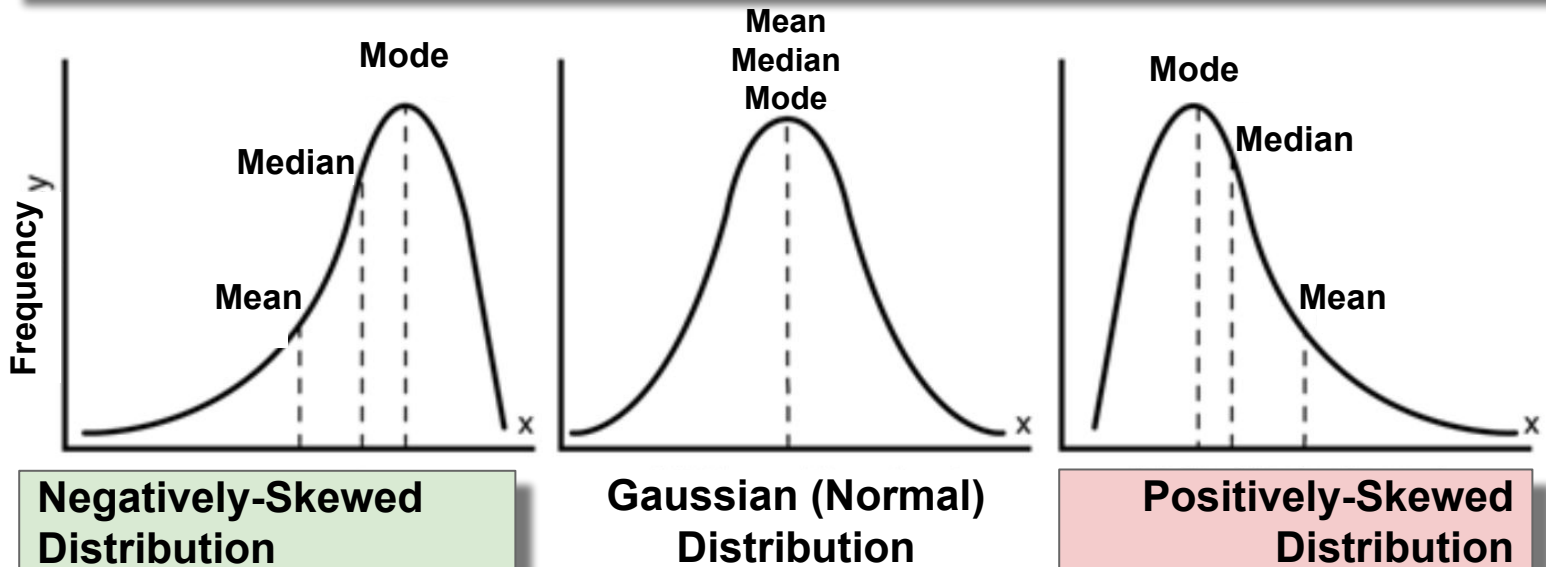# Mean, Median, Mode, and Skew
Quick Reference Guide

Mean	The mathematical average of the numbers comprising the data set
Median	The middle value of the ordered numbers in the data set
Mode	The most frequently-occurring number in the data set

Negatively-Skewed Distribution

Gaussian (Normal) Distribution

Positively-Skewed Distribution

A **negatively-skewed** or **left-skewed** data distribution has a *lower* mean than its median.

Example: The majority of ensemble members forecast tomorrow's high temperature around 75°F, but a small number have high temperatures only in the 40s or 50s.

A **positively-skewed** or **right-skewed** data distribution has a *higher* mean than its median.

Example: Most of the stations across the region recorded only a few hundredths of an inch of rainfall yesterday, but a few stations received well over two inches of rain.

Important: *The **50th percentile** of a data set is always equal to its* **median***, but is* **not** *necessarily equal to its mean or mode.*

Forecasting Guide: sites.google.com/noaa.gov/nws-fdtd/guide
NOAA/NWS Forecast Decision Training Division, Boulder, CO