

# 2011 Fire Season Weather Summary

## Summary

The 2011 fire season started with a roar after a very dry spring in the interior and then quickly fizzled out with a rainy and cool summer.

The 2010 fire season had ended with very high drought codes in the Upper Yukon Valley. This gave us the expectation of a busy spring 2011 with carryover fires from the previous year. This indeed was the case with a few carryovers, at least one from the Pat Creek Fire. By late May the dry spring in combination with human caused ignitions and some lightning started two rapidly spreading fires just north of Fairbanks and another large fire in the hills north and west of Delta Junction. The fire danger in portions of the central interior was at or near record levels for that time of year. However a mid June rainy period brought a shift in the overall weather pattern for the state. Lightning for 2011 was less active than the past several years and that reduced ignitions in the remote areas where fires are likely to get large.

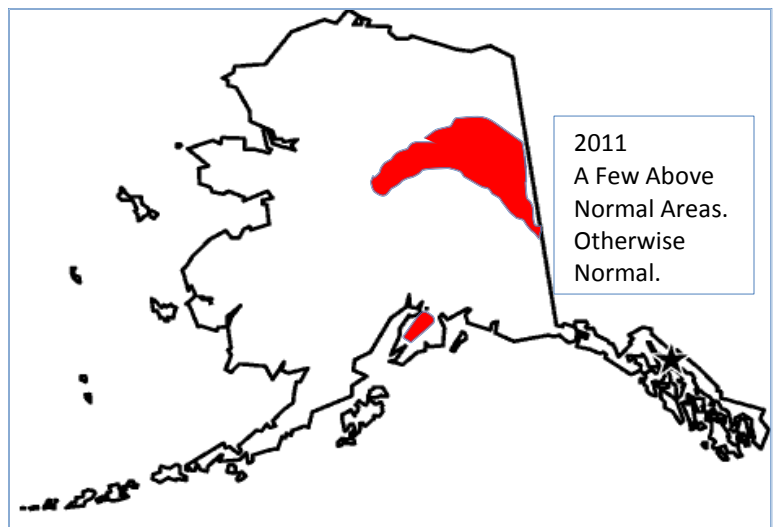
The typical summer weather pattern that brings high fire danger and lightning has an upper level ridge over Canada building into Alaska from the east. The summer of 2011 saw a large ridge over the north Pacific that after mid June never really moved over the state for any extended period of time. The bulk of Alaska's summer saw periodic precipitation and while some interior locations did have below normal rainfall in July and August, the frequency of even light rain was enough to prevent new fire starts, limit fire growth and allow fire fighters to control and contain the fires that did start.

The one area that remained dry was the western Yukon Flats from Ft Yukon south and west to near Tanana. This area managed to get missed by the convective showers and also remained out of the area affected by the larger weather systems through the beginning of August.

292,095 acres burned in 2011. This was well below the long term average of about 1 million acres and the 10 year average that approaches 2 million acres.

## Season Forecast

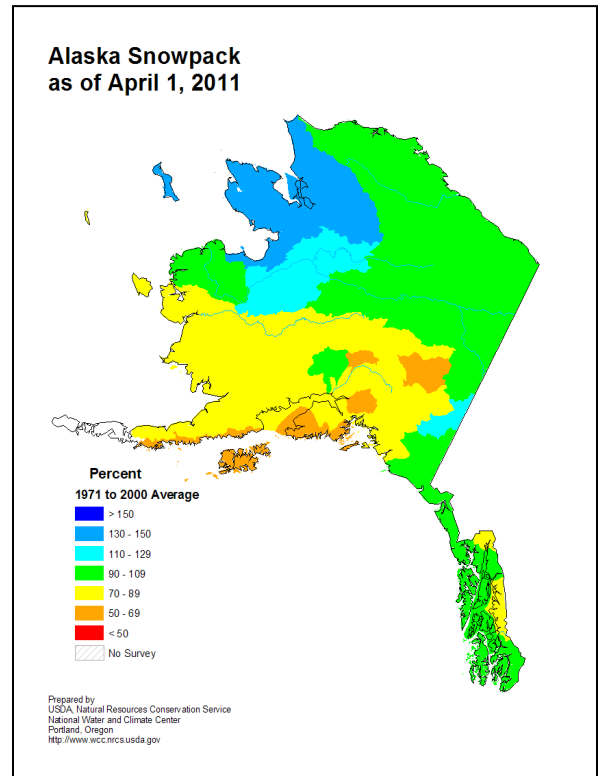
The fire potential outlook for the 2010 fire season was for normal across the state with the exception of above normal for May and June for portions of the Upper Yukon Valley, based on high ending Drought Codes from fall of 2010 and the western Kenai Peninsula due to the fuels complex of beetle killed down and dead spruce with a thick grass understory. The long term weather forecasts for Alaska are not yet accurate enough and do not provide



enough detail to rely on in making a forecast of the fire season.

