

SF Bay Area AQPI Project Update

April-May 2019

Background

The SF Bay Advanced Quantitative Precipitation Information (AQPI) System was funded in 2016 by a grant from the California Department of Water Resources (DWR) and awarded to Sonoma Water and Local Participating Partners (LPPs). National Oceanic and Atmospheric Administration (NOAA) is building the AQPI System and delivering the AQPI end-product to LPPs. The goals of the AQPI system when completed will provide X-Band and C-Band radars and information systems that will increase the accuracy of weather forecasting and response systems throughout the Bay Area. Improved forecasting will assist water managers, reservoir operators, wastewater plant managers, flood and emergency responders to respond to extreme water events in a timely fashion. SF Bay AQPI is building a Local Partner Advisory Committee to develop the framework for regional collaboration and agreement.

AQPI Radar Locations

When completed, there will be four X-Band radars and one C-Band radar that will cover most watersheds in the Bay Area (Figure A).

Timeline for Radar Installations

As of April 2019, two X-Band radars are operational including one in Sonoma County and one in Santa Clara County. Two more X-Band radars are slated for installation in 2019. It is anticipated that there will be four operating X-Band radars in place by the end of 2019, with a C-Band radar and potentially a 5th X-Band to follow in 2020. Radars locations include:

- **Sonoma Water** - Since 2018 operating a temporary X-band radar near the Sonoma County Airport. A permanent X-Band radar will be installed Summer/Fall 2019 on Sonoma Mountain.
- **Valley Water** - Since 2016 operating a temporary X-Band radar at the Penitencia Water Treatment Plant. A permanent X-Band radar will be installed summer 2019 at the same location.

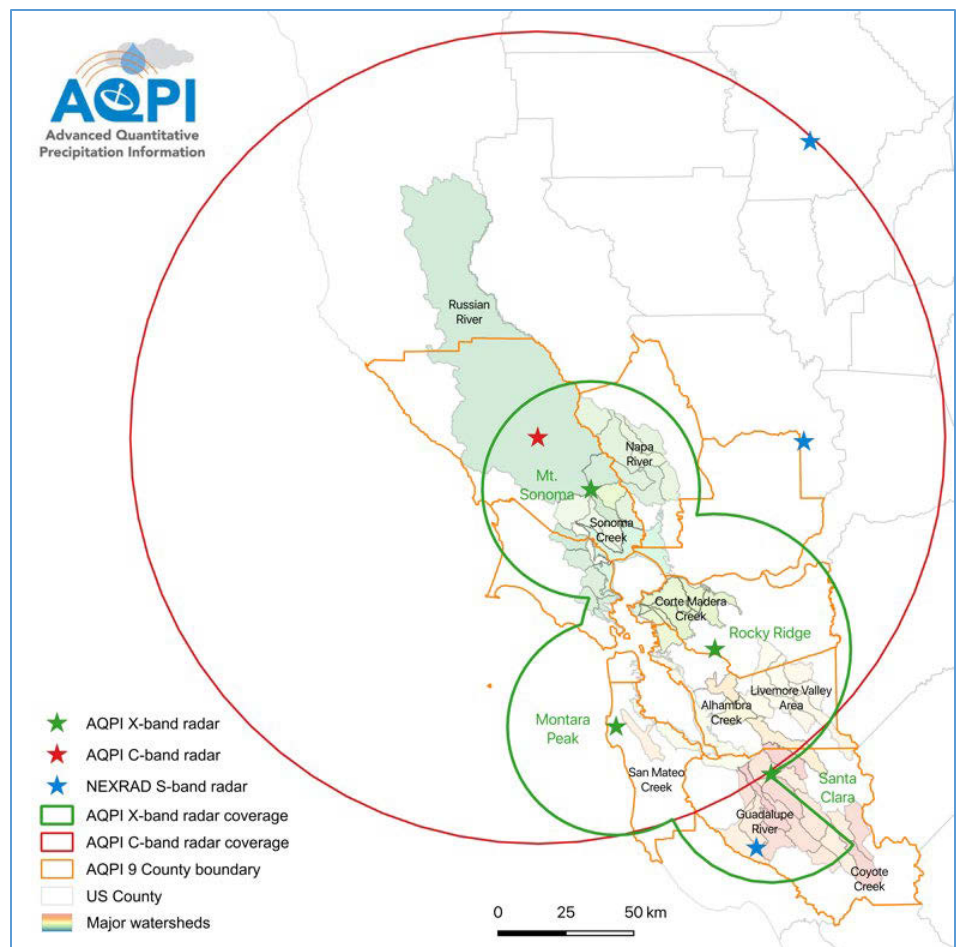
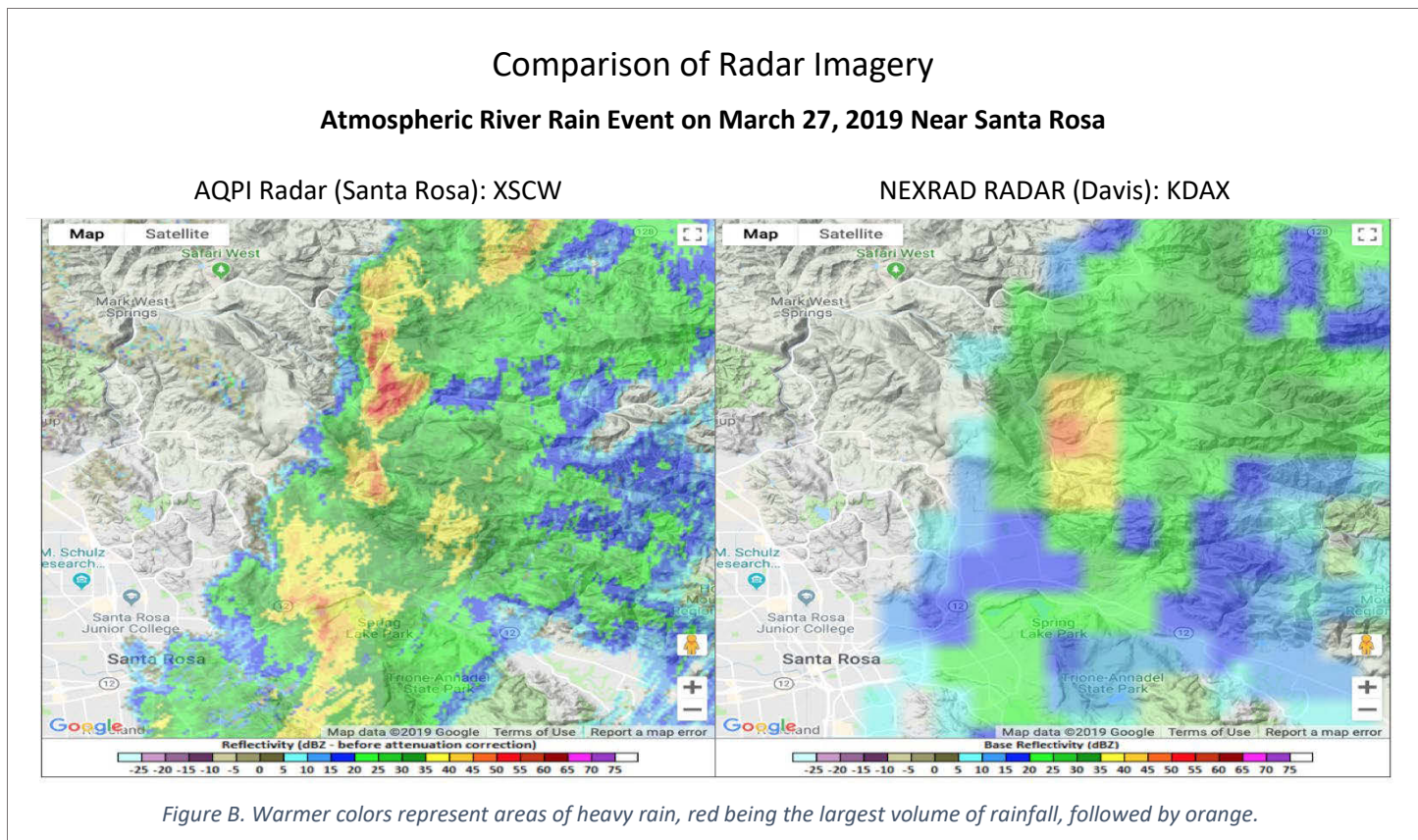


