

Online extra

New tracker keeps you updated on the status of 10 major Bay Area transit projects.

[sfchronicle.com/transit-tracker](https://www.sfchronicle.com/transit-tracker)



Nation

House panel votes to hold Bannon in contempt of Congress. **A7**

Datebook

HBO's Jan. 6 riot documentary a big disappointment. **D1**

Sports

Poole, Curry lead Warriors past James, Lakers to win their opener on the road, 121-114. **B1**



San Francisco Chronicle

SFCHRONICLE.COM | Thursday, October 21, 2021 | CONTAINS RECYCLED PAPER | \$2.00 ★★★★★

Chase fatality blamed on leap

Man may have jumped, S.F. police report

By Aidin Vaziri

Officials at San Francisco's Chase Center, the home of the Golden State Warriors, are assuring fans that the venue is safe after one man died and at least two people were injured in separate incidents during a Phish concert Sunday.

Though details about how and why the injuries occurred are still under investigation, the San Francisco Police Department on Tuesday said there is no evidence of foul play and that the death, which occurred about 8:55 p.m., may have occurred after a man intentionally jumped from a balcony.

"The investigation has evidence to believe the victim leapt from an elevated area of the arena causing him to fall a significant distance, which caused his injuries," said Officer Robert Rueca, public information officer for San Francisco Police Department. "Immediately before the victim leapt, he did not appear to have any physical contact with any person or barrier/railing."

The San Francisco Medical Examiner identified the man who died as 47-year-old Ryan Prosser of Athens, N.Y.

The second incident was
Chase continues on A10

Harlan Kelly hit with new charges

By Rachel Swan

Former San Francisco Public Utilities Commission head Harlan Kelly is facing new federal charges of bank fraud and conspiracy to commit bank fraud, linked to a wide-ranging bribery scheme in which he allegedly traded insider information on city contracts for free meals, jewelry and international trips.

A federal indictment filed Tuesday also accuses San Francisco real estate investor and former public utilities commissioner and port commissioner Victor Makras of bank fraud and conspiracy to commit bank fraud. Additionally, both defendants face charges of honest services wire fraud and conspiracy to commit honest services wire fraud.

The intricate and long-running case has upended several top leaders at San Francisco City Hall, including Kelly and his wife, Naomi Kelly, who resigned as city administrator earlier this year but has not been charged with a crime. It all stems from the January 2020 arrest of former Public

Kelly continues on A8

Downpours expected for next several days

Rain should ease fire threat, but end to drought isn't inevitable

By Jessica Flores

A string of soggy weather was expected to begin drenching the Bay Area late Tuesday — an entree into what meteorologists expected would be days of rain and gusting winds across the region.

Precipitation was expected to lash much of Northern Cali-

Californians still not conserving water

For the second straight month, most regions failed to cut back usage 15%, as requested by Gov. Gavin Newsom to battle the state-wide drought. August usage was down only 5% from 2020. **C1**

fornia almost ceaselessly Wednesday and Thursday, with a slight break Friday — before potentially even heavier rains

return over the weekend.

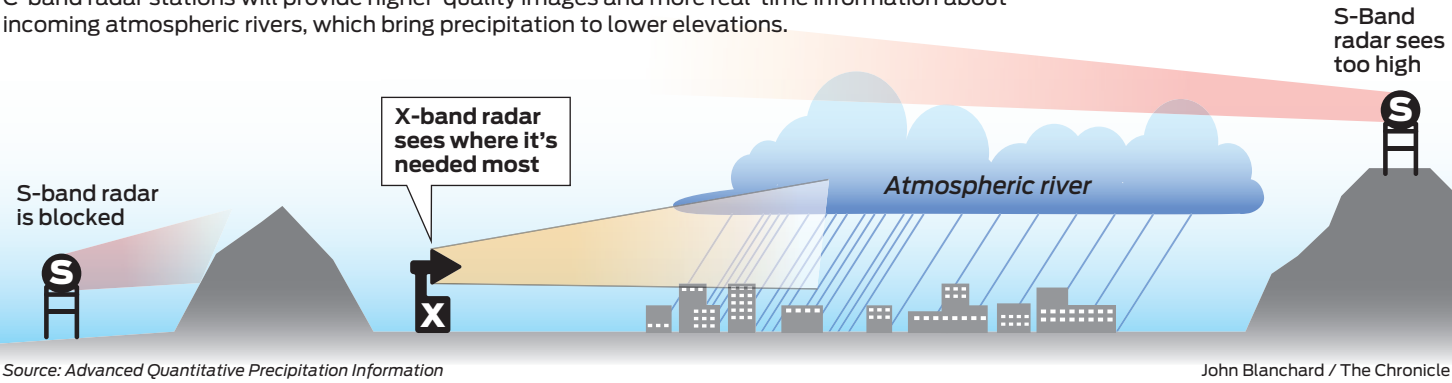
An atmospheric river — an airborne channel of water vapor that forms over the

ocean and falls as rain or snow when it makes landfall — could reach the Bay Area by Sunday, ushering in even more rain next week.

