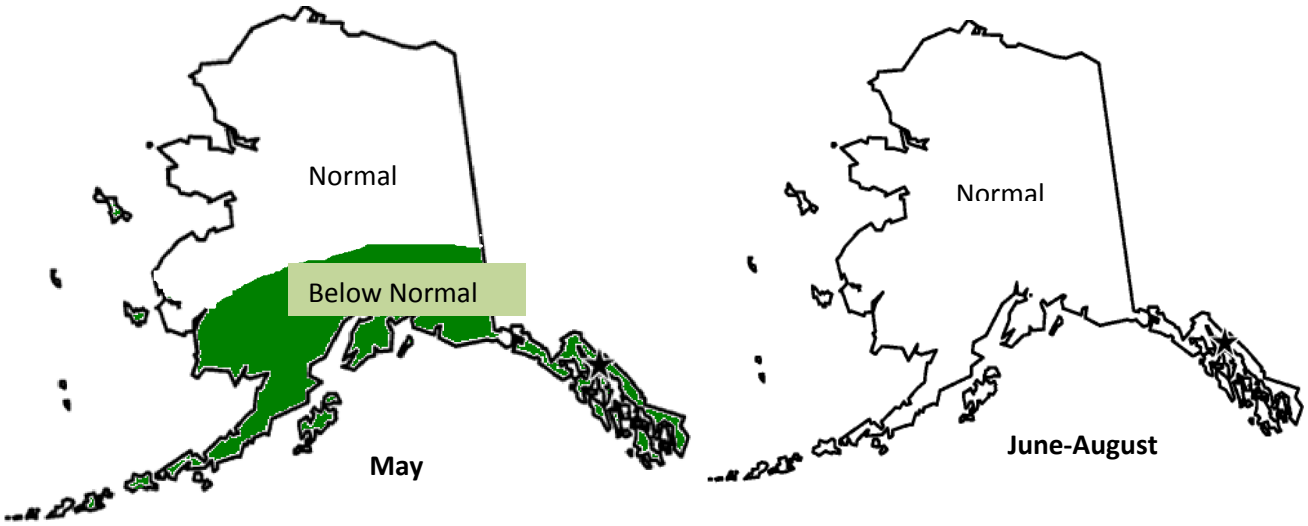
2012 Fire Season Weather Summary

Summary

With less than 290,000 acres burned, the 2012 Fire Season was truly as slow as it seemed. A deep snowpack embraced South Central throughout April and most of May, leading to very few fires in the pre-greenup phase. The late greenup occurred quickly, and led into a rainy June for the southern half of the state. This kept fire activity fairly low for what is normally the busiest month of the season. The Galena zone was the exception, where dry conditions and a series of lightning events spurred numerous fire starts, many of which raged through dry fuels into the beginning of July until heavy rains in northwest Alaska doused fire activity. The rest of the summer saw little lightning activity. Despite drier weather in August in the south and east, fire activity remained minimal. There was some public excitement over smoke intrusions into Fairbanks in August and September when winds and a warm spell combined to revive a fire south of the Tanana River. September brought several horrific windstorms with heavy rain that brought significant damage statewide; the resultant heavy tree mortality caused around Delta, Tok, and Tanacross will alter the fuels landscape there in years to come.

