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"If you treat an individual as he is, he will remain how he is. But if you treat him as if he were what he ought to be and could be, he will become what he ought to be and could be."

— Johann Wolfgang von Goethe

NASA Scientists Take to Air and Space to Study Arctic Sea Ice

5 min read Preparations for Next Moonwalk Simulations Underway (and Underwater) These four views were captured from a World War II-era aircraft in April 2026, when scientists used instruments aboard the plane to study Arctic sea ice. Their flights were timed to coincide with satellites passing overhead so the airborne and orbital data could be combined.

NASA/JPL-Caltech This month, engineers at NASA's Jet Propulsion Laboratory in Southern California are testing a spacecraft sensor that will help measure how quickly Arctic sea ice is disappearing. And while that instrument won't launch for another year, scientists started preparing for its use during a recent field campaign in the Canadian wilderness. Researchers spent two weeks in April flying above the Arctic Ocean, often watching sunrise from an altitude of 1,500 feet (457 meters) in a World War II-era plane. A variety of cutting-edge sensors used to measure the thickness of sea ice and snow were aboard the plane, including a stand-in for the microwave radiometer now undergoing testing at JPL. Measuring sea ice thickness is tricky, requiring a number of precise figures, including how high the sea ice rises above water, the depth of snow on top of that ice, and microwave emissions from the surface. Flights were timed to the passage of satellites overhead so coordinated observations could be taken of the same features. Combining the airborne and satellite data will improve scientists' ability to measure sea ice and understand how climate

conditions are evolving across the Arctic. In recent decades, the extent and thickness of Arctic sea ice have changed. Improving measurements of those changes helps scientists better understand the Arctic system while supporting navigation, weather and ocean research, and future satellite observations. As Arctic shipping activity increases, the region is also becoming strategically and economically more significant. According to Sahra Kacimi of JPL, who served as the field campaign's science lead, ongoing warming in the Arctic could potentially impact public safety and economic interests. Find out what Arctic sea ice looked like as scientists studied it from the air — and using space-based instruments — during a field campaign this past April. Credit: NASA/JPL-Caltech Frequent flyers Kacimi has spent years studying sea ice using satellite data, but the top-down view she gets from space is different than peering out a plane's window. The bewildering diversity of sea ice creates otherworldly landscapes. The ice can be attached to land or adrift in the ocean; it can be rough or smooth. Driven by winds and ocean currents, the ice is constantly shifting, breaking apart, and deforming. Cracks can open into long stretches of exposed ocean, and collisions between floes can push ice rubble into massive ridges that extend for miles. Some sea ice lasts only one season, while thicker ice can survive for several years (though multiyear sea ice is becoming less common in many parts of the Arctic). Entire ecosystems are affected by these changes, down to the arctic foxes and hares the scientists spotted throughout the trip. Improving estimates of sea ice thickness helps scientists better understand how the region is

changing and supports long-term observations of the Arctic environment. The NASA team logged about 50 hours in the air over the two-week campaign, conducting flights over drifting ice near the town of Inuvik before studying ice fixed to the shore of another location, a hamlet called Cambridge Bay. For the Inuvik portion of the campaign, the team coordinated with the Surface Water and Ocean Topography (SWOT) mission, a satellite jointly developed by NASA and the French space agency, CNES (Centre National d'Études Spatiales), with JPL leading the United States component of the mission. Though it was designed to map the height of the globe's sea and fresh water, SWOT can also measure the amount of sea ice above the waterline. In Cambridge Bay, the NASA team joined researchers from ESA (European Space Agency), Germany's Alfred Wegener Institute, and Canada's University of Calgary. During this part of the campaign, coordinated flights soared over a field camp and under the tracks of satellite missions such as NASA's Ice, Cloud, and Land Elevation Satellite-2 (ICESat-2) and ESA's CryoSat-2. To improve sea ice thickness estimates, ESA is developing, with cooperation from NASA, a new polar mission called Copernicus Polar Ice and Snow Topography Altimeter (CRISTAL). During the April airborne campaign, scientists flew instruments similar to what CRISTAL will carry, including the microwave radiometer now being tested at JPL. "Combining observations from space, air, and ground surface instruments is essential for developing and validating algorithms for current and future missions," Kacimi said. For the scientists, it was also a chance to meet locals who see the Arctic's

