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"Letting go doesn't mean that you don't care about someone anymore. It's just realizing that the only person you really have control over is yourself."

— Deborah Reber

NSF announces \$83M investment in integrated data systems and services to advance AI-driven science and strengthen U.S. research infrastructure

NSF News NSF announces \$83M investment in integrated data systems and services to advance AI-driven science and strengthen U.S. research infrastructure July 22, 2026 The U.S. National Science Foundation today announced \$83 million in awards through the Integrated Data Systems and Services (IDSS) program . The awards will expand access to data infrastructure resources that researchers can use alongside computing and artificial intelligence resources to accelerate scientific discovery and innovation. IDSS supports national priorities to strengthen U.S. leadership in AI, build an AI-ready workforce and ensure researchers have the tools and infrastructure needed to compete globally. The program advances a national AI research ecosystem by connecting scientific data with computing, instruments, software and AI resources, complementing the NSF-led National Artificial Intelligence Research Resource (NAIRR) and other cyberinfrastructure investments. These investments also support the White House's Genesis Mission by strengthening the data infrastructure that enables researchers to make discoveries, use AI and advanced computing and accelerate innovation across the U.S. research enterprise. "America's leadership in artificial intelligence depends not only on advanced computing resources but also on the data infrastructure that

enables researchers to discover, access, share and analyze scientific data at scale," said Brian Stone, performing the duties of the NSF director. "These investments provide foundational capabilities that empower scientists and engineers to drive transformative AI-enabled discovery, accelerate innovation and strengthen national competitiveness." The IDSS program invests in national-scale data systems that advance data-intensive and AI-driven science, engineering research, innovation and education. Because data is essential for scientific discovery, these investments will improve how scientific data is collected, stored, shared and analyzed across NSF facilities, research centers and national laboratories. The awards also connect data systems, AI models and computing resources so they work together more effectively, while creating shared platforms that make it easier for researchers to find, use and reuse data across different projects and fields. In addition, they provide access to AI tools and advanced computing systems that help researchers use AI more effectively in their work. Collectively, these investments will enable scientists to focus on generating new insights from data rather than managing underlying infrastructure. The IDSS awards and project descriptions are provided below.

Category I: National-Scale Integrated Data Systems and Services Fabric for AI-Driven Science (FabAID) , led by the Morgridge Institute for Research in Madison, Wisconsin, will build a national data fabric that connects repositories, computing resources and cyberinfrastructure, including NAIRR, to streamline access and curation of large-scale scientific datasets for AI-driven research. National Data Platform (NDP) ,

led by UC San Diego, will create an AI-ready ecosystem that integrates distributed data, computing facilities and AI resources across the U.S. to support interoperable, scalable and reproducible AI-driven scientific workflows. Category II: Transition to National-Scale Operations Interactive Discovery Laboratory (iDLab) , led by UCLA, will provide a unified web-based platform that connects researchers to computing and data resources across NSF-supported high-performance computing sites and cloud systems, enabling streamlined workflows for AI-enabled research and expanding STEM education and training through browser-based environments. BRIDGE National Center , led by the University of California, Irvine, will deliver an open, cloud-based infrastructure for reusable data science workflows, datasets and machine learning models to improve reproducibility and accelerate AI-driven discovery. National Science Data Fabric (NSDF) , led by The University of Tennessee, Knoxville, will transition a pilot into a national service that connects researchers to distributed scientific data through standardized frameworks that make data easier to find, access, and reuse. It will enable secure and reproducible workflows and support workforce development programs in data science and AI. Multidisciplinary Environment for Scientific Advancement (MESA) , led by The University of Arizona, will develop an AI-driven data platform that uses metadata automation and intelligent agents to connect and organize scientific data across disciplines, enabling interoperable and reproducible AI workflows. In addition, several planning grants were awarded to support the development of future data infrastruc-

ture proposals under Category I and II. The IDSS program strengthens the national research data infrastructure by improving access to scientific data and enabling its more effective use in combination with AI and computing resources. By making scientific data more accessible and actionable, these investments are expected to accelerate scientific discovery, advance innovation and expand AI-enabled research capabilities, helping translate federally supported research into benefits for the American public. Learn more about the IDSS program .

