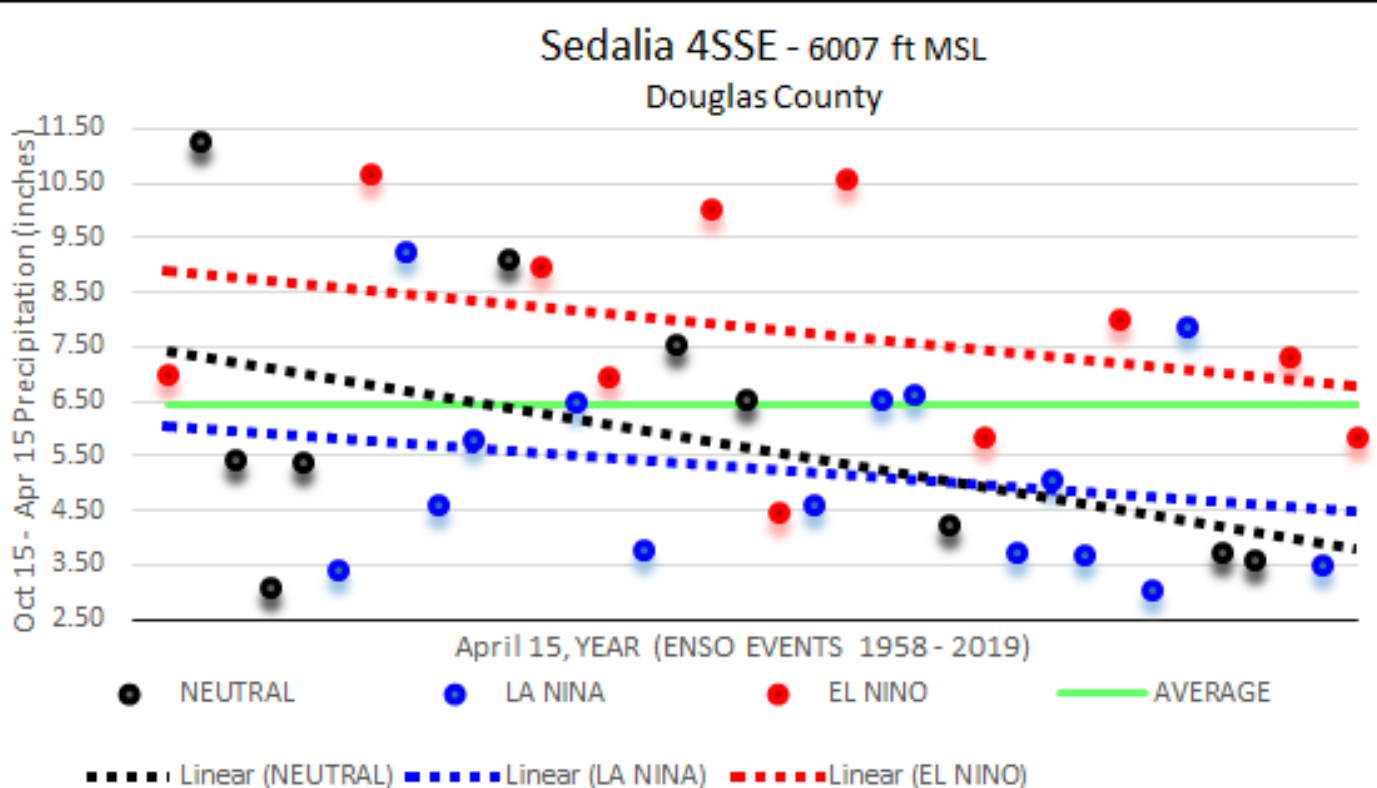
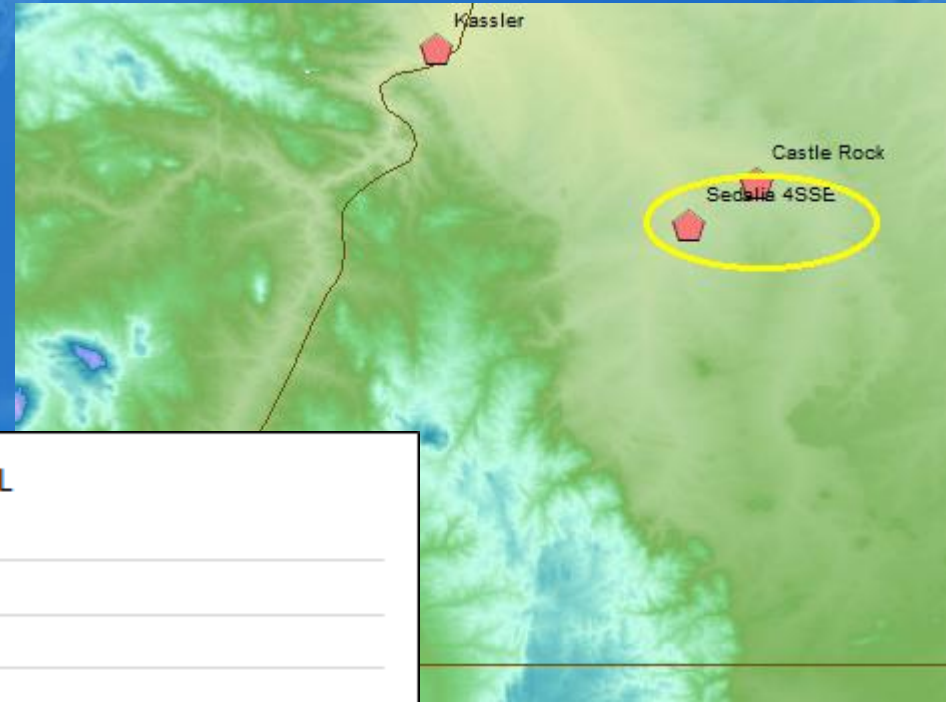
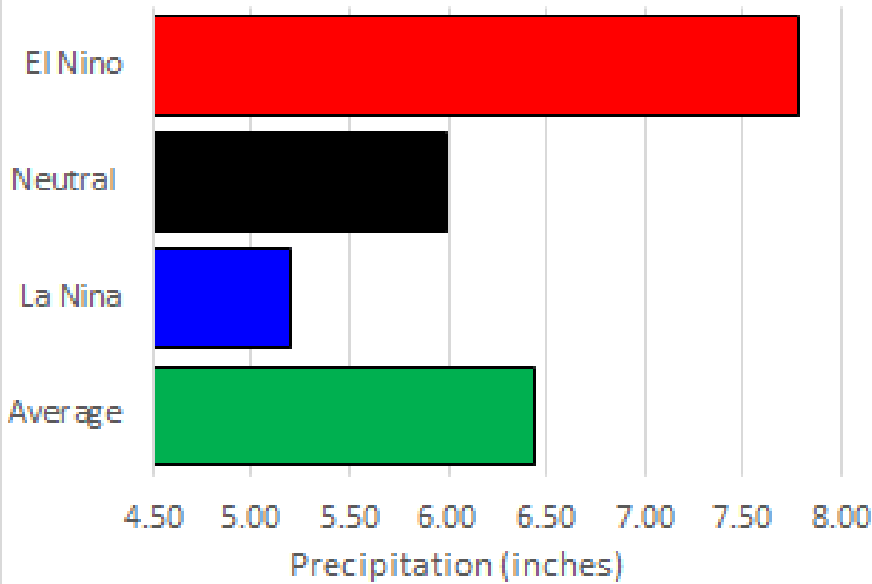
Castle Rock Coop Observer

