

In the aftermath of the major rain storms yesterday in Northern California, scientists with the U.S. Geological Survey have been surveying so called "high water" such as the Russian River in the North Bay, Sacramento River near Delta, and Cache Creek near Yolo. They are checking for possible changes in the waterways for stream flow and flooding in an effort to make sure that a collection of gages around the state are taking accurate measurements. The data will be used by emergency managers in their response planning. We're going to take a closer look at what's being measured and why, we are going to turn to the KCBS central news line, and Dianna Crilley, Associate Director for Data with the California Water Science Center. So, what are you looking for specifically?

"Hi, thank you very much, so, the California Water Science Center dispatched numerous crews today to measure and verify peak flows in stream and river locations across the state. These measurements are extremely important, especially during storms, to make sure that real-time data remains accurate. We have about 500 streamgages across California that measure water height and streamflow, part of a national network of almost 7500 gages. Many of these gages have long-term records that go back as far as the 1890's. All of this data is important because it provides real-time information to the public and information is used by federal, state, local agencies, and emergency managers."

Can you get into some of the specifics of what this data is used for? What would emergency managers use this kind of information for?

"I'm so glad you asked. So, one of the gage sites that was measured today was the Russian River near Guerneville, California. And this is an important gage because real-time information on river height and stream flow are used by the national weather service to provide flood-forecasts and alerts. And, in fact, data from this stream gage allowed the weather service earlier today to issue a flood warning for Sonoma County. River height there peaked at about four feet above flood stage, and discharge at that location was about 40,000 cubic feet of water per second. So, to help put this into perspective, an olympic sized swimming pool holds about 88,000 cubic feet of water, so every 2 seconds, the volume of water in an olympic sized swimming pool was flowing past the gage - that's a lot of water."

That is. Are you able to tell from the storm yesterday just how quickly some of those rivers were rising?

"You know it really depends on the location, the size of the channel, of course in urban areas, they can be very flashy, so it comes and goes pretty quickly."

Now, in a particularly wet year, a particularly busy year, how often is this data changing, you had mentioned it was real time, so how accurate is it and how often do these measurements need to be taken, in particularly wet years?

"That's a great question. So, streamgages measure river height, and that measurement translates into river discharge, or stage discharge relationship. And, it's developed and verified using field measurements, that's why it's so important that we collect those. And, those measurements need to be taken over a wide range of flow conditions - everything from low-flow during a drought, to high flows during a storm. And, as channel shapes change, that relationship also changes requiring new measurements, and channels are dynamic, they are constantly changing."

Well thank you for all that information Dianna Crilley, associate director for data with the California Water Science Center.