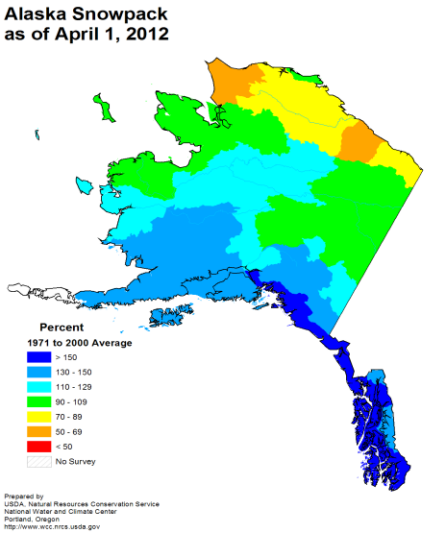
Season Forecast

The fire potential outlook for the 2012 fire season was normal, with the exception of the southern third of the state, which was expected to be below normal for May. This was due to the deep snowpack around that part of Alaska. It was expected that greenup would occur quickly, returning this region to normal fire activity in June. On the large scale, the long term climatological models were indicating a chance of moving to a moderate El Nino by mid-summer; it was thought that this could increase fire activity and lengthen the season. However, most model leanings were toward a more neutral atmosphere, so the forecast was kept at normal statewide for the remainder of the season.



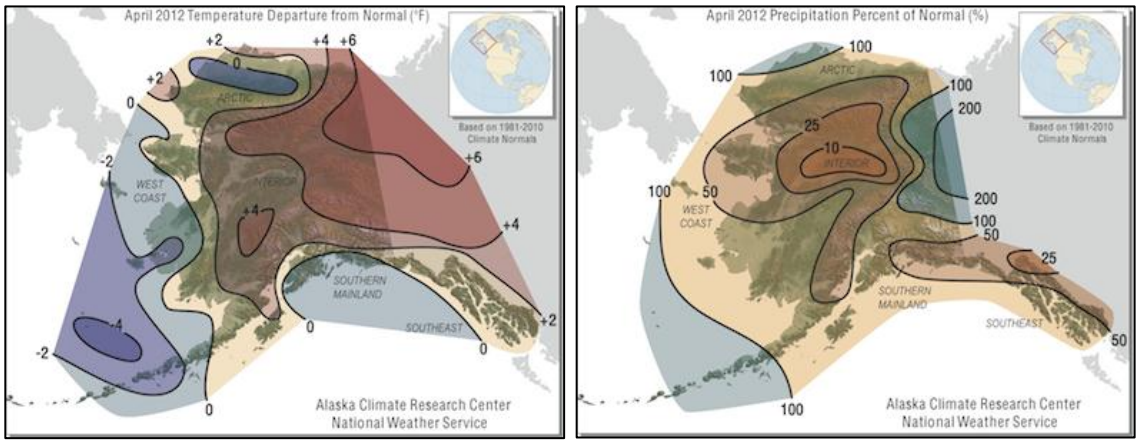
Spring Snowpack

As mentioned above, there was excessive snowpack across the southern third of the state, brought on by numerous snowstorms and few above freezing events over the winter. The April 1, 2012 snow survey showed well above normal (over 150% through the eastern Gulf Coast!) in the southern third of the state and into the western Interior. Normal snowpack ranged through much of the remaining Interior and the West Coast, and up through the Brooks Range, while the North Slope was the only region showing significant below normal amounts.



