

SOUTHEAST ALASKA DROUGHT HISTORY

Although southeast Alaska is one of the rainiest areas in North America, it was plagued by drought from October 2016 to December 2019. “Extreme drought” was declared by the U.S. Drought Monitor in summer 2019. This designation, based on intensity and impacts, is a national rating. Extreme drought ranks a three on a scale of 0–4.

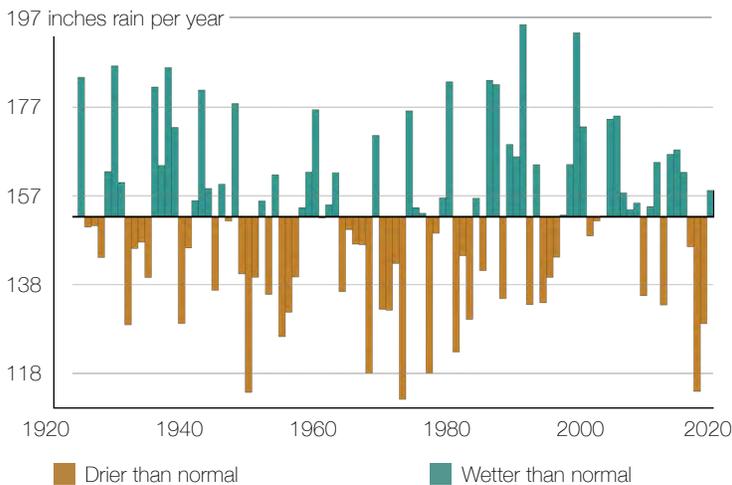
The Southeast Alaska Drought project is studying this drought, its causes, impacts, and the likelihood of future droughts like it. The project is a partnership between the Alaska Center for Climate Assessment and Policy at the UAF International Arctic Research Center and the NOAA Physical Sciences Laboratory, with funding from the National Integrated Drought Information System.

Photo: Low water reveals the trunks of cut timber along a southeast Alaska coastline. Photo by Jeremy Bynum



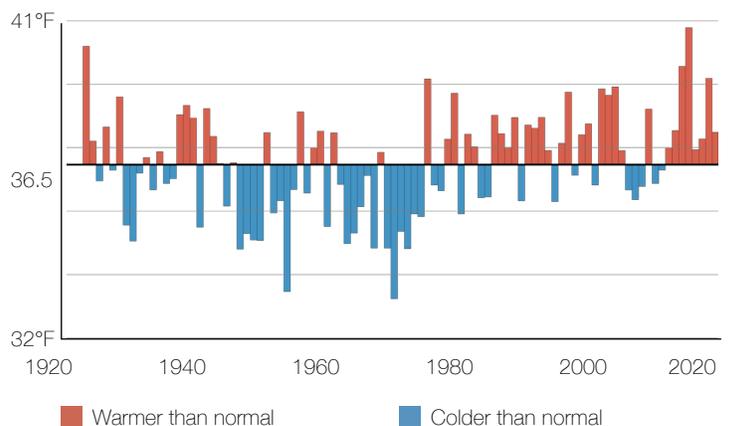
100 years of precipitation data

Dry spells are not unusual in southeast Alaska. This graph shows prolonged dry periods in the 1950s, 70s, and 90s. Some of these past droughts were longer and had years with even less rain, but the 2016–2019 drought was particularly jarring to those experiencing it because it followed a decade of much wetter conditions.



100 years of temperature data

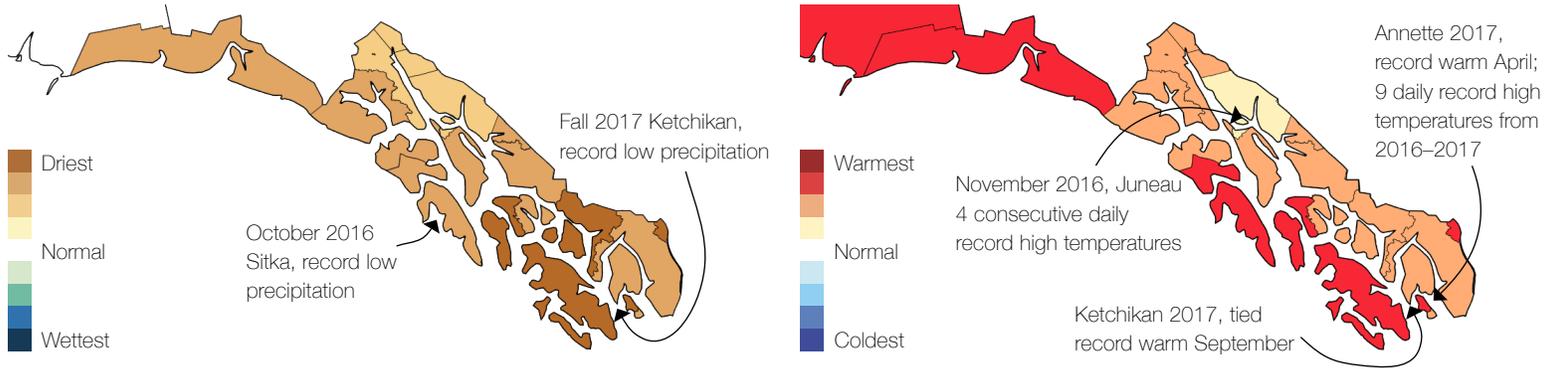
Starting in the 1980s, there was a clear trend toward warmer temperatures in southeast Alaska. Conditions have been warmer than normal every year since 2013, but prior to 2016, these warm conditions were paired with more rain than normal. 2016 was the warmest year on record for southeast Alaska.



