



# Land of the West Wind

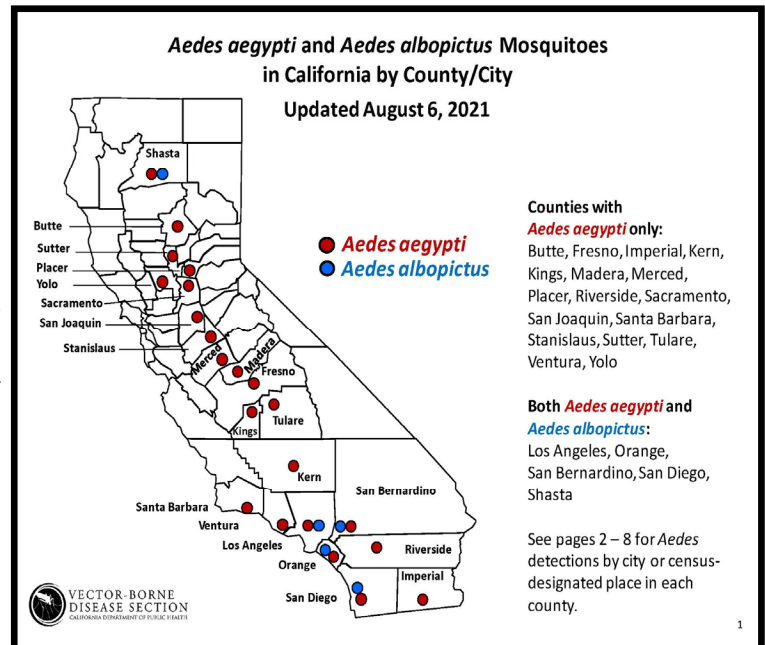
Volume 21 Issue 3

October 2021

## Zika Vector Detected in Solano County

Bret Barner, SCMAAD

The Yellow Fever mosquito, known as *Aedes aegypti*, is an invasive mosquito species originally from Africa. It was introduced to North America through the overseas shipment of goods. These mosquitoes have the ability to introduce diseases which are not transmitted by our established mosquito species. *Aedes aegypti* are known to be efficient vectors of yellow fever, chikungunya, dengue, and Zika virus. Unlike other *Aedes* mosquitoes, *aegypti* has a strong preference for laying eggs in artificial containers like plant saucers, underground yard drains, or even trash can liners that hold water. *Aedes aegypti* larvae have even been found inside plants like bromeliads and in lucky bamboo pots; anything that holds any amount of water can and will produce *aegypti* mosquitoes.



Most mosquito species lay their eggs where water is present at the time of oviposition (egg-laying), a characteristic of standing-water mosquitoes.

*Aedes* mosquitoes are instead floodwater mosquitoes, meaning they lay



their eggs in areas that are prone to flooding. Water does not have to be present at the time of oviposition. The gravid (egg-laying) *Aedes* mosquitoes are able to detect areas where water has been and will deposit their eggs in such locations. They will also lay their eggs where standing water occurs but will do so just above the waterline. Once these eggs are hydrated at the time of a flooding event, they will hatch and the next generation of *Aedes* will emerge. If you would like more information on these mosquitoes visit [www.solanomosquito.com](http://www.solanomosquito.com) or the California Department of Public Health website.



## Land of the West Wind

Quarterly Newsletter of the Suisun  
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SRCD's public meetings are  
held at 2 PM on the second  
Wednesday of each month at the  
Solano County Supervisors Chambers  
675 Texas Street  
Fairfield, CA 94533

SRCD represents private landowners of the Suisun Marsh at the Federal, State, and local levels. Its historic goal has been to achieve a water supply of adequate quality so that preferred wetland habitat values will be retained through appropriate management practices. Through cooperation with landowners and various agencies, SRCD seeks to develop new programs aimed at protecting and improving the Suisun Marsh for future generations.

## Some Late Summer Water Delivered to Parched Lower Klamath Basin

The Bureau of Reclamation began releasing water from the Klamath River to Lower Klamath National Wildlife Refuge on September 3rd. Advocates hope it will improve wetland habitat on the refuge for migrating birds this fall.