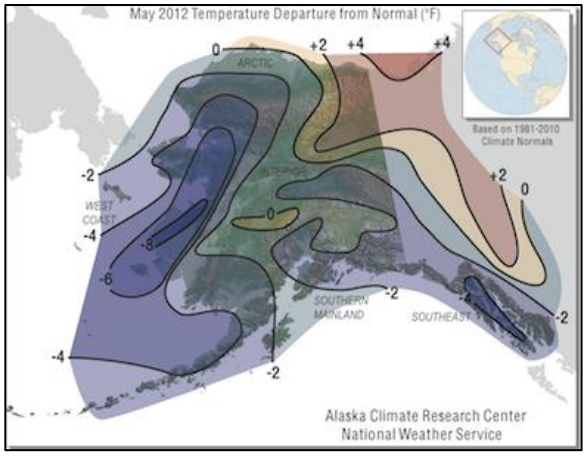
April

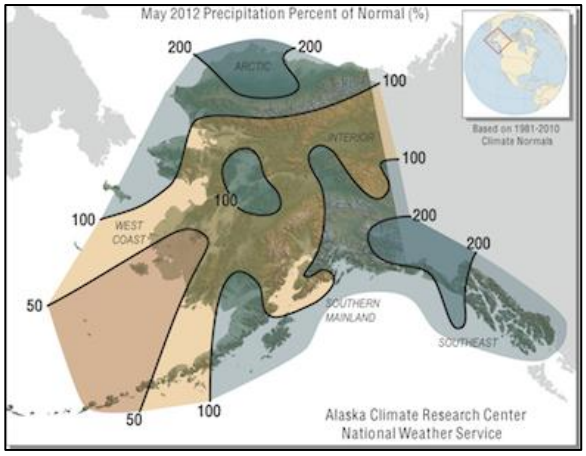
April was quite warm across much of the state, averaging about 2 degrees above normal. It was also fairly dry, with virtually no precipitation but the very eastern Interior. These conditions allowed the snowpack in the Interior to dissipate fairly quickly, and also put a good dent in that deep, South Central snowpack.



May

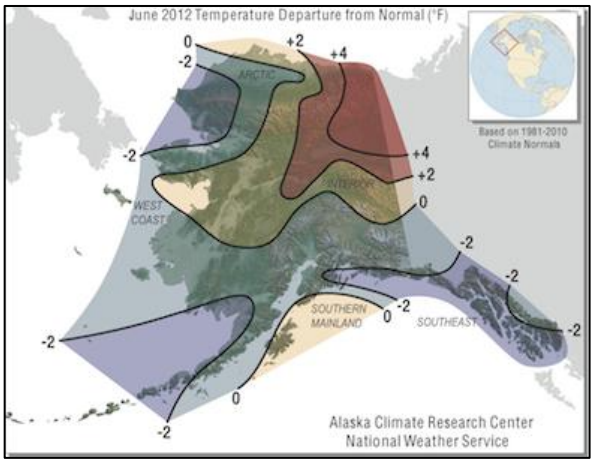
May was a bit cooler in the west, though most areas experienced fairly normal temperatures. Precipitation was close to average for most of the state, as well. This helped slow the southern snowmelt, and deferred the pre-greenup season there to the end of the month, and even into June. The last week of May started to see an increase in lightning activity, though most fuels were still too damp to ignite many fires.

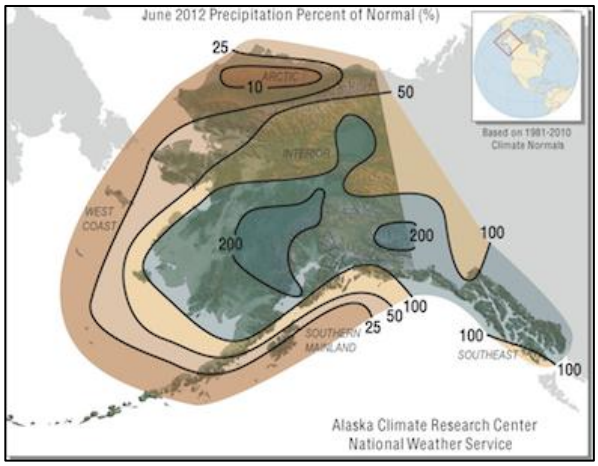




June

June was a little warmer than normal for the northeastern quarter of the state, and down into the Tanana River Valley. Other parts of the state were normal to slightly cool, particularly the Panhandle. Precipitation was low along the northern half of the state, while above average rainfall was measured along much of the southern half. June 5th-6th saw big lightning activity in the Galena zone, which led to numerous fire starts. Southwest Alaska saw many strikes around the 15th, while the 20th brought increased lightning in the southeast Interior. The last week had quite a bit of lightning in northeast Alaska. However, the Interior as a whole saw little lightning activity compared to normal, and thus fewer ignitions than most years.