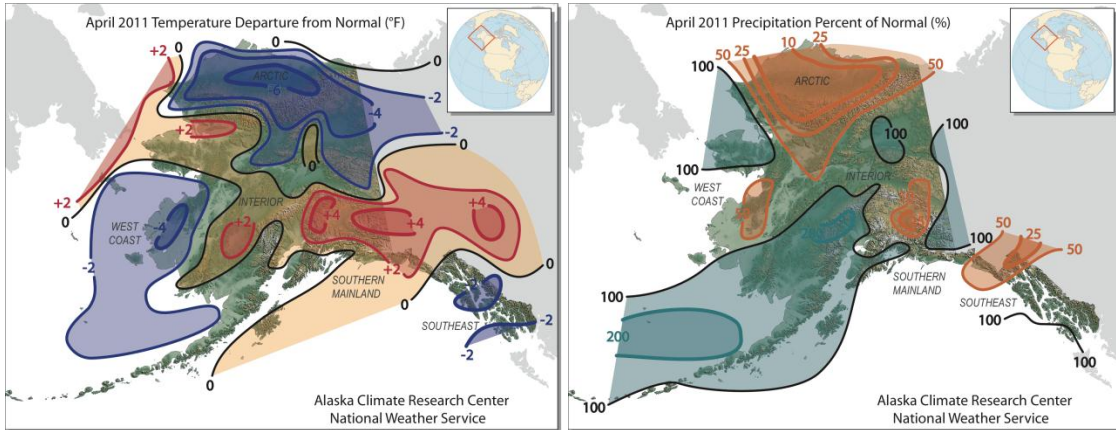
### Spring Snowpack

Based on the April 1, 2011 snow survey, there was normal to above normal snowpack for the northern half of Alaska and along the eastern interior south to the panhandle. The remainder of the state had below normal snowpack.



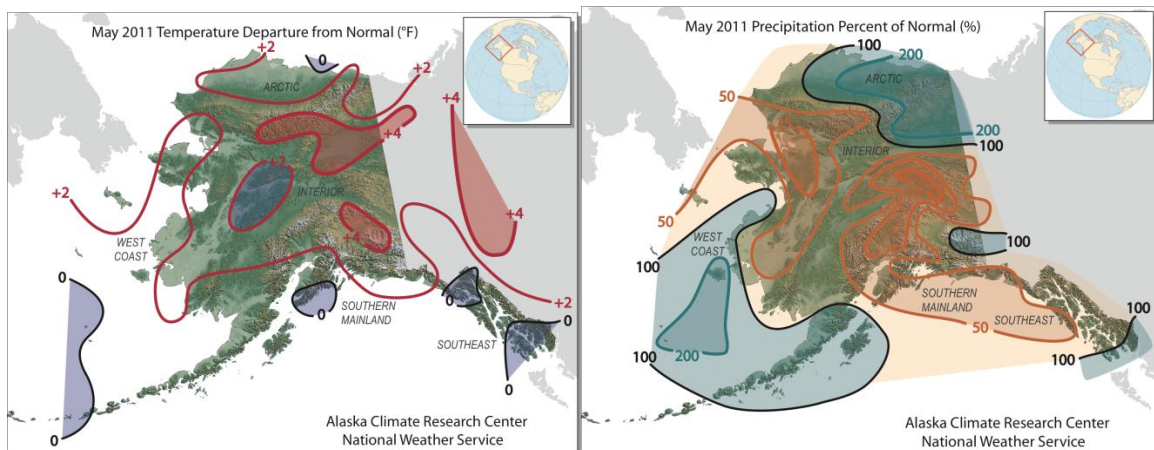
## April

April was a mixed bag for temperatures with cooler in the north and warmer in the southeastern interior. Precipitation was normal to below normal. It was particularly dry in the northern interior



