**Abstract**

The Arctic Ocean is changing profoundly and shifting to a new regime, where younger and thinner ice packs are replacing older, thicker sea ice. These changes will have regional and global consequences. In order to gain knowledge to understand the system in its current condition and to improve our capacity to predict its future, the Norwegian Young Sea Ice Cruise (N-ICE2015)\* was launched for 5, 5 months starting in January 2015. One hundred scientists from institutions in more than ten countries studied air-snow-ice-ocean interactions in a region with thin sea ice. The scientists also investigated how the marine ecosystem responds to these new conditions. Temperatures in the Arctic are increasing twice as fast as the global average, and the most rapid warming is recorded during the winter months. Arctic sea ice grows and thickens during fall and winter and therefore warmer winter air temperatures may further impede ice growth and expansion, accelerating the effects of global warming in the Arctic. Results from new studies elucidating the frequency and duration of Arctic winter warming events will be presented. Regional patterns of the trend in extreme cyclones will be related to sea-ice conditions of the recent years, as well as to large-scale atmospheric circulation changes.

\*<http://www.npolar.no/en/projects/n-ice2015.html>