IceBridge starts with sea ice surveys

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This is a moon shot over northeast Greenland while descending into the survey area north of the Fram Strait. Credit: NASA/Michael Studinger

NASA's Operation IceBridge started the 2014 Arctic campaign with two surveys of sea ice north of Greenland. The two flights follow similar surveys flow in previous years and continue the mission's goals of collecting data on changing sea ice in the Arctic.

Following the Mar. 10 transit flight from NASA's Wallops Flight Facility in Virginia to Thule Air Base, Greenland, the IceBridge team

continued preparing for the weeks of work ahead. On Mar. 11 the team unpacked cargo and set up ground-based GPS stations that are used to ensure IceBridge's instruments are accurate.

The next morning, Mar. 12, researchers, pilots and flight crew boarded the P-3 and took off for the first science flight of the campaign, a mission called Sea Ice – Nansen Gap. This survey was a variation of flights over the Fram Strait flown in previous years that sampled ice farther north and east than in the past. Researchers used the mission's laser and radar instruments to collect data on sea ice elevation and snow depth and collected ice thickness and elevation data while flying high over the Greenland Ice Sheet.

While studying the ice below, the team was treated to interesting sights in the sky during this flight. Shortly after takeoff the moon made an appearance on the horizon, giving those aboard the aircraft a good photo opportunity. In addition the team got to see the sun setting twice – once on the eastern end of the survey line and again when returning to Thule Air Base. At this time of year days are short at high latitudes, making this sort of thing common.

On Mar. 13, the IceBridge team carried out their second survey of the campaign, a flight plan known as Sea Ice – Zigzag East. On this flight the P-3 headed north-northeast out of Thule, roughly following the coast of Greenland along the Nares Strait—a narrow body of water separating Greenland and Canada's Ellesmere Island. Then researchers headed along an alternating north and south pattern to measure how sea ice thickness changes closer to the North Pole, something known as ice gradient. On this flight, researchers collected data on thick, multi-year ice near the coast and thinner ice farther north.

With two successful surveys and nearly three weeks left before the mission moves south to Kangerlussuaq, IceBridge is off to a successful

start. Over the next several days the mission plans to collect even more sea ice data, including a cross-basin survey of the Arctic Ocean and several flights based out of Fairbanks, Alaska, over the Beaufort and Chukchi seas.

Provided by NASA's Goddard Space Flight Center