Douglas County



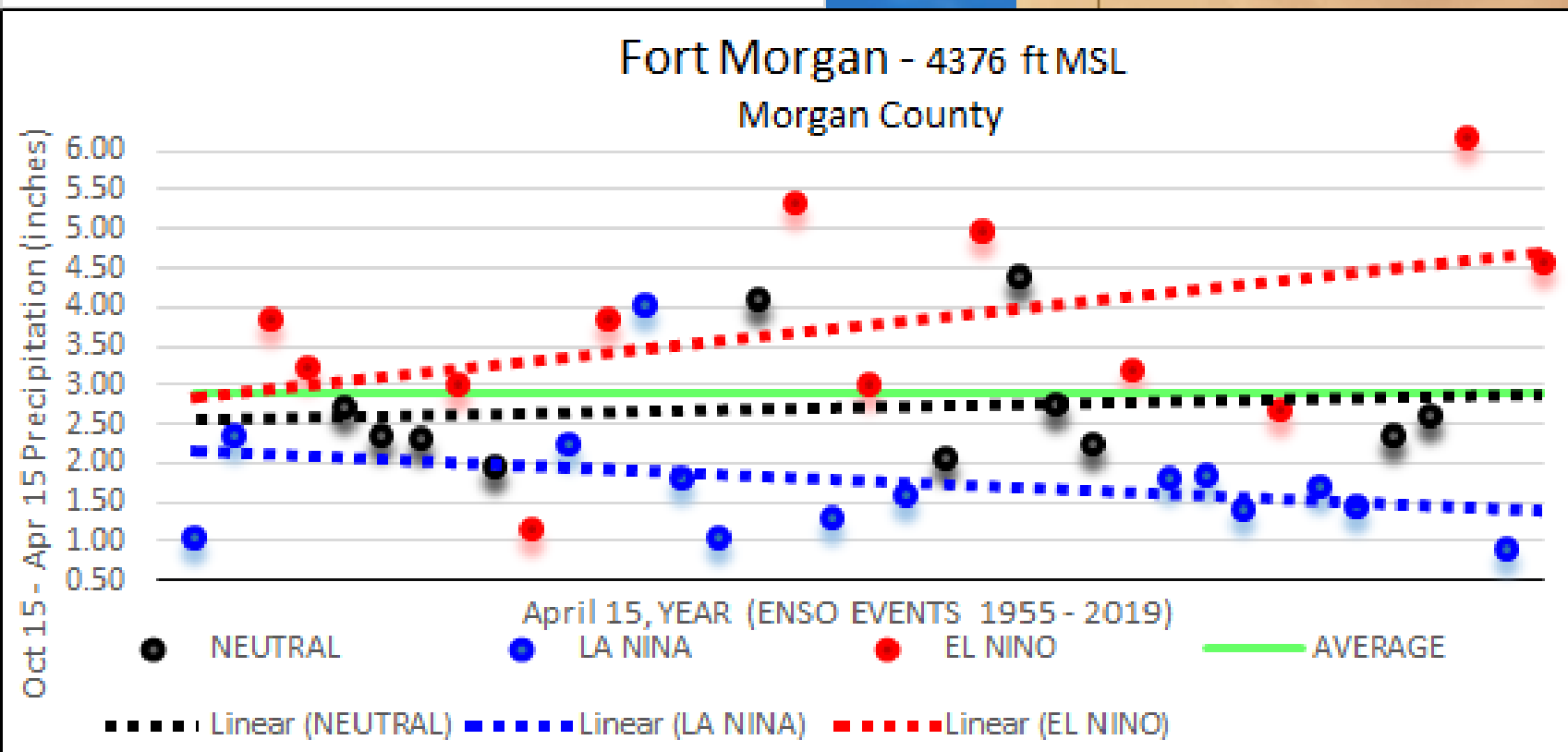
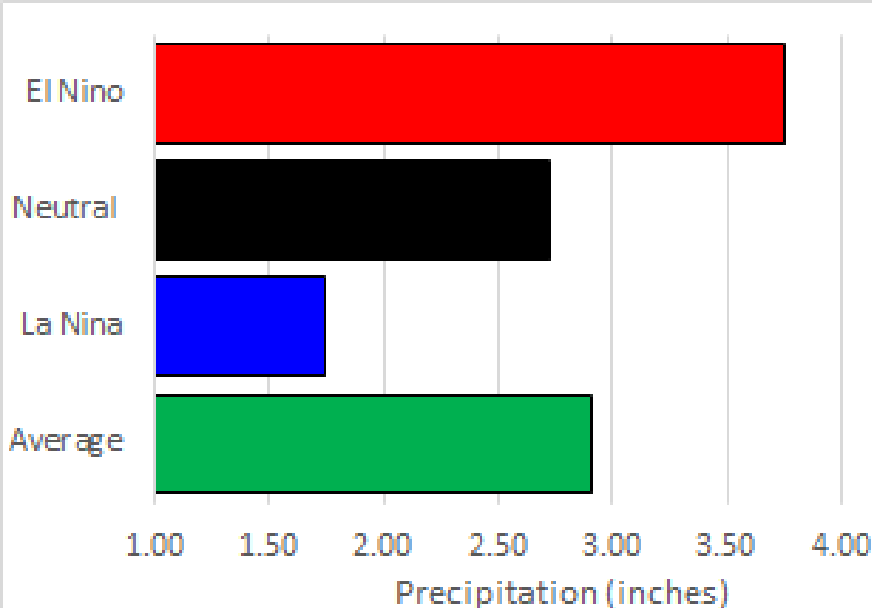
Sedalia 4SSE Coop Observer

Douglas County

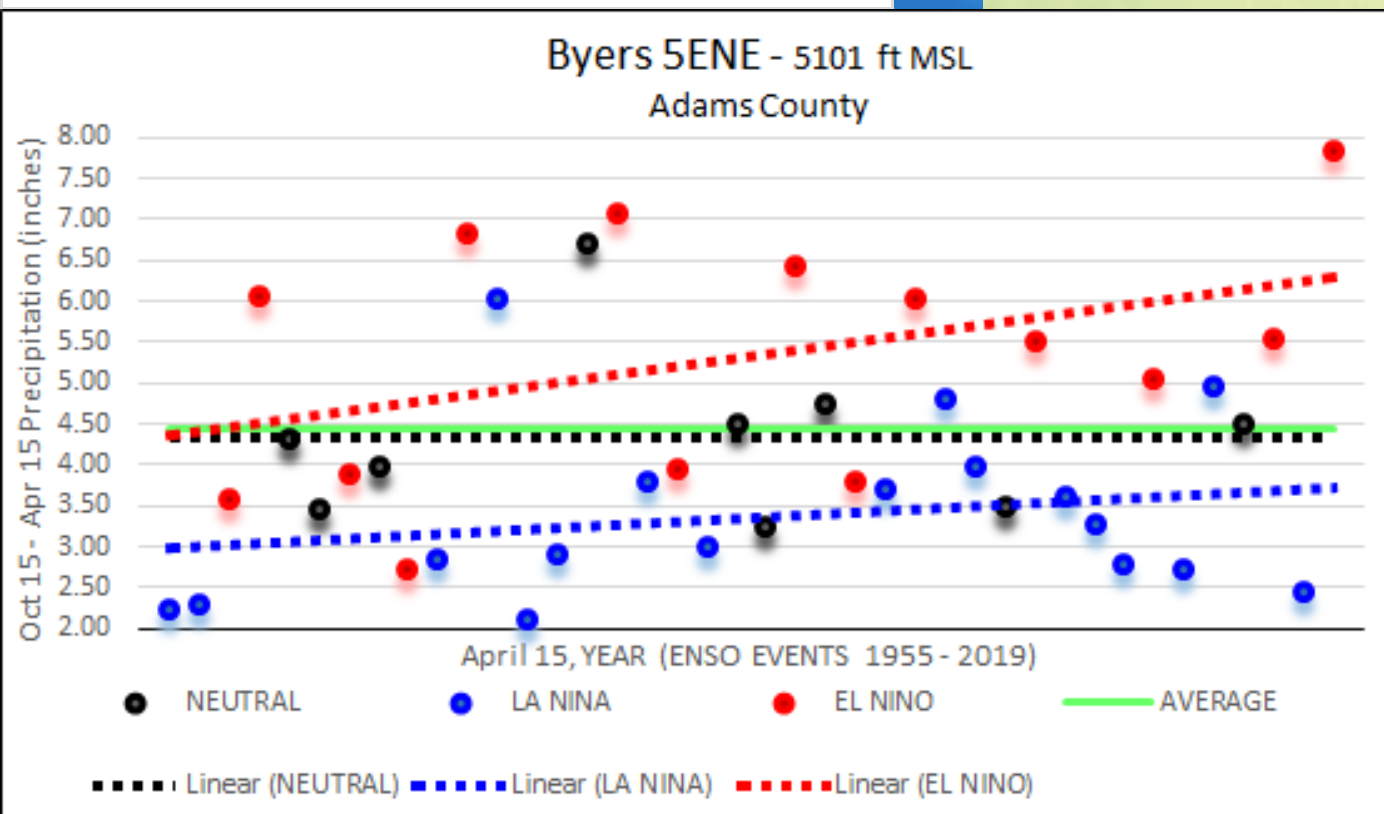
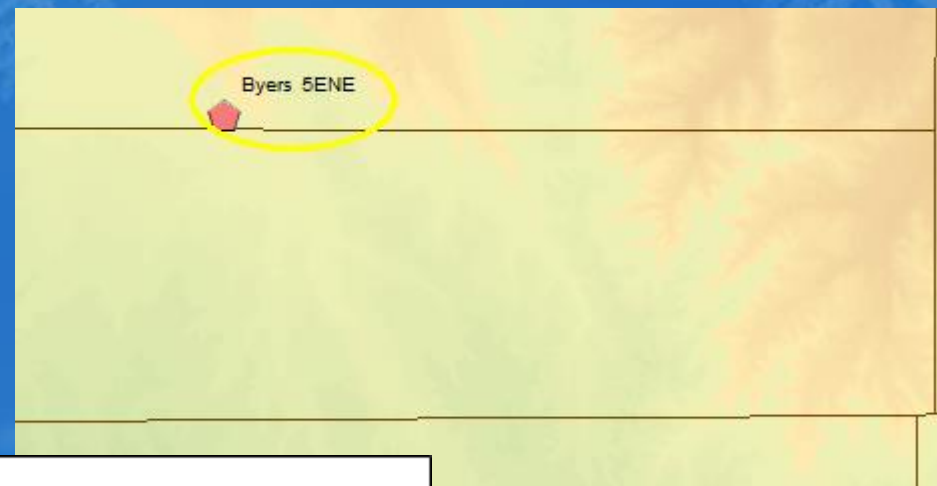
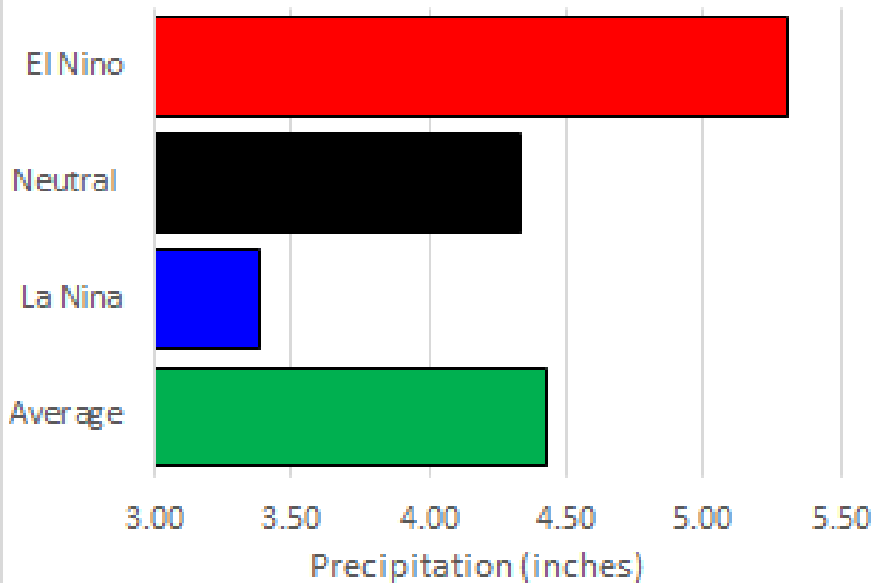


