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"All the News That's Fit to Print"

The New York Times

THE WEATHER
Today, partly to mostly sunny and warmer, high 78. **Tonight,** partly cloudy, mild, low 53. **Tomorrow,** sunny to partly cloudy, not as warm, high 73. Weather map, Page B10.

VOL. CLXXIV .... No. 60,497 TUESDAY, APRIL 22, 2025 Prices in Canada may be higher $4.00

GROUNDBREAKING POPE RESHAPED THE CHURCH

'A Man of Peace'

Pope Francis went from a modest life in Buenos Aires, where he was born in 1936, to leading the Roman Catholic Church.

2013
First Latin American Pope
Francis was elected pontiff after Pope Benedict XVI resigned, citing health concerns. Francis tried to move the church away from divisive issues such as abortion and homosexuality, instead focusing on climate change, poverty and migration. His first papal trip was to Lampedusa, an Italian island that had become a beacon for asylum seekers and migrants.

2015
Tending the U.S. Flock
During a six-day trip to the United States, he became the first pope to address Congress.

2018
A Deal With China
Francis reached a provisional agreement to end a long power struggle over the right to appoint bishops in the country. The deal also legitimized seven bishops appointed by Beijing, which critics said set a dangerous precedent.

2019
A Push to Protect Minors
Francis issued the church's most comprehensive response in decades to the sexual abuse crisis. It obligated church officials worldwide to report cases of sexual abuse, and efforts to cover them up, to their superiors.

2022
Apology for 'Evil'
During a visit to Canada, Francis begged for forgiveness from the country's Indigenous people, and apologized for the church's role in abusive residential schools.

2023
Effort to Include Women
Francis for the first time held a meeting of world bishops that included women and lay people as voting members. After the meeting, Francis allowed priests to bless gay couples.

DAMON WINTER/THE NEW YORK TIMES

POPE FRANCIS, 1936-2025 The first Latin American pontiff, shown in 2015, died on Monday at 88.

Pushed Inclusion and Advocacy, Not Dogma

By JASON HOROWITZ and JIM YARDLEY

VATICAN CITY — Pope Francis, who rose from modest means in Argentina to become the first Jesuit and Latin American pontiff, who clashed bitterly with traditionalists in his push for a more inclusive Roman Catholic Church, and who spoke out tirelessly for migrants, the marginalized and the health of the planet, died on Monday at the Vatican's Casa Santa Marta. He was 88.

The pope's death was announced by the Vatican in a statement on X, a day after Francis appeared in his wheelchair to bless the faithful in St. Peter's Square on Easter Sunday. The Vatican listed the causes of death as a cerebral stroke, followed by a coma and "irreversible cardiocirculatory collapse."

Throughout his 12-year papacy, Francis was a change agent, having inherited a Vatican in disarray in 2013 after the stunning resignation of his predecessor, Benedict XVI, a standard-bearer of Roman Catholic conservatism.

Francis steadily steered the church in another direction, restocking its leadership with a diverse array of bishops who shared his pastoral, welcoming approach as he sought to open up the church. Many rank-and-file Catholics approved, believing that the church had become inward-looking and distant from ordinary people.

Francis reached out to migrants, the poor and the destitute, to victims of sexual abuse by Catholic clergy members, and to alienated gay Catholics. He traveled to often-forgotten and far-flung countries and sought to improve relations with an antagonistic Chinese government, Muslim clerics and leaders from across the fragmented Christian world.

After some early stumbles, he took strong steps to address a clerical sex abuse crisis that had become an existential threat to

Continued on Page A8

Shifts Split Faith in U.S., Fueling Right's Fire

By ELIZABETH DIAS and RUTH GRAHAM

Months into his papacy in 2013, Pope Francis was asked about gay priests, and he responded, "Who am I to judge?" Across the United States, Catholics and non-Catholics alike took a collective gasp.

For years the Roman Catholic Church in the United States had deeply aligned with the religious right in fierce conflicts over issues like abortion, gay marriage and contraception. But Pope Francis wanted a church "with doors always wide open," as he said in his first apostolic exhortation.

CHANG W. LEE/THE NEW YORK TIMES

Lighting candles and praying for Francis at Myeongdong Cathedral in Seoul on Monday.

Words like these made the new pope a revolutionary figure in the United States, in both the Catholic Church and the nation's politics. He challenged each to shift its moral focus toward issues like poverty, immigration and war, and to confront the realities of income inequality and climate change. Pope Francis offered a progressive, public Catholicism in force, coinciding with the Obama era, and at the beginning of his pontificate, he moved the U.S. church forward from the sex-abuse scandals that roiled his predecessor's pontificate.