After the California Waterfowl Association announced the plan to purchase water followed by a fundraising campaign, a little water is finally headed to lower Klamath Basin. On August 26th, the Oregon Water Resources Department officially accepted California Waterfowl Association bid to purchase approximately 3,750 acre-feet of water from Agency Ranch in the Wood River Valley, located above Upper Klamath Lake. Lower Klamath has been plagued by insufficient wetland habitat due to a lack of water for the past 20 years. This year, February was the last time that Lower Klamath Refuge received water.

All wetland habitat on Lower Klamath is dry save for Unit 2 on the north-west part of the refuge. Unit 2 includes Sheepy Lake, the last piece of open water on the refuge that had been drying up all summer, stranding molting waterfowl and making them prone to predation by raccoons and coyotes. Water is now headed there through the Ady Canal.



However, not all 3,750 acre-feet will enter the refuge this year. Because the water rights only allows for diversion through September 30th at a set maximum rate per day, only about 700 acre-feet will be available to divert this summer. However, CWA indicated that the full amount will be available in future years, and it provides a proof of concept for other water rights holders who are interested in selling some of their water to help the refuge.

***“While this amount of water is small compared with the refuge’s overall need of about 100,000 acre-feet of water per year, this success is enormously significant”***

- Rob Plath, Chairman of CWA’s Lower Klamath Refuge Task Force



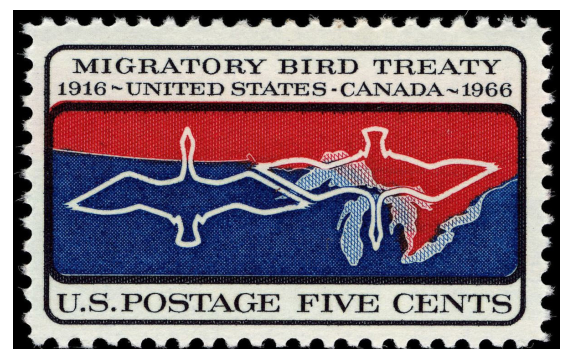
## Department of the Interior Restores Previous Migratory Bird Protections

The Biden administration today set a new course for migratory bird protections, combining a revived ban on unintentional killing with the possibility of future permits that could allow companies some leeway in exchange for mitigation or other actions. Taken together, Interior Department officials say the highly anticipated moves will add both muscle and potential flexibility to the much-debated and frequently litigated Migratory Bird Treaty Act. **"The Migratory Bird Treaty Act, one of our first environmental laws, represents more than 100 years of America's commitment to protecting migratory birds and restoring declining bird populations,"** said Interior Secretary Deb Haaland, adding, **"We are announcing critical steps to ensure that the act can help conserve birds today and in the future."**

