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"Crying is all right in its way while it lasts. But you have to stop sooner or later, and then you still have to decide what to do."

— C.S. Lewis

Celebrating Habitat Month

July is Habitat Month at NOAA Fisheries! All month long, we'll be sharing how we conserve and restore habitat to sustain our nation's fisheries and support coastal communities. NOAA conserves habitats like wetlands , rivers , and coral reefs to support fisheries—but habitat isn't valuable just for the home it provides for fish and wildlife. Healthy habitats help keep our drinking water clean, protect us from storms and flooding, and support industries like boating and fishing. From jobs to seafood to tourism, coastal habitats are vital to America's national and local economies. Follow us here and on X (formerly Twitter) at @NOAA-Habitat . You can also stay up-to-date on our latest habitat conservation stories all year long by subscribing to HabitatNews .

Habitat Features

Saving a Chesapeake Bay Watershed Marsh for Fish, Wildlife, and People

A NOAA-funded project on Virginia's Ragged Island is restoring habitat for fish, oysters, and birds. The project will also prevent hundreds of tons of sediment and pollution from entering the Chesapeake Bay. More about work to save a Chesapeake Bay watershed marsh

A Restored Reef Brings Fish Habitat Back to Southern California

In 2020, as part of an effort to restore an area impacted by historical chemical pollution, divers and scientists lowered more than 70,000 tons of rock onto the ocean floor in carefully engineered mounds. Their goal: restore the rocky reef habitat that fish, kelp, and countless marine creatures need to survive, in an area long-

contaminated with DDT and other toxins, and buried by sediment. Today, that effort is paying off in ways that even the scientists didn't fully expect. Learn about the results of the Palos Verdes Reef restoration project NOAA-Funded Research Highlights Economic Effects of Oyster Reef Restoration Scientists at Morgan State University forecast that restored oyster reefs—especially when paired with eelgrass recovery—boost habitat, blue crab harvest, and the economy. Oyster reefs provide habitat and food for commercially important species, including blue crabs. More healthy reef habitat means more blue crabs are available for harvest and for your dinner table. That provides financial benefits to watermen and supporting industries along the way. Learn more about how restored oyster reefs help support local economies Coral Reefs Fuel Florida's Economy—Restoration Ensures Their Future NOAA and its partners are restoring Florida's coral reefs to protect marine life, boost the local economy, and support tourism jobs. We also give divers and businesses a hands-on role in saving these vital ecosystems. Read how coral restoration helps support local jobs tied to tourism, fishing, and recreation Restoration of Florida's Robinson Preserve Benefits Fish, Visitors, and Local Economy Investments in the restoration of Florida's Robinson Preserve are paying off for fish, visitors, and the local economy, according to a recent economic study and fisheries monitoring results. The 700-acre coastal preserve—once degraded farmland—now supports a healthy sportfish population, attracts about 240,000 visitors each year, and generates millions of dollars in economic activity. Read about the NOAA-supported restoration at

Robinson Preserve Habitat Restoration Helps Put Anglers Back on the Pier, Hikers Back on the Trail When environmental disasters like oil or chemical spills disrupt waterfront access, NOAA restores habitat to reconnect communities to the outdoors. Through our Damage Assessment, Remediation, and Restoration Program, we work to quantify recreational losses and determine the economic and social value of the lost use of the resource. Then, we use settlement funds to restore the injured habitats and fund restoration projects. Learn more about how NOAA works to restore recreational access [Updates from Partners on Engaging the Recreational Fishing Community to Restore Habitat through the National Fish Habitat Partnership](#) Through the National Fish Habitat Partnership, NOAA Fisheries supports projects that restore habitat in collaboration with recreational anglers. Partners are reporting progress on several ongoing projects that actively engage local communities and recreational anglers to conserve fish habitat. Learn more about the ongoing projects with partners in [Maryland](#), [Alaska](#), and [Hawai'i](#) [Restoring Habitat, Bolstering the Economy, and Supporting Jobs in Florida Coastal restoration](#) might bring to mind images of wetlands, sand dunes, and tidal marshes—but there's another impact of this work: jobs and economic growth. An economic analysis shows that community-led restoration contributes broadly to local, state, and national economies. It finds that \$72.5 million invested across 12 habitat restoration projects in Florida is estimated to support jobs and wages and increase both spending and economic activity. Learn more about the results of this economic analysis [Interactive Tool Gives](#)