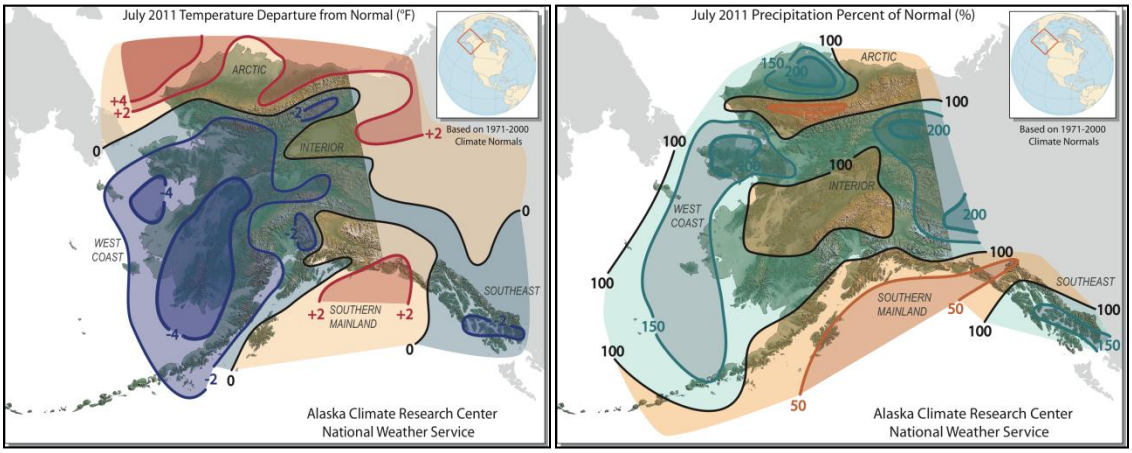




July

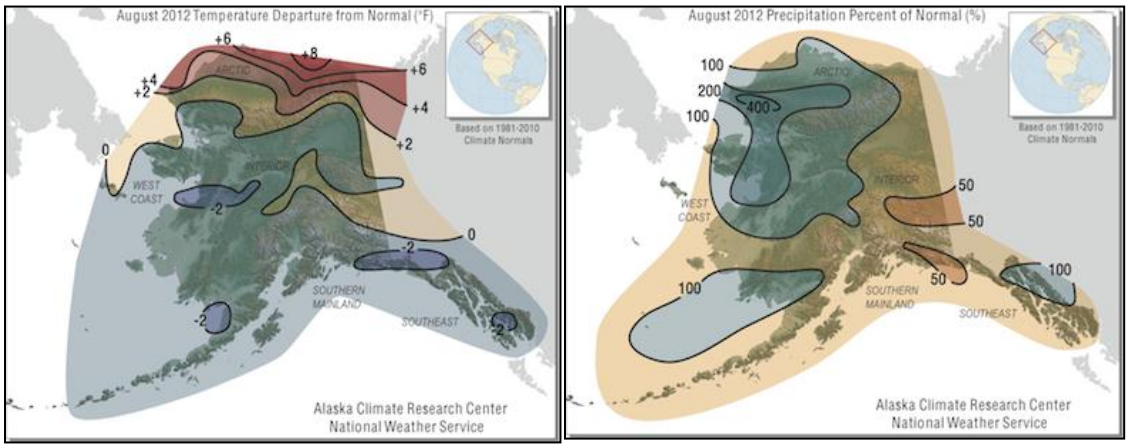
July was cool and damp across most of Alaska, though there was a drier section in the western and central part of the southern Interior. This cool, damp weather kept fire danger below normal. July 1st and 2nd had a lightning outbreak in the eastern Interior, though few fires started in the damp fuels. Lightning outbreaks on the 7th hit the west-central Interior and Southwest, leading to a half dozen new starts. The 8th

hit the Galena Zone again, adding to the fire starts tally. At this point, widespread lightning events seemed to die down for the season.