Figure A. Map of AQPI X-Band and C-Band Radar locations by 2020.

- **San Francisco Public Utilities Commission (SFPUC)** – will install a permanent X-Band Radar at Montara Mountain in San Mateo County in 2019.
- **East Bay Agencies Partnership** – A partnership of East Bay agencies is working to site a permanent radar on Rocky Ridge, adjacent to the Las Trampas Wilderness area in 2019. This partnership includes East Bay Municipal Utilities District (EBMUD), East Bay Dischargers Authority (EBDA), Contra Costa County Flood Control & Water Conservation District, Alameda County Flood Control & Water Conservation District, and Alameda County Water District (ACWD).
- **Santa Cruz County Flood Control and Water Conservation District** received a grant from DWR’s Statewide Flood Emergency Response Grant program to install a permanent X-Band radar at its County Administration Building. This radar is not currently shown on the map in Figure A, but will be added as the fifth X-Band radar for the project. The radar is slated to be installed for the 2020 rainy season. Radar data will tie into the Bay Area AQPI system.
- **C-Band Radar** - Regional partners are collaborating to site and install a C-Band radar in the North Bay. The C-Band radar will cover the Pacific Coast as well as inland to complement the X-Band radars, improving storm forecasting throughout the region.

AQPI Benefits: AQPI Radar Imagery from 2018 Atmospheric River Storm

Flooding is a major concern in the Bay Area. With the severe firestorms, burn areas are especially flood prone. The difference between existing radar rainfall data and AQPI are a striking example. See below in Figure B, where AQPI radar provides a more accurate picture of rainfall in the burn areas east of Santa Rosa, to better assess the potential for flash flooding and debris flows. Note - Warmest colors represent highest rain volume.



FOR MORE INFORMATION:

Jake Spaulding, Sonoma Water, (707) 524-8373, Jake.Spaulding@scwa.ca.gov
Rob Cifelli, NOAA Earth System Research Laboratory, (303) 497-7369, rob.cifelli@noaa.gov
Visit: <https://www.sonomawater.org/aqpi/> and <http://www.esrl.noaa.gov/psd/aqpi/>