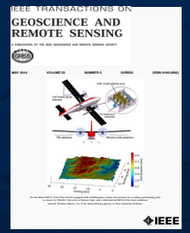
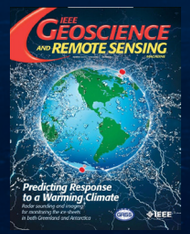
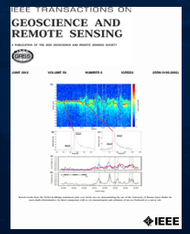
Education

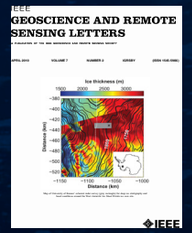
Knowledge Transfer

OVER THE PAST SIX YEARS, CRESIS HAS BEEN FEATURED ON THE COVER OF TEN DIFFERENT PUBLICATIONS

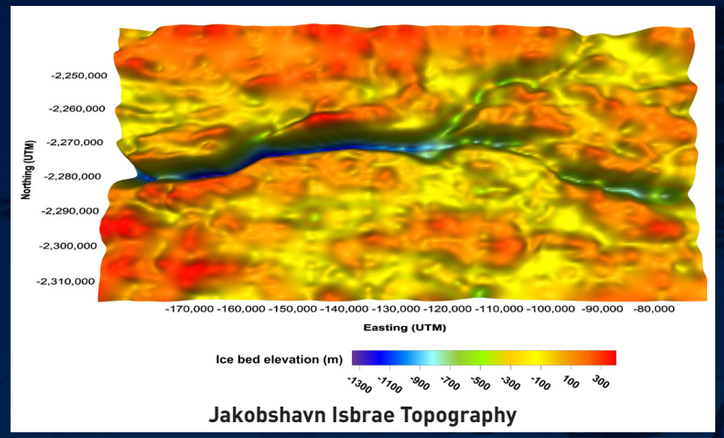




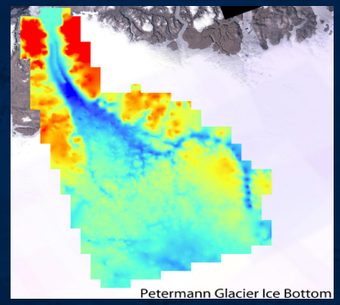


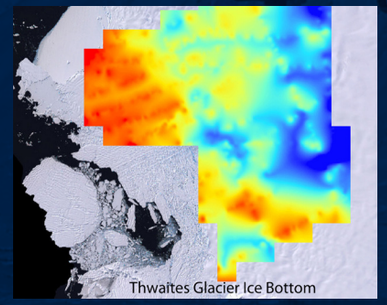


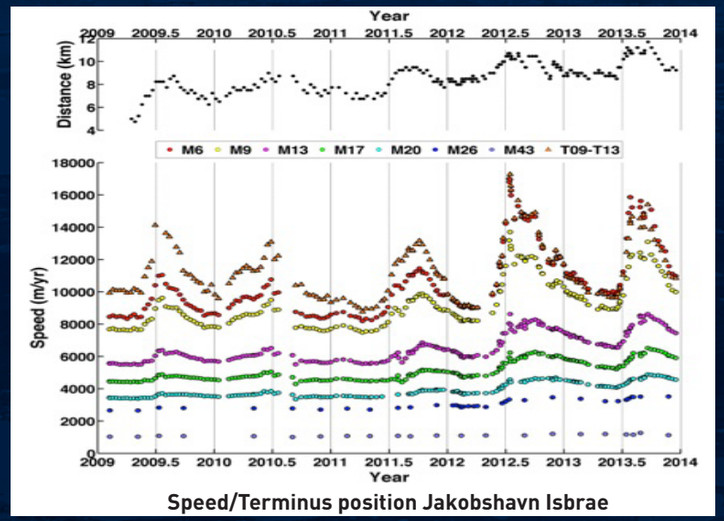
Data Products



Jakobshavn Isbrae Topography







Speed/Terminus position Jakobshavn Isbrae

CReSIS
Center for Remote Sensing of Ice Sheets

To understand and predict the role of polar ice sheets in sea level change

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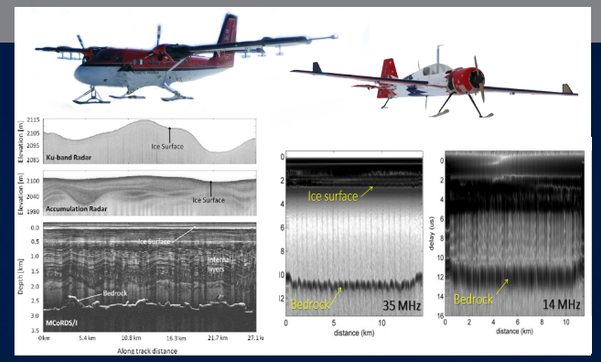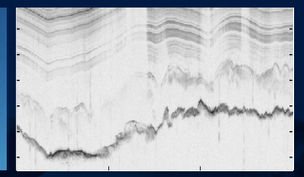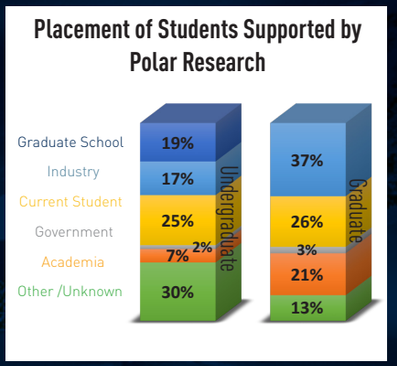
	Mission	Goals	Primary Objectives	Accomplishments	
Research	To improve understanding of the processes causing rapid changes to outlet glaciers and ice streams through targeted data collection campaigns combined with theoretical development and data interpretation and to incorporate this understanding into numerical ice sheet models.	To perform a four-dimensional characterization of rapidly changing ice sheet regions using a variety of sensors. To develop predictive models for how these regions may change under various warming scenarios. To contribute to the improvement of Intergovernmental Panel on Climate Change (IPCC) assessments of future sea level change.	Design and develop technologies for collecting and processing necessary data. Conduct field investigations to collect required data sets. Process, analyze, and distribute data. Integrate data and models. Develop diagnostic models. Incorporate improved process understanding into predictive ice sheet models.	Largest radar array ever flown on the P-3. Miniaturization of radars. First ever radar data from a UAV. Comprehensive analysis of glacier flow variability in Greenland. 80% of data for the new Greenland bedmap are from CReSIS. Improved bedmaps for key outlet glaciers. Development of the GeoPebble.	**Sensors** **Platforms** **Satellite Observations and Modeling** **Data Products**
Education & Diversity	Educate and train a diverse group of students to participate and lead future research in international, multidisciplinary polar science. Provide opportunities and paths for students at all levels to pursue careers in science and engineering. Increase the number of students, staff, and faculty from underrepresented groups in science and engineering. Ensure diversity in all aspects of the Center. Encourage and facilitate involvement of students at our parnter and minority serving institutions to pursue graduate education in science or engineering.	