https://www.goskagit.com/news/skagit-county-has-warmed-over-past-years/article_ec8bf620-3c0f-5fcf-a154-8e5b2d321909.html

Skagit County has warmed over past 30 years

By KIMBERLY CAUVEL @Kimberly_SVH   Jun 24, 2018

Skagit County is now 1.3 degrees warmer on average than it was early in the 20th century, according to NOAA data compiled by the Associated Press.

By Associated Press / Nicky Forster

Thirty years after many Americans first heard the phrase climate change, Skagit County — and the world — is warmer on average.

Locally, the North Cascades now has less glacial ice and the Sauk River has more intense winter floods.

Those changes are no longer based on projections, as they were when, according to Associated Press reports, former NASA scientist James Hansen warned Congress in June 1988 about the coming impacts of climate change.

There's now at least 30 years of data showing trends throughout the nation.

Thirty years is also typically the minimum time period scientists use for monitoring changes in the climate. That's because climate, by definition, is the long-term pattern of weather in a given area, according to NASA.

An Associated Press analysis of temperature data from the National Oceanic and Atmospheric Administration showed that since Hansen made his case, the U.S. is 1.6 degrees warmer on average.

Skagit County and Washington state as a whole are about half a degree warmer on average, according to the data.

Looking back further, warming is more pronounced.

Comparing average temperatures during the previous 30 years to the first 60 years of the 20th century, the western U.S. is 1.73 degrees warmer on average.

For Washington state, the difference is between 1.2 degrees in areas along the coast to 1.8 degrees in the southeast corner of the state, and 1.4 degrees on average. Skagit County is 1.3 degrees warmer on average.

State climatologist Nick Bond said that amount of warming is enough to influence Washington's water resources.

"Relatively modest increases in temperature mean … less snow at the end of winter to get us through our dry summers," he said. "We saw how poor snowpacks in 2015 had big implications, particularly for water resources in parts of the state."

Nationwide, 24 of the previous 30 years were hotter than when Hansen raised the alarm in 1988, and the most recent four years have been record-setting hot, according to the Associated Press findings.

Climate change in the U.S.

That <u>warming is already changing things</u> in Skagit County, according to a group of scientists working together through the Skagit Climate Science Consortium.

The glaciers in the North Cascades are melting, according to the North Cascades National Park's Glacier Monitoring Program and the U.S. Geological Survey.

Since the 1950s, an estimated 12.4 square miles of ice has melted, according to <u>a study by National Park geologist</u> Jon Riedel, who is involved with the consortium.

Some glaciers, including Silver Glacier that once contributed water to Ross Lake, have disappeared entirely.

Snowpack is also changing.

As temperatures have increased, the average freezing level in the Skagit River watershed has risen about 600 feet since the 1950s, according to the consortium.

That means that overall less space in area mountains is getting cold enough during winter for snow to accumulate. Meanwhile, more winter precipitation is falling as rain, according to the consortium.

Lower in the watershed, the Sauk River is seeing more flooding during the winter and reaching higher flood levels.

The average annual flood, according to the consortium, is now 40 percent higher than between 1929 and 1975. Four of the five highest flows on record have also occurred since 1975.

Along the marine shoreline, flooding is also reportedly more frequent and sea level is rising.

La Conner officials and the consortium discussed increased waterfront flooding in October.

According to NOAA data, sea level has risen about 9.5 inches in the Seattle area since 1899.

While sea level is not monitored in Skagit County, Guillaume Mauger of the consortium said the increase here is likely slightly less.

The consortium and scientists throughout the U.S. continue monitoring these types of changes along with the increasing global and local temperatures.

— Reporter Kimberly Cauvel: 360-416-2199, kcauvel@skagitpublishing.com, Twitter: @Kimberly_SVH, Facebook.com/bykimberlycauvel

At a glance

Temperatures have increased over the past 30 years, since a former NASA scientist alerted Congress and the American public to climate change.

Skagit County warmed 0.4 degrees during that time, from 1988 to 2017.

It's also clear from an Associated Press analysis of National Oceanic and Atmospheric Administration data that that warming has been a longer-term trend.

The past 30 years in Skagit County, for example, were 1.3 degrees warmer on average compared to an earlier 60 years-worth of data, from 1901 to 1960.

That warming has contributed to other changes local scientists have been documenting, including melting glaciers and more intense flooding.

Kimberly Cauvel