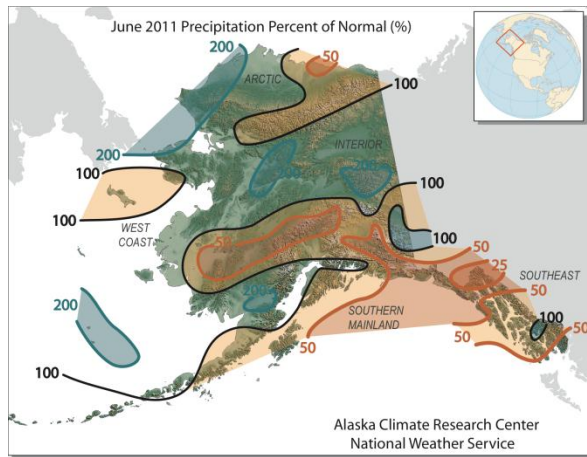
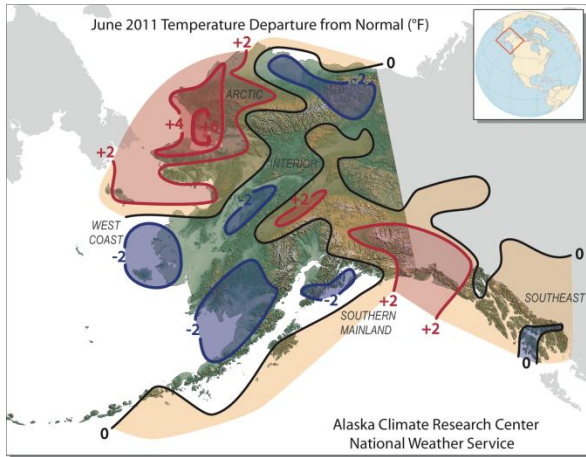
## May

May was warmer and drier than normal through most of the state and particularly dry in the Tanana Valley where some areas received only about 10% of the normal monthly precipitation. This really got the fire season off to a big start with large project fires near Delta Junction and north of Fairbanks by the end of the month. The late May fires in the interior exhibited the rapid fire growth and extreme fire behavior that would be expected from the near record fire danger.



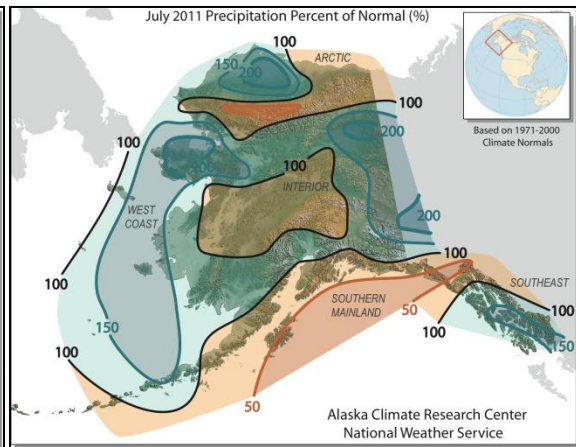
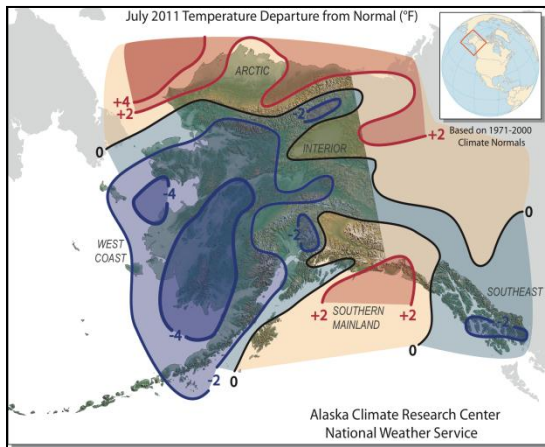
## June

After a first warm week or so the weather in June shifted to a wetter pattern through the interior with drier than normal in the southern tier particularly in the northern panhandle. Temperatures were not too far off normal for most of the state with the exception of northwestern Alaska where they were 3-4 degrees F above normal; this area saw above normal precipitation though.