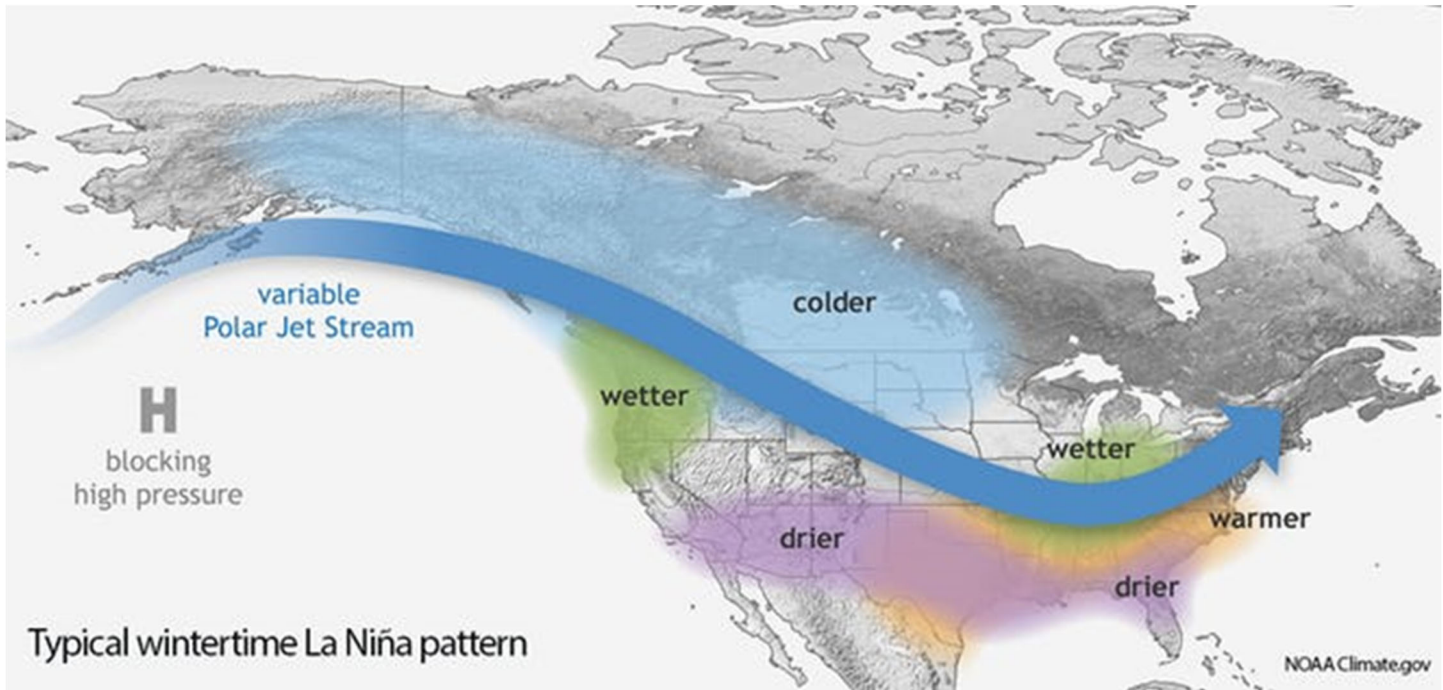


"Our next step will be to create a common sense approach to regulating the incidental take of migratory birds that works to both conserve birds and provide regulatory certainty to industry and stakeholders," said Assistant Secretary for Fish and Wildlife and Parks, Shannon Estenoz. Estenoz added in a briefing for reporters that FWS "...recognizes that a wide range of activities may result in the incidental take of migratory birds [and that] pursuing enforcement for all such activities would be neither an effective nor judicious use of our law enforcement resources."

Instead, Estenoz said, enforcement will focus on "activities that are otherwise illegal" or where the incidental take was foreseeable but measures that might have helped were not undertaken. Center for Western Priorities Executive Director Jennifer Rokala embraced the reinstatement of the ban on incidental take. "This common sense reversal is welcome news for North American bird populations which have dropped dramatically over the last 50 years," she said. "Oil and gas companies must be held accountable when their actions lead to wildlife deaths." In January under the Trump administration, the U. S. Fish and Wildlife Service published a final rule that limited the 1918 bird protection law to apply to intentional acts. It sought to entrench a Trump administration legal opinion as a formal regulation. The Biden administration then revoked that rule and rescinded the prior solicitor's 2017 "M-opinion" restricting the law's reach. "The reasoning and basis behind that M-Opinion were soundly rejected in federal court," the department said in a statement, adding that it "overturned decades of bipartisan and international consensus and allowed industry to kill birds with impunity" ([Greenwire](#), March 8).