He pushed church leaders to be pastors, not doctrinaires, and ele-

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E.P.A. Poised to Cancel Grants To Study Dangers to Children

By HIROKO TABUCHI

The Trump administration is set to cancel tens of millions of dollars in grants to scientists studying environmental hazards faced by children in rural America, among other health issues, according to internal emails written by senior officials at the Environmental Protection Agency.

The planned cancellation of the research grants, which were awarded to scientists outside the agency, comes as President Trump continues to dismantle some of the E.P.A.'s core functions.

The grants are designed to address a variety of issues, including improving the health of children in rural America who have been exposed to pesticides from agriculture and other pollution; reducing exposure to wildfire smoke; and preventing "forever chemicals" from contaminating the food supply.

PHILIP CHEUNG FOR THE NEW YORK TIMES

Research on exposure to wildfire smoke may also be cut.

An email sent by Dan Coogan, a deputy assistant administrator at the E.P.A., on April 15, and seen by The New York Times, said the agency leadership was directing staff to cancel all pending and active grants across a number of key programs, including Science to Achieve Results, known as STAR.

According to the email, the cuts also targeted the People, Prosperity and the Planet program, or P3, which awards small grants to college students to work on environmental solutions. In the latest funding year, students were developing antiviral face masks from plastic waste as well as 100 percent-compostable packaging film.

"We have received direction from Leadership to cancel all pending awards and terminate grants for the following programs," the email from Mr. Coogan began, followed by a list of programs.

In response to inquiries on Monday, the E.P.A. said the grants had not been canceled. "As with any change in Administration, the agency is reviewing its awarded grants to ensure each is an appro-

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Would $5,000 Bonuses Spur New Baby Boom?

Trump Aides Weighing Rewards for Births

By CAROLINE KITCHENER

WASHINGTON — The White House has been hearing out a chorus of ideas in recent weeks for persuading Americans to marry and have more children, an early sign that the Trump administration will embrace a new cultural agenda pushed by many of its allies on the right to reverse declining birthrates and push conservative family values.

One proposal shared with aides would reserve 30 percent of scholarships for the Fulbright program, the prestigious, government-backed international fellowship, for applicants who are married or have children.

Another would give a $5,000 cash "baby bonus" to every American mother after delivery.

A third calls on the government to fund programs that educate women on their menstrual cycles — in part so they can better understand when they are ovulating and able to conceive.

Those ideas, and others, are emerging from a movement concerned with declining birthrates that has been gaining steam for years and now finally has allies in the U.S. administration, including Vice President JD Vance and Elon Musk.

Policy experts and advocates of raising the birthrate have been meeting with White House aides, sometimes handing over written

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DAVID GUTTENFELDER/THE NEW YORK TIMES

Ancient City Scarred by War
Fighters in Syria used Palmyra as a base, marring monuments that stood for millenniums. Page A4.

President Calls Chat Concerns 'Waste of Time'

*This article is by **Jonathan Swan**, **Aishvarya Kavi** and **Michael Gold**.*

WASHINGTON — President Trump threw his support behind Pete Hegseth on Monday and said any concern over his defense secretary's decision to share military attack plans in a Signal group chat was a "waste of time."

Speaking to reporters on the White House's South Lawn after the Easter Egg Roll, Mr. Trump said he had full confidence in Mr. Hegseth.

"He's doing a great job — ask the Houthis how he's doing," the president said, referring to the rebel group in Yemen that the United States targeted in military strikes last month.

The New York Times reported on Sunday that Mr. Hegseth had shared details about those strikes on March 15 — before they happened — in a message thread that included his wife, brother and personal lawyer, according to four people with knowledge of the chat.

The details were essentially the same attack plans that Mr. Hegseth had shared on a separate Signal chat the same day that mistakenly included the editor of The Atlantic.