**July**

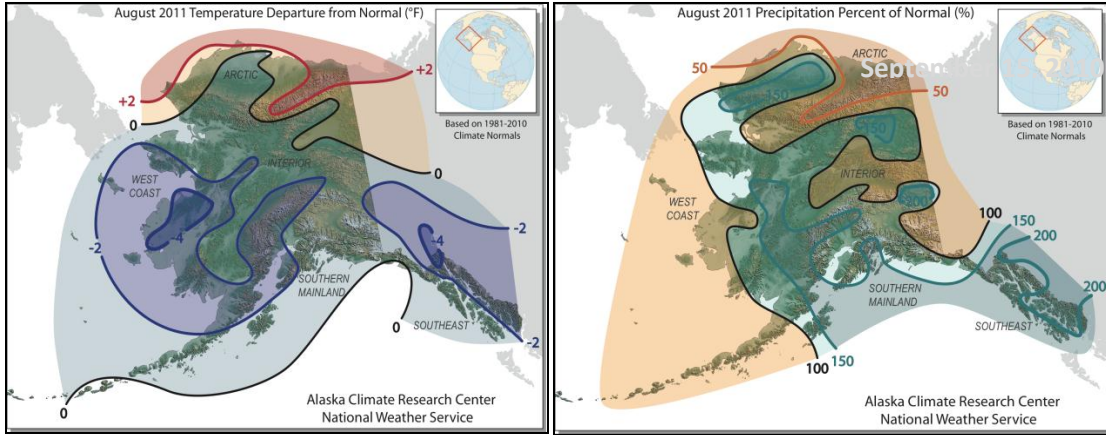
July was cool and wet in Alaska when taken as a whole though the southwestern interior was normal as well as the Gulf of Alaska coast and portions the eastern Arctic slope and Brooks Range. This pattern kept fire danger below normal.



**August**

August had normal to slightly above normal precipitation with cooler than normal temperatures. It was atypical August in the low level of fire activity.

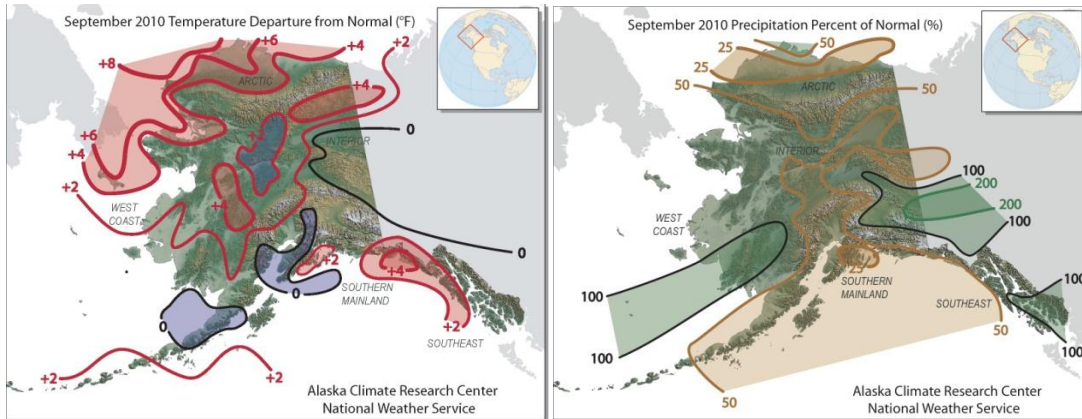




## September

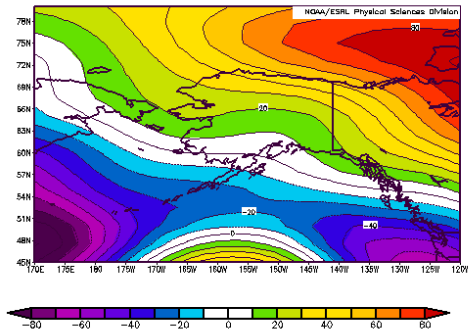
September started off cool, and stayed that way.

## Old Maps still

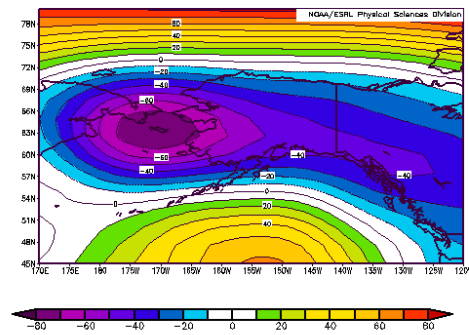


## 500 mb Patterns

The season exhibited a shift from near record high fire danger in May to normal and moderating in June to cool and damp for July and August. The features that stand out are the lack of a strong upper level ridge over Canada and eastern Alaska that usually brings us our typical high fire danger and lightning activity. The main upper level ridge remained over the Gulf of Alaska with another over the Arctic Ocean.



