Thursday, June 25, 2026

A free daily newspaper for easy reading

GENTLE.NEWS

In Today's Edition

"How do you spell 'love'?" - Piglet"You don't spell it...you feel it." - Pooh"

— A.A. Milne

Euclid View of Milky Way Heart Previews Core Survey by NASA's Roman

6 Min Read Euclid View of Milky Way Heart Previews Core Survey by NASA's Roman This image by ESA's (European Space Agency) Euclid (with color added using ground-based images) provides an earlier snapshot of a region of our galaxy that NASA's Nancy Grace Roman Space Telescope will repeatedly observe during the upcoming years. Credits: ESA/Euclid/Euclid Consortium/NASA, CFHT, image processing by J.-C. Cuillandre and E. Bertin (CEA Paris-Saclay) This image by ESA's (European Space Agency) Euclid (with color added using ground-based images) provides an earlier snapshot of a region of our galaxy that NASA's Nancy Grace Roman Space Telescope will repeatedly observe during the upcoming years. Euclid spent one day taking a series of nine individual images near the heart of the Milky Way. Its wider image has resolution similar to Roman's, though it's also shallower and lacks some of the colors Roman will see. At the right of the frame, Euclid looks through the dense foreground of the Milky Way's galactic plane, where thick molecular clouds appear as dark patches that obscure parts of the galactic bulge beyond. Toward the left, the view rises to higher galactic latitudes: the yellow glow of the bulge becomes clearer, with fewer and more isolated foreground clouds interrupting the starlight. ESA/Euclid/ Euclid Consortium/NASA, CFHT, image processing by J.-C. Cuillandre

Source: NASA

and E. Bertin (CEA Paris-Saclay) A new look at the heart of our Milky Way galaxy by Euclid, an ESA (European Space Agency) mission with NASA contributions, overlaps with a region scientists will observe with NASA's Nancy Grace Roman Space Telescope, launching later this summer. This sneak peek gives astronomers a major jumpstart on a core Roman survey, helping scientists learn more than they could from either telescope alone. "This is the only time Euclid has paused its normal sky survey, which is mainly geared toward cosmology," said Jason Rhodes, a senior research scientist at NASA's Jet Propulsion Laboratory in Southern California. Rhodes serves as both the U.S. Euclid science lead and the NASA JPL Roman project scientist. "This takes a lot of work and planning, so it really has to be something with a high impact for science. Adding Euclid's snapshot to Roman's future survey will help us map our galaxy better and identify hard-to-find cosmic treasures like isolated black holes and rogue planets more easily." Euclid took one day out from its six-year prime mission to preview the area of sky that will be targeted by Roman's Galactic Bulge Time-Domain Survey , which will provide one of the deepest views ever into the center of our galaxy. Though Euclid's one-time observation is shallower and lacks some of the color detail Roman will see, it has similar resolution and covers a larger region — about 5 square degrees, or the sky area covered by about 25 full moons — since Roman's survey area hadn't yet been determined when the observation took place in March 2025. This artist's concept outlines the areas of the galactic core covered by Euclid (orange) and the future survey area of the

Source: NASA

Roman telescope (green). The Euclid observations more than cover Roman’s planned survey area because the Roman coverage wasn’t yet set in stone when Euclid imaged the area. The only exception is the portion right in the galactic center since Euclid’s visible light observations can’t pierce the thick dust in this region like Roman’s infrared vision will. NASA’s Goddard Space Flight Center Over the course of its five-year primary mission, Roman will repeatedly image a smaller region (1.7 square degrees, or roughly the sky area covered by 8.5 full moons) to watch how hundreds of millions of stars and other objects change over short time periods . Monitoring these changes will reveal hordes of new planets, along with many other cosmic objects and phenomena. Stitching Euclid’s observation onto the front end of Roman’s collection will essentially extend the survey by two years (since Roman’s galactic bulge observations are set to begin in spring 2027), making even more science possible. Mining hidden gems Roman will watch for tiny surges in starlight that herald a microlensing event. This light-bending phenomenon occurs when a massive object like a star, planet, or black hole — any object with sufficient gravity — closely aligns with a background star from our vantage point. Light from the distant star curves as it travels through the warped space-time caused by the nearer object’s mass. This image from Euclid (with color added using ground-based images) zooms in on the center of our Milky Way galaxy. The region gets its golden tone from myriad old, cool stars that have yellowish hues. Stars in this region are heavily crowded, so observing in this direction increases the likelihood