To contribute to the development of human resources in science and engineering for the nation. To increase the number of students from groups underrepresented in science and engineering.	Integrate Center research into science and engineering undergraduate and graduate courses. Increase the pool of underrepresented graduate students through an exchange program, such as REUs between research universities and minority serving institutions. Enhance and increase relevant science content that is taught in K-12 classrooms. Motivate students to pursue careers in the STEM fields, including reinforcing the necessary foundational skills. Improve teacher knowledge of climate science.	51 graduate and undergraduate courses using Center-specific content. 390 students supported by polar research, 206 students at the undergraduate level and 184 at the graduate level. Masters or Ph.D. degrees conferred to 21 females and 12 minority students from 2006 to 2013. 170 REU students hosted since 2006. NASA fellowships awarded to six students, including two minority students and two females Increase in minority graduate students from 7% to 29%.	**K-12** **Diversity** **Graduates & Undergraduates**
Knowledge Transfer	Engage in two-way knowledge transfer that benefits the Center, scientific and academic communities, industry, and the public.	To transform an enormous volume of remotely sensed data on ice sheets into new knowledge that can be readily shared. To inform the public and policymakers of significant ice sheet changes and outline the implications of these changes on sea level. To assist in the professional growth of Center participants. To stimulate regional and national economic growth resulting from Center-developed, marketable technologies and capabilities.	Disseminate scientific and technical knowledge to peers. Provide information and expertise on climate change issues and their impacts to policymakers and the policy-development process at the state and federal levels. Provide Center participants with unique learning opportunities.	7 TB of data products processed with a monthly average of 269 visitors and 274.4 GB of data downloaded using the CReSIS website. Featured on the cover of ten different publications from 2009-2014. 266 peer reviewed articles, 288 conferences presentations, and 60 reports published. Development of global sea level rise maps to illustrate the impact rising seas in a warming climate. Following projects awarded from NASA, NRL, and AWI.	**Dissemination of Knowledge** **Following Projects**