It would be the first atmospheric river of the Bay Area's wet season, if it reaches landfall as expected. But meteorologists said Tuesday it was still
Rain continues on A11

Adding radar stations to better forecast atmospheric rivers

Existing S-band radar stations were positioned to maximize coverage area. Adding new X- and C-band radar stations will provide higher-quality images and more real-time information about incoming atmospheric rivers, which bring precipitation to lower elevations.



Source: Advanced Quantitative Precipitation Information

John Blanchard / The Chronicle

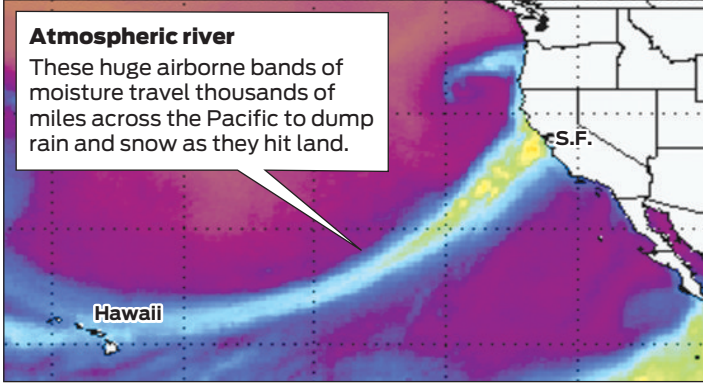
A new eye on the weather

By Tara Duggan

A new radar system coming to the Bay Area promises to greatly improve weather predictions, providing additional warning time to prevent flooding damage and more accurate forecasts of where heavy rainfall will hit, down to a specific low-lying highway or neighborhood.

The new forecasting system was originally geared to give emergency planners more time to prepare before a sewage plant overflowed or a BART station flooded during an atmospheric river, the often-dramatic weather events responsible for up to half of the region's rainfall. Paid for in part with a \$20 million grant from the California Department of Water Resources and implemented by local water districts, the \$31 million system began rolling out in 2018 with the installation of a new weather radar station in

Radar system has potential to pinpoint danger ahead



Source: NOAA

ONLY ONLINE

Every day, we feature unique stories, projects and reader benefits available only on our website and app. Get the most out of your subscription at [sfchronicle.com/only-online](https://www.sfchronicle.com/only-online).

Today: Live weather updates

Keep track of the forecast and rainstorms' impact across the Bay Area with our real-time updating coverage.

Sonoma County, followed by one in San Jose. By 2024, five more will come to the Bay Area, including one in the East Bay by Thanksgiving. An additional radar station will also be installed in Santa Cruz.

The new tools also hold promise for mitigating effects of global warming besides atmospheric rivers. More accurate forecasts could help water managers strategize reservoir storage to better prepare for drought, and the higher-resolution images could monitor heavy rain that might hit wildfire burn zones and cause mudslides.

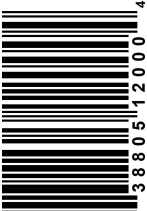
Atmospheric rivers, huge airborne bands of water that travel thousands of miles across the Pacific to dump rain and snow as they hit land, are estimated to inflict \$1.1 billion in damage annually in California, Oregon and Washington. The forecasting system, called Advanced Quantitative Pre-

Radar continues on A11

Weather



Cloudy with showers.
Highs: 60-68.
Lows: 54-63. **C6**



On run from Taliban, family banks on dim hopes of reaching California

By Deepa Fernandes and Tal Kopan

From the bench of Afghanistan's trial court at the Bagram Air Base in Kabul, the judge presided over hundreds of terrorism and national security cases. In 2019, she gave the death sentence to the architect of a car bombing that killed 90 people and injured hundreds more two years earlier.

