Washington State Floods

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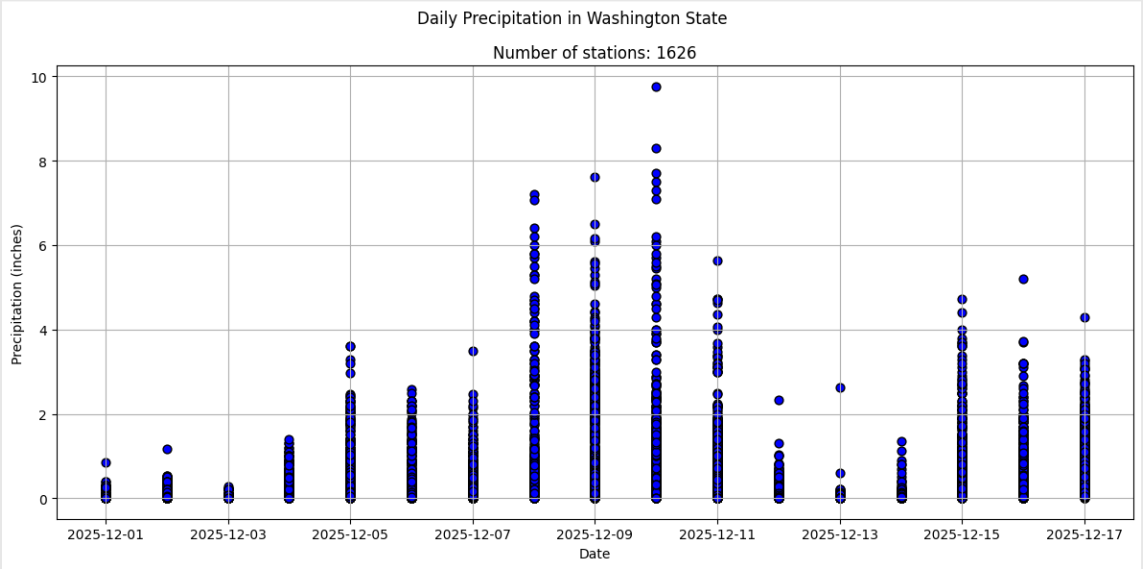
Event Description

In December 2025, a series of powerful atmospheric rivers struck Washington State, unleashing record-breaking rainfall, widespread river flooding, landslides, and destructive winds. The flooding was severe enough that Gov. Bob Ferguson declared a state of emergency on December 16, 2025. As many as 100,000 people had been under evacuation orders, many of them in the flood plain of the Skagit River north of Seattle. [1]

To illustrate the severity of this event, daily precipitation recorded at stations across Washington State was analyzed. Figure 1 highlights a sustained period of heavy rainfall from December 8 through 11, with December 10 standing out as the most extreme day. Figure 2, a spatial map of precipitation on December 10, highlights the geographic distribution of the heaviest rainfall. Figure 3 displays the gage height record for the Skagit River near Mount Vernon, capturing the river's response to the intense precipitation.