The decision to close ranks around Mr. Hegseth comes as Mr. Trump has so far been unwilling to fire any of his top officials, no mat-

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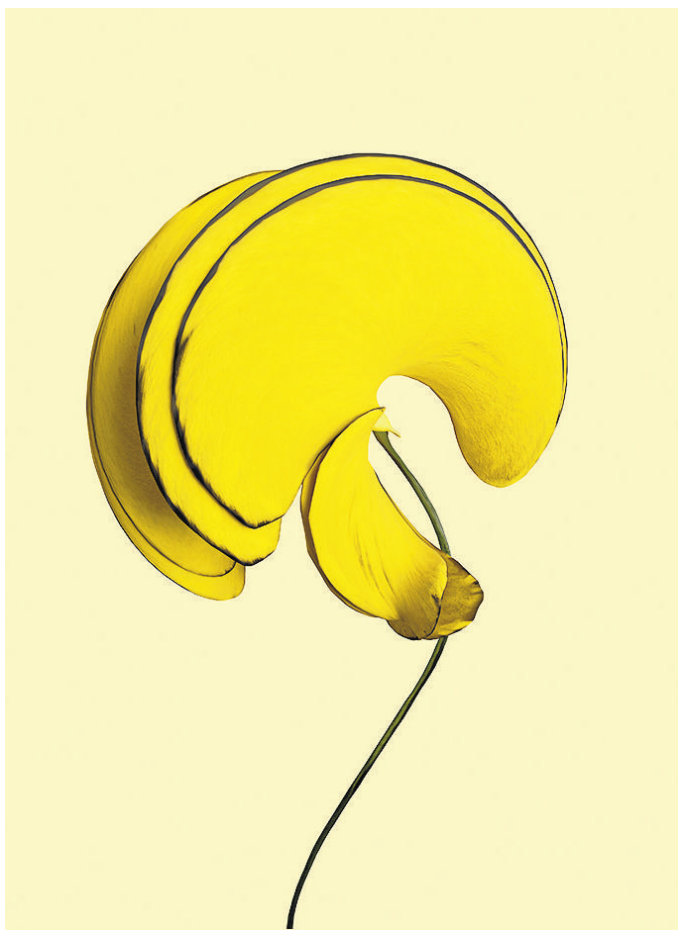
An artist creates the flora of nonexistent worlds based on what scientists know about life on exoplanets.

Leucothamnus aurorae from Magnetis-9e

Kalanchoe filamentis from Arcana-8x

Protea symbiota from Velmara-7



Allamanda ventifera from Auronis-5d

Rosa aetherialis from Novathis-9b

Nerina vortix from Polaris-9b

What Spring Might Bring To Alien Places

Photographs by VINCENT FOURNIER
Article by EMILY ANTHES

Imagine setting out for a springtime stroll. Not here on Earth but on some distant planet — call it Novathis-458b — orbiting a distant star. Even light-years from home, you recognize some familiar pleasures: The sun (albeit a different sun) is shining. The roses are in bloom. A breeze is blowing.

But these are no ordinary roses, and it is no everyday breeze. The wind clocks in at more than 15,000 miles per hour, and the flowers, Rosa aetherialis, have evolved to harness it. Their pink petals curl around a spiral interior that holds the plant's reproductive organs. The shape directs the wind through the center of the flower to flush out its pollen and carry it across the planet.

If roses had evolved on Novathis-458b — an imaginary place, but one that bears similarities to real exoplanets — Vincent Fournier, a French artist and photographer, proposes what they might look like in his otherworldly project Flora Incognita, on display this week at the Association of International Photography Art Dealers show in New York.

In his series of images, which are digital manipulations of real photographs, Mr. Fournier depicts how our flowers and plants might look had they evolved in the kinds of extreme conditions that exist in alien worlds.

The project, he explained, "reimagines our relationship with the living world by projecting an extraterrestrial version of our botanical heritage onto planets beyond our solar system."

Vincent Fournier's images will be on view at the Photography Show presented by the Association of International Photography Art Dealers, Wednesday through Sunday, at the Park Avenue Armory in New York.

Scientists have not discovered definitive evidence of life beyond our own planet, but they have identified numerous exoplanets that might be capable of sustaining it. (Researchers recently announced they had detected potential signs of life on a planet that orbits a star 120 light-years away.)

To make each image, Mr. Fournier took photographs of real plants from multiple angles and then stitched those photos together into composite, three-dimensional images.

He reviewed the scientific literature and consulted with scientists, including Jean-Sébastien Steyer at the French National Center for Scientific Research, to learn more about the conditions that might exist on exoplanets and how plants might evolve to cope with them.

Then, he worked with digital designers, who used 3-D animation software to manipulate each image, imagining potential adaptations to these conditions.

The results are simultaneously strange and familiar: an extra-fuzzy fern that is insulated from extreme temperatures. A cactus that pulls heavy metals from the soil. A bristled orchid that captures minerals from air.

The images are not meant to be rigorous scientific predictions. "It's really an artistic work," Mr. Fournier said. "But it's a collaboration with scientists, and it's fed by science."

