

2016 Geodynamics Seminar

Changing Coastal-Ocean Biogeochemistry Along The Western Antarctic Peninsula

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Thursday, February 18th

1:30 - 2:30 p.m.

Clark Lab 507, WHOI

Talk Summary

The Antarctic continental shelf and surrounding open-ocean waters of Southern Ocean play important roles in marine biogeochemistry and the global carbon cycle. Seasonally ice-covered coastal waters are often highly productive, exhibiting large spring and summer drawdowns of nutrients and carbon dioxide and supporting high densities of upper trophic level organisms. Off-shore waters are typically more iron limited with lower plankton standing stock and overall productivity. Climate change and ocean acidification are projected to alter substantially future sea-ice distributions, seawater chemistry, and ocean/atmosphere circulation patterns that modulate Southern Ocean marine biogeochemistry. The talk will discuss observational, remote sensing and modeling evidence for changing conditions on the western continental shelf of the Antarctic Peninsula, which experiencing some of the most dramatic climate change on the planet, with rapid ocean-atmosphere warming, melting of coastal glaciers, reductions in seasonal ice cover, and shifts in phytoplankton distributions.