Eastern Plains

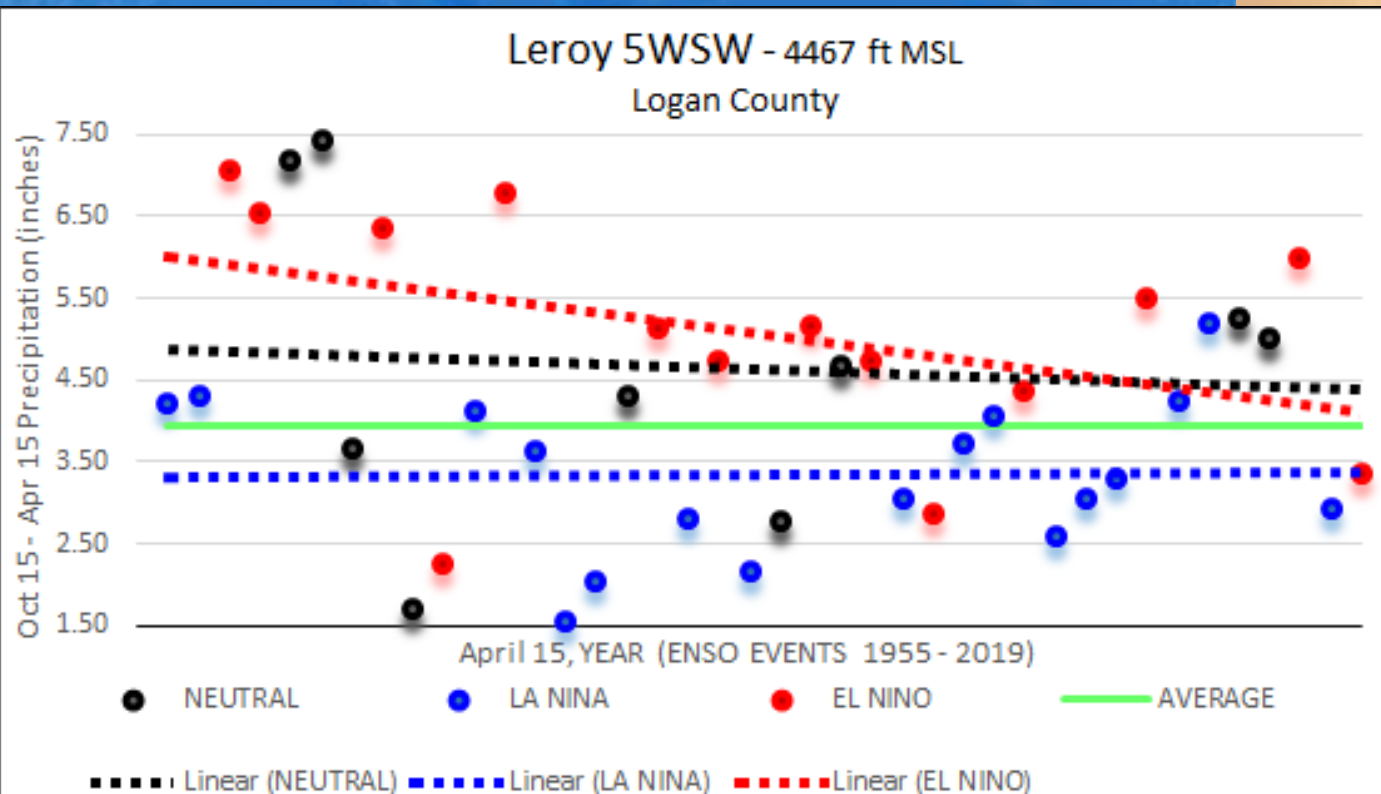
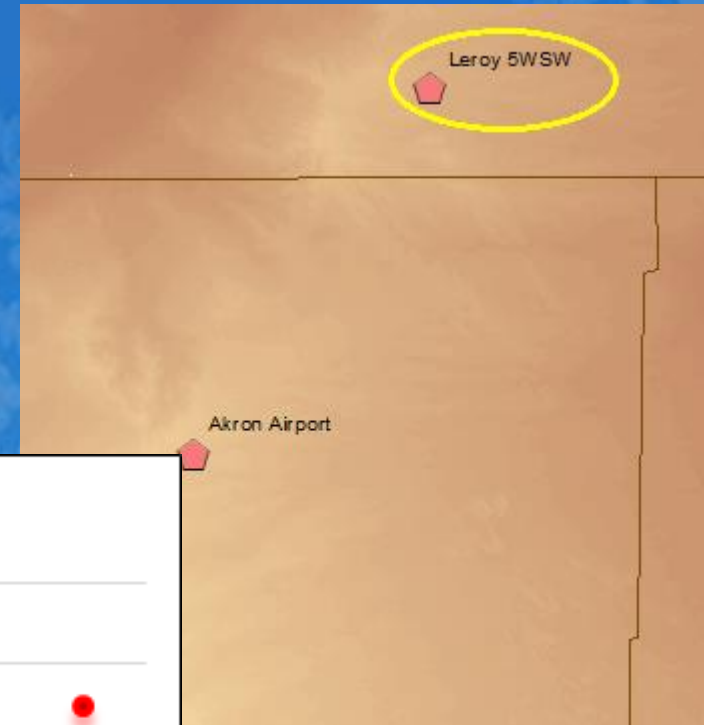
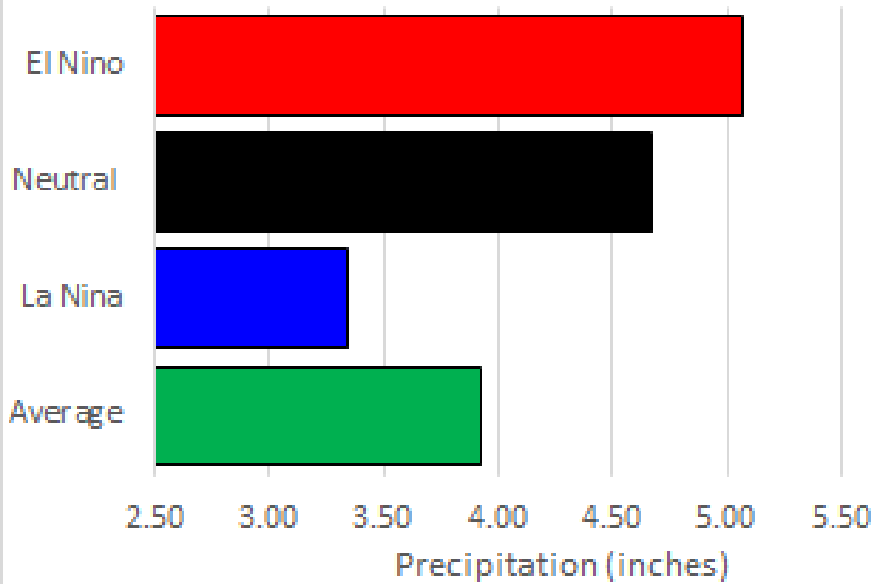
Fort Morgan Coop Observer Morgan County