August

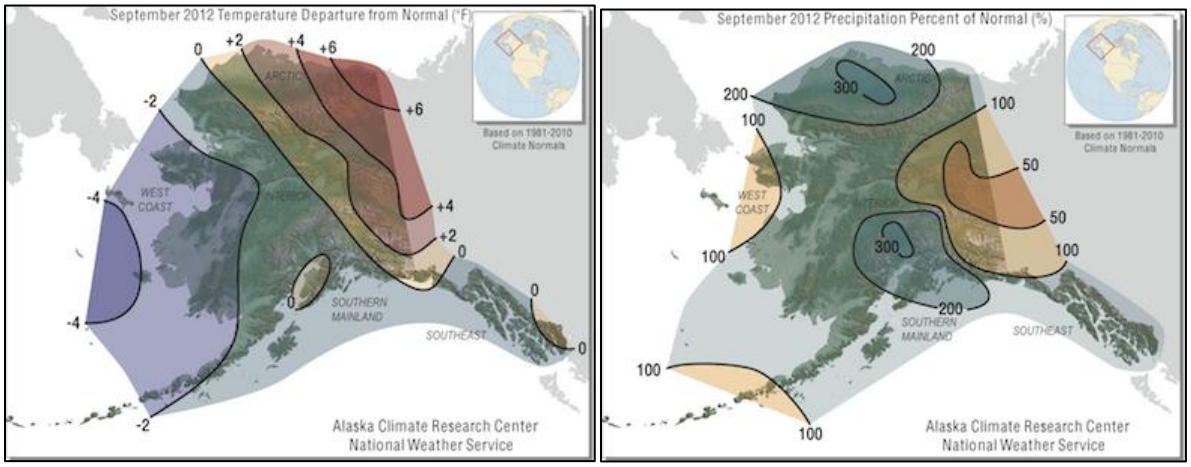
August showed close to normal temperatures for much of the state; the exception was the North Slope where very warm temperature anomalies were found! Precipitation was low for eastern and southern Alaska, while well above normal rainfall occurred in the western quadrant (three big storms tracked into the northern Bering, dousing the west coast- Red Dog Mine reported 15.31 inches of rain for the month). This rain put a hard stop to any lingering fire activity in the Galena Zone in early August. Brisk winds in mid-month helped fan and drastically increase the Interior's Dry Creek Fire, bringing smoke into Fairbanks and North Pole. Lightning activity was virtually non-existent for August.



