

--- JOIN THE MEETING ---

WebEx Connection

Meeting Number: **745 463 886**

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Conference Call

Phone #: **877-346-9853**

Participants Code: **3128645#**

--- MEETING AGENDA ---

1. **Welcome & Introductions** (Ryan Cooper / Peter Bonsall/Kerry Shakarjian) 5 min.
 - a. **Please use the WebEx chat to enter:**
 - i. Your First/Last Name
 - ii. Your Organization and/or National Trail Affiliation
 - iii. Select send to: EVERYONE
 - iv. Your Answer to: **What should be our network focus for the upcoming meeting topics and presentations? Will you present or help locate presenters? Are there any topics you'd like to see this group discuss or cover in 2018?**
 - b. Meeting agendas, presentations, and notes are uploaded to the PNTS website. Please feel free to contact Ryan Cooper, Peter Bonsall, or Kerry Shakarjian and we would be happy to share these items with you.

2. **Announcements & Information from Audience** 5 min.
 - a. 2018 National Trails Conference, Vancouver, WA - Oct 22-25, 2018.
 - b. REI celebrates 50 years of National Scenic Trails with merchandise and interactive map:
https://www.rei.com/blog/national-scenic-trails?cm_mmc=sm_fb-impact_agenda-national_scenic_trails-blog

3. **Discussion Topic** 45 min.

Presenters: Adam Calkins, U.S. Forest Service and Dr. Dale Hamilton, Northwest Nazarene University

Applications of Unmanned Aircraft Systems (UAS), Photogrammetrics, and Machine Learning to Record Archaeological Sites and Historic Trails.

Archaeologists have two goals, to record known sites and locate new ones. In 2018, the Boise National Forest began thinking outside the box to accomplish these objectives. We signed an agreement with Northwest Nazarene University (NNU) to begin using Unmanned Aircraft Systems (UAS or drones) to record and find archaeological sites. Over the summer of 2018, we recorded over 2,000 acres of National Forest Land with a UAS. While most of the work was done on historic mining sites, we also recorded small sections of historic railroad grade. Sections of the Oregon Trail were recorded in 2017. In addition to recording sites, undergraduate students at NNU have developed Machine Learning algorithms to locate archaeological artifacts and features. One of these algorithms can locate historic metal fragments (cans, stoves, sheet metal, etc.), and another can locate linear features, such as roads and trails. The techniques of UAS data collection and Machine Learning algorithms, being developed by NNU and the Boise National Forest, will help federal agencies and private organizations locate, record, and manage archaeological sites and historic trails. Our presentation focuses on the genesis of this partnership, methods for data collection, and the results.

4. **Future Meeting Dates & Topics** 5 min.
 - a. **Oct 16, 2018** – Lisa Johnson, Protected Areas of the United States, PADUS 2.0 Update
 - b. **Nov 20, 2018** – Peder Nelson, GLOBE Observer and the NASA Earth to Sky initiative for the National Trails System
 - c. **Dec 18, 2018** – No call this month, enjoy the holidays!

We always welcome suggestions for additional topics for discussion or presentations. Please contact Ryan Cooper, Peter Bonsall, and/or Kerry Shakarjian with your suggestions!

NTS GIS Email Address: ntsgis@nps.gov

NTS GIS Network Email List: ntsgis@webmail.itc.nps.gov

NTS GIS Network Website: <http://pnts.org/new/national-trails-system-gis-network/>

NTS GIS Network Mission:

We established the NTS GIS Network as a way to connect the diverse array of National Trails System staff and partners who use GIS systems and products in their work. One of our goals is to facilitate the sharing of information and tools that help us do our jobs more efficiently and innovatively. Because the national trails system is managed as a collaboration of agencies and partner organizations, the NTS GIS Network is open to anyone.