Virginia Communities Data on Economic Effects of Marshes and Living Shorelines Chesapeake Bay marshes and living shorelines play important roles in the ecosystem and benefit nearby communities. NOAA and partners, including the Virginia Institute of Marine Science, work to restore these important places. VIMS researchers developed a tool that individual land owners, communities, and resource managers can use to help them make decisions about marsh and living shoreline projects in Virginia's Middle Peninsula. Learn how the tool calculates the benefits of marsh restoration projects Oyster Restoration Investments Net Positive Returns for Economy and Environment A report by the North Carolina Coastal Federation shows that NOAA and partners' investments in oyster restoration produce almost double the amount in economic and environmental benefits. The economic report found that for every \$1 spent on oyster reef restoration, the state sees \$1.70 in return. Learn how oyster restoration projects support jobs and local economies Habitat 101 Shallow Coral Reef Habitat Coral reefs are the most diverse habitats on the planet. Reefs occur in less than 1 percent of the ocean, yet are home to nearly one-quarter of all ocean species. They also provide jobs, tourism and recreation opportunities, seafood, wave protection, and more. Learn more about shallow coral reefs Deep-Sea Coral Habitat You might think of corals and picture a sunny and shallow tropical reef. Yet recent advances in deep ocean exploration have revealed spectacular coral gardens in the dark ocean depths, beyond the reach of sunlight. These unique corals and sponges thrive in the largest yet least known environment on Earth: the

deep sea. Learn more about deep-sea coral habitat

Estuary Habitat Estuaries are bodies of water where rivers meet the sea. They provide homes for diverse wildlife, including popular fish species. They also support recreation, jobs, tourism, shipping, and more. Learn more about estuaries

Coastal Wetland Habitat Wetlands are a pivotal part of the natural system, providing tremendous benefits for coastal ecosystems and communities. They provide us with clean water, flood protection, abundant fisheries, and more. Learn more about coastal wetlands

Oyster Reef Habitat Oysters are a crucial component of global ocean health. These animals filter and clean the surrounding water and provide habitat, food, and jobs. Today, however, oyster populations are at historic lows. NOAA works with partners to restore oysters and regain the critical ecosystem functions they provide. Learn about the importance of oyster reef habitat

NASA Invites Media to Roman Space Telescope, Crew-13 Launches

Credit: NASA Media accreditation now is open for the launch of NASA's Nancy Grace Roman Space Telescope and the agency's SpaceX Crew-13 missions, both targeting launch in the coming months. The Roman telescope is slated to launch no earlier than 7:20 a.m. EDT Sunday, Aug. 30, aboard a SpaceX Falcon Heavy rocket from Launch Complex 39A at NASA's Kennedy Space Center in Florida. The observatory, named after NASA's first chief astronomer, will have a deep, panoramic view of the cosmos, generating never-before-seen pictures that will revolutionize our understanding of the universe. NASA's Nancy Grace Roman Space Telescope is seen here in the clean room at the agency's Goddard Space Flight Center in Greenbelt, Maryland, where the observatory was built and tested. Roman's vast, deep surveys will explore dark matter, dark energy, exoplanets, and almost anything from our own solar system to galaxies at the edge of the observable universe. Credit: NASA/Jolearra Tshiteya