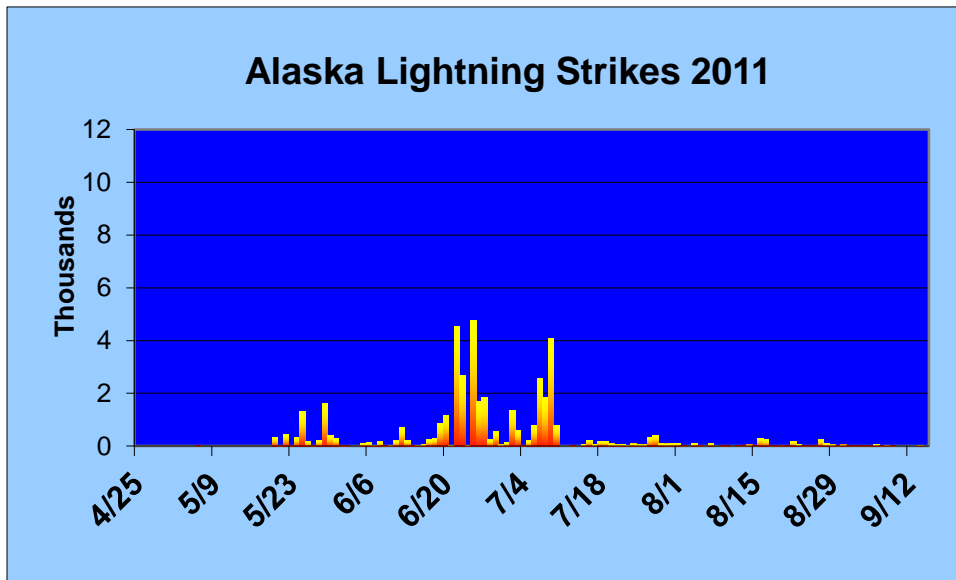
May 500 mb Anomalies



June, July, August 500 mb Anomalies

## Lightning

Much less than usual and mostly wet.

