



Satellite Radar Observations of Spring Ice Breakup in the Mackenzie Delta

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POSTER ABSTRACT

River ice governs the winter regime of northern rivers and can be a cause of overland flooding during spring breakup. Up-to-date information on river ice conditions (in terms of coverage, type, state and thickness) and associated flooding during spring can support hydraulic and hydrological modeling. Thanks to the weather and daylight independent imaging capability, radar remote sensing systems make potentially outstanding tools to collect the information on the conditions of ice covered and breaking northern rivers.

In this poster we will present results of a study into the potential of radar satellite (RADARSAT- 1 & 2) for the monitoring of spring ice breakup and flooding in the Mackenzie River, NWT, Canada. The available data cover the 2008 breakup season. Initial results show great promise re the use of satellite radar for the mapping and monitoring of river ice and spring breakup flooding. The polarization diversity as offered by RADARSAT-2 is shown to enhance the image information content and thus enable more reliable mapping and monitoring river ice and flood conditions.