Source: NASA

of catching microlensing events. ESA/Euclid/Euclid Consortium/NASA, CFHT, image processing by J.-C. Cuillandre and E. Bertin (CEA Paris-Saclay) If the alignment is especially close, the nearer object acts like a cosmic lens, focusing and magnifying light from the background star. “Most often, the lensing object is another star,” said Matthew Penny, an assistant professor at Louisiana State University, and co-lead of Euclid’s exoplanet science working group who has spent more than a decade simulating both Euclid and Roman data. “But Roman will also be able to detect planets orbiting them, and all kinds of weird objects that are nearly impossible to find any other way.” Among those strange objects are black holes left behind after the most massive stars die. Astronomers think there should be about 100 million of these stellar-mass black holes in the Milky Way, but so far they’ve almost exclusively detected the invisible objects when they interact with a companion star. Yet most are thought to wander the galaxy alone. Roman will find them even when there’s nothing nearby to reveal their presence. While microlensing events created by planets are typically hours or days long, black holes pack in so much mass that they can bend light over a larger region of space, creating much longer signals. That means astronomers may need to observe them for years to see the objects move out of alignment. “The extra two years provided by Euclid give astronomers more time to watch the lens and source star drift apart, making it easier to identify the lens and measure its mass,” said Himanshu Verma, a postdoctoral researcher at Louisiana State University who has been analyzing Euclid images to help scientists predict and better

Source: NASA

understand the microlensing events Roman is expected to observe. This image from the Advanced Camera for Surveys instrument on NASA's Hubble Space Telescope is part of a 1.1-square-degree survey of the center of the Milky Way. Hubble's full survey, which is made up of more than 350 individual images taken across about 14 months, is smaller but higher resolution than ESA's Euclid observations and both overlap with the area Roman will cover. By capturing preview images years before Roman begins its microlensing search, Hubble and Euclid provide early reference points that will help astronomers measure the motions of stars and better characterize the planets and other objects Roman discovers. Adapted from Terry et al. 2026 While most planet-hunting methods are best at finding scorching worlds tightly hugging their host star, microlensing is better at detecting worlds in orbits larger than Earth's. That includes planets that whirl around their stars farther away than Neptune orbits the Sun and ones that have been kicked out of their original star systems altogether, now destined to roam the galaxy all alone . "When Roman finds them, astronomers will be able to cross-reference Euclid's earlier observations to look for stars near the lensing object, so we can confirm whether a planet is truly rogue or just orbiting very far from its host star," said David Bennett, a senior research scientist and microlensing expert at the University of Maryland, College Park and NASA's Goddard Space Flight Center. Milky Way mapping Scientists will also pair Euclid data with Roman's Galactic Plane Survey . This observation program will reveal our home galaxy in unprecedented detail over an area about 400 times larger than the galactic