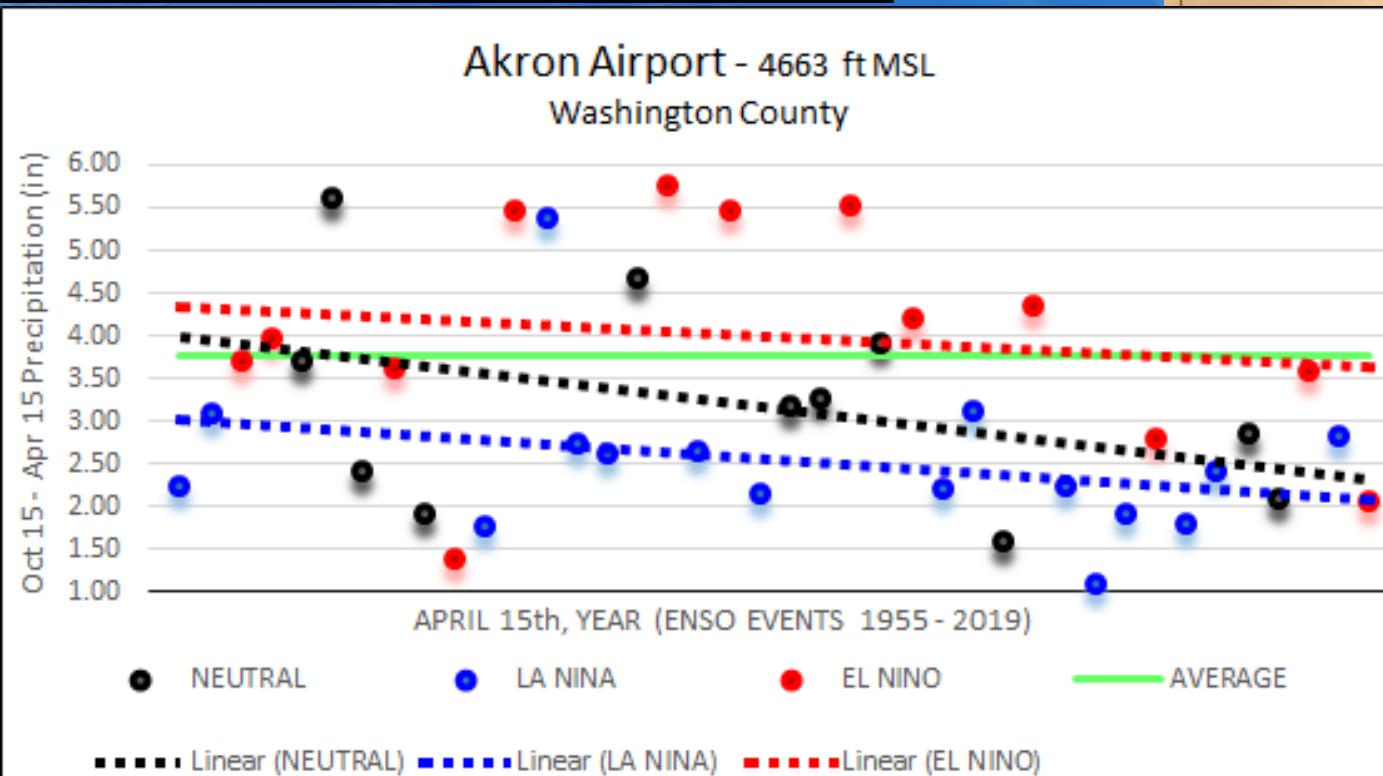
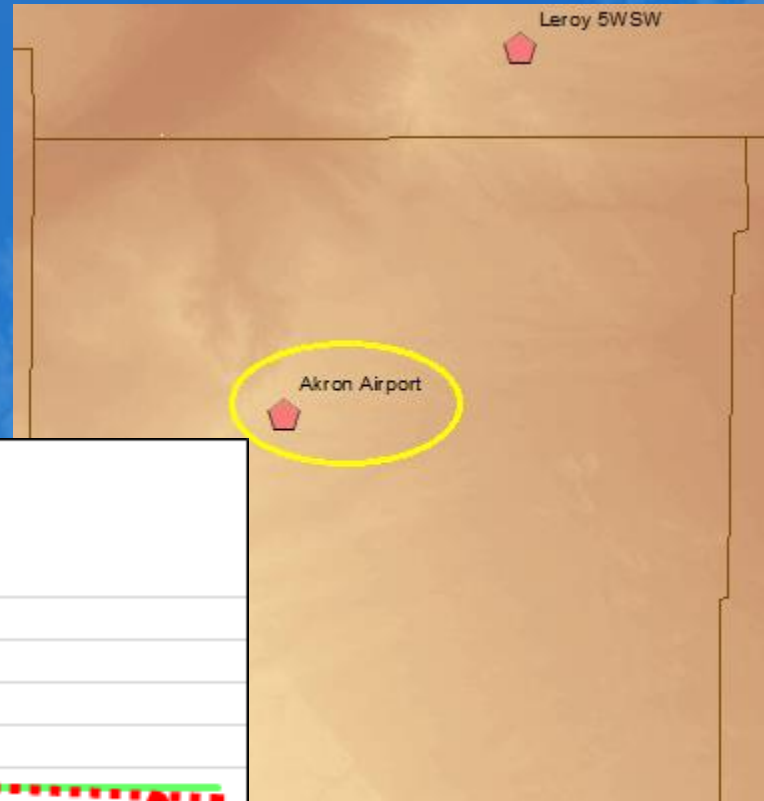
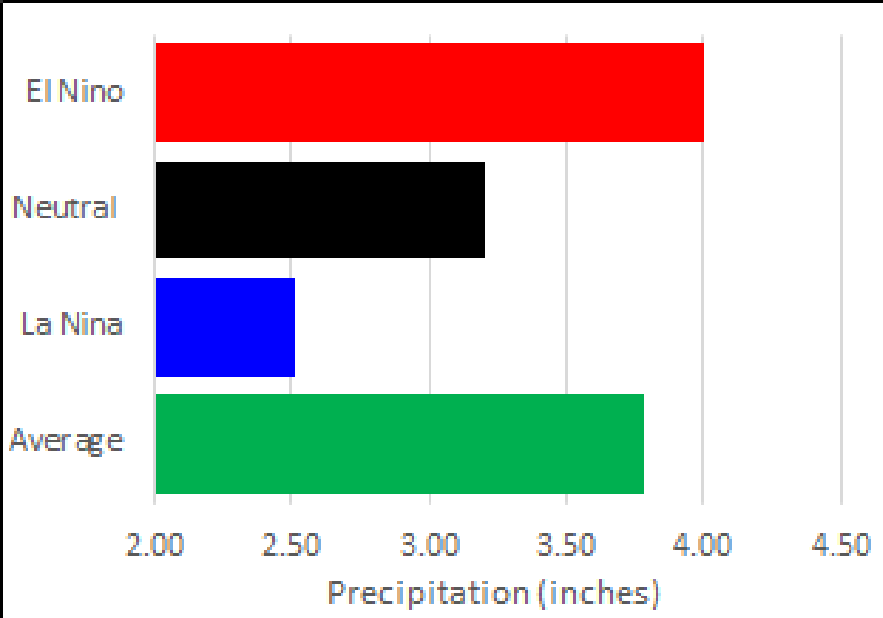
Byers 5ENE Coop Obs Adams County