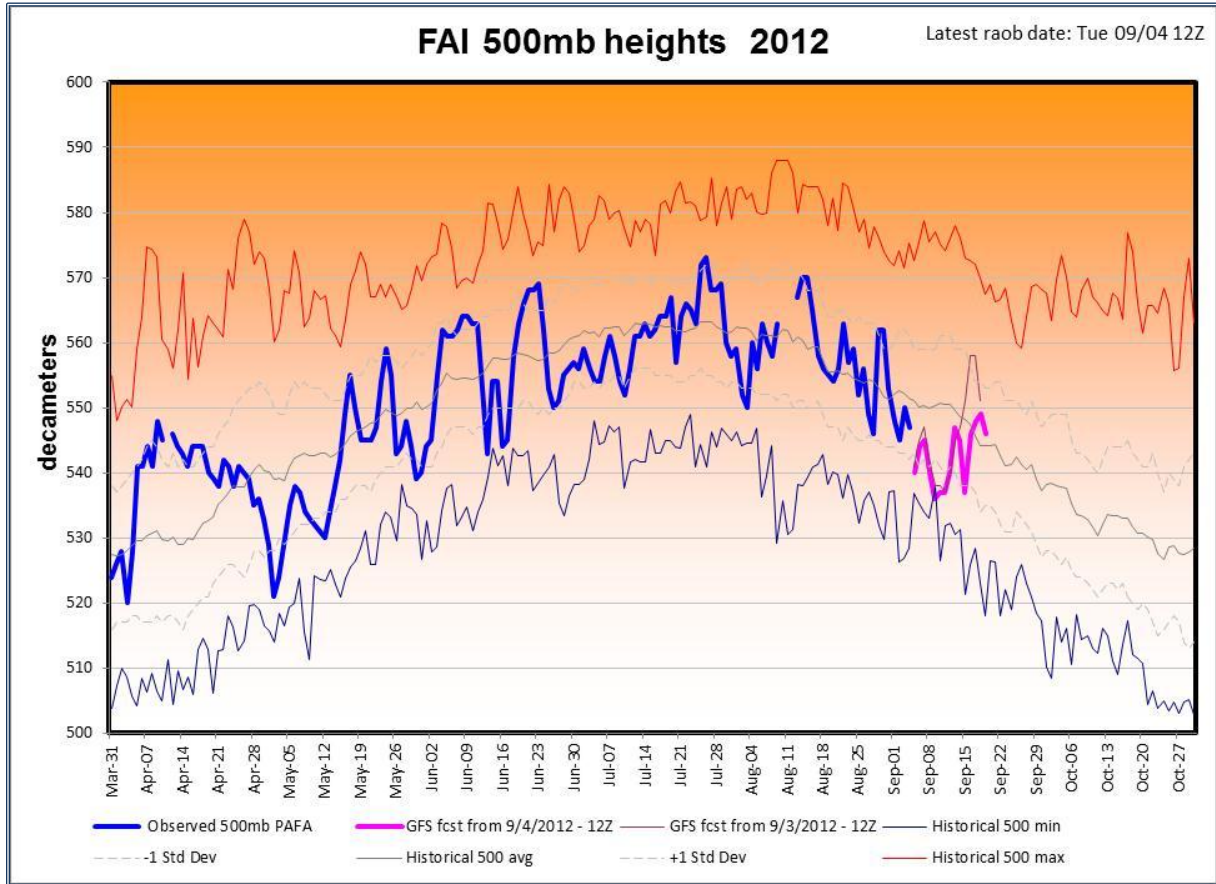


## Yukon Flats

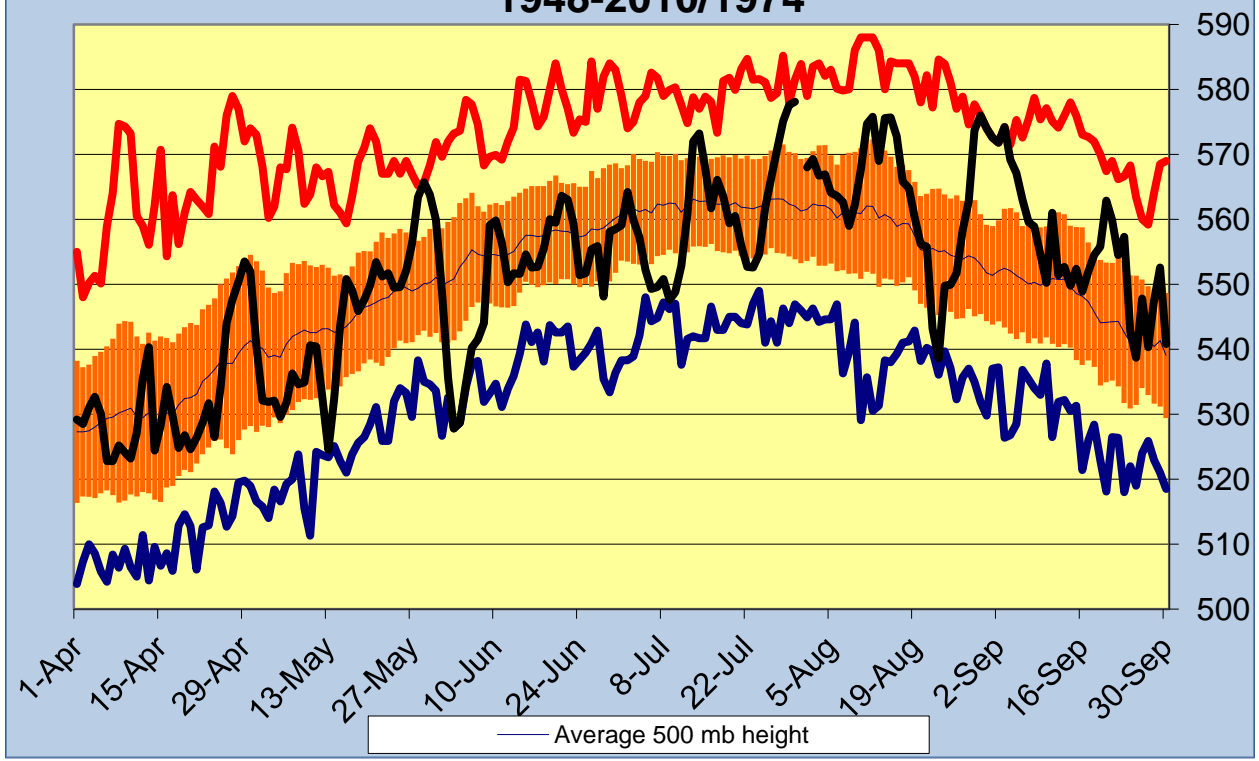
Throughout this damp summer one consistent drier pattern emerged; the lack of rainfall in the Yukon Flats, from the Dalton Highway to Chalyitsik.

