Communicating arctic marine geoscience: A hidden world uncovered?

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Communicating to the general public research focused on polar marine geology represents multiple challenges. Being hidden from view, the marine realm, but especially the seabed and its underlying sedimentary record, appear particularly cryptic and abstract. Secondly, polar regions are highly remote to most people, even though these areas play a crucial role in the global climate and ocean system, and climatic changes in these regions readily cascade down to lower latitudes where most of the global population live. Aside from the challenges associated with the cryptic nature of the ocean and the remoteness of polar regions, geoscience research holds its own associated obstacles to communication to the general public. This includes the problem of understanding geological time scales that are beyond the human lifespan, but which are commonly used in geology - from centuries over millennia to millions of years. Furthermore, specialised techniques used to decipher the marine geological record and its climate histories (e.g., micropaleontology, sedimentology, biogeochemistry) are complex and not readily understood by the general public. Lastly, the importance of studying ancient polar environments as an analogue for how these regions will respond to recent global warming is far from obvious to the average person.

This presentation focuses on communicating research focused on millennial scale climate change in the Northwest Passage, the Atlantic – Pacific Ocean gateway via the Canadian Arctic Archipelago. This region has undergone dramatic natural climate change since the demise of the great ice sheets that covered North America some 20,000 years ago. Such environmental shifts associated with sea level rise, re-organization of oceanographic circulation, sea ice regime alterations, and ecosystem overturns are highly relevant to how the Circumpolar North responds to recent human-driven climate change.

This presentation will explore the medium of blogs as a way to communicate with the general public and university student audiences. Two case studies will be presented and contrasted. The first is a blog that was kept during a ship-based expedition on board the Canadian Coast Guard ice breaker Amundsen during Autumn 2011 and primarily aimed at 2nd year level undergraduate marine geoscience students. The second is a blog that is scheduled for August to September 2016 as part of a ship-based expedition (also aboard the Amundsen) through the Northwest Passage. The 2011 blog mainly constituted a diary-style narrative. In contrast, the 2016 blog will be more interactive, enabling site visitors to comment and ask questions during the journey. Furthermore, a student perspective will be provided by blog entries by an undergraduate student Research Assistant who is participating in the expedition. Lastly, social media such as Twitter will also supplement the 2016 blog. The experience of the two blogs will be compared and contrasted with other forms of science outreach and communication, including visualisation on Science on a SphereTM, and media such as Massive Online Open Courses.