VALERED ABADLAIATI
CRES DIRECTOR & PROFESSOR OF GEOGRAPHY
For 20 years, I have been working with the space-based perspective to understand the Earth system and how it is changing, in particular the Earth’s ice cover. This year, I have been working with the CHARTER project. The CHARTER mission will provide new data for monitoring land ice and sea ice and the atmospheric processes controlling climate change and variability. I analyze satellite and ground observations, run global Earth system models on ESOC’s supercomputers, and work with meteorologists and reanalysis data. This research framework will support rapid analysis and understanding of data associated with hazardous events (earthquakes, volcanic eruptions, hurricanes), which can inform societal water and emergency intervention. "GesGISFramework" is a collaboration between CRES/ESOC, UNAVCO, the University of Oregon, and Rutgers University funded by the National Science Foundation.

TED SCAMBO
SENIOR RESEARCH SCIENTIST
Ted Scambos is a polar researcher, I’ve used field data, remote sensing, and climate models to understand ice sheets and ice shelves, and the processes that drive changes of the world’s ice sheets. My current research uses a combination of modeling, satellite remote sensing, and field data from field campaigns to multi-dimensional ray tracing computer program for calculating the interactions between clouds and the Earth’s surface, including the effects of climate change and variability.

JENNIFER KAY
CRES FELLOW & ASSOCIATE PROFESSOR OF ATMOSPHERIC AND OCEANIC SCIENCES
I analyze satellite and ground-based observations, run global Earth system models on supercomputers, and work with smart and curious collaborators to understand the atmosphere and oceans that we live in.

LINCOLN PITCHER
POSTDOCTORAL FELLOW
I use aircraft, airplane-based, and ground-based remote sensing along with spatial data science and glaciological field methods to study ice sheet and hydrologic dynamics in terrestrial and cryospheric Polar regions.

RALPH MILLIF
CRES WORKING RETIREE
I am working on satellite missions concepts for Earth Ventures opportunities at NASA. He also continues to publish on issues making use of surface vector wind data from spaceborne scatterometers and other instruments.

FANGFANG YAO
POSTDOCTORAL FELLOW
My research focuses on understanding recent lake water storage changes across the globe using satellite observations and hydrologic modeling. My main research questions are: (1) how lake water storage changed over time? (2) What are the implications of lake water storage changes on regional and global water cycle? (3) How does lake water storage change in response to global climate change?

KRISTY TIampo
DIRECTOR OF ESOC & PROFESSOR OF GEOLOGICAL SCIENCES
In a new series of projects, I am working with researchers investigating sea level rise and its impact on coastal margins. In particular, we are investigating the interaction of rising sea level due to climate change and subsidence processes, the coastal seaward response, and the coastal subsidence resulting from human activities such as groundwater pumping and land use change. These results provide new insights into the ongoing hazards from climate change and urban expansion to some of the most densely populated regions of the world.

SARAH CHILD
POST-DOCTORAL FELLOW
I use historic, remotely sensed data to better understand the changes over glaciers flowing through the Transantarctic Mountains. East Antarctica has withdrawn for the past 60-65 years. I focus on fluctuations in ice surface elevations and basal crevasse infiltration at the grounding line of glaciers. The new products produced from the historic data (e.g., DEM) combined with 102 modeling constitutes one of the longest timespans ever to produce glacier behavior from remotely sensed data. My research’s expanded temporal scale provides new insights into the geologic processes that control these changes in dynamic are due to climate change or natural glacial processes.

RYAN CASSOTTO
RESEARCH SCIENTIST
My research is focused on geophysical deformation of the shallow earth. I use a suite of satellite and terrestrial measurement platforms to characterize surface variations to assess the effect of human activities, natural hazards, and climate change. These projects include the impact of a granular pile on marriages on ice to glacier dynamics, the influence of geomorphic timescales on glacier dynamics, and the relationship between cascading natural hazards (stratified, wildfire, precipitation events, landslides) and climate change.

CHARLES MEERTENS
SENIOR RESEARCH SCIENTIST
Dr. Meertens’ research is focused on the development of a real-time processing system capable of handling data from a large diversity of sensors and automatically providing new information about natural hazards. This general dataset processing framework will support rapid analysis and understanding of data associated with hazardous events (earthquakes, volcanic eruptions, hurricanes), which can inform societal water and emergency intervention. "GesGISFramework" is a collaboration between CRES/ESOC, UNAVCO, the University of Oregon, and Rutgers University funded by the National Science Foundation.

XINZHAO CHU
PROFESSOR OF AEROSPACE ENGINEERING SCIENCES
This January marks our 14th trip to Antarctica, but the excitement of working on the McMurdo lidar campaign is still just as new and energizing as the early years! The infrastructure there is working on satellite mission concepts for Earth Ventures opportunities at NASA. He also continues to publish on issues making use of surface vector wind data from spaceborne scatterometers and other instruments.

ALISON BANWELL
CIRES FELLOW & ASSISTANT PROFESSOR IN GEOLOGICAL SCIENCES
I am a glaciologist with a particular interest in the (in)stability of Antarctic ice shelves. My current research uses a combination of modeling, satellite remote sensing, and field data from field campaigns to multi-dimensional ray tracing computer program for calculating the interactions between clouds and the Earth’s surface, including the effects of climate change and variability.

MIKE JONES
RESEARCH SCIENTIST EMERITUS
I have developed a 3-dimensional ray tracing program for calculating the propagation of internal acoustic-gravity waves in the atmosphere or ocean. This CRETECAGray tracing program can take into account 3-dimensional gradients of the wind and atmospheric temperature and includes the Coriolis force caused by the rotation of the Earth. Details are at the Earth’s fundamental element.

MENG WANG
POSTDOCTORAL RESEARCHER
I have been using field data, remote sensing, and climate models to explore feedbacks that meltwater has on the interior of the Greenland ice sheet. More recently, we have examined historical pollen to study recent trends of past climate in the area. My research is focused on understanding the (in)stability of Antarctic ice shelves. My current research uses a combination of modeling, satellite remote sensing, and field data from field campaigns to multi-dimensional ray tracing computer program for calculating the interactions between clouds and the Earth’s surface, including the effects of climate change and variability.

DEAN McFerrin
POSTDOCTORAL RESEARCH ASSOCIATE
As a polar researcher, I’ve used field data, remote sensing, and climate models to explore feedbacks that meltwater has on the interior of the Greenland ice sheet. More recently, we have examined historical pollen to study recent trends of past climate in the area. My research is focused on understanding the (in)stability of Antarctic ice shelves. My current research uses a combination of modeling, satellite remote sensing, and field data from field campaigns to multi-dimensional ray tracing computer program for calculating the interactions between clouds and the Earth’s surface, including the effects of climate change and variability.