Assessing the Capacity of the Existing Arctic Observing System for Identifying Marine-Traffic-Related Pollution Events in Arctic waters.

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In this study, we consider changes in sea ice extent, marine traffic, and shipping incidents over the period 1990-2019 and the varied observational approaches for detection of hydrocarbon spills and other pollution Incidents. Although the marine incident data is challenging to use due to differences in reporting among organizations and nations, we can begin to put together a picture that allows us to make suggestions about needs for new observational infrastructure, enhancements to existing infrastructures and pathways to improving response to incidents through open data and information sharing. This work speaks to efforts currently underway to develop Shared Arctic Variables for Sea Ice (SAON and Arctic Passion), to WG 4 of the Arctic Observing Summit, to ongoing efforts among observing communities to improve observations and share useable observations in near real-time, and to responding communities that manage hazards and risks to mitigate and minimize ecological and human impacts.