Crew-13 is scheduled to launch no earlier than mid-September from Space Launch Complex 40 at Cape Canaveral Space Force Station. The mission will carry NASA astronauts Jessica Watkins and Luke Delaney, CSA (Canadian Space Agency) astronaut Joshua Kutryk, and Roscosmos cosmonaut Sergey Tetryatnikov to the International Space Station for a science and research expedition. This will be NASA's 13th commercial crew rotation mission with SpaceX's Falcon 9 rocket and Dragon space-

craft. NASA's SpaceX Crew-13 members are pictured in their pressure suits seated inside a mockup Dragon spacecraft during a preflight training session at the company's headquarters in Hawthorne, California. From left to right, Roscosmos Sergey Tetryatnikov, NASA astronauts Luke Delaney and Jessica Watkins, and CSA (Canadian Space Agency) astronaut Joshua Kutryk. Credit: SpaceX Media

interested in attending either or both launches must apply by the following deadlines: International media without U.S. citizenship must apply by 11:59 p.m. on Sunday, July 26. U.S. media and U.S. citizens representing international media organizations must apply by 11:59 p.m. on Thursday, July 30. All accreditation requests must be submitted online at: <https://media.ksc.nasa.gov> NASA's media accreditation policy is online. For questions about accreditation or special logistical requests, email: ksc-media-accreditat@mail.nasa.gov . For other questions, please contact NASA Kennedy's newsroom at: 321-867-2468. For more information about these missions, visit: <https://www.nasa.gov> -end-

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Share Details Last Updated Jul 17, 2026 Location NASA Headquarters

Related Terms Nancy Grace Roman Space Telescope Commercial Crew
International Space Station (ISS) Missions

Volcano Watch — When will Halema‘uma‘u fill with lava?

Volcano Watch — When will Halema‘uma‘u fill with lava? Subscribe to receive "Volcano Watch" articles via email By Hawaiian Volcano Observatory July 16, 2026 USGS Hawaiian Volcano Observatory (HVO) staff are often asked, “Will lava erupted during the ongoing Kīlauea summit eruption in Halema‘uma‘u eventually flow out of the caldera? And if so, when?” The answer is complicated... Volcano Watch is a weekly article and activity update written by U.S. Geological Survey Hawaiian Volcano Observatory scientists and affiliates. The topography of Kaluapele, Kīlauea volcano’s summit caldera, is stepped—a series of ledges at different elevations. The deepest part, which has been covered with lava flows during the ongoing episodic eruption in Halema‘uma‘u that began in December 2024, collapsed downwards in 2018. The volume of the void left within the caldera by the 2018 collapse was approximately 0.20 cubic miles (825 million cubic meters) and the bottom of Halema‘uma‘u crater settled at an elevation of 1,696 feet (517 meters) above sea level. This means that the base of Halema‘uma‘u after the 2018 collapse was 2,395 feet (730 meters) lower than Uēkahuna bluff—the highest point on Kīlauea at an elevation of 4,091 feet (1,247 meters). Five eruptions within Halema‘uma‘u between 2020 and 2023 filled in about 25% of the 2018 collapse volume, raising the crater floor by 1,313 feet (400 meters) to an elevation of 3,009 feet (917 meters). An additional 35% of the 2018

collapsed volume has been filled in by the ongoing episodic fountaining eruption in Halema'uma'u over the past year and a half, and the crater floor is an additional 295 feet (90 meters) higher. Although the ongoing eruption has filled in more volume than the previous five eruptions, it has filled in less depth because the area that collapsed in 2018 was cone shaped. So, the deepest part filled the fastest during the first five eruptions after 2018 and required less volume of lava to do so. Lava flows during the ongoing eruption have covered a much larger area (1,116 acres or 452 hectares) and therefore accrue thickness more slowly. In total, 60% of the 2018 collapsed volume has been filled in, raising the crater floor by 1,608 feet (490 meters). Assuming that the ongoing Kīlauea summit eruption continues at the same rate as has over the past year (0.04 cubic miles or 183 million cubic meters) for the next year and a half, the 2018 collapse could be almost totally filled in by early 2028. Once the 2018 collapsed area fills in, lava will flow onto the east part of the main caldera floor. The last time lava flowed here was over 50 years ago, when a series of fissures on the south caldera rim and floor opened in July 1974, erupting lava flows that covered the southern portion of the caldera floor. Once lava flows onto the caldera floor, it has a much bigger area to cover: over 2,500 acres (1,000 hectares), so it will take even longer to accrue thickness. The volume required to fill the main caldera is difficult to calculate because it is topographically “breached” to the southwest, meaning lava flows will spill out this way before reaching the taller rim on the north side. But since effusive volcanoes always deposit more lava closer to its sources, they