September

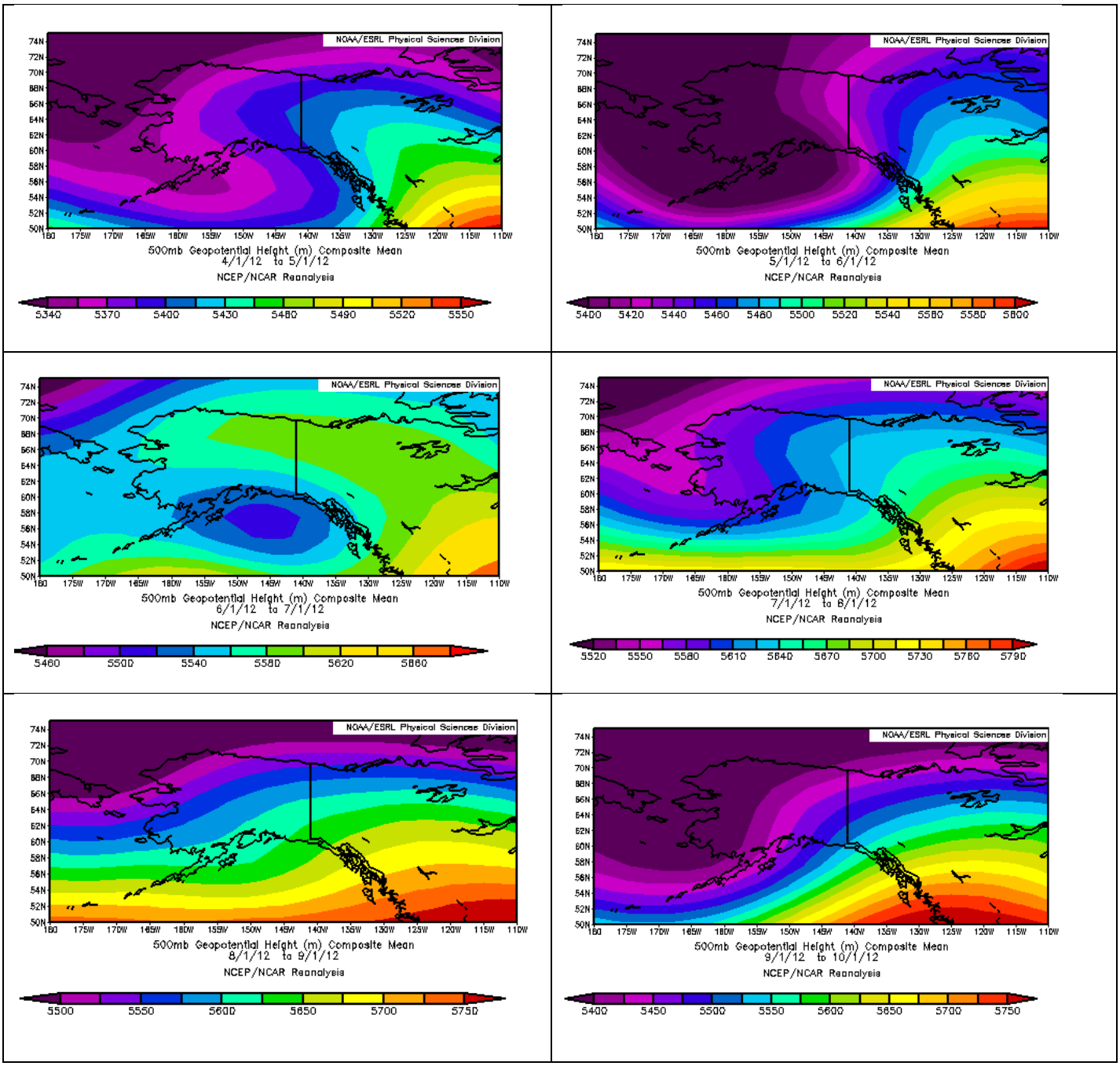
Using a line from Point Lay to Cape Yakataga, temperatures were warmer in the east (very warm in the northeast corner) and cooler in the west. Precipitation was above normal through much of the state, with the exception in the eastern Interior down to the Wrangell Mountains. The upper level pattern pushed

several large storms from the Pacific and straight through the state, bringing heavy rains and very strong winds. Torrential, extended rains beginning in mid September caused flooding in South Central; Talkeetna and Seward had disaster declarations, and part of the railroad washed out near Talkeetna. Nenana and Healy also saw significant flooding. Meanwhile, two different storms brought strong winds which caused damage in Anchorage, and along the highway between Delta and Tok and Tanacross. These winds again helped to fan the Dry Creek Fire, decreasing air quality around Fairbanks and North Pole once again.



500 mb Patterns

Ridging over Canada and into eastern and central Alaska brought the warm, dry weather of April. Usually, this pattern dominates the late spring and early summer, but by May a broad, upper level trough set up over western Alaska, bringing cooler temperatures to much of the state. In June, that trough slid southward to become a closed low in the Gulf of Alaska, while weak ridging held only over northeastern Alaska. These features are mirrored in the cooler temperatures over most of the state, and the very warm weather over northeast Alaska. Ridging over Canada and eastern Alaska tried to make a comeback in July, but it was quickly flattened by strong westerly flow in August, which brought the heavy rains straight into the west coast. By September, long wave troughing in western Alaska kept damp conditions in the west and warmer weather closer to the ridge in the east.