The judge's husband, a federal prosecutor, built cases against gang rapists who ambushed women and girls traveling between provinces, as well as those who participated in the



Brontë Wittpenn / The Chronicle

Sayed shields the faces of relatives he's trying to bring over from fractured Afghanistan.

mob lynching of a woman who scolded a vendor for encouraging women to spend their money on amulets.

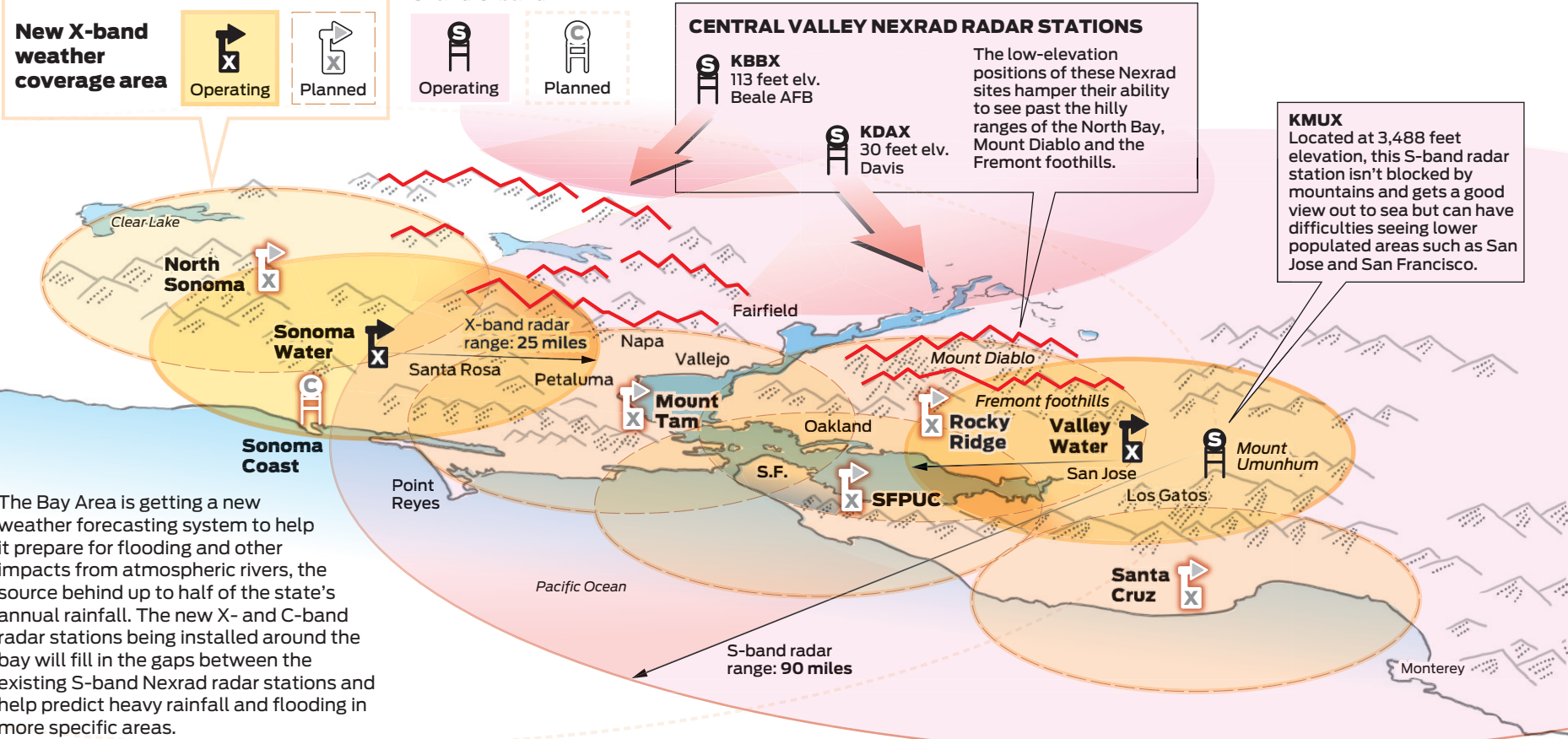
Since August, when Afghanistan fell to the Taliban, the judge and the prosecutor have been in hiding while some of the people they put away walk free, including the car bomber. Colleagues have been hunted down and killed. The couple fear they could be next.