build up shields that eventually overcome the local topography. In any case, at least another 0.22 cubic miles (910 million cubic meters) is required to fill the caldera, which at current rates would take an additional five years. Also remember, as the lava fountaining episodes at the summit of Kilauea have demonstrated, eruption rates vary over time. Some of the lava fountaining episodes have erupted more lava than others, particularly the episodes during which both the north and south vent produce fountains. Other episodes, with only one vent erupting a lava fountain at a lower height, produce less lava. This variability makes all of our filling forecasts very rough estimates. Another important factor to consider is the elevation of the vents within Halema'uma'u, which remain 215 feet (65 meters) lower than the crater rim. If the vents grow above the crater rim, this may also send lava downslope to the southwest within Hawai'i Volcanoes National Park where it would pose no threat to communities. Lava will always flow in the downslope direction, but since the emplacement of flows will continue to change the vent geometry and local topography, they could also remain within the caldera. The easiest answer to the question of whether lava will flow out of the caldera is, it depends! It depends on how long this eruption continues, what rate lava erupts over time, and where it builds up the area around the vents. While there is currently no sign of this eruption changing, it also depends on whether eruptive activity at Kīlauea changes, as a new eruption beginning elsewhere is always a possibility. Volcano Activity Updates Kīlauea has been erupting episodically within the summit caldera since December 23,

2024. Its USGS Volcano Alert level is ADVISORY. Episode 51 of summit lava fountaining happened for 8 hours on July 15. Summit region inflation since the end of episode 51 indicates that another fountaining episode is possible, but more time and monitoring data is needed to develop a forecast model. No unusual activity has been noted along Kīlauea's East Rift Zone or Southwest Rift Zone. Mauna Loa is not erupting. Its USGS Volcano Alert Level is at NORMAL. Four earthquakes were reported felt in the Hawaiian Islands during the past week: a M2.4 earthquake 0 km (0 mi) SSE of Pa'auilo at 10 km (6 mi) depth on July 13 at 8:27 p.m. HST, a M3.0 earthquake 17 km (10 mi) SSW of Honaunau-Napoopoo at 16 km (10 mi) depth on July 11 at 10:45 a.m. HST, a M3.1 earthquake 8 km (4 mi) S of Honaunau-Napoopoo at 17 km (11 mi) depth on July 10 at 9:25 a.m. HST, and a M4.5 earthquake 57 km (35 mi) WSW of Captain Cook at 39 km (24 mi) depth on July 9 at 8:17 p.m. HST. HVO continues to closely monitor Kīlauea and Mauna Loa. Please visit HVO's website for past Volcano Watch articles, Kīlauea and Mauna Loa updates, volcano photos, maps, recent earthquake information, and more. Email questions to askHVO@usgs.gov .

