MWOBS®
MOUNT WASHINGTON OBSERVATORY

ANNUAL REPORT

FISCAL YEAR 2026

2025 Weather in Review

Average temperature: 28.2°F (-2.1°C)

Warmest temperature: 69°F (20.6°C), which occurred on August 13th

Coldest temperature: 22°F below (-22°F/-30°C), which occurred on January 30th

Total liquid precipitation: 82.15 inches

Total snowfall: 308.3 inches

Days with rain: 118

Days with snow: 193

Average wind speed: 37.2 mph

Highest wind gust: 161 mph, which occurred on February 17th

Days with gusts ≥73 mph: 163

Days with gusts ≥100 mph: 55

Days noted as clear or mostly clear: 14

Days noted as partly sunny: 70

Days noted as mostly cloudy, cloudy, or obscured (fog): 281

24-hour periods where at least some amount of fog was reported: 326

Data provided by Weather Observer & Meteorologist Ryan Knapp.

Pictured: Lenticular clouds form over the summit as the snowcat arrives on Feb. 13, 2026. Cover and page 2 photos by Winter Intern Ryan Steinke.

Dear Friends,

Thank you for helping Mount Washington Observatory reach new heights this past year. **Your generosity, help, and advice never fail to inspire us to continue pushing the boundaries of weather and climate science**.

2025 was filled with incredible progress at the Observatory. We reached more than 8,000 young students with our school programs, installed the Granite State's first ever ground-based doppler LiDAR to improve atmospheric monitoring and forecasting, continued our work modernizing and expanding the Mount Washington Regional Mesonet, and secured funding to begin a Broadcast Meteorology Internship that will fuel new weather services—such as a recreational forecast for all of New England.

All of this and much more was made possible thanks to your incredible support. *Your generosity means the world to our staff, volunteers, Trustees, and both of us.*

Our educational programs inspire youth to strive for the careers of the future and drive insight in communities around the country. A few highlights:

- We served more than 23 member schools on field trips and laid the foundation to expand our programming into New Hampshire's Upper Valley and Lakes Region as well as for a unique program for urban youth in Eastern Massachusetts.
- New support from the John D. McGonagle Foundation means our Storm Scouts Summer Day Camp will enter its third year with an additional week for older students (grades 7 to 10).
- The first ever Virtual Tour of Mount Washington's summit launched with help from students at Worcester Polytechnic Institute to make our unique and beloved rockpile accessible to all—even those who cannot come in person.
- We hosted youth educators to earn certifications in wilderness medicine on the summit last fall along with winter and summer teacher professional development programs.
- Our Overnight EduTrips, Partner Led Climbing Trips, and Science in the Mountains programs provide inspiration and meaningful learning for adults. Science in the Mountains has begun a quarterly tour through New England to bring our speakers to communities near you.

Research had a landmark year in 2025, with a number of novel projects underway. Read more in this report including how:

- The White Mountains Almanac made its debut in partnership with the Appalachian Mountain Club and Hubbard Brook Ecosystem Study, along with support from the Nature Conservancy of New Hampshire, The Cabot Family Charitable Trust, and The Greater Hartford Gives Foundation.
- Our Undergraduate and Graduate Adventures (in meteorology) program continues to bring university students to the mountain to learn hands-on through short internships, overnight trips, lectures, and group research.
- Our internship program drives innovation and research while supporting our crew in their essential operations including joint experiences with the United States Forest Service's Mount Washington Avalanche Center and others.
- This summer will see the addition of more than 35 new automated weather stations, driving our mesonet network to become statewide with one in each county of the Granite State.
- We've also modernized older stations and partnered with ski resorts on new stations to improve their operations.
- The new wind instrumentation we're developing may be sold in partnership with a leading weather instrumentation company, and we continue collaborations with the United States Air Force, United States Army Corps of Engineers, Eversource Energy, and multiple universities to drive innovation in weather science and efficiencies in research, testing, and repair to electric systems. One of our anemometers was also installed on Mount Aconcagua.