Leroy 5WSW Coop Observer Logan County

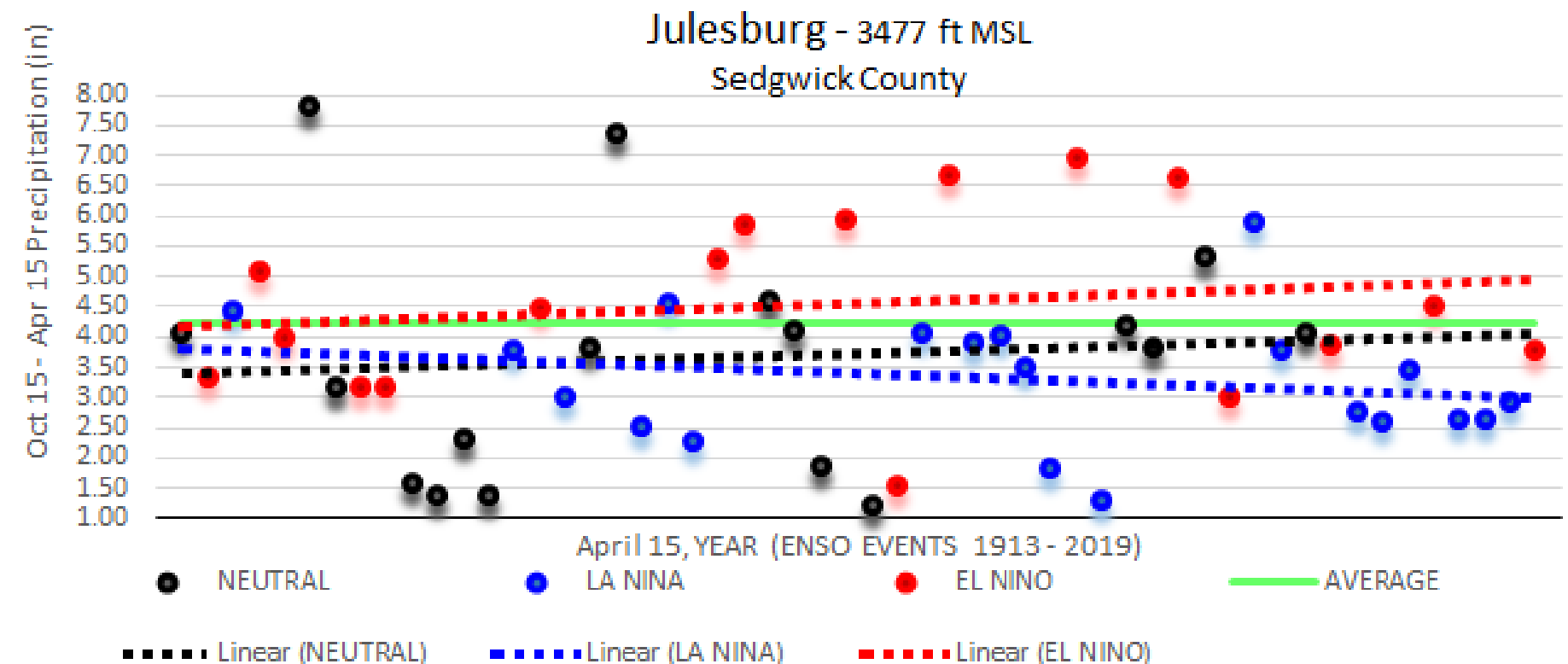
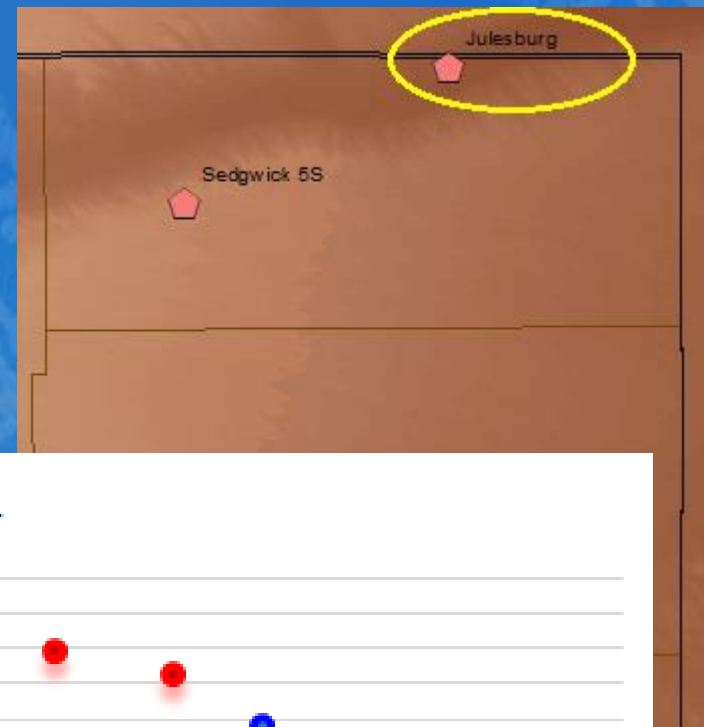
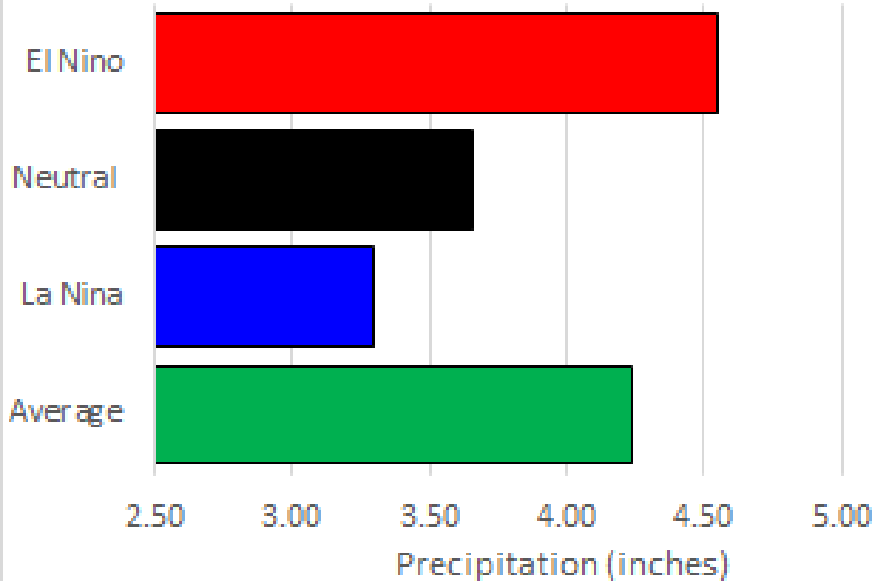


