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Airmen travel to Earth's southernmost point for annual maintenance

By Susan A. Romano, AFTAC Public Affairs

PATRICK AIR FORCE BASE, Fla. – With 24 hours of daily sunlight in their favor, a team of seismic technicians traveled to the southernmost point on Earth to conduct annual maintenance of the equipment they use to monitor global nuclear treaties.

Six members of the Air Force Technical Applications Center made the trek from their home base at Patrick AFB, Fla., to Antarctica to troubleshoot and replace seismometers that contribute to the International Monitoring System.



The team also conducted full inventories at the sites and replaced generator starter batteries used to power the stations. The seismic equipment is used to detect activity caused by naturally-occurring events such as earthquakes, volcanic eruptions or lightning strikes, as well as man-made events such as mining activity or nuclear explosions.

Staff Sgt. Jeremy Hannah, a geophysical maintenance supervisor, served as the team lead during the five weeks the team was deployed. He and his fellow seismic maintainers flew from the United States to New Zealand, then on to McMurdo Station in Antarctica, a 14+hour trek from one hemisphere to another, including flights aboard an Air Force C-17 and a Bell 212 helicopter.

McMurdo Station is the logistics and research hub of the U.S. Antarctic Program and is managed by the National Science Foundation. As part of its global nuclear treaty monitoring mission, AFTAC analyzes seismic data collected from the station and provides it to the U.S. National Data Center.

The Antarctica site, located 1,200 miles north of the South Pole in the McMurdo Dry Valleys near Lake Vanda, supports the International Monitoring System as part of the Comprehensive Test Ban Treaty Organization, and is one of thousands of sensors within AFTAC's global network, the largest in the U.S. Air Force.

A typical duty day for the team consisted of an early rise, breakfast, field work, lunch, preventive maintenance requirements, dinner, then a few hours of enjoying the beauty of the landscape. When the team is at the station, they sleep in hardened facilities; in the field, they're in sleeping bags on the floor of the hybrid power station at Bull Pass or Mt. Newall.

2-2-2 VANDA

Staying properly nourished in sub-zero temperatures is critical to team safety and wellness. When they're at McMurdo, they enjoy their meals at the station's cafeteria. When they're in the field, however, they cook their meals using a camping stove and crockpot. And while most would think the frigid temperatures and austere conditions are the most challenging aspect of their mission, one team member said his biggest hurdle was sunlight.

"Personally for me, having no real track or sense of time was difficult to get used to," Senior Airman Richard Westra, a geophysical maintenance



supervisor. "Twenty-four hours of sunlight was a blessing because we could accomplish so much work without worrying about darkness, but it was also somewhat disconcerting not knowing if it was 10 a.m. or 10 p.m.!"

He added, "After a full day of work though, it's great to be able to take a hike or walk around to see a place very few people in the world get to experience," Westra said. "Every morning I'd get up and just look outside for several minutes, taking it all in. It's absolutely breathtaking and the views blow your mind each day."

Of the six Airmen who made the journey, four had never visited the site before. Travel to AFTAC's site, located 1,200 miles north of the South Pole, requires airlift via helicopter, which was one team member's favorite part of the journey.

"It was so cool to fly over a partially-frozen sea, see penguins and orcas and witness the scenery below in a helicopter no less," said Senior Airman Andrew Pouncy, one of the first-time visitors. "It was an opportunity of a lifetime, and I hope I'll be able to make the trip again."

In addition to providing seismic information to senior U.S. decision makers, the data from these sensors also help scientific and academic communities-at-large.

"We closely coordinate with the NSF and the U.S. Antarctic Program not only when we are deployed to the southern hemisphere, but also when we are back home in Florida," said Hannah. "This trip, we also worked with the Berg Field Center, the place that outfits both ground and helo teams that work near and around McMurdo. They are an invaluable resource for us."

The team also serviced AFTAC's solar generators and wind turbines, better known as hybrid power stations.

"Maintaining our seismic equipment at Vanda is critical to our treaty monitoring mission," said Hannah. "Because of the weather and rugged terrain, we have a small window of opportunity to perform the necessary troubleshooting to ensure the data is transmitted to the NDC in support of the International Monitoring System as part of the Comprehensive Test Ban Treaty Organization. I'm really proud of the team and what they were able to accomplish on this trip."

The Airmen are now authorized to wear the Antarctica Service Medal on their uniform.