Our forecasts are heard on the airwaves across New England with much more planned. A few highlights:

- A weekly recreational forecast now airs on WMWV/Conway Broadcasting and New Hampshire Public Radio (NHPR), complementing our daily forecasts across New Hampshire and Vermont (with WDEV/Vermont Radio Group).
- Research to improve the communication of our Higher Summits Forecast with Northeastern University's Roux Institute will hold insights for how we present all our forecasts, with a revamp of our website's weather pages already in the works.
- A new media studio in our North Conway office will open to broadcast meteorology interns to bring our forecasting and unique content into print, audio, and video with partners at media outlets throughout New England (and beyond).

While the world holds many challenges, we've continued our growth as an organization with a focus on making our work and the Northeast's highest peak more accessible, creating long-term financial sustainability and serving as a true resource for all the communities we serve. **You are the reason we are optimistic about the year ahead.**

You are our inspiration as we work hard to push the boundaries of science with novel research, innovative educational programs, investments in cutting edge technology, and fun family events. Our work simply cannot be achieved **without *you*** and the partnership of many organizations including the Mount Washington "Cog" Railway Company, Mt. Washington Auto Road, and New Hampshire State Parks. We are grateful.

Thank you for helping us maintain our momentum as we steer the Observatory into its 95th year.

Sincerely,

Drew Bush, Ph.D.
Executive Director

Erica Broman, Ed.D.
President, Board of Trustees

Expanding access to Mount Washington with key partnerships

Field trip programs grew to 36 trips, thanks to our partners the Mount Washington Cog Railway and Mt. Washington Auto Road. Six of these trips were held in the winter.

In total, **we hosted 1,141 students** on field trips to our summit weather station, an **increase of over 37%** from last year.

More than 2,000 people participated in our weather station tours, with our team engaging with both members and the general public in **over 660 tours**.

Our team delivered **137 school day programs** and **64 after school programs**, serving over **4,400 students**.

Our winter trips continue to be a popular enrichment opportunity, with **46 EduTrip participants** joining us on the summit across six programs and **53 outdoor recreationalists** joining across seven climbing trips.

We engaged with **over 100 K-12 educators** through our professional development programs, including:

- 28 educators with Arctic Wednesdays and Peak Perspectives programs
- 15 educators with a New Hampshire Environmental Education (NHEE) field trip
- 65 educators for the Maine State Educators Learning Ecosystem Northeast Gathering

39 virtual programs engaged over 2,000 students **across 13 states**, with two additional programs with high school students visiting Observatoire du Mont Aigoual in Val-d'Aigoual, France.

Our team also **presented at over 16 libraries**, community and senior centers across the region, **reaching more than 500 participants.**

YOUR IMPACT: Improving Educational Access for All

In the fall of 2025, a team of four students from Worcester Polytechnic Institute (WPI), with the support of MWOBS Education Director Brian Fitzgerald, **created a virtual tour of Mount Washington's summit** using feedback from visitors, summit partners, and WPI faculty and students to **improve summit accessibility and educational opportunities** for the public.

We are excited to present **the 360-degree virtual tour** of the summit of Mount Washington inviting virtual visitors to learn about the tallest peak in the Northeast, including details on natural history, the organizations that call the mountain home, and much more. Scan the QR code here to explore.

Thank you to everyone who made this project possible, including Mount Washington State Park, Mount Washington Cog Railway, Mt. Washington Auto Road, Appalachian Mountain Club, White Mountain National Forest, Townsquare Media, and **supporters like you.**

WPI PROJECT TEAM members Nathan Craiglow (Interactive Media & Game Design), Jeffrey Ponce Lopez (Electrical & Computer Engineering), Evan Cadell Willams (Mechanical Engineering), and Evans Minot Wood (Computer & Data Science), with project advisors, sponsors, MWOBS leaders, and WPI President Grace Wang on the summit of Mount Washington. Photo courtesy of WPI.