changes up close. Kacimi spoke to community leaders and students at a STEM camp about how disappearing ice is affecting their communities. “I’m used to looking at sea ice from space and thinking about its role in the global climate, but for people living in the Arctic, it carries a much deeper meaning,” Kacimi said. Media Contacts Andrew Good Jet Propulsion Laboratory, Pasadena, Calif. 818-393-2433 andrew.c.good@jpl.nasa.gov Liz Vlock NASA Headquarters, Washington 202-358-1600 elizabeth.a.vlock@nasa.gov 2026-043 Share Details Last Updated Jul 09, 2026 Related Terms Airborne Science ICESat-2 (Ice, Cloud and land Elevation Satellite-2) SWOT (Surface Water and Ocean Topography) Explore More 3 min read NASA’s 777 Aircraft Returns Home with Science Flights on the Horizon Article 3 months ago 3 min read Arctic Winter Sea Ice Ties Record Low, NASA, NSIDC Scientists Find For the second consecutive year, winter sea ice in the Arctic reached a level that... Article 4 months ago 1 min read SWOT Mission Unlocks a New View of Our Waterways Explore how rivers move, change, and sustain life across the planet with SWOT data. Article 4 months ago Keep Exploring Discover Related Topics Explore Earth Science From its origins, NASA has studied our planet in novel ways, using a fleet of satellites and ambitious airborne and ground-based... Earth Science at Work NASA Earth Science helps Americans respond to challenges and societal needs — such as wildland fires, hurricanes, and water supplies... Earth Science Data Open access to NASA’s archive of Earth science data

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Volcano Minute — Hawaii's deep earthquakes explained

Volcano Minute — Hawaii's deep earthquakes explained
By Hawaiian Volcano Observatory July 9, 2026 If you've felt earthquake shaking lately, you're not alone. Over the past several months, a handful of large, deep earthquakes have rattled the Island of Hawai'i—including the magnitude-6.0 that was felt state-wide on May 22nd, followed by magnitude-4.6 and 4.7 earthquakes in early June. Media Sources/Usage: Public Domain. View Media Details Sources/Usage: Public Domain. View Media Details View Volcano Minute is a weekly audio activity or science update produced by U.S. Geological Survey Hawaiian Volcano Observatory scientists and affiliates. Aloha, it's your weekly Volcano Minute, brought to you by the USGS Hawaiian Volcano Observatory. If you've felt earthquake shaking lately, you're not alone. Over the past several months, a handful of large, deep earthquakes have rattled the Island of Hawai'i—including the magnitude-6.0 that was felt state-wide on May 22nd, followed by magnitude-4.6 and 4.7 earthquakes in early June. Many of the earthquakes on the Island of Hawai'i are related to magma movement and pressure changes or faulting within the volcanoes that make up the island, but these larger, deep earthquakes aren't caused by magma. Instead, they come from the enormous weight of the Hawaiian Islands themselves. Hawaii's massive volcanoes press down on the Earth's lithosphere, the brittle upper and outermost layer of the Earth. The weight causes the

lithosphere to bend and creates flexures—areas where rocks eventually break and move, releasing energy as an earthquake. Because these flexure events happen deep within the Earth, their shaking travels farther, making them more widely felt. They're different from the earthquakes that occur deep beneath Pāhala and the southeast part of the Island of Hawai'i, which are thought to be related to magma transport from the hot spot. Even though earthquakes in Hawaii come from different processes, your response should always be the same: drop, cover, and hold on when you feel shaking. And if you're near the coast, move to higher ground until you know that a tsunami hasn't been generated. A quick update on Kīlauea: Episode 50 of lava fountaining happened at the summit on June 27. Kīlauea summit region has shown inflationary ground tilt since then and models currently indicate that episode 51 of lava fountaining could occur between July 11 th and 15 th . Mahalo for listening, I'm Katie Mulliken and this was your weekly volcano minute brought to you by the USGS Hawaiian Volcano Observatory.

