



Circum-Arctic Efforts to understand sea and seal populations from images

E. Weatherhead, U. Herzfeld, and J. Maslanik

United States (betsy.weatherhead@colorado.edu)

Images of Arctic sea ice from cameras on board a number of aircraft, including both manned and unmanned vehicles, have been gathered for over a decade. For the first time, an effort is underway to gather these images and analyze them in a coherent fashion. The primary science goal is to understand detailed sea ice characteristics and to determine if we can identify which types of ice can support species of ice seals. Brightness, fractional ice cover, ridging and even fractal characteristics are analyzed. Open source software is developed under this project with significant collaboration from the computer science community and cross-disciplinary efforts including both physicists and biologists. Examination of over 50,000 images will be presented that give us new insights into how the Arctic ice is changing and the potential impact on seal populations.