Source: NASA

bulge survey. In one month of observations spread across two years, the Roman survey will unveil tens of billions of stars and explore previously uncharted structures. It’s tricky to study our own galaxy because it’s like trying to map the human body from inside a cell; there’s a lot of stuff in the way. Combining Euclid’s observations with Roman’s will let astronomers watch stars slowly move across the sky. Since stars in different parts of the Milky Way tend to follow different paths, this will help astronomers figure out which part of the galaxy those stars are in. “One of the most exciting aspects of the Euclid observations is that they give us the chance to test and improve Milky Way models,” Penny said. Euclid’s one-day detour offers a scientific payout that will last for years and shows how much more can emerge when telescopes team up. “We’ve shown that these two telescopes can work together to do science that surpasses what either was originally designed for,” Rhodes said. “In doing so, we’ve established a model for future coordinated observations that can unlock far more discoveries than either mission could make alone.” To learn more about the Roman mission, visit: https://www.nasa.gov/roman Media contact: Claire Andreoli NASA’s Goddard Space Flight Center , Greenbelt, Md. 301-286-1940 About the Author Ashley Balzer Ashley is the lead science writer for NASA's Nancy Grace Roman Space Telescope. Share Details Last Updated Jun 24, 2026 Editor Ashley Balzer Contact Ashley Balzer ashley.m.balzer@nasa.gov Location Goddard Space Flight Center Related Terms Nancy Grace Roman Space Telescope Black Holes Exoplanets Goddard Space Flight Center Stars Stellar-mass Black Holes The

Source: NASA

Universe Explore More 7 min read Journey to Center of Milky Way With Upcoming NASA Roman Core Survey Article 5 months ago 6 min read Why NASA’s Roman Mission Will Study Milky Way’s Flickering Lights Article 3 years ago 6 min read NASA’s Roman Mission Preps to Unveil New Populations of Faraway Worlds Article 4 weeks ago Keep Exploring Discover More Topics From NASA Missions Humans in Space Climate Change Solar System

Source: NASA

Magnitude-3.6 Earthquake Information Statement

Magnitude-3.6 Earthquake Information Statement By Hawaiian Volcano Observatory June 24, 2026 On Wednesday, June 24, 8:29 a.m. HST, a magnitude-3.6 earthquake occurred 9 mi (14 km) south of the village of Volcano on the Island of Hawai‘i at a depth of 5 mi (7 km) below sea level. The earthquake had no apparent impact on either Mauna Loa or Kīlauea volcanoes. HAWAIIAN VOLCANO OBSERVATORY INFORMATION STATEMENT U.S. Geological Survey Wednesday, June 24, 2026, 9:01 AM HST (Wednesday, June 24, 2026, 19:01 UTC) KILAUEA VOLCANO (VNUM #332010) 19°25'16" N 155°17'13" W, Summit Elevation 4091 ft (1247 m) Current Volcano Alert Level: ADVISORY Current Aviation Color Code: YELLOW Summary: Magnitude-3.6 earthquake south of the village of Volcano, Island of Hawai‘i On Wednesday, June 24, 8:29 a.m. HST, a magnitude-3.6 earthquake occurred 9 mi (14 km) south of the village of Volcano on the Island of Hawai‘i at a depth of 5 mi (7 km) below sea level. The earthquake had no apparent impact on either Mauna Loa or Kīlauea volcanoes. Most earthquakes in this region are caused by motion of Kīlauea volcano's south flank, which moves to the southeast over the oceanic crust. The location, depth, and waveforms recorded as part of today's earthquake are consistent with slip along the south flank. This earthquake is not directly related to the ongoing eruptive activity on Kīlauea volcano. The USGS Hawaiian Volcano Observatory continues to

Source: U.S. Geological Survey

monitor Hawaiian volcanoes for any changes. EARTHQUAKE DESCRIPTION Magnitude: 3.6 Date and Time: June 24, 2026, at 8:29 a.m. HST Location: 9 mi (14 km) S of Volcano, Island of Hawai‘i Depth: 5 mi (7 km) below sea level Aftershocks are possible in the coming days to weeks EARTHQUAKE INTENSITY AND AFFECTED AREA Potential Damage: No damage to buildings or infrastructure expected based on earthquake intensity Maximum Intensity, Modified Mercalli Scale (https://www.usgs.gov/natural-hazards/earthquake-hazards/science/modified-mercalli-intensity-scale) Community-reported: III - weak shaking Instrument-derived: IV - light shaking Felt Reports: Over 70 within the first half an hour (https://earthquake.usgs.gov/dyfi/) Felt Area: Primarily east side of the Island of Hawai‘i Visit NOAA’s Tsunami Warning Center website for updated information: https://www.tsunami.gov/ EARTHQUAKE MAPS AND ADDITIONAL INFORMATION USGS National Earthquake Information Center Maps and Reports for this Event: https://earthquake.usgs.gov/earthquakes/eventpage/hv74990097 USGS-HVO Interactive Earthquake Map of Hawai‘i: https://www.usgs.gov/observatories/hawaiian-volcano-observatory/earthquakes More Information: Kīlauea activity summary also available by phone: (808) 967-8862 Kīlauea webcam images: https://www.usgs.gov/volcanoes/kilauea/webcams Kīlauea photos/video: https://www.usgs.gov/volcanoes/kilauea/photo-video-chronology Kīlauea lava-flow maps: https://www.usgs.gov/volcanoes/kilauea/maps Kīlauea FAQs: https://www.usgs.gov/volcanoes/kilauea/faqs The Hawaiian Volcano Observatory