> **"The tour is a combination of oral stories, rich history, and important meteorological research that work together to express the significance of the highest point in the Northeast..."**
>
> **— WPI Student and Project Partner**

Jackie Broccolo, STEM Programs Manager (left), and Brian Fitzgerald, Director of Education, presented at two different sessions at the annual meeting of the American Geophysical Union (AGU) in New Orleans in December 2025, along with project collaborator Erin Towns, Educator and Founder of PolarSTEAM Field School (center).

Advancing research and technology to better understand our atmosphere

Summit observers and interns work with Jay Broccolo, Director of Weather Operations (right), on learning the ins and outs of our R.M. Young alpine anemometer. Weather Observer Ryan Haas, center, participated in the training.

We completed **14 intern research projects** in 2025, including initiatives connected to The White Mountains Almanac and joint internship work with the Mount Washington Avalanche Center, Appalachian Mountain Club, and Hubbard Brook Research Foundation.

We supported **three active research projects**, continuing to strengthen the Observatory's role as a field-based research partner for mountain meteorology, winter weather, environmental monitoring, and complex terrain studies.

Our team maintained **seven product testing and instrument housing partnerships**, using Mount Washington's extreme environment and experienced staff to support testing, validation, and evaluation of weather instrumentation and related technologies.

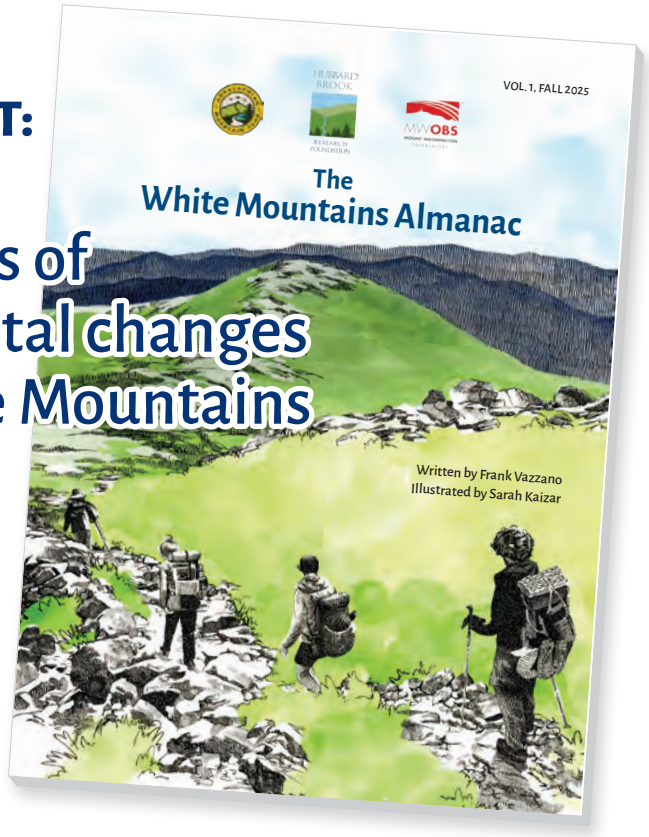
Our team completed **Mesotech field testing**, advancing the Observatory's role as a testbed for weather instrumentation in alpine and cold-region environments.

We continued integrating interns into **applied research, data analysis, instrumentation support, and public-facing science communication**, helping to connect operational weather observations with real-world research outcomes.

We supported research and training through joint and collaborative projects with partners such as **universities, federal agencies, environmental organizations, and applied weather technology companies**.

YOUR IMPACT:
A first-of-its kind analysis of environmental changes in the White Mountains

Because of your support, **the first-ever White Mountains Almanac was published** in partnership with the Appalachian Mountain Club and Hubbard Brook Research Foundation, utilizing historical data from all three sites to create a data-driven annual snapshot of the region's shifting climate and ecosystems. This **over-100 page publication** pairs vibrant illustrations with the exploration of seasonal weather data, long-term ecological insights, and contributions from local scientists and community members to capture the changing character of New Hampshire's White Mountains, and is a product of the three scientific organizations' joint internship program.