April, May, June, July, August, September 500 mb Composite Mean Analyses

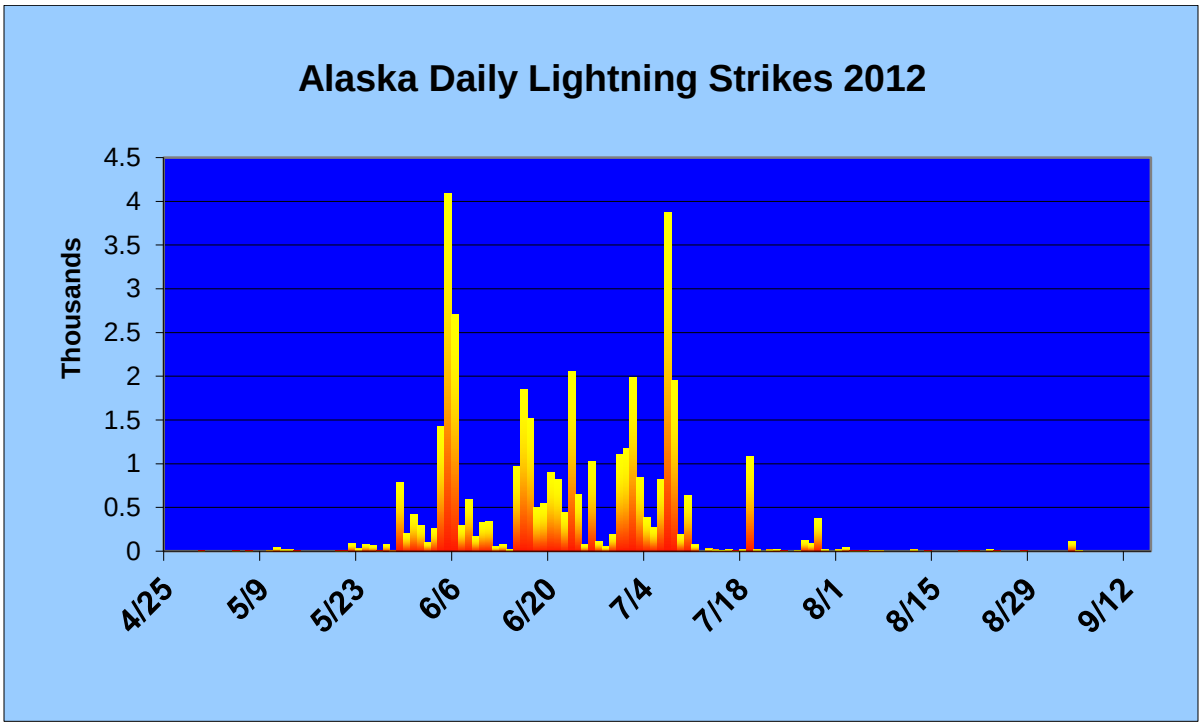
Lightning

AFS invested in a new lightning system and chose to switch over part way through the season. There are many things to note with the new system.

- Strokes within ½ second and 10 kilometers are no longer grouped into a flash, but are displayed separately. This may show 2 to 13 more strokes from one flash.
- Cloud to cloud strikes are observed and will be counted in the total number of strikes.

- The precision of the location of lightning strikes will be improved, and can also be identified for each individual strike.
- Side-by-side comparison of the two systems indicates 2.25 times more strikes on a typical day than were recorded with the old system. About 60% of these are believed to be the stoke-flash change, the rest due to the other improvements identified above.

Overall, the season showed very low lightning activity compared to prior years. Very few lightning started fires occurred, with the exception of the Galena Zone, where fuels were more receptive to ignition, and convective storms were not as wet. Most thunderstorm activity ceased by mid-July, though there were a few mid-September thunderstorms in the Interior.



Contacts

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