

Explore use of QuikSCAT to detect change of surface water cover in Arctic and Boreal regions

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The microwave backscatter signal from Quikscat over land is highly sensitive to surface water and vegetation cover. We are using the 4-day average H-pol backscatter record in Arctic and Boreal regions to develop an algorithm to detect changes in surface water cover from 1999 to 2008. Surface water cover is an important driver of CO₂ and CH₄ emissions from land, particularly in Arctic and Boreal regions. The 10-year Quikscat data will provide a valuable long-term, high temporal and spatial resolution record of surface water cover, which will be useful in estimating interannual variability in the partitioning of CO₂ and CH₄ fluxes from land.