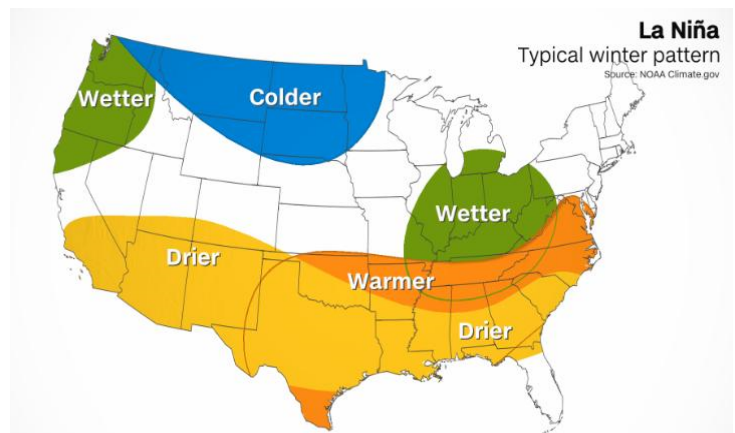


# La Nina—Climate Patterns and Winter Weather



The La Niña climate pattern is a natural cycle marked by cooler-than-average ocean water in the central Pacific Ocean. It is one of the main drivers of weather in the United States and around the world, especially during late fall, the winter, and early spring. It's the opposite to the more well-known El Niño, which occurs when Pacific Ocean water is warmer than average. Both are Spanish language terms: La Niña means "little girl," while El Niño means "little boy," or "Christ child." South American fishermen first noticed periods of unusually warm water in the Pacific Ocean in the 1600s, and the full name they used was "El Niño de Navidad" because El Niño typically peaks around December.

The entire natural climate cycle is officially known by climate scientists as the El Niño – Southern Oscillation (ENSO), a see-saw dance of warmer and cooler seawater in the central Pacific Ocean. During La Niña events, trade winds are even stronger than usual pushing more warm water toward Asia. Off the west coast of the Americas, upwelling increases during La Niña events bringing cold, nutrient-rich water to the surface. These cold waters in the Pacific push the jet stream northward, which affects weather patterns in the U.S. and globally.



While El Niño and La Niña events are regular aspects of global weather patterns, increased global temperatures may temper or change their effects. La Niña tends to pull down global temperatures, but in recent years, the planet has warmed so fast, it's like hitting a small speed bump at 80 mph -- it barely even registers. It's likely too early to know how climate change will affect those patterns; research is beginning to show how a warming climate may amplify the effects of El Niño and La Niña. Climate change could increase the severity of weather events stemming from El Niño and La Niña patterns, [according to a 2018 study on atmospheric conditions](#) that ran simulations of climate conditions. Top spots on the warmest-years list used to be reserved for the strong El Niño years, but human influences have long since overwhelmed the planet's natural temperature regulators. For instance, La Niña was present during parts of 2020, but the year still tied with 2016 (an El Niño year) as the hottest on record for the planet.

