

NTS GIS Network- Meeting Minutes

Tuesday, July 16, 2019 1:00 pm Mountain Time (12pm PT, 2pm CT, 3pm ET)

1. Welcome & Introductions (Ryan Cooper / Peter Bonsall/Kerry Shakarjian)

Meeting Attendees:

- Ryan Cooper – NPS, Lewis and Clark NHT
- Peter Bonsall – NPS, NTS
- Ryan Branciforte - OuterSpatial
- Jeremy Wimpey – Applied Trails Research
- Mary Greenwood
- Jeff Novak
- Brye Lefler, USFS, Pacific Northwest NST
- Suzanne Cable
- Tiffany Stram – Ice Age Trail Alliance
- Taylor Willow – USFS R02, Continental Divide Trail
- Daniel Reinkensmeyer – USFS, Klamath National Forest
- Rob Chohan – RobLabs.com
- Jereme Monteau – Chief Technology Officer, OuterSpatial
- Ben Barry – Pacific Crest Trail Association
- David Fothergill – USFS Enterprise Program
- Sarah Rivera – NPS, National Trails Intermountain Region
- Stu Gregory
- Becky Blanchard
- Brenda Yankoviak
- Stephanie Valentine
- Dennis Benson
- Charlyne Smith
- Melanie Hans

2. Announcements & Information from Audience

- a. ArcGIS Pro Keyboard Short Cut Poster now available:
<https://www.esri.com/content/dam/esrisites/en-us/media/pdf/g526942-arcgis-pro-kybrd-shrtct-Final.pdf>
- b. Updates from ESRI UC?
- c. PAD-US 2.0 has been released. USGS Technical Announcement: <https://go.usa.gov/xy87P>

3. Discussion Topic

Presenters: Ryan Branciforte, OuterSpatial and Jeremy Wimpey, Applied Trails Research

GIS Support and Analyses along the Pacific Crest Trail and Appalachian Trail

This session will review how researchers, stewards and land managers are leveraging GIS to help visualize visitor travel patterns along the PCT and AT and inform improved trail management and design to mitigate/minimize impacts to natural resources, and manage visitor use to achieve protection and access mandates. In addition, land managers are starting to leverage modern mobile apps to extend traditional GIS techniques and deepen the engagement of recreationists to inform and provide tools to improve visitor use management.

Notes:

- Jeremy Wimpey
- Applications of GIS & GPS Technology
 - Estimate use levels – numbers, \$\$\$, types, health
 - Inform management of permits and quotas
 - Locate and monitor trail system development
 - LEO support, resource protection
- Leveraging Apps for Trail Sustainability
 - Enhance communications
 - Dynamic and engaging
 - Volunteered GIS
 - Public Participation
- Apps: Foundation of data sharing
 - Modern communication platform – push and pull data
 - Dynamic and timely
- Leveraging Apps for Sustainability
 - Capture information – location, speed behavior
 - Share information – guide visitors, regulatory, emergency
- Tracking Use
 - Understand patterns – time, speed
- Example – Michaux State Forest (PA) – Dynamic and rapidly growing trail, rogue trail network vs official network
- PCT Research – Permit System Interactions
- Permit Use and Attrition – survey response data
- Northbound Attribution – completed as planned vs Atrophied/Dropped Out

- Managing Visitor Use on APPA – crowding, capacity, safety, wilderness management, resource protection
- Trail impacts – widening, soil loss, muddiness
- Upslope Landform Watershed
- Trail sustainability ratings for the AT based on trail grade and slope alignment angle
- Research methods – recreation sites
 - Within each of the 63 5k segments, field staff located and assessed all day-use and overnight rec
 - Used a Trimble GPS unit to map and walk the boundaries of all rec sites, calculated site sizes
- Limit campsite size to limit camping impacts – Appalachian Trail
- Hawk Mountain example – Hillshade map from Lidar, slope, terrain ruggedness
- Ryan Branciforte - OuterSpatial
- OuterSpatial – mobile app to provide visitors with the trusted info directly from land managers and empower them
- Mobile app trends
 - Rec mobile apps – All Trails, Strava, Map My Hike, Hiking Project
 - 5 billion mobile phones > web traffic via phones, surpassed desktop environment
 - Why? – interactivity, GPS, camera; more enjoyable/safer, deeper engagement, advanced learning/insights
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- Approaches –
 - build your own app
 - hire a consultant
 - leverage an existing app platform
- OuterSpatial – one place to manage your outdoor park and rec data – mobile, web, insights
- Visitor Insights
 - Data cleanup
 - Social Trails
 - Popularity
 - Analytics
 - Yosemite project enhancements – In-app and push notifications so orgs can alert visitors of hazards, conditions, or change in status; ability to create posts and check-in so visitors identify where they've been, share their experience, ability for land managers to push questionnaires and surveys with improved geofencing.
- Discussion
 - Traditional paper-based forms and interviews with app-based work for back country wilderness
 - Limitations in which crowd-sourced info gathering is not effective? – From a research side, concerns about how representative responses are, self-selecting?
 - How do you get data in areas without any cell coverage? – Download base data before you get to the field; syncs when you get back.
 - Does Outerspatial provide opportunities for agencies to provide trip planning and leave no trace info to hikers/visitors. – Yes, a lot of different opportunities to provide information by agency. One of the things that differentiates Outerspatial from other apps.

4. Future Meeting Dates & Topics

- a. **August 20, 2019** – Angie Southwold, Acting Alaska Region GIS Coordinator, Gathering and Organizing a GIS Inventory of Trail Assets.
- b. **September 17, 2019** - Trail Finder: <https://www.trailfinder.info/>
- c. **October 15, 2019** - Greg Matthews, COU Coordinator USGS, Digital Trail Project Platform Update

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.