RANKING DROUGHTS

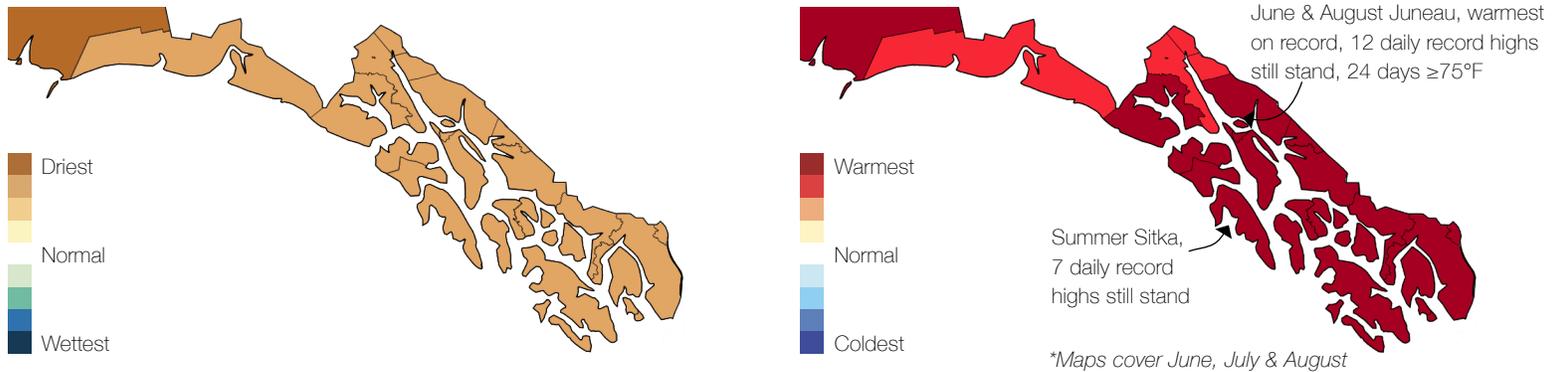
How dry and warm was southeast Alaska during the recent drought? These maps rank temperature and precipitation from October 2016–September 2019 compared to the long-term (1925–2020) average. The drought period was much drier than normal, especially in the southern panhandle. This dryness was persistent in both winter and summer. Even so, there were periods of wetness; for example, summer 2017 was notably wetter than normal.

October 2016–September 2019 was considerably warmer than normal, but not always record breaking. Summers were consistently warmer than normal except for a few months of normal temperatures near Haines. Summer 2019 stood out as exceptionally warm across all of southeast Alaska. Winter temperatures during most of the drought were near normal, until winter 2018–2019 when temperatures throughout the panhandle were far above normal.



How did the 2004 drought rank?

In summer 2004, southeast Alaska experienced a short duration but very impactful drought. In parts of central and northern southeast, 2004 still holds the record for warmest summer ever. Conditions grew so hot and dry that Tongass National Forest banned timber harvest from noon to 8 p.m. to avoid igniting wildfires when daily humidity was low and temperatures high.



How did the 1990s drought rank?

In 1989, a short but intense drought caused a temporary closure of the Ketchikan Pulp Mill. A longer duration drought took place from 1994–1997. Conditions were drier than normal, but not all regions of the panhandle were impacted. Yakutat and Juneau borough had normal amounts of rain. Unlike the recent drought, the 1990s drought had some warm years, but a cooler than average year mixed in. When looking at the entire period, temperatures were near normal.