Akron Airport Washington County



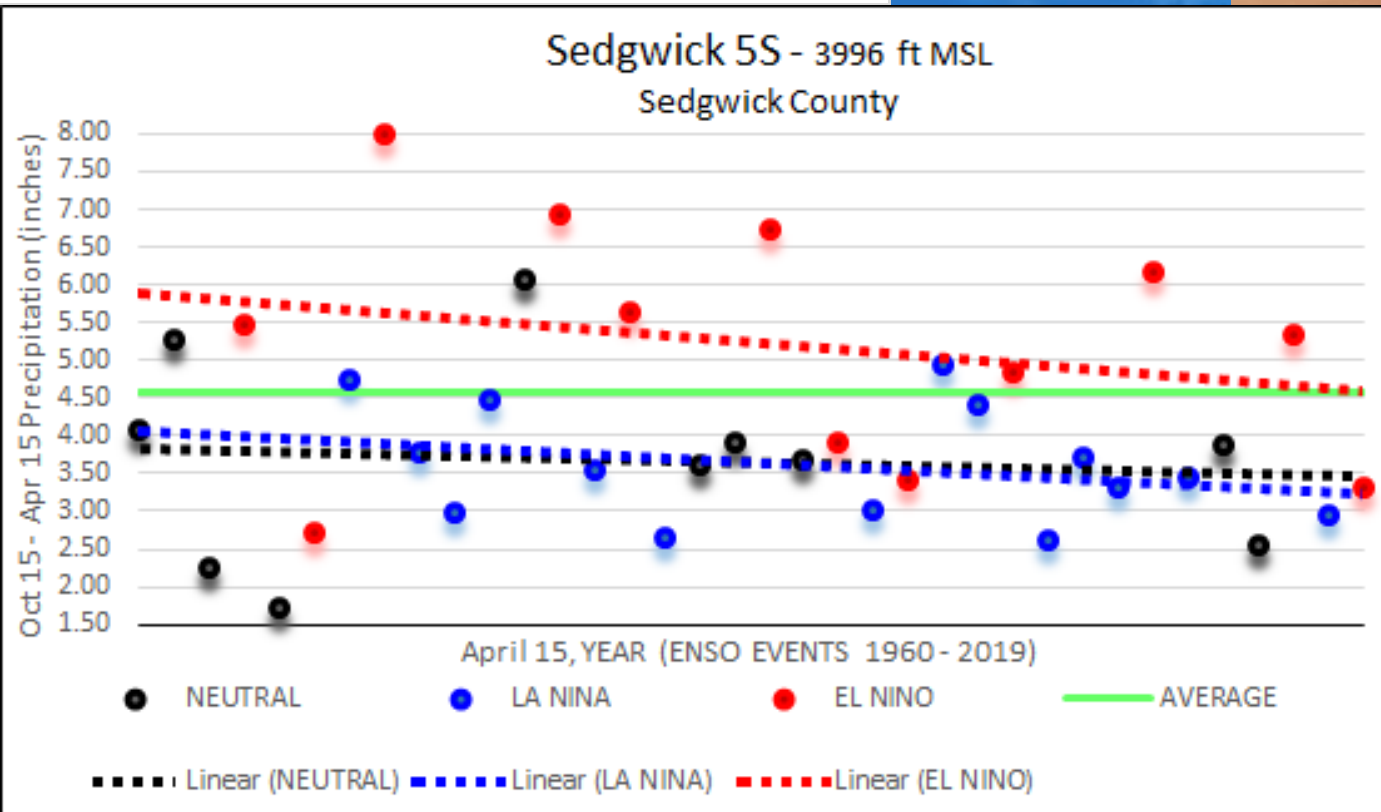
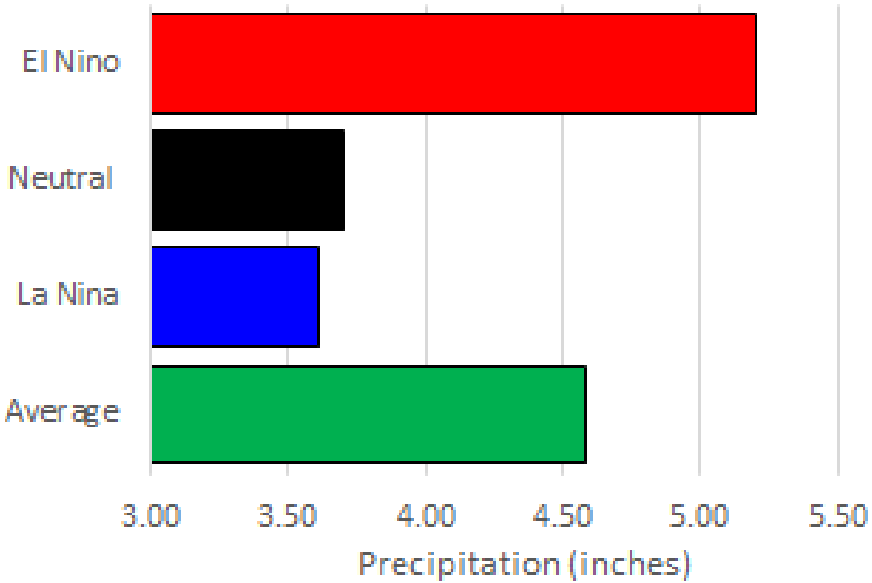
Julesburg Coop Observer

Sedgwick County



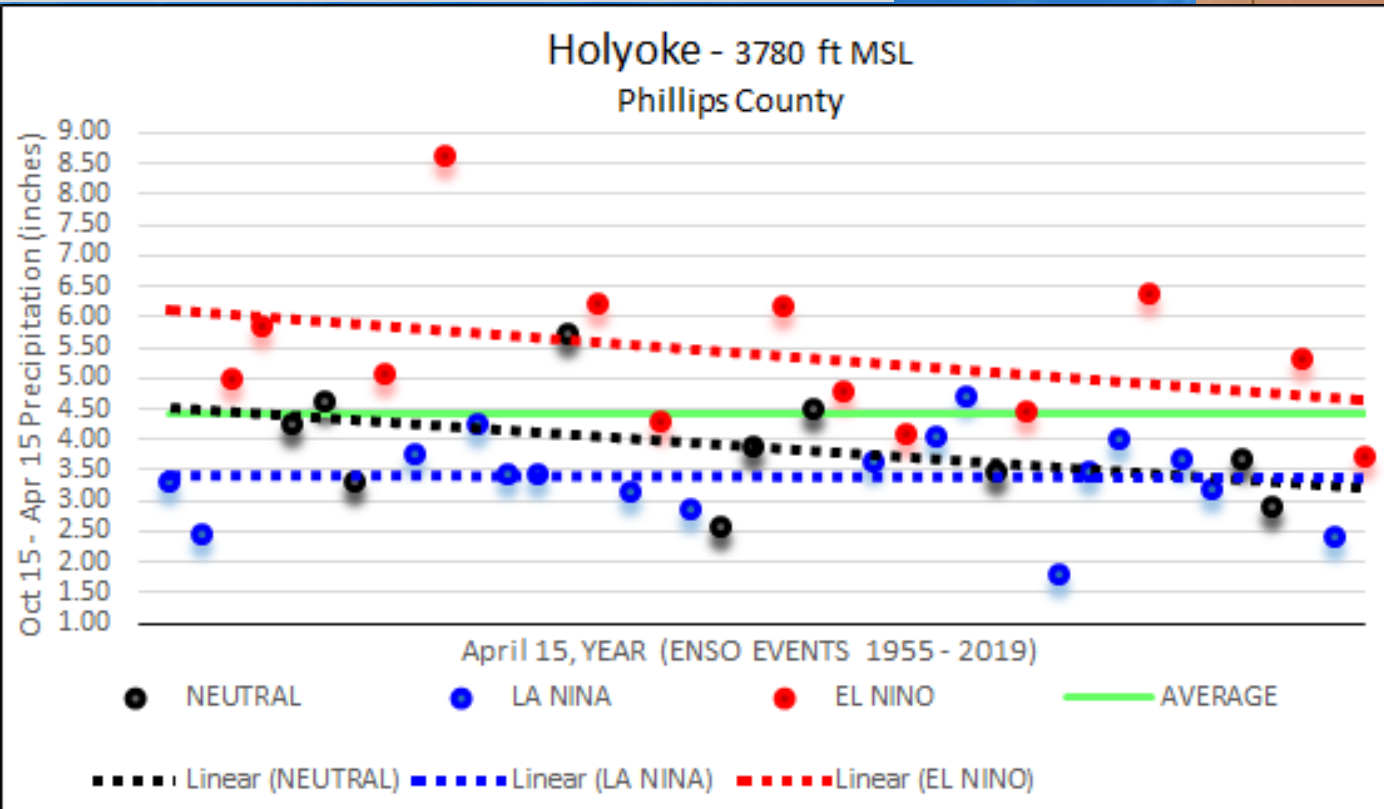
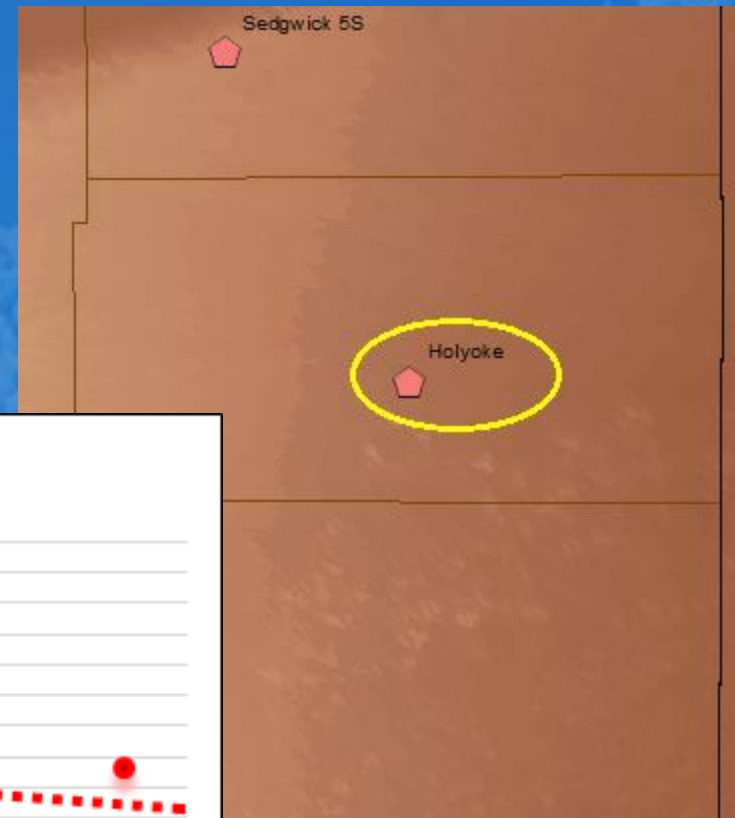
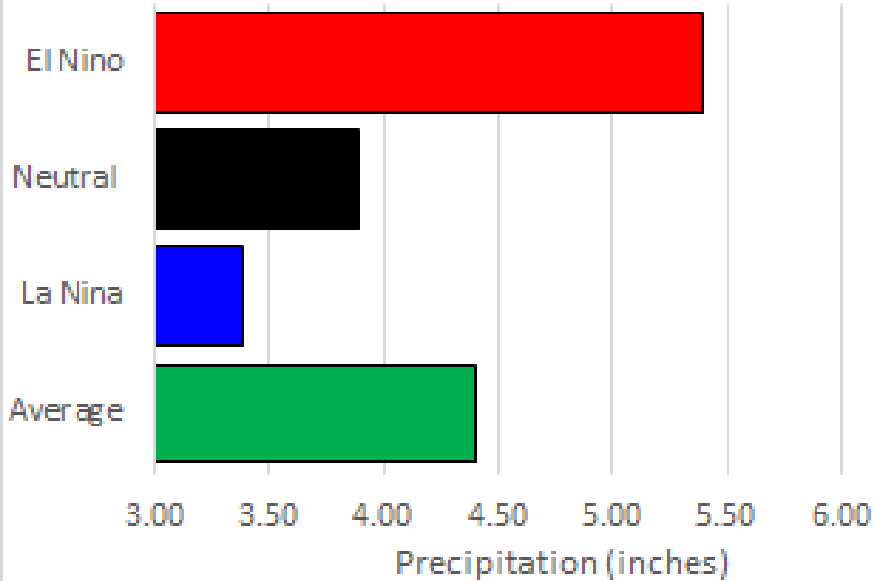
Sedgwick 5S Coop Observer

