



Friday, May 1st, 2020

Early-Look 2020 Yukon River Chinook Run Timing Forecast

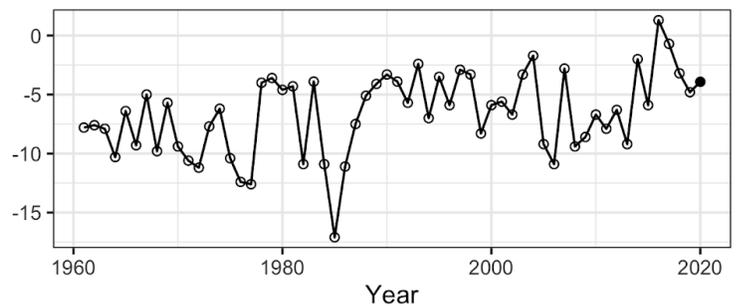
Another warm Bering Sea spring appears to be underway which indicates early to average run timing for Yukon River Chinook salmon in 2020.

This early-look forecast relies on the previously-published [1] relationship between the timing of the run and April air temperatures at the Nome, AK airport. Years with warm April air temperatures typically co-occur with early to average run timing and years with cooler April air temperatures typically co-occur with later run timing (see figure to right). The average air temperature at Nome, AK during April of this year was -3.92°C , which was several degrees warmer than the long-term average of -6.7°C (coolest: -17.1°C ; warmest: 1.3°C).

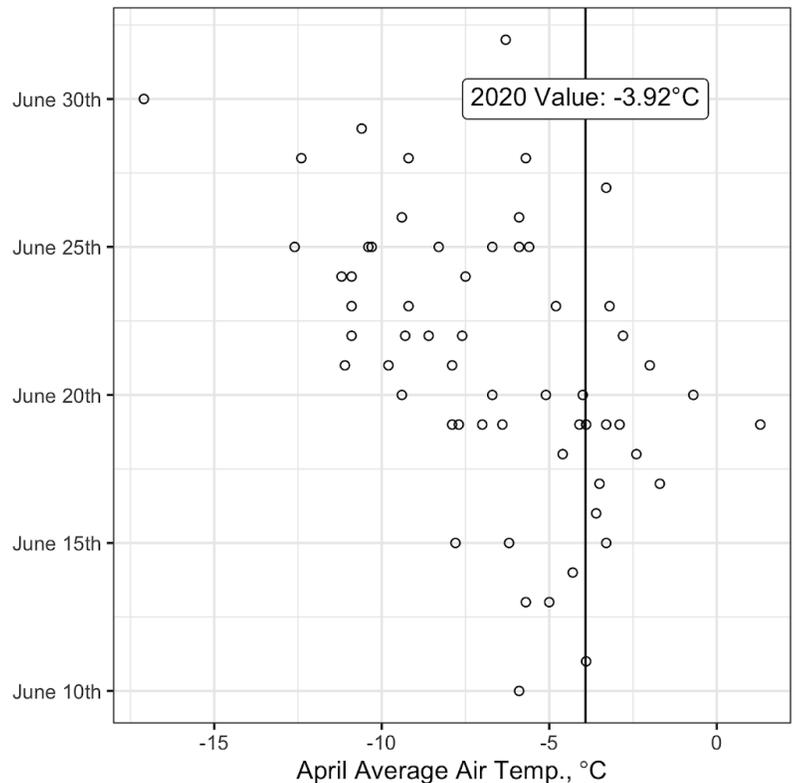
Based on this relationship, we forecast that 15% of the run will arrive on the Yukon River Delta by June 11th, 25% by June 14th, and 50% by June 19th which is very close to last year's early-look forecast.

The final pre-season run timing forecast will be released in the first

Average April Air Temperature Over Time, $^{\circ}\text{C}$



Median Run Timing vs. Air Temperature



week of June and is historically more accurate. This is likely because it includes two more sources of data shown [1] to relate to the underlying biological and physical processes that drive Yukon River Chinook run timing: Average sea surface temperatures in May off the Yukon River Delta and the proportion of ice coverage off the Delta between the vernal equinox and the end of May.

Credits

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Footnotes

[1] Phillip R. Mundy, Danielle F. Evenson, Environmental controls of phenology of high-latitude Chinook salmon populations of the Yukon River, North America, with application to fishery management, ICES Journal of Marine Science, Volume 68, Issue 6, July 2011, Pages 1155–1164, <https://doi.org/10.1093/icesjms/fsr080>