Figure 1

DAILY PRECIPITATION IN WASHINGTON STATE

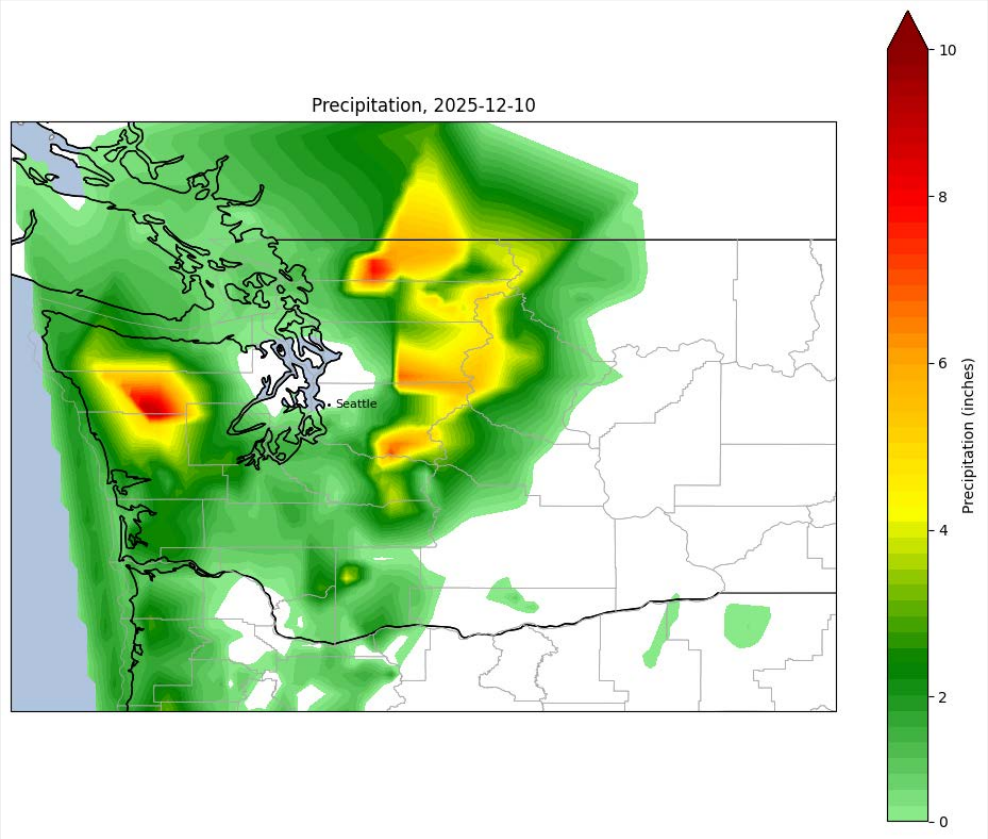


Data source: Global Historical Climatology Network, National Oceanic and Atmospheric Administration, Link for downloading: https://www1.ncdc.noaa.gov/pub/data/ghcn/daily/ghcnd_all.tar.gz. (Accessed December 30, 2025)

The map below shows that counties northeast of Seattle, as well as parts of western Washington, received nearly 10 inches of rainfall, on December 10.