Nepali Poet Viplob Pratik on literature, language, and a life shaped by words

‘The key thing is that writers and creative people should not run the rat race’ Originally published on Global Voices Poet Voplob Pratik. Photo: Prabhat R Jha. Used with permission. Viplob Pratik is a leading contemporary Nepali poet, novelist, lyricist, translator, and former journalist whose work has influenced Nepal’s literary landscape for more than four decades. Known for his lyrical and introspective writing on love, memory, human vulnerability, and the search for meaning, he is the author of the poetry collections Nahareko Manchhe, “ A Person Kissed by the Moon ,” the novel Abijit, and the haiku collection “ Schadenfreude .” Beyond literature, he has written hundreds of song lyrics and worked in translation, editing, theater, and film. Admired for both his literary contributions and his thoughtful, philosophical outlook, Pratik’s work continues to resonate with readers across generations and remains an important voice in contemporary Nepali literature. Sangita Swechha of Global Voices interviewed Viplob Pratik via email to learn more about his multifaceted career as a poet, novelist, lyricist, translator, and former journalist, as well as his contributions to contemporary Nepali literature. He also reflected on the evolving relationship between language, culture, technology, and society, and on the enduring role of literature in a rapidly changing world. Viplob Pratik is one of the judges on the reality TV show “The Poet Idol”

in Nepal, which has garnered significant attention. Photo: Aman Pratap Adhikary. Used with permission. Sangita Swechcha (SS): Many readers describe your work as deeply introspective and philosophical. What experiences, ideas, or questions continue to inspire your writing? Viplob Pratik (VP): I am obliged to my readers always. Their critical admiration motivates me to write more. I never knew that my creations were introspective or philosophical. I practice writing that connects to readers. I want to touch their souls — softly. So whatever I write, I am careful to serve my readers honestly. It is difficult to answer what inspires me to write. Maybe the hatred and discrimination in the world push me to write. Perhaps my desire to spread love all over the world insists that I write. Or probably the harmony I wish to shower in this world forces me to write. I can no longer separate them. SS: Nepal has undergone significant social, political, and cultural changes in recent decades. How do you think these transformations have influenced contemporary Nepali literature and poetry? VP: I think a social scientist can answer this properly. The only thing I can say is that the changes must have stirred the minds of all artists and people. People may forget, but an artist or writer remembers the pain and sorrow — or better yet, transforms it. As you read the books published in this era, you will find the influence in their writing. But we need more creations that rise above mediocrity. SS: Your work has reached audiences both within Nepal and beyond through translation. What challenges and opportunities do you see in bringing Nepali literature to a global readership? VP: Some say literature or any form of art is the mirror of

society. But what I believe is that all forms of art are mirrors of the writer — the creator. So you have to become almost saint-like — seeing the world through the lens of love and new discovery. Read more. Explore the world deeply. Focus on what you are doing. That will bring something good into this world. Never mind whether it gets attention. If you write sincerely, it will spread. I simply write. I don't think about opportunities and challenges. I think the critic will find the right answer. SS: In an age dominated by social media, short-form content, and rapidly changing attention spans, what role do poetry and literature still play in helping people understand themselves and the world around them? VP: I remember the song [My My, Hey Hey] by Neil Young: 'Rock and roll can never die.' So what I think is — however much the world has been dominated by social media, however much attention spans have changed — literature will live. People still seek refuge in poetry, music, and art. It is soul food for humans. The key thing is that writers and creative people should not run the rat race. They must keep their soulful work alive. I have worked as a judge on a reality show called ' The Poet Idol ' and ' Junior: The Poet Idol ' in Nepal. If you notice the popularity of those shows — that is another answer as well. SS: Looking ahead, what gives you hope as a writer, and what advice would you offer to emerging Nepali poets and writers seeking to find their own voice? VP: I believe that one day this world will become utopia. No one can stop it. Time itself has aimed for this — no matter how bizarre the days we face. And my two cents to emerging poets from all over the world: Read classic literature, for they

are the nectar of all philosophy that exists in this world. Travel. Observe deeply. Immerse yourself in good music, good art, good people. Stay calm. Don't run after popularity. If you run after popularity, you will become popular — but you will lose your art. Written by Sangita Swechcha