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 The Chesapeake Bay Gets a Boost from Our Summer Interns

It's summertime—but that doesn't mean a vacation from learning! Four interns are spending this summer gaining experience with us and pitching in on important Chesapeake Bay-focused projects. These paid internships run for 12 weeks, giving them solid insight into a potential career path—and supporting our busy summer of work. Meet our dynamic interns for summer 2026

Record 30,000 Endangered Central California Coast Coho Salmon Return to Mendocino Coast Rivers During the 2024–2025 spawning season,

endangered Central California Coast coho salmon migrated to Mendocino Coast rivers in numbers few scientists thought they would see

in their careers. Monitoring teams estimated that more than 30,000 adult coho returned, double the previous season's record-breaking return of 15,000 coho. Learn how habitat restoration is supporting CCC coho recovery [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 [Rebuilding a Louisiana Bayou: Upper Barataria Restoration](#) One year after creating 1,170 acres of wetland habitat in Louisiana's Barataria basin, key species like shrimp and crab are returning. The effort addresses land loss while supporting local economies and vital fisheries. Learn more about the [Upper Barataria Marsh Creation 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 [Restoring Habitat for Great Lakes Fish at the Historic Edsel and Eleanor Ford Estate](#) NOAA Fisheries' Office of Habitat Conservation has established a unique partnership with Ford House, the historic 1920s

estate of Eleanor and Edsel Ford. Together, they are restoring shoreline habitat for fish and other wildlife on Michigan's Lake St. Clair. Learn about how the project is rebuilding shoreline habitat for fish and other wildlife [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 [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 [Scientists Breed Sunflower Sea Stars Key to Reviving California's Imperiled Kelp Forests](#) With funding from NOAA Fisheries Office of Habitat Conservation, The Nature Conservancy and partners are advancing the science needed to bring California's kelp forests back to life. Once among the most productive and biodiverse ecosystems on earth, these underwater forests virtually disappeared from much of the California coast a decade

ago. Learn about the sunflower sea star, a keystone species critical to kelp forest health

Habitat 101 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

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

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

Olympic Mountain Glory

Earth Observatory Science Earth Observatory Olympic Mountain Glory Earth Earth Observatory Image of the Day EO Explorer Topics All Topics Atmosphere Land Heat & Radiation Life on Earth Human Dimensions Natural Events Oceans Remote Sensing Technology Snow & Ice Water More Content Collections Global Maps World of Change Articles Earth Matters Blog Blue Marble: Next Generation EO Kids Mission: Biomes About About Us Subscribe RSS Contact Us Search May 6, 2016 Alpine glaciers, wild coastlines, temperate rainforests, and deep river valleys coexist on the Olympic Peninsula in the northwest corner of Washington state. Surrounded by blue waters, peaceful islands, and bustling population centers, its rugged interior remains a relatively remote bastion of wilderness. The Olympic Mountains' imposing terrain comes into focus in this oblique view of the region, captured by an astronaut aboard the International Space Station. The image is a composite , made of several sequential, overlapping photos fused together into a panorama. Olympic National Park encompasses the peninsula's mountainous core, along with some stretches of the Pacific coastline. Much of the remaining area is either national forest, state-owned land, or tribal territory. The rock making up the mountains mostly originated beneath the surface of the ocean. From about 55 to 15 million years ago , layers of basalt from undersea eruptions and sand and mud transported seaward by rivers

accumulated on the ocean bottom. This material was scraped off the Juan de Fuca plate as it subducted beneath the North American plate, with rock layers crumpling and rising up to 8,000 feet (2,440 meters) above sea level. Tectonic forces continue to push the mountains skyward, but the countervailing force of erosion in this rainy, snowy corner of the country effectively cancels out the uplift. Snow at higher elevations feeds glaciers that carve out underlying rock. Glaciers in the Olympics are retreating and thinning, however, and their numbers are declining. One study tallied 255 glaciers and perennial snowfields in the range in 2015 and found that 35 glaciers and 16 perennial snowfields had disappeared in the preceding 35 years. Other erosion is evidenced by the deep valleys radiating out from the snowy peaks. The Hoh, Queets, and Quinault rivers, draining west into the Pacific Ocean (bottom of the frame), are prominent in this view. These verdant valleys are known for their temperate rainforests , and the ancient forest in the Hoh River valley was once considered among the most naturally quiet places in the U.S., uninterrupted by human-caused noise. Flowing to the north, the Elwha River has a rich natural and human history, including some of the earliest Euro-American exploration of the Olympics. Sponsored by a Seattle newspaper, an expedition from December 1889 to May 1890 crossed the mountain range from north to south, traveling up the Elwha valley and down the Quinault. The party spent several months in the Elwha Valley, their progress hindered by an unusually harsh and snowy winter. In the early 1900s , entrepreneurs saw economic opportunity in the valley. Two dams constructed on the river