Source: U.S. Geological Survey

is one of five volcano observatories within the U.S. Geological Survey and is responsible for monitoring volcanoes and earthquakes in Hawai‘i and American Samoa. CONTACT INFORMATION: askHVO@usgs.gov Subscribe to these messages: https://volcanoes.usgs.gov/vns2/ Summary of volcanic hazards from eruptions: https://www.usgs.gov/observatories/hvo/hazards Recent earthquakes in Hawai‘i (map and list): https://www.usgs.gov/observatories/hvo Explanation of Volcano Alert Levels and Aviation Color Codes: https://www.usgs.gov/programs/VHP/volcanic-alert-levels-characterize-conditions-us-volcanoes

Source: U.S. Geological Survey

How ultra-processed foods are made could explain health risks

A new observational study suggests processing itself could partly the links between ultra-processed foods and diabetes, heart disease, and early death. Concerns about the health effects of ultra-processed foods are growing, as studies increasingly link them to conditions such as heart disease, diabetes, and even early death. But scientists are still debating what's driving those risks: the nutritional quality of these foods—which are often high in refined grains, sodium, and added sugars—or the industrial processing and additives used to make them. A new study from researchers at the Food is Medicine Institute at the Gerald J. and Dorothy R. Friedman School of Nutrition Science and Policy at Tufts University, published in American Journal of Public Health , suggests the processing itself may play an independent role. The researchers found that people who ate more ultra-processed foods had worse health outcomes, even after accounting for the overall nutritional quality of the foods. "The findings suggest ultra-processed-food factors beyond nutrients—such as changes to foods' cellular structure, loss of beneficial chemical compounds, additives, and chemicals from packaging—may create health risks not addressed by traditional nutrition metrics or policies," says the study's senior author, Dariush Mozaffarian, cardiologist and director of the Food is Medicine Institute. For the observational study, the researchers analyzed data from 10 consecutive cycles of the National Health and Nutrition Examination

Source: Futurity.org

Survey (NHANES) from 1999 to 2018, linked to National Death Index through 2018. Study participants had completed one or two 24-hour dietary recalls. Using a standard classification system, the team grouped foods based on how they were made—from minimally processed food-based ingredients like fruits and vegetables to ultra-processed products made with industrial ingredients and additives not typically used in cooking. The researchers also rated the nutritional quality of foods using a system that scores foods based on their overall healthfulness. Each participant received an overall diet-quality score based on the foods they reported eating. The team then examined how ultra-processed food consumption was linked to current health measures—such as weight, blood sugar, and cholesterol—as well as long-term risk of death. For every 10% increase in calories from ultra-processed foods, the researchers found worse health markers. People who ate more of these foods tended to have higher body weight, worse blood sugar control, higher blood pressure, and less favorable cholesterol levels. They were also more likely to have conditions such as diabetes, metabolic syndrome, and cancer and had a slightly higher risk of dying during the study period. These links remained even after researchers accounted for reported foods' nutrient quality and the amounts of saturated fat, added sugar, or sodium present in the ultra-processed foods. The patterns were largely the same across different subgroups of people. "Ultra-processed foods make up a substantial portion of the American diet, accounting for more than 50% of adults' and about 60% of children's caloric intake," says Juna Hatta-Langedyk, first author