Sedgwick County

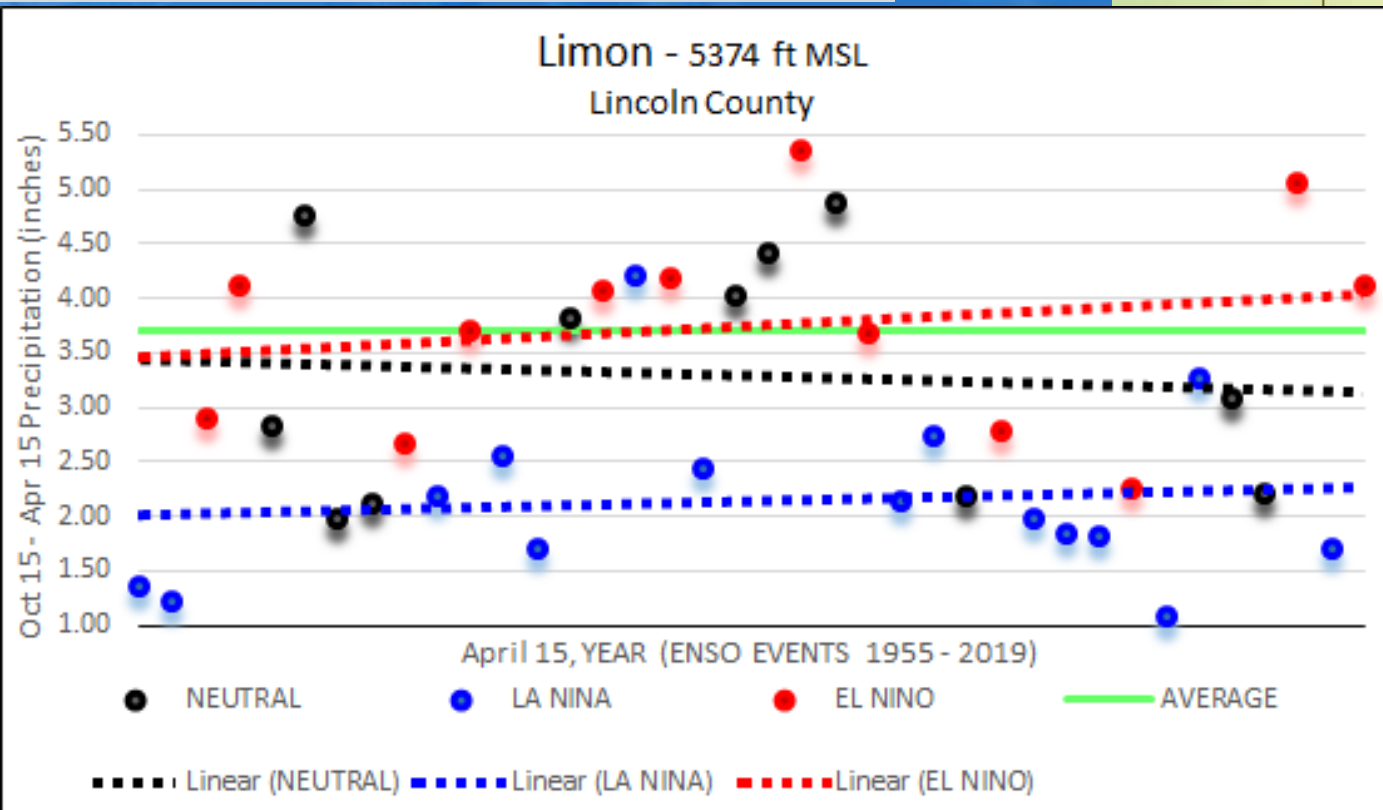
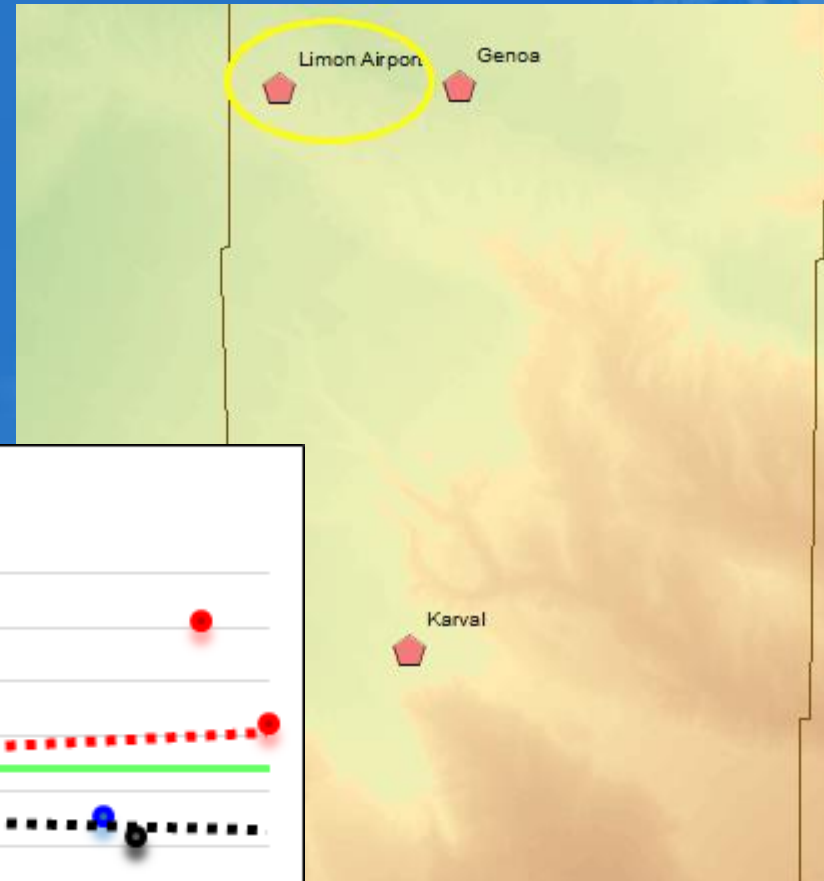
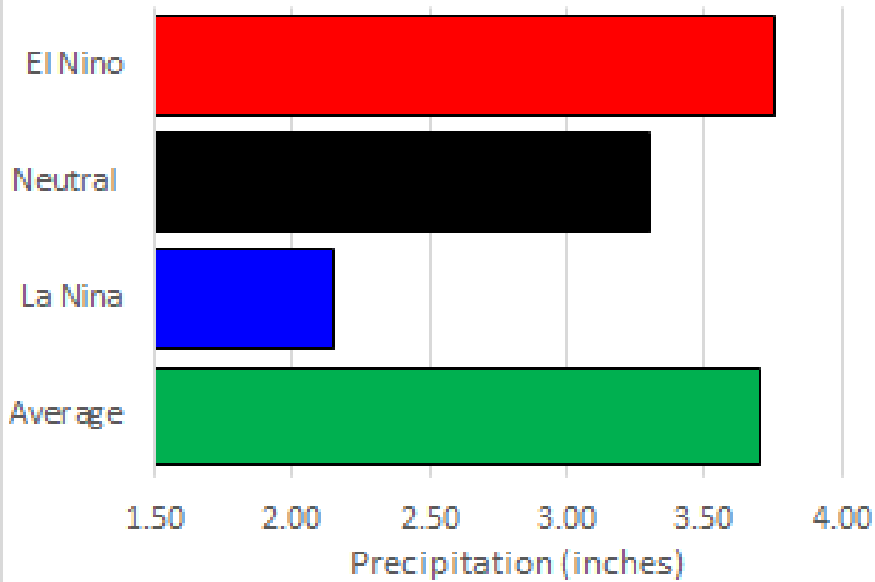