Your generosity and interest in this project allowed our project teams to **print and share over 4,000 physical copies** of the publication with community members with a free virtual online version (see QR code) to serve as both a resource for researchers and a guide for outdoor and nature enthusiasts, educators, policymakers, and the general public. A joint press conference was held at AMC's Joe Dodge Lodge Visitor Center to launch the Almanac in November 2025, and to date over 10 stories covering the Almanac have been shared in the media.

Additional thanks to The Nature Conservancy of NH, Greater Hartford Gives Foundation, and Cabot Family Charitable Trust.

"Each month is a journey into a seasonal setting, giving you a true sense of place for the White Mountains through a historical, science-driven lens. Not just words, but data we've gathered over decades tell the tale of the region, helping us understand, protect, and enjoy these mountains for generations to come."

— Georgia Murray, AMC Senior Scientist and Almanac Project Partner

Dr. Jordon Tourville, Staff Scientist/Terrestrial Ecologist at the Appalachian Mountain Club with AMC researchers in the field conducting a survey of the alpine plant species diversity in a 1x1m quadrat plot along with analysis of leaf tissue to assess leaf traits. Photo courtesy of AMC.

Forecasts fostering weather preparedness beyond the Granite State

Weather Observer and Research/IT Specialist Karl Philippoff on the instrument tower with an RM Young Anemometer. Photo by Ryan Steinke.

We continued 24/7/365 summit weather observations, producing **8,760 hourly observations** over the last fiscal year. These observations remain the foundation for forecasting, public safety, research, and long-term climate monitoring on Mount Washington.

Our team issued **730 Higher Summits Forecasts**, providing **twice-daily mountain weather guidance** for hikers, climbers, skiers, search and rescue partners, avalanche professionals, and the broader outdoor recreation community.

Our team produced approximately **1,929 radio and recreation forecast products** throughout the year, expanding access to Observatory weather information across New Hampshire, Vermont, and the broader New England region.

We delivered daily and routine forecast products through:

1 WMWV Higher Summits Forecast per day
2 NHPR broadcasts per day
2 Radio Vermont Group forecasts per day
1 recreation forecast twice per week

We continued to strengthen **recreation-focused forecasting**, including weather information for higher summits, regional outdoor recreation, winter travel, and public safety decision-making.

Our team advanced collaborative safety-focused work with partners such as the **Mount Washington Avalanche Center**, helping connect summit observations, snow and weather research, and backcountry risk communication.

We collaborated with the **Roux Institute at Northeastern University** to explore how MWOBS communicates risk in its forecasts with a focus on improving the clarity, usefulness, and public safety value of products such as the Higher Summits Forecast and recreation-focused weather messaging.

We continued laying the groundwork for **expanded broadcast meteorology** and recreation forecast services, including future internship-supported products that will bring Observatory forecasting into more audio, web, and public-facing formats.

YOUR IMPACT: New Hampshire's first ground-based scanning LiDAR

Your commitment has brought a long-term goal to realization: In January, MWOBS team members along with Vaisala and Omni Mount Washington Resort representatives collaborated to install New Hampshire's first ground-based scanning LiDAR in Bretton Woods. This kicks off **an exciting new era of high-resolution wind and boundary layer analysis** across complex terrain, enabling our research teams to map a 3D profile of the atmosphere to gain insights into the boundary layer, the lowest part of the atmosphere heavily influencing Mount Washington's unique weather.

The installation contributes to the Observatory's role as a **world-class destination for research and increases accessibility of data for researchers** and the public. The project was also made possible by a Congressionally Directed Spending request by U.S. Senator Jeanne Shaheen. To learn more, watch the video linked in the QR code.

Director of Weather Operations Jay Broccolo installing the Vaisala WindCube 200S LiDAR in Bretton Woods in January 2026.

"We are very pleased that the Omni Mountain Washington Resort was able to work with the Mount Washington Observatory on finding an ideal location for the first ground-based 3D doppler in the State of New Hampshire {...} we are excited to utilize the information provided by the radar along with our consistent use of the Mesonet system and other forecasting information the Obs provides."

