



THE OHIO STATE UNIVERSITY

BYRD POLAR AND CLIMATE
RESEARCH CENTER

Byrd Polar & Climate Research Center Seminar Series **Wednesday, February 21, 2018 @ 1pm, 240 Scott Hall**

Dr. Ian Howat
Director Candidate, Byrd Polar and Climate Research Center

Part 1: Terra Cognita: The Silicon Age of Polar Exploration

Due to an intentional scientific focus, the unintentional consequences of satellite orbits, and a convenient lack of vegetation, the Earth's polar regions are now among its most well observed surfaces. Advances in technology and data now outpace the science and, rather than being forced to draw inferences from sparse observations, the new polar explorer is challenged by a growing avalanche of bits and petabytes, from widely different sources, that represent vastly different physical properties. As with yesterday's explorers, probing the poles still requires a combination of enthusiasm, perseverance, creativity, a healthy level of naiveté, and raw muscle power (now from high performance computing). A tolerance for cold and long periods without showering, however, are no longer required.

I will share some of our virtual explorations to the poles, beginning with mapping their topography in both time and space to a higher resolution than that available for most of Ohio. These high resolution data have opened the door to a new realm of change detection, over the fastest-changing places on Earth. I will show some of the ways we're applying these new data to science questions ranging from volcanism, to hydrology and, of course, glacier dynamics. I will present ways we are combining different space borne datasets to improve our understanding of the Greenland Ice Sheet and its contribution to sea level rise. Finally, we will come back down to Earth in order to look up to space and obtain measurements of snow accumulation on ice sheets using cosmic noise. I won't really conclude because we'll be too busy asking more questions.

Part 2: What I've learned about BPCRC and its future over the past two months.

Having met with at least four Deans, the Interim VP and Senior Associate VP of Research, multiple Directors/Chairs, and several Byrd PI's since I gave my *vision* presentation last December, it seems like a good idea to provide an update.

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Byrd Polar & Climate Research Center
1090 Carmack Road (West Campus) | Room 240 Scott Hall

Everyone is welcome to attend! There will be a gathering to enjoy refreshments and informal chat in Rm. 177 Scott Hall following Dr. Howat's talk.