## Tanana Valley

## Wood Buffalo

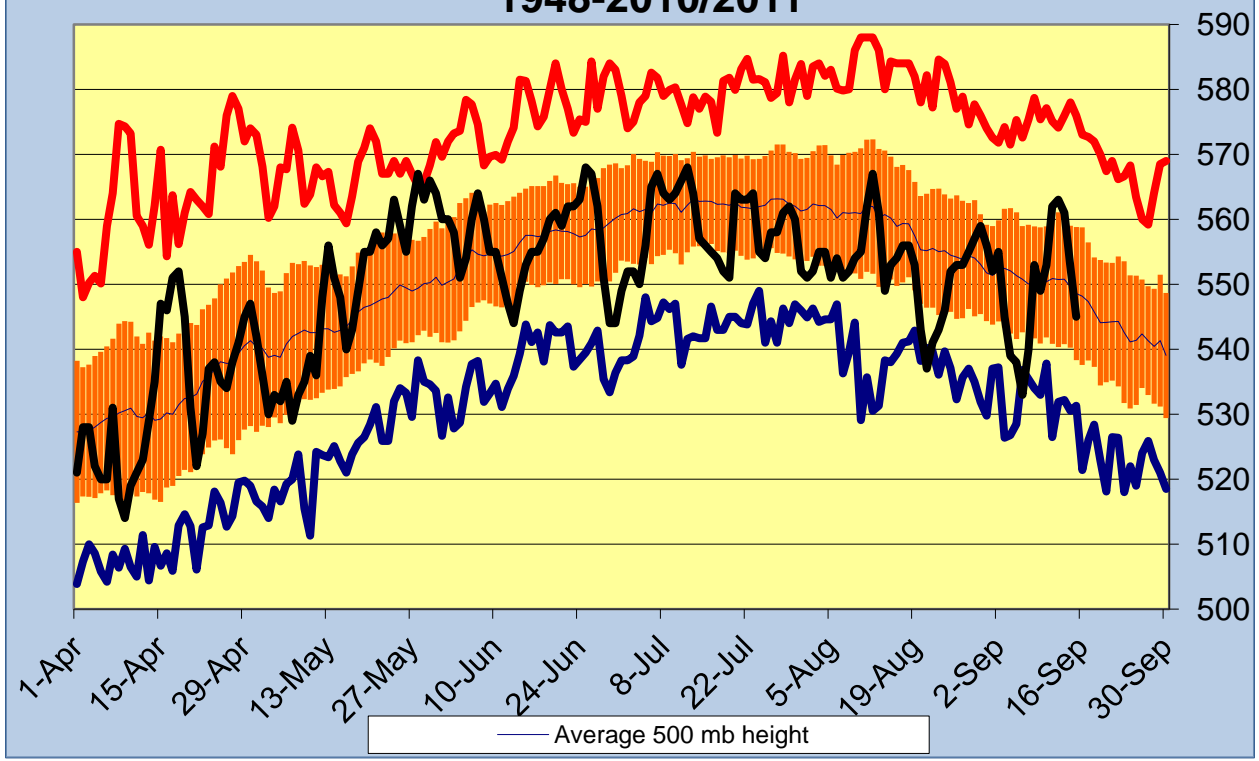


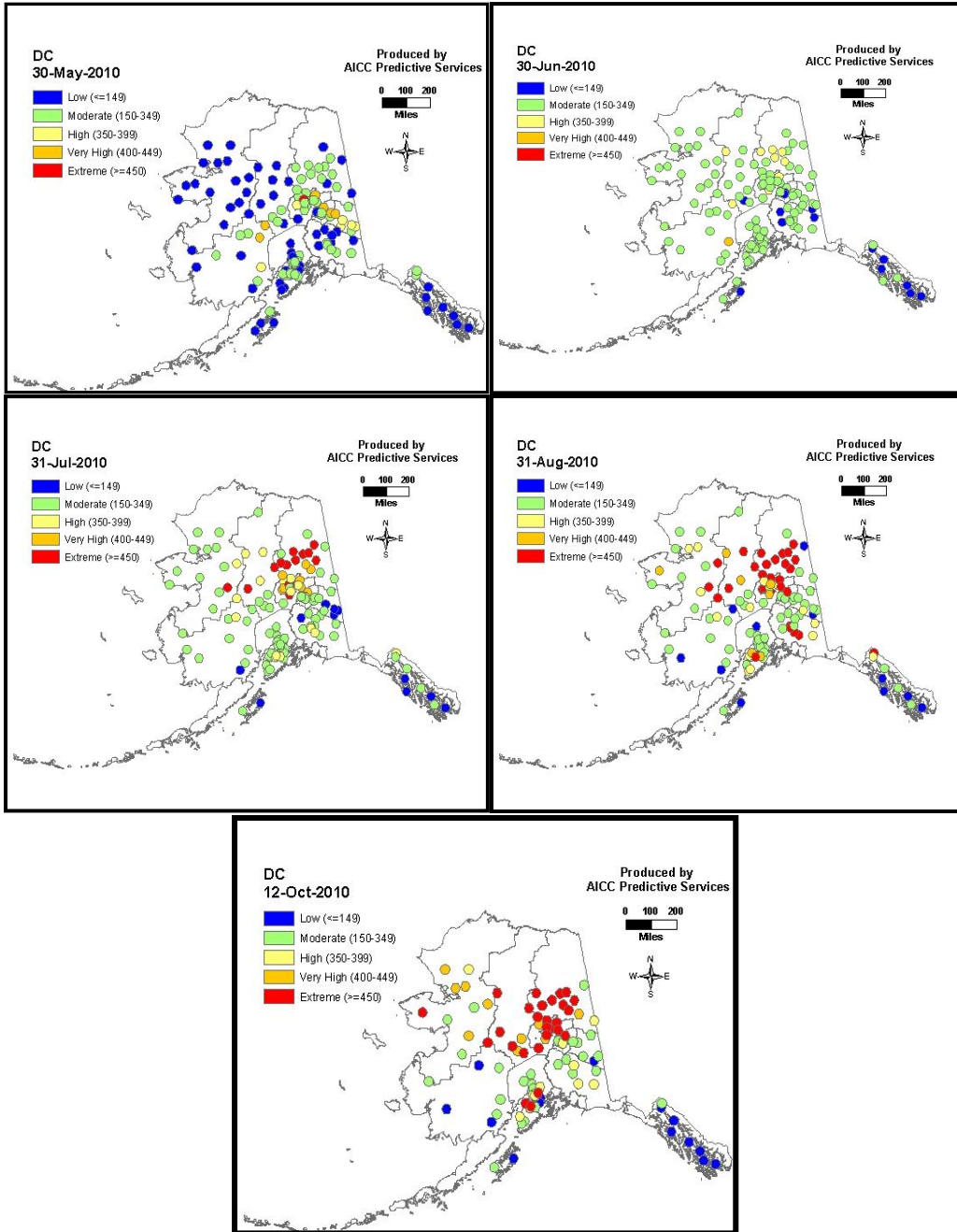
### Fairbanks 500mb Heights 