produced power for local industry. But the structures came with costs, such as blocking the migration of once-abundant trout and salmon to their spawning grounds. In 2011 and 2014, the dams were removed in what was then the largest such project in the U.S., and the process of restoring fish populations, seeding native plant communities, and replenishing sediment along the riverbanks commenced . The mouth of the Elwha forms a delta in the Strait of Juan de Fuca, the waterway bordering the peninsula to the north. The U.S.-Canada border runs through the middle of this 11- to 17-mile-wide (18- to 27-kilometer-wide) channel, with Vancouver Island in British Columbia lying to the north. The strait connects the Pacific Ocean with the Strait of Georgia and Puget Sound. Ship traffic uses the strait to access important West Coast ports, including Seattle and Tacoma, visible along the top-right edge of the image. Astronaut photographs ISS047-E-104138 through ISS047-E-104144 were acquired on May 6, 2016, with a Nikon D4 digital camera using a focal length of 400 millimeters. They are provided by the ISS Crew Earth Observations Facility and the Earth Science and Remote Sensing Unit at NASA Johnson Space Center. The images were taken by a member of the Expedition 47 crew . The images have been cropped and enhanced to improve contrast, and lens artifacts have been removed. The International Space Station Program supports the laboratory as part of the ISS National Lab to help astronauts take pictures of Earth that will be of the greatest value to scientists and the public, and to make those images freely available on the Internet. Additional images taken by astronauts and cosmonauts can be viewed at the NASA/JSC

Gateway to Astronaut Photography of Earth . Story by Lindsey Doermann.
Downloads May 6, 2016 JPEG (18.26 MB) References & Resources
Fountain, A. G., et al. (2022) Glaciers of the Olympic Mountains, Washington—The past and future 100 years . Journal of Geophysical Research: Earth Surface , 127(4), e2022JF006670. NASA Earth Observatory (2016, February 14) Olympic National Park . Accessed July 22, 2026. NASA Earth Observatory (2012, August 25) Restoration of the Elwha River . Accessed July 22, 2026. National Park Service (2026, July 7) Olympic National Park . Accessed July 22, 2026. Washington State Department of Natural Resources, Olympic Mountains . Accessed July 22, 2026. You may also be interested in: Stay up-to-date with the latest content from NASA as we explore the universe and discover more about our home planet. Belts of Green in the Washington Suburbs 3 min read Along the northeast side of the Capital Beltway in Maryland, green spaces weave through the developed landscape. Article Colonial National Historical Park 2 min read The colonial communities of “America’s historic triangle” played defining roles in the road to American independence. Article Great Balls of Fire 4 min read An astronaut on the International Space Station was surprised to photograph a shower of light streaking through the darkness while... Article 1 2 3 4 Next Keep Exploring Discover More from NASA Earth Science Subscribe to Earth Observatory Newsletters Subscribe to the Earth Observatory and get the Earth in your inbox. Earth Observatory Image of the Day NASA’s Earth Observatory brings you the Earth, every day, with in-depth stories and stunning imagery. Explore

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FDA Announces First Participant Selected for TEMPO for Digital Health Devices Pilot

