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Data Source and Content

The data used in GLISA observational station climatologies are acquired from the National Centers for Environmental Information (NCEI) Global Historical Climatology Network daily (GHCNd) dataset. Although many stations may include supplemental variable types, the only variables used in GLISA analyses are:

Minimum Daily Temperature	(TMIN)
Maximum Daily Temperature	(TMAX)
Observed Daily Temperature	(TOBS)
Daily Total Precipitation	(PRCP)
Daily Snow Depth	(SNWD)
Daily Snowfall	(SNOW)

Unless otherwise stated, all other quantities included in the climatology summaries that employ thresholds, averages, or other calculations are derived from the above daily observations.

Quality Control

Substantial quality control is initially conducted by NCEI, detailed at:

<https://www.ncei.noaa.gov/products/land-based-station/global-historical-climatology-network-daily>

In addition to NCEI quality control measures, GLISA filters data based on the following criteria:

- Daily temperature is considered only if both TMIN and TMAX were recorded and pass other quality control filters.
- TMIN must be less than TMAX.
- If an observed temperature (TOBS) is recorded, TOBS must be greater than TMIN and less than TMAX.
- To filter faulty measurements of temperature, 21-day running means are calculated for the extreme maximum and minimum daily temperatures over the entire station record for each day of the year. Only otherwise reliable daily observations are used. Extreme maximum or minimum temperatures that fall outside of 4 standard deviations from the mean for a given day of the year are flagged and subject to an additional check. The additional check looks at the 2 weeks prior to and following the flagged entry. If the flagged entry falls outside of 2 standard deviations from the mean for this sub-period, the data is excluded. There is a small but measurable chance this could potentially filter a legitimate measurement, but the overwhelming number of observations that fall outside of these limits are incorrect or unreliable, and it is rare that an entry fails each of these checks.
- A minimum number of reliable, relevant daily observations within the given period is required for calculating monthly, seasonal, and annual values.

<i>Period</i>	<i>Number of Observations Required</i>
Month	26
Season	85
Year	345