NOAA Fisheries Trains for Whale Entanglement Response with New York and New Jersey Partners

Entanglement of large whales in fishing gear and marine debris is a significant threat to recovering whale populations. In the Greater Atlantic region, an average of 26 large whale entanglements were reported each year between 2007 and 2025. This accounts for more than a third of the average of 73 reported nationwide. While some whales are successfully disentangled by trained responders, preventing entanglement is our first priority. To improve rapid reporting and potential responses to large whale entanglement cases, NOAA Fisheries staff recently led a large whale disentanglement workshop at the James J. Howard Marine Sciences Laboratory in Sandy Hook, New Jersey. The area has become a hotspot for juvenile humpback whale sightings. "This workshop demonstrates NOAA Fisheries' commitment to protected species. The Howard Lab at Sandy Hook was an ideal place to bring partners from the New York/New Jersey area together because of our location in the mid-Atlantic Bight and the recent increase in humpback whale activity in the area," explained Jim Vasslides, director of the Howard Lab. Howard Marine Science Lab Hosts Disentanglement Workshop The workshop, held on May 19, gathered 26 participants representing 12 federal, state, and non-profit agencies from across the New York and New Jersey metro area. David Morin, the Greater Atlantic Regional Fisheries Office's Large Whale Disentangle-

ment Coordinator, and Ainsley Smith, Marine Mammal Stranding Coordinator, led the group through the basics of documenting and reporting an entangled whale. Attendees familiarized themselves with the unique tools used to disentangle a whale. They reviewed case studies in which local agencies assisted trained specialists from the national marine mammal entanglement response networks during an entanglement response. The national marine mammal entanglement response networks safely and effectively respond to reports of entangled marine mammals and provide response coverage in all coastal states. For example, in July 2020, authorized responders successfully disentangled a humpback whale . It had been anchored in place by thousands of pounds of fishing gear in a busy shipping channel into the Port of New York and New Jersey. Attendees spanned a robust network of regional collaborators, including: U.S. Coast Guard Station Sandy Hook, Sector Delaware Bay, Station Manasquan Inlet and Station Barnegat Light New York State Department of Environmental Conservation Law Enforcement officers New York Police Department Emergency Services Unit New Jersey Division of Fish and Wildlife Law Enforcement officers Gateway National Recreation Area National Park Service rangers The Marine Mammal Stranding Center Marine Academy of Science and Technology Disentanglement Drills Provide On-the-Water Experience On May 20, trained and authorized NOAA Fisheries staff practiced on-water entanglement response drills. They worked closely with New Jersey Division of Fish and Wildlife Law Enforcement officers, who trailed a mock entanglement behind their

vessel. To keep authorized responders ready for an event, we conduct training to practice skills. One drill includes throwing a specialized grapple—a metal tool with a working line attached—into gear that is entangling a whale. Responders can use that working line to apply buoys, creating drag. This is a technique modified from whaling times, known as “kegging,” which slows down the whale and allows responders to work on removing gear. Responders also practiced maneuvering a small boat called a zodiac around trailing gear. These drills help responders follow NOAA’s best practices . All entanglement responses conducted in the United States are authorized under NOAA’s Marine Mammal Health and Stranding Response Program (Permit #24359). What to Do If You See an Entangled Whale Only experienced, trained, knowledgeable people with proper support and equipment—working under NOAA Fisheries permit—may respond to entangled whales. Reporting an entangled whale quickly is essential because even some entangled whales can travel miles within a few minutes. To report a live, entangled whale between Maine and Virginia, call NOAA’s 24-hour stranding hotline at (866) 755-6622 or hail the U.S. Coast Guard on Channel 16. Whale entanglements are complex and dangerous for the responders, as well as for the animal. NOAA and trained responders assess each case individually. Each report may contain valuable clues on the whales’ health, the configuration of the entanglement, and how rescue teams can best assist the whale while remaining safe.