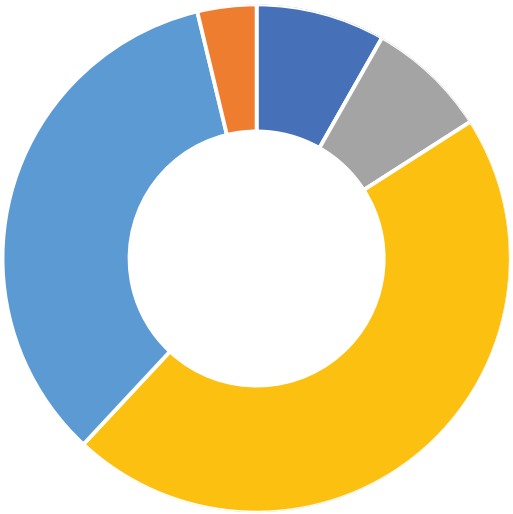
— Michael Medeiros, Managing Director of the Omni Mount Washington Resort

Mesonet and Information Systems Technician Colby Morris and Keith Garrett, MWOBS Director of Technology, install a remote weather station near the recently installed LiDAR unit.

Fiscal Year 2026 Reporting

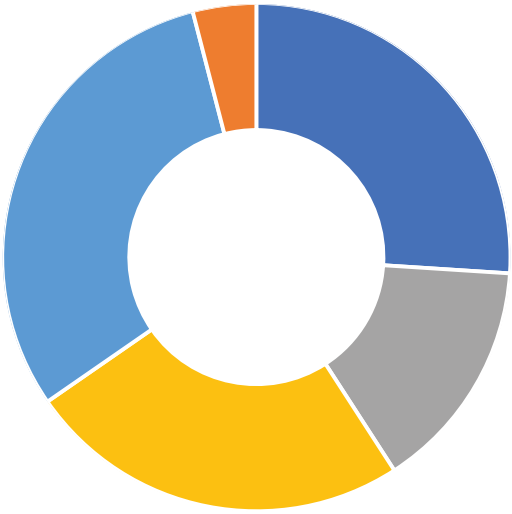
April 2025 through March 2026

Revenue



Weather Station	$1,335,688	34%
Retail	$146,207	4%
Facilities/Administration	$320,119	8%
Education	$300,556	8%
Advancement	$1,791,133	46%
Total Operating Revenue	$3,893,704	

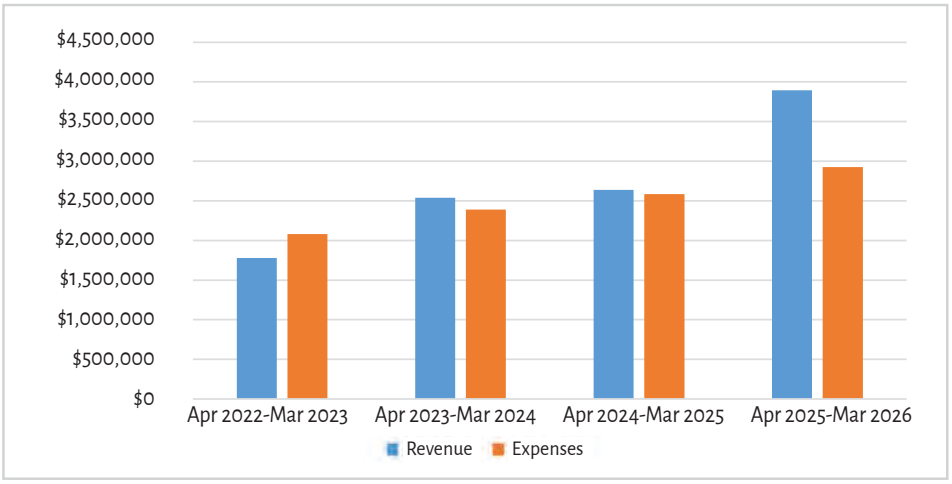
Expenses



Weather Station	$895,449	31%
Retail	$118,152	4%
Facilities/Administration	$761,592	26%
Education	$434,275	15%
Advancement	$717,186	25%
Total Operating Expenses	$2,926,653	

Revenue in excess of expenses includes restricted donor or grant funding committed directly to projects, facilities, and equipment investments.