"There is no doubt that convicted criminals have been released and not only are they in pursuit of me but also my colleagues ... so they can get
Afghanistan continues on A9

FROM THE COVER

New weather radar stations to provide a clearer view of Bay Area

RADAR STATIONS



Source: Advanced Quantitative Precipitation Information

John Blanchard / The Chronicle

New radar's more precise forecasting

Radar from page A1

precipitation Information, or AQ-PI, could reduce the annual cost of flood damage in the Bay Area by \$60 million, said Robert Cifelli, research meteorologist at the National Oceanic and Atmospheric Administration and AQPI technical lead.

"We can actually see these atmospheric rivers coming many days in advance," Cifelli said. "The question is exactly where is it going to hit and how intense is it going to be. And that's where the devil's in the details."

The forecasting system aims to provide those details, as the new radar stations will cover more ground and provide higher-resolution images and quicker updates. It will especially improve what is called nowcasting — updates on what is happening in the next 30 to 60 minutes — which can be vital in an emergency.

One scenario: AQPI could predict that heavy precipitation will fall around the east entrance to the Bay Bridge during the evening commute — perhaps when there is also a king tide, raising the chance of intense flooding. In that case, an emergency text message could be blasted out, urging people to avoid the bridge.

"With climate change and sea level rise, a lot of the impacts are going to be felt on our interior highways around bridges," said John Coleman, CEO of the Bay Planning Coalition, an organization that represents the economic interests of governments and businesses in the region. "AQPI can really direct down to almost the neighborhood what the impact of the storm will be."

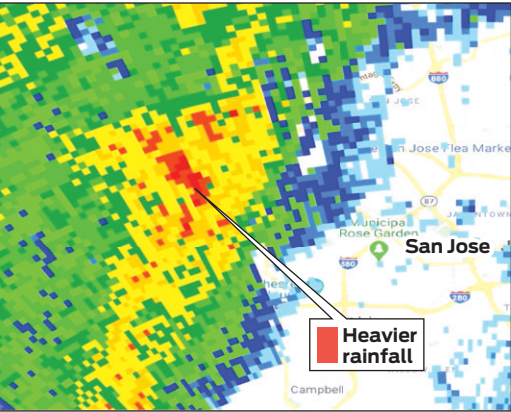
The Bay Area has particular weather forecasting challenges. Since precipitation generally moves west to east, it's difficult

Comparing new and old radar imagery

Here is a comparison of the old (left) and new weather radar (right) used in San Jose during a storm in February 14, 2019.

Nexrad S-band radar

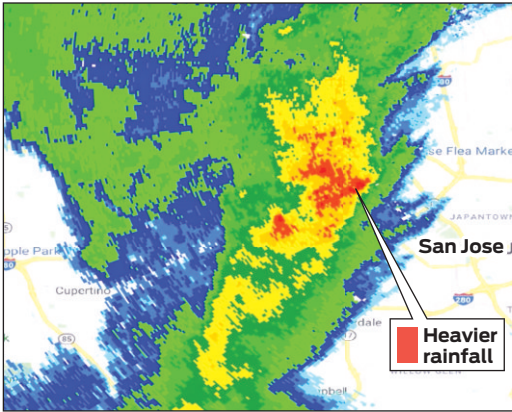
Its resolution is 0.6 miles (1 kilometer), and it is updated every six minutes.



Sources: Advanced Quantitative Precipitation Information, NOAA

New X-band radar in San Jose

It has a resolution of about 200 feet (60 meters) and is updated every two minutes.



to get close enough to storms that are coming from the Pacific. Also, the radar system we have is limited by the area's hilly topography, Cifelli said.

The Bay Area also has pockets that get hit hard by atmospheric rivers, particularly the Russian River Valley in Sonoma County, which experienced flooding most recently in early 2019. On the flip side, the county has been heavily impacted by drought. Both are reasons that Sonoma County's water agency took the lead on bringing the state-funded AQPI project to the Bay Area.

"In February of '19, we had 2 or 3 feet of water running down the middle of Guerneville, and seemingly it hasn't rained since," Sonoma County supervisor and water director David Rabbitt said. "It's really important to have a better handle (on that). Technology can offer a lot."

Weather radar works by sending out radio signals that hit raindrops and then bounce back. That data is used to map the location, intensity and

direction of the rainfall. That real-time information, along with weather data from other sources — satellites, rain gauges, even buoys at sea — is used for nowcasting and is fed into algorithms that meteorologists use to forecast precipitation. The more information that goes into the models, the better they work during future storms.