FDA Proposes Rule to Modernize Drug Manufacturing Registration

FDA News Release FDA Proposes Rule to Modernize Drug Manufacturing Registration Proposed rule would streamline registration for advanced distributed manufacturers and increase visibility into foreign drug supply sources For Immediate Release: July 10, 2026 The U.S. Food and Drug Administration today issued a proposed rule that, if finalized, would create a streamlined registration pathway for distributed manufacturing establishments that operate as a single establishment using a “hub-and-spoke” model. The proposed rule would also clarify registration requirements for certain foreign establishments that manufacture drugs, including active pharmaceutical ingredients, that indirectly enter the U.S. drug supply. This action is another step forward in the FDA’s coordinated effort to help ensure Americans have reliable access to safe, quality medicines by strengthening domestic pharmaceutical manufacturing, and ensuring that regulatory frameworks keep pace with innovation. Distributed manufacturing establishments operate using a “hub-and-spoke” model, with a central quality oversight hub and multiple equivalent manufacturing units at different locations. Currently, regulations require each manufacturing unit in such a network to register separately, creating unnecessary administrative burdens. Under the proposed rule, distributed manufacturing establishments could register as a single establishment. Units could be added, relocated or removed through a streamlined update process, and

companies would be required to notify the FDA in advance of any unit relocation, closing a gap in the agency's real-time oversight. “The FDA is proposing changes to our establishment registration regulations that would reflect how distributed manufacturing actually works — as one single establishment,” said Michael Davis, M.D., Ph.D., Acting Director of FDA’s Center for Drug Evaluation and Research . “The proposed changes would make it easier for innovative manufacturers to operate efficiently, and give the FDA a clearer, more accurate picture of how and where drugs are being made.” The proposed rule would also clarify registration and drug listing requirements for certain foreign drug manufacturing establishments. Currently, some foreign establishments that manufacture drugs (including components of drugs, such as active pharmaceutical ingredients) only for distribution to other foreign establishments may not be registered with the FDA, limiting the agency’s visibility into upstream supply chains. By aligning our regulations to the statutory requirements, this proposed rule would make it clearer that these establishments must register with the FDA and report on the drugs they produce, giving the FDA greater ability to detect and respond to potential safety concerns. “When an active ingredient in a medicine reaches an American patient, the FDA should be able to trace exactly where it came from,” said Dr. Davis . “Closing this registration gap for foreign establishments is a concrete step toward increasing the supply chain transparency that patients deserve.” If finalized, the proposed rule is expected to reduce registration costs for distributed manufacturing companies and generate long-term efficiencies

for both industry and the agency. It builds on a series of administration actions aimed at revitalizing American pharmaceutical manufacturing, improving supply chain transparency, and reducing vulnerabilities in the drug supply chain. The proposed rule is available [here](#) . Media: FDA Request for Comment 202-690-6343 Consumer: 888-INFO-FDA ###

Boilerplate The FDA, an agency within the U.S. Department of Health and Human Services, protects the public health by assuring the safety, effectiveness, and security of human and veterinary drugs, vaccines and other biological products for human use, and medical devices. The agency also is responsible for the safety and security of our nation's food supply, cosmetics, dietary supplements, radiation-emitting electronic products, and for regulating tobacco products.

Activity Time - Word Search

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

Words to Find:

H	I	J	L	F	W	C	J	W	Q	D
S	J	T	R	B	B	R	W	Z	A	N
D	P	U	G	Y	Z	R	I	L	D	Q
R	E	P	A	D	U	D	D	W	G	T
L	H	T	Q	T	Y	P	B	B	N	Z
V	F	Q	R	V	U	W	V	Q	V	W
I	C	L	P	R	B	T	H	A	O	W
J	C	C	C	D	U	D	U	O	C	Z
U	S	J	V	J	S	O	P	K	A	W
B	Z	Z	W	I	H	X	F	P	S	Q
S	M	K	B	G	S	H	N	A	S	L