FDA News Release FDA Announces First Participant Selected for TEMPO for Digital Health Devices Pilot For Immediate Release: July 22, 2026 The U.S. Food and Drug Administration today announced the first manufacturer selected for the Technology-Enabled Meaningful Patient Outcomes (TEMPO) for Digital Health Devices Pilot. The participating manufacturer intends to offer a device for use in providing care expected to be covered by the Centers for Medicare & Medicaid Services (CMS) Innovation Center's ACCESS (Advancing Chronic Care with Effective, Scalable Solutions) Model and intended to improve health outcomes for Americans managing certain chronic diseases. "For the millions of Americans living with chronic conditions, access to the right technology at the right time can be life-changing," said Center for Devices and Radiological Health Director Michelle Tarver, M.D., Ph.D. "The selection of our first TEMPO participant marks a meaningful milestone as we pilot an approach, in partnership with the CMS Innovation Center, to meet patients where they are and generate the real-world evidence needed to ensure these technologies truly deliver for them." The FDA selected Dexcom, Inc., as the first participant in the TEMPO pilot. The Dexcom Glucose Health Program, which the FDA will continue to evaluate for its intended use during the pilot, is intended to address two clinical use areas

in the ACCESS Model. The Dexcom Glucose Health Program is intended to enable patients aligned to the ACCESS model and their healthcare professionals or caregivers to monitor metabolic and nutritional status, receive tailored guidance, and access real-time data and AI insights for informed decision-making and behavioral modifications. The program is intended as an aid in the screening for prediabetes and type 2 diabetes through integrated digital health metrics. It may also contribute to improving glycemic control and lowering HbA1c in people with prediabetes. “The first TEMPO participant represents an important step toward modernizing how innovative technologies reach people with Medicare,” said CMS Deputy Administrator and Director of the Innovation Center Abe Sutton . “ACCESS provides a clear payment pathway that rewards measurable improvements in patient health rather than individual services, while TEMPO helps generate the real-world evidence needed to evaluate promising new technologies responsibly.” Manufacturers participating in the TEMPO pilot will collect, monitor, and report real-world data (RWD) relating to the intended uses of their devices to improve patient outcomes, whether the device is offered by the manufacturer itself as an ACCESS participant or by another participating ACCESS organization. The TEMPO pilot will help the FDA and CMS better understand how digital health technologies perform in real-world settings and how they may support efforts to improve care for people living with chronic diseases. The FDA plans to select up to about ten TEMPO pilot participants in each of four ACCESS model clinical use areas who reflect a broad spectrum of

manufacturers and are based in the United States. The FDA also intends to select participants in alignment with the TEMPO pilot's strategic goals of promoting patient access, safeguarding patient safety, and generating meaningful RWD in connection with the ACCESS model. The FDA's considerations include, among other things, potential risks to patient health, safety, or welfare; whether there is a reasonable expectation that the device could provide patient benefit; plans for RWD collection, monitoring, analysis, and reporting; and alignment with outcomes to be measured in the ACCESS model. The FDA, in connection with the ACCESS model, launched the TEMPO pilot to align with the rapid and iterative nature of the development of digital health devices and expand patient access to innovative technologies for specific clinical use areas while safeguarding patient safety. The ACCESS model, whose first cohort began in July 2026, aims to expand access to new technology-supported care options, such as the use of devices selected for the TEMPO pilot, to help people improve their health and prevent and manage common chronic conditions, including certain cardio-kidney-metabolic, musculoskeletal, and behavioral health conditions. The FDA continues to consider statements of interest for participation in the pilot and intends to continue sending follow-up requests to certain potential pilot participants. There is no specified deadline for when the FDA will stop accepting statements of interest for participation in the TEMPO pilot. Media: FDA Request for Comment 202-690-6343 Consumer: 888-INFO-FDA

Berkeley Lab to Lead 13 New Genesis Mission AI Projects

Today, the U.S. Department of Energy announced funding for new projects that will harness artificial intelligence to accelerate discovery. Lawrence Berkeley National Laboratory (Berkeley Lab) will lead 13 projects and collaborate as a partner on more than 30 others. The projects are part of DOE's Genesis Mission , a historic national initiative that aims to build the world's most powerful integrated science discovery platform. By uniting government, industry, academia, and philanthropy, it seeks to accelerate breakthroughs in energy, scientific discovery, and national security through a new platform that combines AI, supercomputing, quantum systems, and advanced scientific instruments. Berkeley Lab's contributions to the Genesis Mission build on decades of research in high-performance computing, managing large datasets, and pioneering AI models. Researchers will lead new projects across multiple disciplines, advancing fields including critical minerals, materials, manufacturing, fusion, and energy. "By developing advanced AI tools and combining them with high-quality datasets and high-performance computing, our researchers are maximizing their scientific impact and speeding up discovery," said Kathy Yelick, director of Berkeley Lab. "Beyond that, the Genesis Mission is also an opportunity to pioneer better AI tools and approaches for all of science, which will bring payoffs for generations to come." The goal of the Phase 1 Genesis Mission projects is to identify

