

## Powerful Storm Blasts West Coast

By Don Sutherland

When it comes to rainfall, it has been feast or famine in parts of the West. From March 20 through October 16, downtown Sacramento received no measurable rainfall. That arid stretch of 211 consecutive days shattered the old mark of 194 days. Then, one week after that first measurable rainfall in nearly seven months, a record deep storm and intense atmospheric river dumped 5.44” of rain on October 24<sup>th</sup>. That rainfall surpassed the previous heaviest rainfall on record for downtown Sacramento, which had stood for more than a century. The old record of 5.28” had been set way back on April 20, 1880. Blue Canyon, CA saw 10.44” of rain, which surpassed its all-time mark of 9.33” from December 22, 1964. San Francisco’s 4.02” was that city’s heaviest fall rainfall and 3<sup>rd</sup> heaviest daily rainfall on record.

These “feast or famine” outcomes are becoming increasingly likely with climate change. A paper published on April 23, 2018 in [Nature](#) revealed:

*Mediterranean climate regimes are particularly susceptible to rapid shifts between drought and flood—of which, California’s rapid transition from record multi-year dryness between 2012 and 2016 to extreme wetness during the 2016–2017 winter provides a dramatic example. Projected future changes in such dry-to-wet events, however, remain inadequately quantified, which we investigate here using the Community Earth System Model Large Ensemble of climate model simulations. Anthropogenic forcing is found to yield large twenty-first-century increases in the frequency of wet extremes, including a more than threefold increase in sub-seasonal events comparable to California’s ‘Great Flood of 1862’. Smaller but statistically robust increases in dry extremes are also apparent. As a consequence, a 25% to 100% increase in extreme dry-to-wet precipitation events is projected, despite only modest changes in mean precipitation. Such hydrological cycle intensification would seriously challenge California’s existing water storage, conveyance and flood control infrastructure.*

While California awaits the conclusion of the record rainstorm, the New York City area, that had seen record hourly rainfall from the remnants of Hurricane Ida, is poised to pick up a major rainfall and high winds tonight through at least late Tuesday.