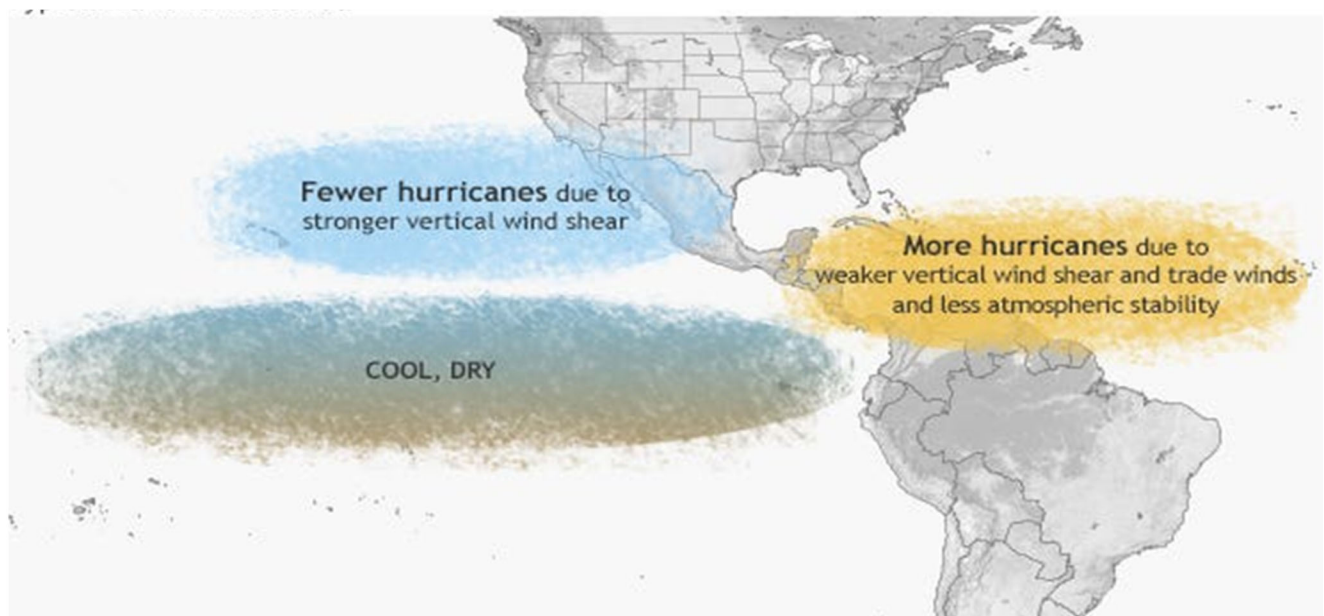
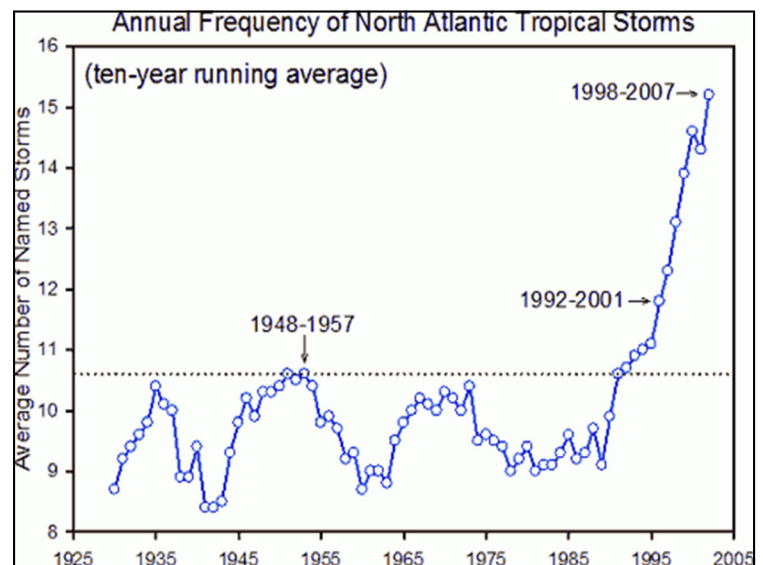
# What is a La Niña Winter?

A typical La Niña winter in the U.S. brings cold and snow to the Northwest and unusually dry conditions to most of the southern tier of the U.S., according to NOAA's Climate Prediction Center. The Southeast and Mid-Atlantic also tend to see warmer-than-average temperatures during a La Niña winter. New England and the Upper Midwest into New York tend to see colder-than-average temperatures according to the Weather Channel. Because La Niña shifts storm tracks, it often brings more snow to the Ohio and Tennessee Valleys. "Typically La Niña is not a big snow year in the mid-Atlantic," said Mike Halpert, deputy director of the Climate Prediction Center, "You have a better chance up in New England." Texas A&M University agricultural economist Bruce McCarl said La Niña years are often bad for agriculture in Texas and the surrounding region. U. S. production of most crops – except corn – generally goes down in La Niña years according to research by McCarl. Globally, La Niña often brings heavy rainfall to Indonesia, the Philippines, northern Australia, and southern Africa.

**What to expect:** La Niña climate pattern should return this fall and last through the winter. During La Niña, waters off the Pacific coast are colder and contain more nutrients than usual. This environment supports more marine life and attracts more cold-water species, such as squid and salmon, to places like the California coast.

