Glossary

annual exceedance probability (AEP) – The probability associated with exceeding a given amount in any given year; the inverse of AEP (1/AEP) provides a measure of the average time between *years in which a particular value is exceeded at least once*; the term is associated with analysis of annual maximum series.

annual maximum series (AMS) – Time series created by the extraction of the largest single case in each calendar year of record.

ArcInfo© ASCII grid – Also known as an ESRI© ASCII grid, a very simple grid format with a 6-line header, which provides location and size of the grid and precedes the actual grid data. The grid is written as a series of rows, which contain one ASCII integer or floating point value per column in the grid. The first element of the grid corresponds to the upper left-hand corner of the grid.

average recurrence interval (ARI) – Average time between *cases of a particular magnitude*; the term is associated with the analysis of partial duration series.

Cascade, Residual Add-Back (CRAB) – HDSC-developed spatial interpolation procedure for deriving grids of precipitation frequency estimates from mean annual maximum grids of different annual exceedance probability.

data years – Number of years in which enough data existed to extract maxima in a station's period of record.

depth-duration-frequency plot (DDF) - Graphical depiction of precipitation frequency estimates in terms of depth (y-axis) and duration (x-axis)

Discordancy – Measure based on coefficient-of-L-variation, L-skewness and L-kurtosis of a station's data, which represents a point in 3-dimensional space. Discordancy is a measure of the distance of each point from the cluster center of the points for all stations in a region. The cluster center is defined as the unweighted mean of the three L-moments for the stations within the region being tested. It is used for data quality control and to determine if a station is consistent with other stations in a region.

Federal Geographic Data Committee (FGDC)-compliant metadata – A document that describes the content, quality, condition, and other characteristics of data and follows the guidelines set forth by the FGDC; metadata is "data about data."

GEV - Generalized Extreme Value – A 3-parameter theoretical probability distribution function.

GLO – Generalized Logistic – A 3-parameter theoretical probability distribution function.

GNO – Generalized Normal – A 3-parameter theoretical probability distribution function.

GPA – Generalized Pareto – A 3-parameter theoretical probability distribution function.

heterogeneity measure, H1 – Measure that uses coefficient of L-variation to compare between-site variations in sample L-moments for a group of stations in a region with expectations for a

homogeneous region. The H1 measure was used to assess regional homogeneity, or lack thereof.

"Index Flood" – The mean of the annual maximum series, also known as the scaling factor, at each observing station that is multiplied by the regional growth factor to produce precipitation frequency estimates. It is often referred to as the "Index Flood" because of the genesis of the statistical approach in flood frequency analysis.

intensity-duration-frequency curve (IDF) - A log-log graphical depiction of precipitation frequency estimates in terms of intensity (y-axis) and duration (x-axis).

internal consistency – Term used to describe the required behavior of the precipitation frequency estimates from one duration or frequency to the next. For instance, it is required that the 100-year 3-hour depth estimates be greater than the 100-year 120-minute depth estimates.

L-moments – Linear combinations of probability weighted moments that provide great utility in choosing the most appropriate probability distribution to describe the precipitation frequency estimates.

mean annual precipitation – The climatological average total annual precipitation. For the spatial interpolation of NOAA Atlas 14 Volume 1, the mean annual precipitation for the climatological period 1961-90 was used as a predictor grid for interpolating mean annual maximum precipitation to a uniformly spaced grid.

Monte Carlo simulation – Simulation technique used to randomly generate 1,000 synthetic data sets for each station in a region to determine sample L-moment estimates and test the fitting of theoretical distributions. The technique was also used to quantitatively assess confidence bounds.

n-minute – Precipitation data measured at a temporal resolution of 5-minutes that can be summed to various "n-minute" durations (10-minute, 15-minute, 30-minute, and 60-minute).

partial duration series (PDS) – Time series created by the extraction of all large events in which more than one large event may occur during a single calendar year. For this Atlas, the annual exceedance series (AES) consisting of the largest N events in the entire period of record, where N is the number of years of data, was used.

PE3 – Pearson Type III – A 3-parameter theoretical probability distribution function.

precipitation frequency – General term for specifying the average recurrence interval or annual exceedance probability associated with specific depths for a given duration.

Precipitation Frequency Data Server (PFDS) – The on-line portal for all NOAA Atlas 14 deliverables, documentation and information. Link to it via the HDSC home page at: http://www.nws.noaa.gov/ohd/hdsc/.

PRISM – Parameter-elevation Regressions on Independent Slopes Model – a hybrid statistical-geographic approach to mapping climate data developed by Oregon State University's Spatial Climate Analysis Service.

probability distribution – Mathematical description of a random variable, precipitation in this case, in terms of the chance of exceedance associated with each value.

pseudo data –Precipitation frequency estimates for stations that did not have observed data at a given duration. The estimates were based on ratios derived from nearby co-located stations and applied to actual observed data at the station.

quantile – Generic term to indicate the precipitation frequency estimates associated with ARIs and AEPs.

regional growth factor (RGF) – Dimensionless factors that are a function of appropriate higher order moments for a region; used to develop the site-specific quantiles for each region by multiplying by the site-specific scaling factor to produce the quantiles at each frequency and duration; there is a single RGF for each region that varies only with frequency and duration

root-mean-square-error (RMSE) – The positive square root of the mean-square-error (MSE). MSE is the mean square of any residual. RMSE is the also called the standard error of estimate.

shapefile – An ESRI© vector file format for displaying non-topological geometry and attribute information for use with Geographical Information Systems (GIS). The shapefile has the .shp extension, and comes with other associated files which can include, .shx, sbx, .sbn and .dbf.

SNOTEL – An extensive automated network of stations that collect surface meteorological data at high elevations (6000 - 11,000 feet) in the western United States. The SNOTEL network is operated by the United State's Department of Agriculture's (USDA) National Resources Conservation Service (NRCS).

temporal distribution – Temporal patterns in probalistic terms specifically designed to be consistent with the definition of duration used in this Atlas and for use with the precipitation frequency estimates. They are expressed as cumulative percentages of precipitation and duration at various percentiles for 6-, 12-, 24- and 96-hour durations.

Wakeby distribution – A 5-parameter theoretical probability distribution function.