There are considerations that the images do not take into account. For instance, most potentially habitable exoplanets identified so far orbit stars that are cooler and redder than our own.

"Our sun kicks out a lot of energy, far more than most of the stars around which we've found Earthlike planets," said Christopher Duffy, a theoretical biophysicist who recently moved into astrobiology at Queen Mary University of London.

That could make photosynthesis difficult, he said, and favor the evolution of algae over land-based plants, which tend to require a lot of energy.

Extraterrestrial plants might also come in radically different colors. "They'll definitely be adapted to whatever light spectrum is there," said Nancy Kiang, a biometeorologist at the NASA Goddard Institute for Space Studies. In some places, she said, they might even be black, "to make use of the visible light as much as possible."

These scientists, who spend their days making rigorous predictions about alien plant life, said that they were taken by the images and that there was a real role for imagination in this work.

"Human creativity has allowed us to reach for the stars and find those exciting new worlds on our cosmic horizon, and imagination helps us envision what they could look like," said Lisa Kaltenegger, the director of the Carl Sagan Institute at Cornell University and the author of "Alien Earths."

Mr. Fournier hopes that the images spark a sense of wonder and an appreciation for how living organisms can adapt, even to environments that seem the most inhospitable.

"The cool thing about thinking about other planets is that it makes us question: What are our assumptions about life here, and what are things we shouldn't take for granted?" Dr. Kiang said.

She added that Mr. Fournier's photos had made her want to look at things differently. "I think they're beautiful," she said. "They make me want to go look at plants around my neighborhood and figure out, Why are they that way?"

Lucens borealis from Aurius-7c

Because the surface of Aurius-7c is composed of electrically charged hot ice, an exotic matter that forms at extremely high temperatures and pressures, Lucens borealis has a layered structure that traps air, creating an effective barrier that maintains a stable internal temperature and protects its reproductive organs.

Nerina vortix from Polaris-9b

A nearby star and a massive moon cause significant tidal effects on Polaris-9b. This atmospheric variability leads to changes in surface gravity on the planet, as well as intermittent and sometimes violent winds. In response to these conditions, Nerina vortix has a helical and flexible shape, allowing it to bend and straighten.

The New York Times

It's Springtime on Polaris-9b, and the Exoflowers Are Blooming

The New York Times https://www.nytimes.com/2025/04/20/science/its-springtime-on-polaris-9b-and-the-exoflowers-are-blooming.html

An artist imagines the flora of distant, nonexistent worlds.

Photographs by Vincent Fournier **Text by Emily Anthes**

April 20, 2025

Imagine setting out for a springtime stroll. Not here on Earth but on some distant planet — call it Novathis-458b — orbiting a distant star. Even light-years from home, you recognize some familiar pleasures: The sun (albeit a different sun) is shining. The roses are in bloom. A breeze is blowing.

But these are no ordinary roses, and it is no everyday breeze. The wind clocks in at more than 15,000 miles per hour, and the flowers, Rosa aetherialis, have evolved to harness it. Their strong pink petals curl around a spiral interior that holds the plant’s reproductive organs. The spiral shape directs the supersonic wind through the center of the flower to flush out its pollen and carry it across the planet.

If roses had evolved in a place like Novathis-458b — an imaginary place, but one that bears certain similarities to real exoplanets — this is what they might look like, Vincent Fournier, a French artist and photographer, posits in his otherworldly project, Flora Incognita, which will be on display this week at the Association of International Photography Art Dealers show in New York.

Polaris-9b is part of a compact planetary system where gravitational interactions with a nearby star and a massive moon cause significant tidal effects. This atmospheric variability leads to changes in surface gravity on the planet, as well as intermittent and sometimes violent winds. In response to the variations in gravity and wind, Nerina vortix has a helical and flexible shape, allowing it to bend and straighten.

Artist’s text, Flora Incognita

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Filicoryndor lanuginosa, from Velmara-7; Leucothamnus aurorae, which has elongated, conductive petals that capture electrostatic charges from ionized winds; Gossypium magnetica, of Ortheon-759b; Allamanda ventifera, which uses bioluminescence to attract pollinators that have adapted to the planet’s radiation.

To make each image, Mr. Fournier began by taking photographs of real plants from multiple angles and then stitched those photos together into composite, three-dimensional images.

He reviewed the scientific literature and consulted with scientists, including Jean-Sébastien Steyer at the French National Center for Scientific Research, to learn more about the conditions that might exist on exoplanets and how plants might evolve to cope with them.