1948-2010/1974



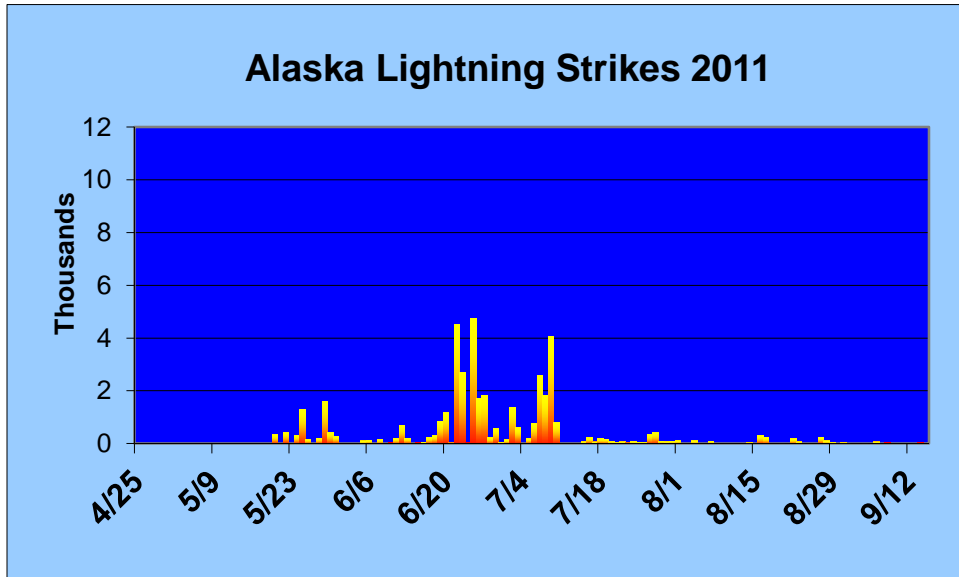


### Fairbanks 500mb Heights 1948-2010/2011





# Lightning 2011



# Lightning 2010