Source: Futurity.org

and an undergraduate biology student at Tufts. “Understanding how these foods affect health is a critical public health priority, given the large proportion of the population affected.” “Addressing structural and policy-related barriers to accessing fresh and minimally processed foods remains critical for promoting dietary changes that improve the health and life span for all Americans,” says Mozaffarian. “Our findings can help inform many current policy efforts, such as a national definition of ultra-processed foods, and multiple states’ endeavors to propose and pass laws addressing ultra-processed foods, including warning labels, bans on certain additives, and limits in school meals.” Research reported in this article was supported by the National Institutes of Health’s National Heart, Lung, and Blood Institute, as well as by an American Diabetes Association’s Pathway to Stop Diabetes award and the Laidlaw Foundation’s Laidlaw Scholars Leadership & Research Programme. Complete information on methodology, limitations, and conflicts of interest is available in the published paper. The content is solely the responsibility of the authors and does not necessarily represent the official views of the funders. Source: Tufts University The post How ultra-processed foods are made could explain health risks appeared first on Futurity .

Source: Futurity.org

NSF selects five additional teams in National Quantum Virtual Laboratory design competition

NSF News NSF selects five additional teams in National Quantum Virtual Laboratory design competition The teams join four others selected in 2025 for a total of nine projects focused on designing a unified national resource for quantum science and technology development June 24, 2026 The U.S. National Science Foundation has selected five new teams to design experimental quantum technologies, from networks that can ferry fragile quantum information across long distances to sensors that can measure faint properties inside a single cell. The teams will collectively receive $20 million from NSF and join four others that NSF selected in 2025 . This effort is part of the agency’s broader support for the Administration’s vision of strengthening U.S. leadership in quantum, as called for in the recent Executive Order on Ushering in the Next Frontier of Quantum Innovation . NSF is investing in the five teams through its National Quantum Virtual Laboratory program. Now in the design stage, the laboratory aims to provide researchers anywhere in the U.S. with access to specialized resources for developing useful quantum technologies. Each of the five teams will receive $4 million over two years to refine their development plans and prepare for the implementation phase. Their projects will help build scientific testing and evaluation capabilities to integrate three broad areas of quantum science and technology — sensors,

Source: National Science Foundation

networks and computers — in a unified system that demonstrates functional quantum technologies for real-world applications. "Across academia, government and industry, America has an unmatched array of brilliant people working on quantum science and tech with incredible potential to improve our quality of life," says Brian Stone, performing the duties of the NSF director. "But too often they are working independently in silos. We need to bring their talent and ideas together, and NSF is uniquely positioned to make that happen." The five newly selected teams embody this collaborative philosophy and include researchers and other personnel spanning institutions of higher education in 20 states. The teams' federal partners include the U.S. Department of War's Air Force Research Laboratory, multiple U.S. Department of Energy national laboratories, NASA and the National Institute of Standards and Technology. More than two dozen U.S. companies are partnering with the projects to help develop and scale up quantum technologies that emerge from the research. The participating companies include Boeing, Honeywell, IonQ, NVIDIA, Quantinuum and others. NSF is also supporting the teams' education and training activities to help grow and expand the science, technology, engineering and mathematics workforce in the U.S. Those activities include co-creating evidence-based quantum science educational curriculum with K-12 teachers to use in classrooms. Some researchers will also participate directly in classrooms and other school activities to serve as role models and encourage young people to pursue a career in STEM. The NSF National Quantum Virtual Laboratory is also part of NSF's