Then, he worked with digital designers, who used 3-D animation software to manipulate each image, imagining potential adaptations to some of these alien conditions.

The results are simultaneously strange and familiar: an extra-fuzzy fern that is insulated from extreme temperatures and water loss. A subtly shimmering cactus that pulls heavy metals from the soil. A bristled orchid that captures minerals suspended in the air.

> The surface of Aurius-7c is composed of electrically charged hot ice, known as “superionic ice.” This type of exotic matter forms at extremely high temperatures and pressures, where water simultaneously adopts solid and fluid states. To maintain a stable internal temperature and protect its reproductive organs, Lucens borealis uses a layered structure that traps air, thus creating an effective thermal barrier.
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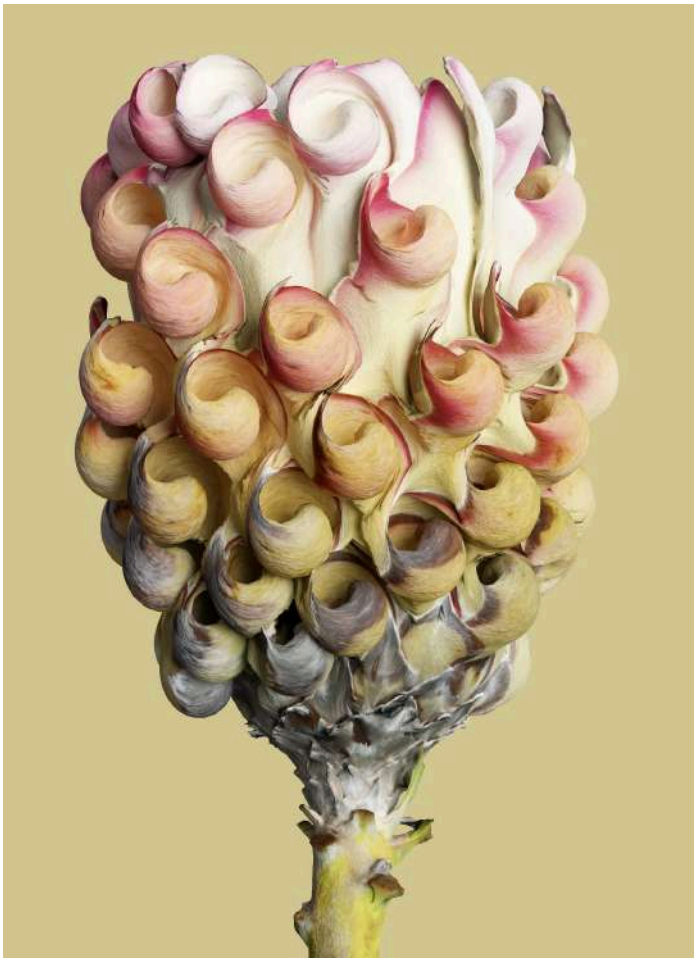
That could make photosynthesis difficult, he said, and favor the evolution of algae over land-based plants, which tend to require a lot of energy.



Cypripedium radialis, whose bristles act as electrostatic antennae to attract ions and promote nutrient absorption; Echinoluma fulgida, a cactus endemic to the iron-rich regions of Atherferrum-b6; Protea

symbiota, which shelters microorganisms in its curled petals from silica-laden winds; Kalanchoe filamentis of Arcana-8x.

Extraterrestrial plants might also come in radically different colors. "They'll definitely be adapted to whatever light spectrum is there," said Nancy Kiang, a biometeorologist at the NASA Goddard Institute for Space Studies. In some places, she said, they might even be black, "to make use of the visible light as much as possible."

On Earth, flowers have also evolved alongside pollinators, which would not be a given on distant worlds.

Still, these scientists, who do spend their days making rigorous predictions about alien plant life, said that they were taken by the images and that there was a real role for imagination in this work.

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Art, too, can make us look at things differently, she said. And Mr. Fournier's photos had made her want to do just that. "I think they're beautiful," Dr. Kiang said. "They make me want to go look at plants around my neighborhood and figure out, why are they that way?"

Vincent Fournier's images will be on view at The Photography Show presented by the Association of International Photography Art Dealers, April 23 through 27, at the Park Avenue Armory in New York.

Produced by Matt McCann and Antonio de Luca.

Emily Anthes is a science reporter, writing primarily about animal health and science. She also covered the coronavirus pandemic.

A version of this article appears in print on , Section D, Page 8 of the New York edition with the headline: What Spring Might Bring To Alien Places