



Original

Climate change, on display

THIN ICE

As the Alicia Patterson Foundation's 2015 Josephine Patterson Albright Fellow, **Randall Hyman**, BA'76, is traveling the Norwegian Arctic chronicling climate change. His Arctic Oracles website (arcticoracles.randallhyman.com) showcases this year's work as an APF Fellow as well as his work from four months of travel as a Fulbright Scholar in 2013. Below is an excerpt of the Aug. 23, 2013, entry from his ice-class expedition and research vessel journey.

“What you are looking at,” laments marine biologist Haakon Hop of the Norwegian Polar Institute, “is the melting of the Arctic Ocean.”

We are nearing 82 degrees north latitude aboard the research ship *R/V Lance*, just 800 kilometers (500 miles) shy of the North Pole, in search of continuous ice.

“In 1992 we came to a full stop in the middle of the Barents Sea at 76 north,” recalls Hop. “We hit solid ice and couldn’t go any farther. Now look at it.”

When it comes to ice, age and thickness are far more important than actual coverage, which may be thinly stretched out or thickly concentrated. Most of what we see around our ship is thin, first-year ice, not the 10-year-old, meters-thick variety that used to dominate the Arctic Ocean.

Does this matter if you’re not a polar bear dependent on a frozen platform for hunting seals? Only if you need air to breathe. On the underside of the Arctic Ocean’s frozen lid grows ice algae, blooming like a rainforest each year when intense, 24-hour sunlight returns in April. Zooplankton and the entire Arctic Ocean food chain depend on this phenomenon, as do humans. This algae and all of the phytoplankton in the Arctic Ocean sequester vast quantities of carbon dioxide, a climate-warming gas, and produce abundant oxygen.

For 10 days, our retinue of 17 scientists and scuba divers has been sampling and analyzing ocean temperatures, salinity, chemistry, and plankton at varying depths to track shifts in marine ecosystems. Our measurements show that Atlantic waters have invaded farther north than ever. ■



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Freeze Frame

Randall Hyman captured this glacier at Spitsbergen, an island between Norway and the North Pole, calving into the Arctic Ocean. Hyman, of St. Louis, started traveling the Norwegian Arctic in 2013, capturing climate change with photography. This year, he is the Alicia Patterson Foundation fellow, which has allowed him to expand his coverage of climate change in the Arctic.

RANDALL HYMAN