ORNL, Chattanooga startup accelerator partner to expand technology commercialization

Published: July 17, 2026 Updated: July 17, 2026 Leaders from government, industry, higher education and ORNL gathered in Chattanooga to mark a new partnership focused on growing deep-tech startups and commercializing laboratory innovations. Credit: ORNL/U.S. Dept. of Energy

On Wednesday, July 8, the Department of Energy's Oak Ridge National Laboratory (ORNL) signed a memorandum of understanding with The Company Lab (Co.Lab) designed to facilitate the deployment of ORNL technology and strengthen the region's growing deep-tech ecosystem. The partnership builds on ORNL's longstanding commitment to helping promising technologies reach the marketplace through licensing and industry partnerships. ORNL works with more startups than any other lab in the DOE complex, whether by licensing technologies or through the Innovation Crossroads program. Innovation Crossroads is a Lab-Embedded Entrepreneurship Program node overseen by the DOE's Office of Technology Commercialization, in which hard-tech entrepreneurs are embedded at ORNL and paired with ORNL researchers for a two-year fellowship. This agreement with Co.Lab will further expand the resources available to Innovation Crossroads fellows upon graduation and help bolster the growing entrepreneurial ecosystem in East Tennessee. Over the past decade, Innovation Crossroads has supported 58 startups, with more

than half choosing to remain in the region. “Innovation Crossroads demonstrates how a strong regional startup pipeline can create companies, attract investment and strengthen East Tennessee's innovation economy,” said Shaun Gleason, director of Partnerships. Innovation Crossroads companies have created nearly 350 jobs and generated more than \$1 billion in sales revenue. Growing companies — and the region — from breakthrough science “The communities that lead are rarely those that just invent the technologies or invent the next breakthrough,” said Gleason. “They're the ones that create an environment where innovators can access talent, infrastructure, capital, and those partnerships turn into thriving businesses together.” The signing brought together federal, state and local leaders, including U.S. Representative Chuck Fleischmann, Chattanooga Mayor Tim Kelly and Hamilton County Mayor Weston Wamp. “By joining ORNL’s world-class research with The Company Lab’s leadership in entrepreneurship and innovation, we’re creating a pipeline from cutting-edge discoveries to real-world solutions,” Fleischmann. “These are the kinds of collaborations that grow our economy, support good-paying Tennessee jobs and make sure our state continues to lead the way in American innovation.” ORNL Director of Partnerships Shaun Gleason, left, and Co.Lab CEO Tasia Malakasis sign a memorandum of understanding to strengthen technology commercialization and entrepreneurship across East Tennessee. Credit: ORNL/U.S. Dept. of Energy Positioning Tennessee for quantum leadership ORNL’s quantum research is helping industry solve complex problems while improving existing technologies,

with applications ranging from advanced manufacturing and energy systems to national security, logistics and telecommunications. These focus areas build on ORNL's historical research strengths, while complementing Co.Lab's established infrastructure supporting entrepreneurs, whether through the Quantum Tech Accelerator or Chattanooga's recently announced Institute for Quantum Innovation, a partnership between Vanderbilt University and EPB . Under the agreement, ORNL and Co.Lab will collaborate to accelerate the commercialization of ORNL technologies in the quantum, energy and transportation sectors while expanding resources available to entrepreneurs building companies in those sectors. Founded in 2008, Co.Lab has built a strong track record of supporting technology entrepreneurs, helping launch and scale dozens of companies. The agreement also complements Tennessee's broader investment in quantum technologies, including support for National Science Foundation X-Labs quantum teams and the Tennessee Quantum Initiative, efforts that recognize ORNL as a cornerstone of the state's growing quantum innovation strategy. UT-Battelle manages ORNL for the DOE's Office of Science, the single largest supporter of basic research in the physical sciences in the United States. The Office of Science is working to address some of the most pressing challenges of our time. For more information, please visit energy.gov/science . Media Contact Brynn B Downing , Executive Communications Specialist , DOWNINGCB@ORNL.GOV

