NASA DIRECT READOUT CONFERENCE (NDRC) WEBINAR

December 2, 2020

MINUTES

Purpose/Objectives of the NDRC Webinar Series

At 11:00 a.m. Mr. Brad Quayle (USDA FS GTAC) convened the NASA Direct Readout Conference (NDRC) Webinar. He reviewed the purpose of the NDRC, activities to date, and objectives going forward. This webinar featured Dr. Cathleen Jones' (NISAR Science Team, Applications Lead, NASA/JPL) presentation, "The NISAR Mission's Plans for Applications & Urgent Response."

Presentations given by Mr. Quayle and Dr. Jones are available at:
https://directreadout.sci.gsfc.nasa.gov/?id=dspContent&cid=284

The NISAR Mission's Plans for Applications & Urgent Response

NASA's NISAR mission, scheduled to launch in 2022, will provide radar remote sensing data of value for a wide range of science and applications. One of the mission's priorities since it was in formulation stage has been to actively engage different applications communities to ensure that data collected for science also benefits society. This presentation describes the mission, instruments, and a set of activities undertaken by the Science Team and the others to increase the utility of NISAR for resource and hazard management, including disaster response. The scope of applications that can benefit is presented with examples derived from other Synthetic Aperture Radar (SAR) sensors, including NASA's UAVSAR, which is an airborne prototype for the NISAR L-band SAR instrument.

Question and Answer Session with Dr. Jones

Q: Is it too early to speculate if data will be "Open" - accessible for free to users?
A: Yes. Data will be openly available via the Alaska Satellite Facility (ASF). There will also be an urgent response product provided within 24 hours of an event. The goal is to get a special urgent response product out very quickly whenever the instrument is tasked for urgent response.

Q: In regard to forest burn detection, how severe does a burn need to be? Does it need to be a stand replacing burn? Or is there enough sensitivity to detect less severe (or even subcanopy) burns?
A: I believe the instrument will be able to detect subcanopy burns.

Q: What NISAR band was used for the Nashville disturbance mapping (refer to the ARIA Damage Proxy Map contained on slide 38). Is the map shown in this presentation representative of tree damage from windthrow?
A: This product was generated with S1 C band data (5.5 cm wavelength). We cannot tell what caused the disturbance. The surface was disrupted, but we cannot tell why, although it could have been tree damage.

Q: I was curious about S-band data. From what I understand, S-band data will not generally be available over North American Areas of Interest (AOI). Is this correct?
A: This is a mode that India controls. They do not have the download capability to handle all of North America. We are looking into getting data over a number of sites of interest.

Right now we will be acquiring data, both bands, over calibration sites. We are looking into getting more data as it is useful for many applications, particularly ocean applications.

Q: Thank you, this was such an excellent presentation. Who can make on-demand requests for urgent response and how will they be prioritized?
A: We are working out the details on who and how the urgent requests will be handled. We had a working group with the Science Team that made recommendations to the NISAR Project and Program as to how to do that. We recommended that different agencies establish a POC, and that they be given access to the manual request system for the events that are not automatable. We are now trying to determine if there may be a second level of vetting of requests through the NASA HQ Disasters Program. My goal is to reduce latency, and part of that latency is the time it takes to get requests approved. I want to automate everything that can possibly be automated.

Q: Is there a plan now to provide the low latency urgent response data through the Distributed Active Archive Center (DAAC)?
A: The NISAR project intends to have its own archive for the urgent response data. However, right now we are working with the ASF so that ASF archives the urgent response data as well as the regular data.

Q: Will the inundation product be provided globally every 12 days?
A: The inundation product is in the planning stage right now, but yes, the intent is to provide it quickly. If the product were not updated rapidly, it would not be very useful.

Q: For the annual global forest disturbance product, will there be an estimated time for when the disturbance occurred during that year?
A: I am not certain, but that is a very good question. However, the integration of that information into the product would be great to have. If it is a big enough disturbance, I do not see why you could not identify when it happened. I think the product would just be updated yearly, but frankly I do not see why it could not be updated more frequently than that.

Q: NISAR is planned to be a 3-year mission. Are there plans to possibly have a NISAR follow-on mission?
A: Yes. The need for a follow-on mission was recommended in the 2017 Decadal Survey, under the Surface Deformation and Change mission. Right now that follow-on mission is in the concept development stage, with people considering the different architectures that might be used for the instrument. This kind of an instrument is so useful, you do not want to just end this mission.

Meeting Wrap-up
Mr. Quayle thanked Dr. Jones for her excellent presentation, as well as Webinar participants for all of their great questions. Mr. Quayle also thanked the DRL for providing logistics support. Mr. Quayle stressed the value of participant feedback as we evaluate future software technologies and algorithms, and prioritize resources accordingly to meet the needs of the global user community. He invited participants to submit feedback and

suggestions for future webinar topics via email to NDRC organizing committee members (refer to Mr. Quayle's presentation for addresses). Before adjourning Mr. Quayle highlighted relevant SAR training and education materials, including:

- NASA Applied Remote Sensing Training (ARSET) courses;
- NASA/JPL resources;
- SERVIR resources.

Mr. Quayle adjourned the Webinar at 12:30 p.m.

Next Webinar

The next webinar is planned for March 2021. Additional details will be provided via the Direct Broadcast Users email alias.