## Can La Niña worsen the Atlantic hurricane season?

Yes, according to the Climate Prediction Center. "La Niña can contribute to an increase in Atlantic hurricane activity by weakening the wind shear over the Caribbean Sea and tropical Atlantic Basin, which enables storms to develop and intensify," Halpert said. Vertical wind shear refers to the change in wind speed and direction between roughly 5,000-35,000 feet above the ground, NOAA said. Strong vertical wind shear can rip a developing hurricane apart, or even prevent it from forming. This is what can happen in the Atlantic during an El Niño when Atlantic hurricane activity is often suppressed. While La Niña tends to increase hurricanes in the Atlantic, it also tends to decrease their numbers in the eastern and central Pacific Ocean basins.





## **Hill Slough Breach Repairs Underway**

**By Sarah Estrella CDFW Environmental Scientist**

On Tuesday, October 5<sup>th</sup>, the first of eleven levee breaches kicked off the final phase of the 850-acre Hill Slough Tidal Restoration Project. The Project is on the California Department of Fish and Wildlife's Hill Slough Wildlife Area, just south of Suisun City, Solano County. The Project site, currently a collection of diked ponds and upland habitat, is adjacent to existing tidal marsh on the east, south, and west sides. When completed this fall, the project will help create a contiguous tidal marsh of approximately 2,860 acres.

The purpose of the Project is to restore natural hydrologic processes to aid in the recovery of listed plant and wildlife species, such as the federally endangered soft bird's-beak, Suisun thistle, and California Ridgway's rail. Additionally, the Project will provide tidal marsh habitat to offset the loss from lower water levels and flow during drought years. The Project was specifically identified through former Governor Brown's Drought Executive Order.

The Project restores 603 acres of managed seasonal wetland and 46 acres of upland to tidal wetland for a total of 649 acres of restored tidal marsh. This will be achieved by creating eight external and three internal levee breaches, lowering portions of some levees, and recontouring the interior of one pond. The Project has also improved another 192 acres of existing mixed wetlands and uplands through the addition of a swale and new water control structures. The Project provides additional benefits for recreation including a two-mile loop trail with interpretive signs and a bench which provides the public an opportunity to view and appreciate the marsh. This trail is just south of Suisun City and connects to Suisun City's Grizzly Island Trail. Grizzly Island Road, which bisects the Project and is owned by Solano County, was raised to prevent tidal overtopping and widened to add bicycle lanes.



## **SRCD Update**

### **Work Season Close and End-of-the-Year Reporting**

As Suisun Marsh temperatures cool and managers start to flood their ponds, we transition from the work season to the start of the waterfowl season. The managed wetlands maintenance work is being completed, and all the work we have done through the spring and the summer is finally coming to an end.

Suisun RCD has a multitude of compliance reports that are due by the end of the calendar year. Landowners who have conducted and worked under the Suisun Marsh RGP #3 maintenance permit or LOP Dredging permit are required to report completed and not completed work for the 2021 season.

### **The deadline for Suisun Marsh Landowners to report to their Water Manager is Friday November 15th.**

The Water Managers prepare these reports for the regulatory agencies to close out the work season. Please contact your Water Manager to discuss what has been completed on your property.

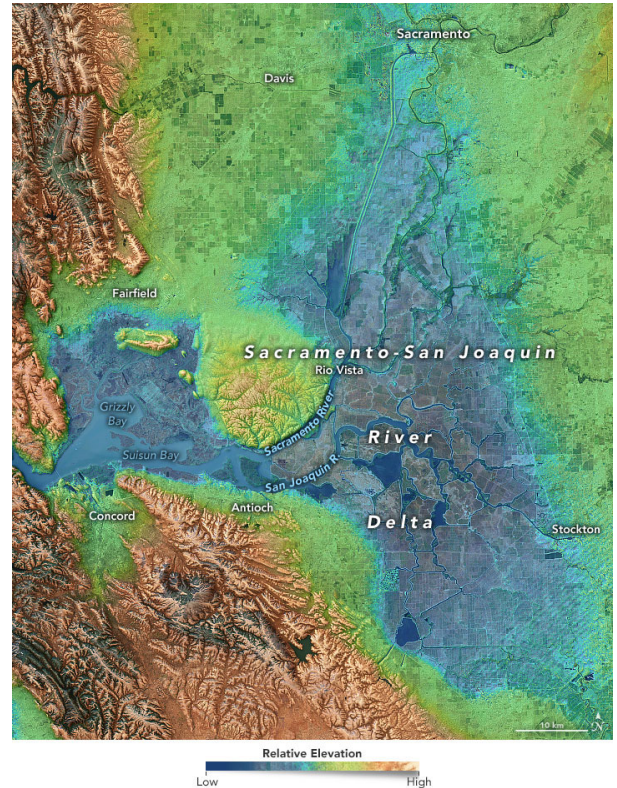
# Moon "Wobble" in Orbit may Lead to Record Flooding on Earth