Holyoke Cooperative Obs

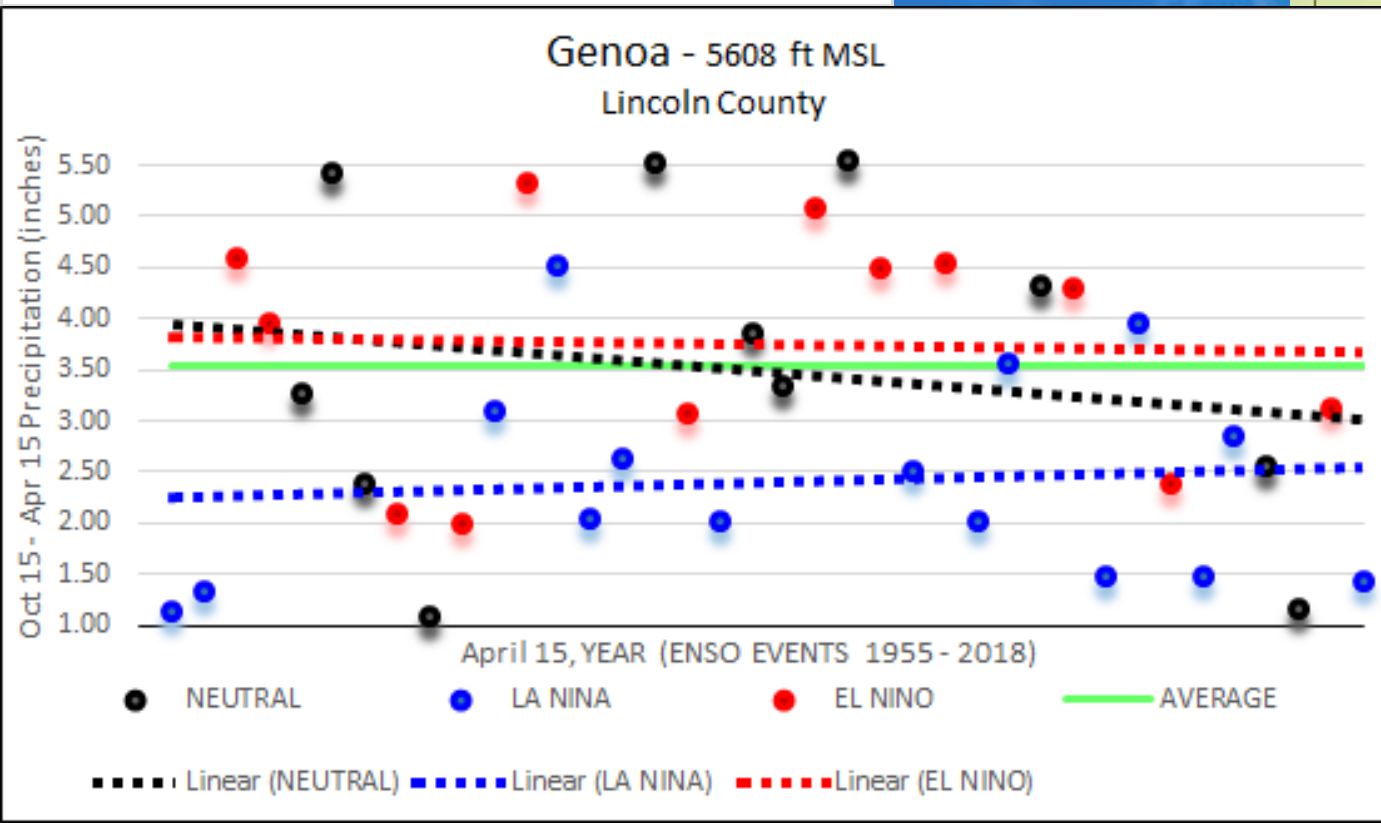
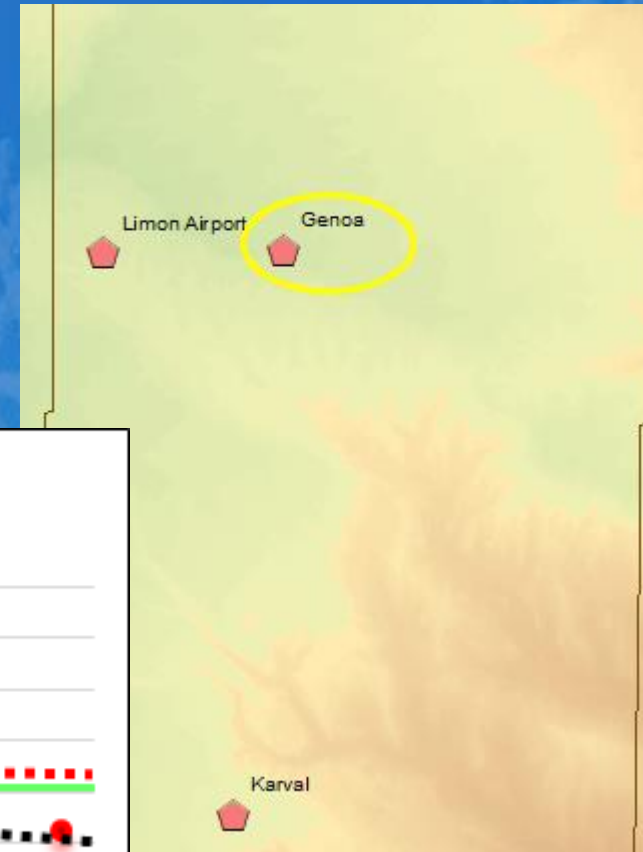
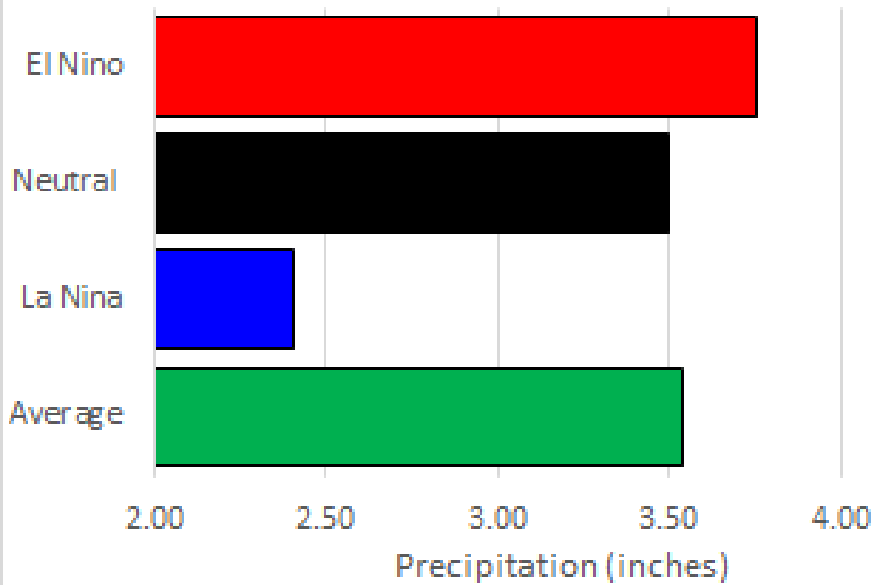
Phillips County



Limon Airport Lincoln County



Genoa Cooperative Observer Lincoln County



Karval Cooperative Observer Lincoln County