Figure 2

DAILY PRECIPITATION IN WASHINGTON STATE, 2025-12-10

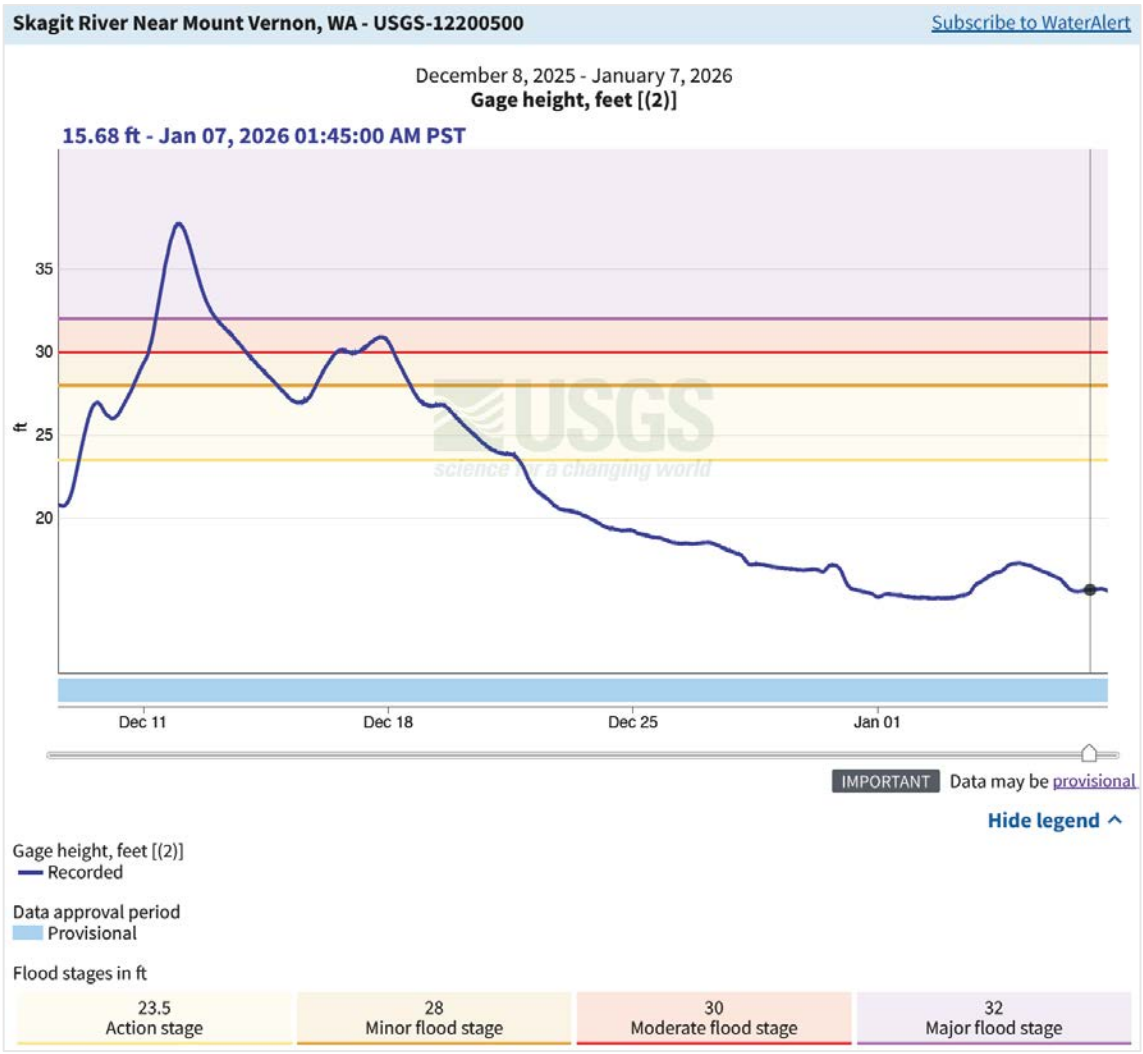


Data source: Global Historical Climatology Network, National Oceanic and Atmospheric Administration, Link for downloading:: https://www1.ncdc.noaa.gov/pub/data/ghcn/daily/ghcnd_all.tar.gz. (Accessed December 30, 2025). County mapping provided by U.S. Census Bureau, https://www.census.gov/geographies/mapping-files/time-series/geo/tiger-line-file.html (Accessed January 2, 2026).

The Skagit River was identified as one of the most severely impacted locations. Although the gage-height data is still provisional, Figure 3 shows that water levels reached “major flood stage” from December 11 through December 13.

Figure 3

GAGE HEIGHT, SKAGIT RIVER NEAR MOUNT VERNON, WA



Screenshot from: U.S. Geological Survey, https://waterdata.usgs.gov/monitoring-location/USGS-12200500/#dataTypeId=continuous-00065-85281465&period=P30D&showFieldMeasurements=false (Accessed January 7, 2026).

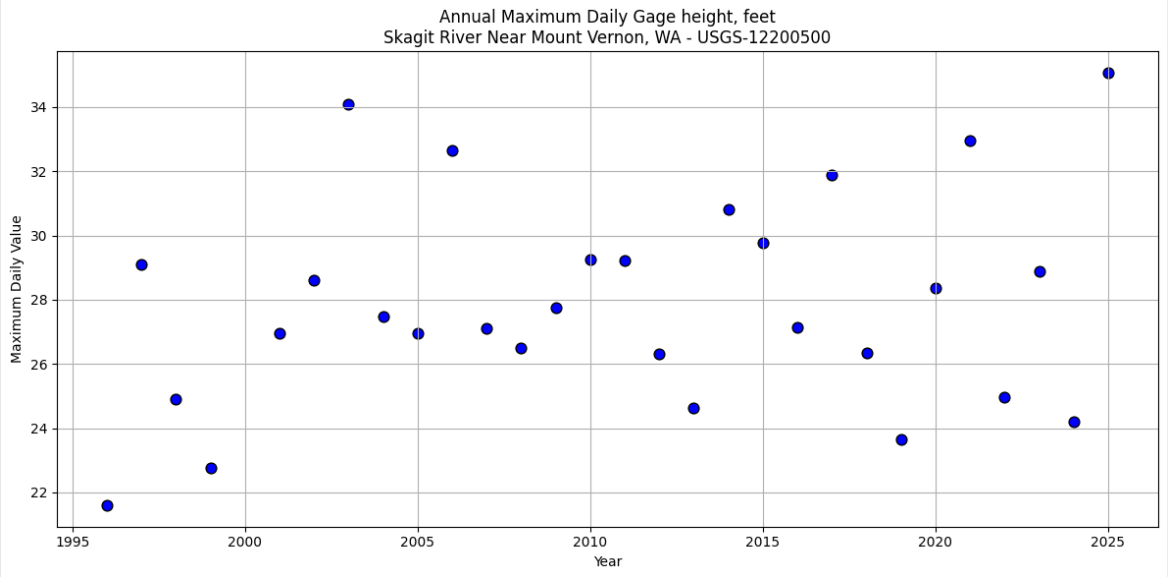
Trend in the Past 30 Years

To examine longer-term patterns, the annual maximum daily gage height at the Skagit River near Mount Vernon was analyzed. Figure 4 shows that 2025 recorded the highest annual maximum. Fitting a distribution using the past 30 years of data, Figure 5 indicates that this peak does not fall in the far tail of the historical distribution. This suggests that, while impactful, the 2025 event is not unprecedented in a long-term statistical context.