Currently, most Bay Area weather forecasting is handled by four main radar stations, called Nexrad, which have some gaps in coverage. The signals from the Nexrad radar station on Mount Umunhum in the Santa Cruz Mountains is at 3,500 feet and can miss rainfall from an atmospheric river heading over San Francisco, for example, because its beams often skirt over the city at too high an elevation because of the curvature of the Earth. Another, in Davis, misses much of southern Sonoma County because mountains block its signals.

"We're trying to fill in as many gaps as we can where

those radars are blind," Cifelli said.

Six of the new radar stations being rolled out are being placed close to dense urban areas. They're all X-band radar, which has a smaller range than the Nexrad S-band radar but captures a crisper image, down to 200 feet of resolution compared with 0.6 of a mile. X-band radar also updates every two minutes compared with six minutes for the Nexrad, and because the stations will be located at a lower elevation, where precipitation from atmospheric rivers tends to occur, they can also provide a more accurate assessment of where the rain is falling, Cifelli said.

Yet meteorologist Jan Null of Golden Gate Weather Services, a 47-year veteran of Bay Area forecasting, is doubtful about the impact the new X-band radar will have because of its limited range. He said he doesn't think the stations will provide enough lead time to prepare for an emergency, unless additional meteorologists were hired to interpret

the data.

"With a storm system coming in that's moving at 30 miles an hour, you don't see very far into the future," he said, adding that the new system will not be a "big value add."

"It's not going to make a significant difference in the way forecasts are issued," he said.

However, one of the new radar stations is C-band radar, which has a larger range than X-band, and will be installed on the Sonoma coast to capture atmospheric rivers as they head toward the region.

That new C-band radar station is the one that meteorologist Brian Garcia of the National Weather Service is most excited about. Currently there are only two radar stations that face the ocean without being "beam blocked" by mountains, he said — the one on Mount Umunhum and another in Eureka in Northern California. The new radar station will help forecast weather heading toward Marin, Sonoma and Mendocino, he said.

Even after they're up and running, Garcia said it will take a while for the new AQPI radar stations to improve weather forecasting, but once they do, it will be a big improvement.

"People should not expect this to be like an app on your phone that's going to tell you when it's going to rain and how hard it's going to rain and that you need to evacuate," he said. "What this is is a huge leap forward in the quantity and quality of data that we are getting on the environment during critical weather situations."

Tara Duggan is a San Francisco Chronicle staff writer. Email: tduggan@sfgchronicle.com Twitter: @taraduggan

Wet weather ahead for several days — fire threat to ease

Rain from page A1

too early to determine precisely where and at what time the atmospheric river could pass over the region, or how much rain it could drop.

The coming surfeit of precipitation could "certainly help quell fire concerns," the National Weather Service wrote in a recent weather bulletin.

Snow was expected in higher elevations, but how the coming precipitation might affect ski season remained unclear.

Meteorologists said the rain could, however, help ease the state's drought conditions, but warned about the potential for disasters like flooding and dam

spillway damage that can be caused by large amounts of rain falling in short periods.

"They are always a concern, especially when they fall over burn scars," National Weather Center meteorologist Jeff Lorber said.

In the Sierra Nevada, travelers could expect longer drive times.

Light rain and snow were expected Tuesday evening and Wednesday morning, along with wind gusts of up to 40 mph.

"Snow accumulations are expected to be less than an inch or 2, but even wet roads will slow travel over the passes," meteorologists wrote in a forecast discussion.



Jessica Christian / The Chronicle

The high Sierra could see heavier snowfall and rain on Sunday and Monday, with snow levels at about 7,000 to 8,000 feet.

Jon Mittelstadt, a meteorologist with the NWS Reno office, said it was too soon to tell how the rain could impact this

year's ski season.

"At this point the main concerns are the heavy rain, which could cause some rocks to come down and also trees (that) have been weakened or killed by the fires," he said.

On Sunday night and into Monday, "We'll have to start

watching for the possibility of snow levels coming down and creating a lot of travel issues," he said.

Jessica Flores is a San Francisco Chronicle staff writer. Email: jessica.flores@sfgchronicle.com Twitter: @jessmfflores

Floodwaters begin to rise on South Fourth Street in San Jose on Jan. 22 during a rare rainstorm in the dry 2020-21 winter. A series of storms is predicted for the Bay Area and much of Northern California. It's not clear how much that will ease the drought.