promising pathways toward transformative scientific capabilities and establish a foundation for future investment and scale. Project teams will design and demonstrate research workflows that integrate AI with scientific investigation, while rigorously evaluating whether those approaches can accelerate discovery, improve predictive capabilities, enhance experimentation, or generate new scientific insights. The projects that Berkeley Lab leads are: AI Decodes DOE Data to Protect U.S. Hydropower and Grid : ASPIRE will create an AI-driven workflow using Department of Energy data to improve precipitation forecasting, helping secure U.S. hydropower generation and protecting critical grid infrastructure. AI-Driven Autonomous Labs for Accelerated Materials Discovery : Researchers will create AI systems that work with autonomous laboratories to design, perform, and learn from experiments, dramatically speeding materials discovery and scientific innovation. AI-Powered Discovery of Quantum and Optoelectronic Materials : AI powered by physics simulations will model excited states to identify promising quantum and optoelectronic materials, accelerating research for future computing, sensing, and energy technologies. AI to Predict Water Supplies for Energy with Novel Precision : Scientists will develop an artificial intelligence framework to jointly predict surface and groundwater dynamics nationwide, supporting energy and water security. AI Workflows to Run DOE Codes in the Cloud : The Agentic HPC Pipeline Initiative (AHPI) will build AI workflows that enable U.S. manufacturers to run powerful DOE research codes on commercial cloud platforms. Breaking Silos: AI for

Nuclear Waste Repository Design : AI will enable a streamlined environment to analyze nuclear waste repository design, dissolving existing silos through a digital-twin approach. Closing the Loop: AI-Accelerated Alloy Engineering : Researchers will combine AI structure prediction, high-throughput synthesis, and advanced microscopy to accelerate the optimization and design of complex concentrated alloys for extreme environmental applications. HERALD: AI to Unlock Nuclear Archives : The HERALD project will build an AI platform to vet decades of secure government research, unlocking it for the commercial industry to accelerate nuclear innovation. Meeting Water-Energy Demand with Local, Actionable Predictions : To predict water resources for energy infrastructure, scientists will use AI to develop a highly accurate prediction system for water availability. Novel AI Workflow for Critical Minerals in Geosystems : The team will use AI to optimize recovery of critical minerals from copper, molybdenum, platinum, chrome, and nickel mineral deposits. Physics-informed Digital Twins for Fusion Magnet Systems : AI-enabled digital twins will establish a credible path toward the reliable operation of high-temperature superconducting magnets, supporting future compact magnetic confinement fusion power plants. Predicting Subsurface Fractures with AI for Energy : Scientists will combine artificial intelligence and geophysical observations to improve prediction of subsurface fractures, advancing geothermal and other energy technologies. Safely Storing Nuclear Waste with Advanced 3D Models : Researchers will develop AI-assisted 3D geological models that can effectively identify suitable sites

for subsurface nuclear waste storage. ### Lawrence Berkeley National Laboratory (Berkeley Lab) is committed to groundbreaking research focused on discovery science and solutions for abundant and reliable energy supplies. The lab's expertise spans materials, chemistry, physics, biology, earth and environmental science, mathematics, and computing. Researchers from around the world rely on the lab's world-class scientific facilities for their own pioneering research. Founded in 1931 on the belief that the biggest problems are best addressed by teams, Berkeley Lab and its scientists have been recognized with 17 Nobel Prizes. Berkeley Lab is a multiprogram national laboratory managed by the University of California for the U.S. Department of Energy's Office of Science. DOE's Office of Science is the single largest supporter of basic research in the physical sciences in the United States, and is working to address some of the most pressing challenges of our time. For more information, please visit energy.gov/science . Tags: Genesis Mission AI Emerging Ideas Q&A Human Health Combatting Antibiotic Resistance with Nanotechnology, Robotics, and AI Article AI Meet EcoBOT: The Autonomous Lab Standardizing Plant-Microbe Research Article AI Scientists Develop Predictive Roadmap to Boost Performance in Next-Gen Spintronics

Activity Time - Word Search

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

Words to Find:

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