Source: National Science Foundation

strategy to fulfill the vision of the " National Quantum Initiative Act " passed by Congress in 2018. NSF expects to select the first teams to transition from the design to the implementation phase later in 2026, subject to appropriations from Congress. The five design projects and teams are: Accelerating Fault-Tolerant Quantum Logic The team will build fault-tolerant quantum computing logic by unifying the design of error-correcting code, hardware and algorithms into a single, cohesive development process. Attosecond Synchronized Photonic Entanglement Network The team will design a high-fidelity quantum networking system approximately 100,000 times faster than current quantum networks and able to carry information over distances of about 60 miles. Distributed-Entanglement Quantum Sensing of Chemical Properties The team will design new types of sensors, including sensors made of protein-based qubits, that use the quantum properties of entanglement and coherence and can be used inside solid materials or cells. Erasure Qubits and Dynamic Circuits for Quantum Advantage The team will design new error-detection and correction methods for quantum computers using superconducting hardware technology to improve computing efficiency. Quantum Photonic Integration and Deployment The team will design chip-based quantum sensor technology that is portable and robust enough to be used in the field, outside the highly controlled laser laboratory environments typically required for such sensors. NSF is driving the development of quantum technologies that can do what no other technology can. Learn more: Unlocking Big Technologies with Quantum-scale Science Research areas

Source: National Science Foundation

Directorate for Mathematical and Physical Sciences (MPS) Directorate for Technology, Innovation and Partnerships (TIP) Directorate for Biological Sciences (BIO) Directorate for Computer and Information Science and Engineering (CISE) Directorate for STEM Education (EDU) Directorate for Engineering (ENG)

Source: National Science Foundation

Service Modernizes Shellfish Definition, Reduces Regulatory Ambiguity

Press Release U.S. Fish and Wildlife Service Modernizes Shellfish Definition, Reduces Regulatory Ambiguity Final rule clarifies that cephalopods such as squid are included in regulatory definition of shellfish Jun 24, 2026 Media Contacts FWS Press WASHINGTON — The U.S. Fish and Wildlife Service today announced a final rule updating the regulatory definition of "shellfish" to eliminate outdated language, improve regulatory clarity, and reduce unnecessary burdens on the regulated community. Under 50 CFR part 10, the U.S. Fish and Wildlife Service regulates the import and export of wildlife and wildlife products. The regulations provide an exemption from certain import and export requirements for shellfish. The final revisions clarify that cephalopods—including squid, octopus, and cuttlefish—are included within the regulatory definition of shellfish. The update aligns federal regulations with modern scientific understanding and longstanding commercial practice. “America’s seafood industry operates in a global marketplace, and our regulations should reflect modern science and common sense,” said U.S. Fish and Wildlife Service Director Brian Nesvik. “This update removes an unnecessary regulatory burden on U.S. squid fisheries, provides greater certainty for seafood producers and exporters, and aligns our regulations with longstanding commercial and international practice.”