Drug-resistant gonorrhoea on the rise in Europe, ECDC warns

Drug-resistant gonorrhoea on the rise in Europe, ECDC warns News 16 July 2026 An increasing number of European countries have detected gonococcal strains resistant to the antibiotic ceftriaxone, the first-line drug to treat gonorrhoea infection. Alongside growing evidence of the domestic spread of such resistant strains in Europe over the last two years, this poses a significant challenge for future treatment options for one of the most common sexually transmitted diseases worldwide, according to an assessment issued by the European Centre for Disease Prevention and Control (ECDC) today. 'Local transmission of ceftriaxone-resistant gonorrhoea in Europe is a warning sign we should not ignore,' says Csaba Ködmön, an ECDC microbiology expert. 'While the risk to the general population is currently low, growing resistance reduces the effectiveness of the therapies we rely on today. If highly drug-resistant strains become established and continue to spread, treatment options could become increasingly limited. Strengthening prevention, expanding antimicrobial testing, and promoting timely diagnosis are therefore essential to detect resistant strains early, limit further spread, and keep gonorrhoea treatable.' In a risk assessment published today, ECDC analyses the surge in ceftriaxone-resistant gonorrhoea infections across Europe since 2022 as well as related risks for sexually active people, based on reports from 11 European countries. According to ECDC's assessment, the overall risk

Source: European Centre for Disease Prevention and Control

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posed by ceftriaxone-resistant gonorrhoea remains low for the general sexually active population in the European Union and European Economic Area (EU/EEA). It is higher among people having sex without a condom or other means of protection with casual or new partners, people with multiple or frequently changing sexual partners, sex workers and their clients, and for those travelling to areas with a high prevalence of drug-resistant strains of gonorrhoea. Early detections of ceftriaxone-resistant cases in Europe have been associated with importation from areas with higher circulation of such resistant strains, particularly from South-East Asia. This remains the main route of introduction into Europe. Gonorrhoea is one of the most common bacterial sexually transmitted infections (STI) globally, with an estimated 82 million reported infections each year. There were more than 106 000 confirmed gonorrhoea cases across the EU/EEA in 2024, the highest notification level since the start of EU surveillance in 2009. If left untreated, gonorrhoea infection can lead to severe complications, including pelvic inflammatory disease, infertility and ectopic pregnancy. Prevention of gonorrhoea infection remains straightforward with correct and consistent use of condoms or other barrier methods when having sex, getting tested regularly especially after sex with new, casual or multiple sexual partners, and seeking testing after possible exposure. ECDC makes several recommendations for public health authorities and healthcare providers to address the risk and maintain the effectiveness of current gonorrhoea treatments, including: continued surveillance of gonococcal antimicrobial resistance; antimicrobial susceptibility testing;

Source: European Centre for Disease Prevention and Control

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effective clinical management; and targeted prevention measures to limit spread, including clear messages on safer sex, regular testing for those with new or casual partners, and timely treatment if symptoms appear or there has been potential exposure. Notes to editors: ECDC's risk assessment is based on reports from: Austria, Croatia, Denmark, France, Germany, Ireland, the Netherlands, Norway, Spain, Sweden, and the United Kingdom. Current European treatment guidelines recommend ceftriaxone-based therapy for gonorrhoea. However, over the past two decades, *Neisseria gonorrhoeae* has demonstrated a strong capacity to develop resistance to drugs widely used to treat STIs, including penicillins, fluoroquinolones, macrolides, and extended spectrum cephalosporins. This jeopardises effective treatment and control. The ECDC Response Plan provides a framework to strengthen antimicrobial resistance surveillance, clinical management and control measures. Read the assessment [Assessment Upsurge in ceftriaxone-resistant *Neisseria gonorrhoeae* with evidence of domestic transmission in the EU/EEA and the UK](#) 16 July 2026 Since 2022, an increasing number of European countries have reported cases of gonorrhoea caused by ceftriaxone-resistant *Neisseria gonorrhoeae*, including multidrug-resistant (MDR) and extensively drug-resistant (XDR) strains. [Upsurge in ceftriaxone-resistant *Neisseria gonorrhoeae* with evidence of domestic transmission in the EU/EEA and the UK English \(328.45 KB - PDF\)](#) Download Related resources Public health guidance Response plan to control and manage the threat of multi- and extensively drug-resistant gonorrhoea in Europe - Indicator monitor-

Source: European Centre for Disease Prevention and Control

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