Sophie Lewis, CBS News

Every coast in the U.S. is facing rapidly increasing high tide floods. NASA says this is due to a "wobble" in the moon's orbit working in tandem with climate change-fueled rising sea levels. A new study from NASA and the University of Hawaii, published recently in the journal *Nature Climate Change*, warns that upcoming changes in the moon's orbit could lead to record flooding on Earth in the next decade.

Through mapping the National Oceanic and Atmospheric Administration's (NOAA) sea-level rise scenarios, flooding thresholds, and astronomical cycles, researchers found flooding in American coastal cities could be several multiples worse in the 2030s, when the next moon "wobble" is expected to begin. They expect the flooding to significantly damage infrastructure and displace communities. While the study highlights the concerning situation facing coastal cities, the lunar wobble is actually a natural occurrence, first reported in 1728. The moon's orbit is responsible for periods of both higher and lower tides about every 18.6 years, and they aren't dangerous in their own right.

"In half of the Moon's 18.6-year cycle, Earth's regular daily tides are suppressed: high tides are lower than normal, and low tides are higher than normal," NASA explains. "In the other half of the cycle, tides are amplified: high tides get higher, and low tides get lower. Global sea-level rise pushes high tides in only one direction – higher. So half of the 18.6-year lunar cycle counteracts the effect of sea-level rise on high tides, and the other half increases the effect."



With sea-level rise due to climate change, the next high tide floods are expected to be more intense and more frequent than ever before, exacerbating already grim predictions. NOAA reported more than 600 high tide flood events in 2019. Scientists are expecting three to four times that amount in the mid-2030s. According to the study, these high tide flooding events will exceed flooding thresholds around the country more often and can also occur in clusters lasting more than a month, depending on the relative positions of the sun and the moon. During certain alignments, floods could happen as frequently as every day or every other day.



"Low-lying areas near sea level are increasingly at risk and suffering due to the increased flooding, and it will only get worse," said NASA Administrator Bill Nelson. **"The combination of the Moon's gravitational pull, rising sea levels, and climate change will continue to exacerbate coastal flooding on our coastlines and across the world."** Almost all U.S. mainland coastlines, Hawaii and Guam are expected to face these effects. Sea-level rise is already expected to make hundreds of thousands of square miles of coastline uninhabitable and displace over 100 million people worldwide by the end of the century. Researchers are hoping their findings will lead to more dedicated efforts to prevent as much damage as possible, both to the environment and people's livelihoods, before it's too late. While high tide floods don't involve as large an amount of water as hurricanes, the real danger lies in their frequency.



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SRCD Newsletter

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## Chinook Salmon Gate Monitoring Starts November 1st

The Suisun Resource Conservation District will begin gate monitoring for the Fall Run of Chinook Salmon starting November 1, 2021 through January 25, 2022. During this restriction period, intake gates along the designated sloughs (indicated in pink on adjacent map) can only be opened to 25% capacity. SRCD staff will be inspecting all intake diversions along these areas at various times during the winter months. Below is a conversion table for varying sizes of intake gates.

<u>Diameter of Pipe</u>	<u>25% Open</u>
12 inches	3 inches
18 inches	4 inches
24 inches	6 inches
30 inches	7 inches
36 inches	9 inches
48 inches	12 inches

Should an intake be found out of compliance, SRCD is required to report to the appropriate agencies and the landowner will be contacted and asked to reduce their intake immediately.