Looking forward, events like the 2025 and 2021 floods may occur more frequently and with greater severity. Research indicates that "as human-caused climate change continues to warm the planet, the number of days that the western U.S. will experience atmospheric rivers is projected to increase. Atmospheric rivers are also expected to be bigger and more hazardous on average." [2]

Figure 4

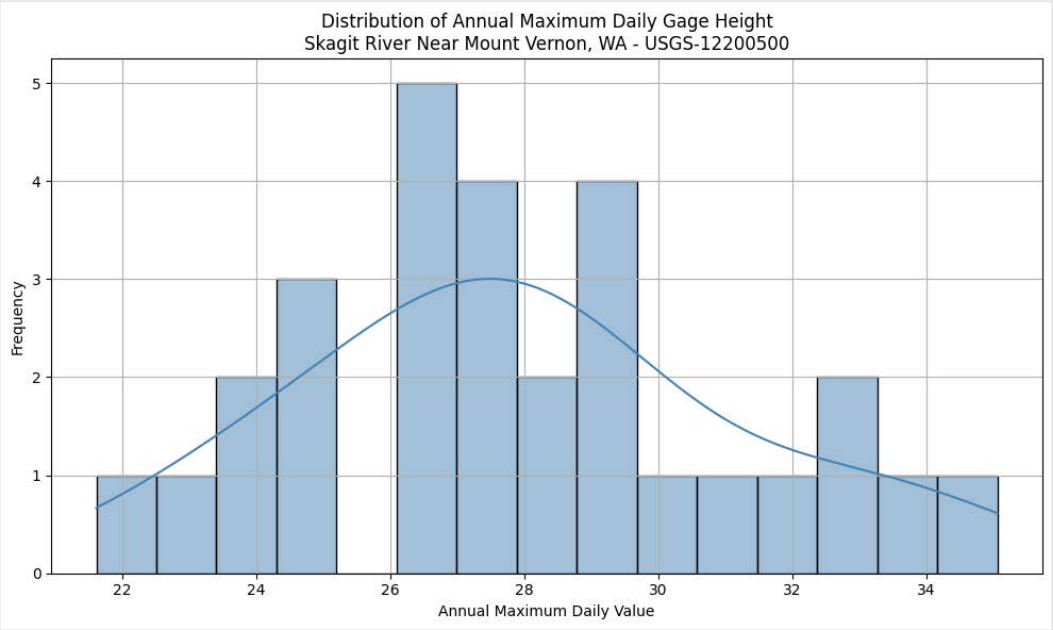
ANNUAL MAXIMUM DAILY GAGE HEIGHT, SKAGIT RIVER NEAR MOUNT VERNON, WA



Data source: U.S. Geological Survey, https://waterdata.usgs.gov/monitoring-location/USGS-12200500/#dataTypeId=daily-00065-0&period=periodOfRecord&showFieldMeasurements=true (Accessed January 7, 2026)

Figure 5

DISTRIBUTION OF ANNUAL MAXIMUM DAILY GAGE HEIGHT, SKAGIT RIVER NEAR MOUNT VERNON, WA



Data source: U.S. Geological Survey, https://waterdata.usgs.gov/monitoring-location/USGS-12200500/#dataTypeId=daily-00065-0&period=periodOfRecord&showFieldMeasurements=true (Accessed January 7, 2026)

References

[1]
Northwest Public Broadcasting. (2025, December 11). *100,000 evacuated in historic Skagit Valley flood in Washington state*. https://www.nwpb.org/local/2025-12-11/100-000-evacuated-in-historic-skagit-valley-flood-in-washington-state

[2]
Northwest Climate Hub. (n.d.). *Atmospheric rivers in the Northwest*. U.S. Department of Agriculture. https://www.climatehubs.usda.gov/hubs/northwest/topic/atmospheric-rivers-northwest (accessed January 7, 2026)

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