

[Unmanned Aerial Systems: Data Linking and Data Fusion](#) [1]

Submitted by Lindsay.Barbieri on Sat, 2016-10-22 19:16 Thursday, January 12, 2017 - 14:00

Event: [Winter Meeting 2017](#) [2]

Session Type: [Breakout](#) [3]

Room Location: [Forest Glen](#) [4]

Expertise Level: [Beginner](#) [5]

Abstract/Agenda:

An increasingly wide range of applications for unmanned aerial systems (UAS) in data and Earth sciences has become possible with the miniaturization of powerful sensors and user-friendly flight hardware adopted from the world of model aviation. As tools for collecting innovative remote sensing data and geospatial analysis open doors for researchers, the Drone Cluster is exploring a number of applications for UAS in terms of Earth science research and software/data management approaches.

The goal for this session is to drill down into the innovative and powerful ways of using UAS data as one part of a larger confluence of geospatial datasets in two unique aspects: (1) how the emergence of low-altitude aerial imagery collected by UAS can be linked to satellite data; and (2) what data fusion or integration techniques are possible with the variety of image or monitoring sensors from numerous sources and UAS platforms. We will hear from people working on projects that use UAS within a larger research context to understand how different datasets are being linked, the operational and data processing techniques used to render useful geospatial products, and the challenges presented by data collection and processing via UAS.

This session will frame the use of UAS data by having a variety of speakers give lightning talks on the ways they are using UAS data in and amongst other datasets from multiple sources and in a variety of Earth science contexts, for example natural disasters, forest/biomass monitoring, and agriculture. They will present an overview of their work and the specific techniques employed on their projects. There will be a panel discussion from members of the ESIP community on various data related challenges inherent with integrating UAS into Earth science research, especially with respect to the need of data/metadata standardization, which remains a significant consideration when combining UAS data with other data sources.

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