Prospectus: 2018 Early Adopter Round Tables

Background

2018 marks the year for the launch of NASA's ICESat-2 mission. The satellite altimeter will launch from Vandenberg Air Force Base in California on September 12, 2018, aboard the last United Launch Alliance's Delta II Rocket. Since fall 2013, the Applications Team has facilitated feedback between the Project Office, Science Definition Team (SDT) members, and Early Adopters (EAs) to enable a greater understanding of the functionality of the expected science data products and the potential to use these data effectively within forecasts, models and processes that support different decision making scenarios. With a couple of months left before launch, the Applications Team wants to ensure that all of the ICESat-2 Early Adopters understand the upcoming ICESat-2 data products to facilitate an effective strategy for their use of the data.

Naturally, Early Adopters do not follow the ICESat-2 project on a daily basis. As such, managing their expectations—or just as importantly, discovering when their expectations are off track—is essential to promote the transition of Early Adopters into ICESat-2 data users. The Early Adopter program is conducted by the Early Adopter groups and individuals as a volunteer effort. The level of participation and effort is different for each of the Early Adopters, as is the interaction that they have had with their SDT member partners. This has varied based on when the EA was accepted to the program and on the level of effort that each EA can dedicate to the research. As such, the Applications team will kick-off 2018 with a series of thematically directed round tables to get all Early Adopters up to speed on the latest developments for their primary science data products of interest and on the same page with regards to what the data will look like and how it is expected to perform.

The SDT members have now implemented the preliminary versions of all geophysical algorithms and want to make sure that the Early Adopters' expectations for the data align with the expected functionality. The Early Adopter Round Tables will be conducted as 1 to 3 hour webinars depending on number of EAs assigned to each (see below assignment) and provide an opportunity for the Early Adopters to discuss their expectations for the use of data and for the SDT members to articulate the opportunities and challenges related to the functionality of the science data products. The round tables will be led primarily by the SDT members who will provide the latest information on any advances to their science data products. Questions developed by the Applications Team in collaboration with the SDT members will be sent to each EA team in advance and will be used to stimulate the round table discussion.

Objectives

Overall, the objectives of these roundtables will be to allow for an open discussion on:

1) timeline for release of the ICESat-2 data products
2) advances in the development of the data algorithms; examination of what the data product will look like and how it is expected to perform
3) access to the data, i.e. new features in development by NSIDC DAAC and introduction to the OpenAltimetry interface
4) Input on status of each EA research and EA expectations for the use of ICESat-2
5) Expectations of Early Adopters leading up to launch and in relation to NASA's Applied Science Program goals

Representatives of the National Snow and Ice Data Center, the Distributed Active Archive Center (DAAC) for ICESat-2, will share the latest information on developments of tools and services for accessing, visualizing and manipulating the upcoming data. We will also invite the OpenAltimetry group (http://www.openaltimetry.org/) to speak about the OpenAltimetry tool for visualizing and accessing NASA's ICESat and ICESat-2 data. The OpenAltimetry tool is being developed by investigators at the Scripps Institution of Oceanography, in collaboration with the San Diego Supercomputer Center, the NSIDC and UNAVCO.

Expected Outcomes

The expected outcomes of the round table discussions are to:

- Align the Early Adopter expectations of ICESat-2 data with the expected functionality of the data products
- Confirm all expected plans for release of the data products, as well as support for data usage and tools.
- Put all updates and status information about the data products in context with the Early Adopter end-user goals and link it to the current Early Adopter milestones.
- Clarify what is expected of our Early Adopters moving forward and how their contribution fits into the bigger picture of NASA's Applied Sciences goals.

Audience

Participants of the round table include the ICESat-2 Early Adopters, Science Definition Team members, representatives of the National Snow and Ice Data Center (NSIDC) Distributed Active Archive Center (DAAC), representatives of the OpenAltimetry group (http://www.openaltimetry.org/), members of the Applications Team, and representatives from NASA HQ, as well as nominees to the Early Adopter program.

Tentative Agenda

(5-10 min) **Mission Status and expected timeline for release of specific science data products** (according to theme of round table)

(10-30 min) SDT Members discuss **advances in the development of the science data products** (e.g. expected resolution, advance in measurement concept)

(45-90 min) Discussion on **status of each EA research and expectations for the use of ICESat-2**. The Applications Team will consult with SDT members on any specific questions they have for the EAs and will send these questions to the EAs prior to the round table. Preliminary questions will be used as seed for discussion)

(15 min) DAAC discusses **new features in development for accessing and manipulating ICESat-2 data**

(15 min) **Introduction to OpenAltimetry**

Workshop Product and Deliverables

The Applications Team will develop Use Cases and Applications Readiness Level diagrams for each of the Early Adopters. These will be sent for review prior to the round tables and will accompany a set of questions developed with the SDT members for discussion during the round tables.

Early Adopter Round Table Assignments

ROUND TABLE A

ICESat-2 Land-Vegetation and Atmospheric Science Data Products
EA Science Definition Team Member Partners: Amy Neuenschwander [University of Texas] and Sorin Popescu [Texas A&M University], Steve Palm [SSAI, NASA GSFC], Yuekui Yang [NASA GSFC]
Early Adopters:

- Birgit Peterson, USGS
- Greg Babonis, State University of New York at Buffalo
- Javier Fochesatto, University of Alaska Fairbanks & Falk Huettmann, Institute of Arctic Biology
- Lucia Mona, National Research Council of Italy
- Nancy F. Glenn, Boise State University
- Randy Wynne & Lynn Abbott [Virginia Polytechnic Institute and State University]
- Subrata Nandy, Indian Space Research Organization
- Ute Herzfeld, University of Colorado Boulder
- Wenge Ni-Meister, Hunter College of The City University of New York

ROUND TABLE B

ICESat-2 Sea Ice, Land Ice, & Ocean Science Data Products
EA Science Definition Team Member Partners: Sinead Farrell [ESSIC, University of Maryland], Ron Kwok [NASA JPL], Alex Gardner [NASA JPL], Ben Smith [University of Washington], James Morison [University of Washington]
Early Adopters:

- Andrew Roberts, Naval Postgraduate School; Alexandra Jahn, University of Colorado at Boulder; Adrian Turner, Los Alamos National Laboratory
- Andy Mahoney, University of Alaska Fairbanks
- Bradley Zavodsky, SPORT Center, NASA MSFC
- Hongjie Xie, University of Texas at San Antonio
- Richard Allard, U.S. Naval Research Laboratory
- Stephen Howell, Environment Canada
- Sudhagar Nagarajan, Florida Atlantic University

ROUND TABLE C

ICESat-2 Inland Water Science Data Product
EA Science Definition Team Member Partners: Mike Jasinski, NASA GSFC
Early Adopters

- Charon Birkett, ESSIC-University of Maryland
- Guy J-P Schumann, Dartmouth Flood Observatory, University of Colorado Boulder
- Huilin Gao, Texas A&M University
- Kuo-Hsin Tseng, National Central University, Taiwan
- Rodrigo C.D. Paiva, Federal University of Rio Grande do Sul