June 23, 2007 – Dry conditions have continued through this past spring into early summer across northwest Arizona. The best storm activity and accompanying precipitation occurred in April with most rain and snow falling across northern portions of Mohave county. Reports from RAWS sites on the Colorado strip indicate that over 0.5 inches of precipitation fell in total in April with several cold fronts that clipped the far northern portions of Arizona. May and June have been relatively quiet with only areas limited to the Utah border receiving any precipitation in June. Areas south of the Colorado River in Mohave County have been considerably drier for the period of April through June. Spotty precipitation was reported with the passage of a low pressure system across the region in mid-April. Volunteer observers (http://www.rainlog.org) reported 0.05 to 0.10 of rainfall near Kingman with the mid-April storm. No rainfall was observed in official National Weather Service reports for Kingman in April and May. These recent precipitation observations are less than 25% of average for the April-June period. All of Mohave County is designated under at least severe drought with much of the southern half under the extreme drought category (http://www.drought.unl.edu/dm/monitor.html). Temperatures have also been slightly above-average over the past 90 days with most locations reporting temperatures 1 to 2 °F above-average.

Forecasts for the upcoming summer season (July-August-September) from the Climate Prediction Center indicate that the southwest U.S. will see an increased chance of above-average temperatures and equal chances of below, above and average precipitation. The ‘equal chances’ forecast indicates the lack of a strong forecasting signal to use for the summer season across the Southwest. ENSO conditions (El Niño or La Niña) are the strongest forecasting signal for the Southwest, but are only weakly correlated with summer precipitation across the region. Cool sea-surface temperatures are emerging in the far eastern Pacific Ocean which could mean that a La Niña event may develop over the next several months. Moderate to strong La Niña events can limit storm activity and suppress precipitation across the southwest during the winter months. Stay tuned to forecast updates through the summer and early fall to monitor this developing situation (More information on forecasts can be found at http://www.cpc.noaa.gov).

Precipitation amounts have been below-average five out of the last six months causing short-term drought conditions to worsen across northwest Arizona. PDSI values have been on the fall since the fall of 2005 with continued below-average precipitation. PDSI values are now almost as low as observed during summer of 2002.
Rainfall observations from Remote Automated Weather Sites (RAWS) across northwest Arizona for the May-June period reflect amounts generally less than 0.5 inches. Mt. Logan received over 2.5 inches in April, but only 0.18 inches in May and nothing in June. The Hurricane site received all of its 0.51 inches in April with the passage of a late season cold front. Areas further to south were much drier over the period with most locations receiving less than 0.2 inches of precipitation. Music Mountain observed only 0.03 inches of rainfall while Truxton Canyon reported no rainfall at all between April and mid-June. More RAWS rainfall data can be found at the Western Regional Climate Center at http://raws.dri.edu.

The SPI represents precipitation levels over different time-scales in standard deviation units. The time scales represent discrete comparison periods (12-month time-scale represents total precip over last 12 months compared to historical record of same period). Negative values from 0 to 24 months indicate that below-average precipitation has persisted at all time-scales for the past two years. The SPI value of zero at 2 months represents near average precipitation occurring in April.

The July-August-September seasonal precipitation forecast from the Climate Prediction Center depicts equal chances of below, average, and above-average precipitation for all of the Southwest. An ‘equal chances’ forecasts means that no climatic signal is present strongly enough to indicate that above or below-average conditions may occur during the forecast period. Summer forecasts are difficult to make due to the lack of connection between summer precipitation and sea surface temperature patterns like El Niño or La Niña on which most forecasts are made. A La Niña event may develop later this summer or fall which may bring below-average precipitation to much of the Southwest U.S. Stay tuned to forecast updates through the summer.