Source: U.S. Fish & Wildlife Service

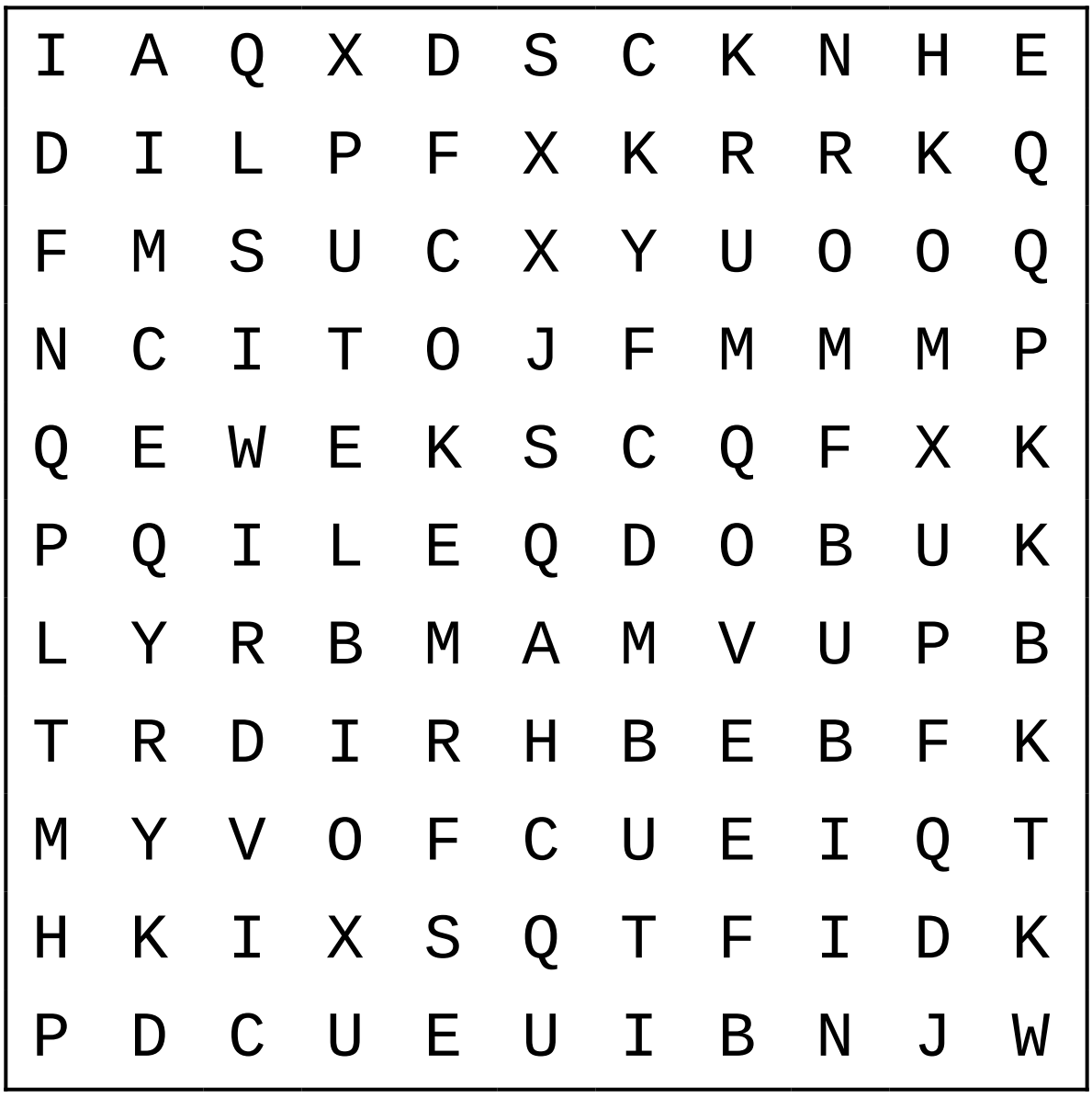
These changes help ensure that commercially harvested squid fisheries are treated consistently with other seafood products under existing import and export regulations. By clarifying the scope of the shellfish exemption, the rule reduces unnecessary regulatory requirements and associated costs for seafood producers, processors, importers, and exporters. The Service developed the rule in coordination with the National Oceanic and Atmospheric Administration to help ensure consistency across federal agencies. The rule does not alter existing conservation authorities, wildlife protections, or management responsibilities. Instead, it updates definitional language to better reflect current scientific understanding and longstanding industry practice. For more information, visit https://www.federalregister.gov/documents/2026/06/23/2026-12578/definition-of-shellfish-inclusion-of-cephalopods Press Release Published Jun 24, 2026 Wildlife Management Media Contacts FWS Press Latest Press Releases Wildlife Wonders Service Estimates 540 Whooping Cranes Wintered on Texas Coast in 2025-2026 Jun 17, 2026 Endangered Species Act U.S. Fish and Wildlife Service to Hold Virtual Public Hearing on Proposed Threatened Listing of Southern Hognose Snake Jun 9, 2026 Endangered Species Act U.S. Fish and Wildlife Service Removes Northeastern Bulrush from Endangered Species List Due to Recovery Jun 9, 2026

Source: U.S. Fish & Wildlife Service

Activity Time - Word Search

Find the words below in the puzzle. Words go across or down only.

Words to Find:



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