Annual Trend



Our Endowment

Mount Washington Observatory Staff

Wendy Almeida *Development Officer*
Jackie Bellefontaine *STEM Programs Manager*
Alexandra Branton *Weather Observer & Education Specialist*
Jay Broccolo *Director of Weather Operations*
Drew Fulton Bush, Ph.D. *Executive Director*
Charlie Buterbaugh *Director of External Affairs*
Michael Carmon *Summit Weather Operations Manager*
Peter Crane, Ph.D. *Curator*
Jurij Czernow *Snow Tractor Operator*
Olivia Dodge *STEM Programs Educator*
Ellen Estabrook *Communications Manager*
Greg Fitch *Facilities Manager*
Brian Fitzgerald *Director of Education*
Keith Garrett *Director of Technology*
Ryan Haas *Weather Observer*
Craig Hill *Snow Tractor Operator*
Ryan Knapp *Weather Observer & Meteorologist*
Misha Leyfer *Lead STEM Programs Educator*
Brandi Malloy *Museum Operations and Retail Manager*
Katie Marsh *Finance & Administration Assistant*
Carissa Milliman *Development Coordinator*
Colby Morris *Mesonet and Information Systems Technician*
Nimbus *Resident Summit Cat*
Karl Philippoff *Weather Observer & Research/IT Specialist*
Jon Powers *Transportation Manager*
Madelynn Smith *Weather Observer & Education Specialist*
Brenda Sullivan *Director of Finance & Administration*
Katharine Turnbull *Museum and Archive Cataloger*

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Are You Interested in Learning about Planned Giving?

By naming Mount Washington Observatory in your will or estate plan, you can continue supporting our mission for future generations. For more information, please email giving@mountwashington.org.

Thank You, Members

We are deeply grateful for the generous support that we receive from each of our members. This year, to help reduce administrative time and save paper, **we've published our full list of members online.** The list also includes our volunteers, partners, sponsors, and grants. To view the list, please visit **mountwashington.org/annualreport**, or scan the QR code to the right.

Thank You, Volunteers

Volunteers play an important role in ensuring critical work continues effectively each year. This includes summit operations, outreach, events, and serving as stewards and advocates for Mount Washington Observatory. **From April 2025 to March 2026, our volunteers contributed a total of 4,685 hours of support.** We are incredibly thankful to have their help.

> "I've been consistently amazed by what is accomplished on the summit and remain deeply appreciative of the community and mission at the top of the mountain."

— Colleen 'Coco' Gendron, 30-year member from Florida

> "I use MWOBS' daily forecasts, both in my own preparation for hikes, as well as educating the folks I meet who come into my store in Conway. Many people are still surprised to learn that the weather in the valley does not mirror that on the summit. The forecasting helps me with their preparation and growth as outdoor enthusiasts."

— Ryan Shepard, Seek the Peak supporter and volunteer from North Conway

MWOBS®

MOUNT WASHINGTON OBSERVATORY

MISSION

Mount Washington Observatory is a private, nonprofit, member-supported institution with a mission to advance understanding of the natural systems that create Earth's weather and climate. It serves this mission by maintaining a weather station on the summit of Mount Washington, performing weather and climate research, conducting innovative science education programs, and interpreting the heritage of the Mount Washington region.

PURPOSE

We exist to gather, disseminate, and analyze daily weather data; to contribute to the critical, long-term weather and climate record essential to scientific understanding of weather and climate in a unique, extreme environment.

Mount Washington Observatory
2779 White Mountain Highway
PO Box 2310
North Conway, NH 03860
mountwashington.org