

**MINUTES OF THE ARIZONA GEOGRAPHIC
INFORMATION COUNCIL LIDAR WORKGROUP**

A Public meeting of the Arizona Geographic Information Council (AGIC) was convened on Tuesday, June 28 at 10AM WebEx only due to COVID-19 health precautions. Present at the meeting were the following members or designees of the AGIC Outreach Committee

Table 1: Committee Voting Members

Member	Agency/Company	In Attendance
Mark Christiano, Co-chair	US Forest Service	Yes, phone
Jenna Leveille, Co-chair	AZ State Land Department	Yes, phone
Kevin Blake	Yavapai County	Yes, phone
Mary Darling	Darling Geomatics	Yes, phone
Kimberley Denney	Atlantic	No, with notice
Craig Erdman	Geo Engineers	Yes, phone
Brian Fisher	CAP & AZ NGS Coordinator	No, with notice
Benjamin Hickson	Private Sector	Yes, phone
Keith Larson	USDA NRCS	Yes, phone
Arron Lee	Merrick & Company	Yes, phone
Jason Nyberg	NV5	Yes, phone
Chelsea Scott	Open Topography	Yes, phone
Travis Woolley	The Nature Conservancy	No, with notice

Table 2: Public at Large

Member	Agency/Company	In Attendance
Alexander Spannuth	UFS	Yes, phone
Brandon Barnett	ASLD	Yes, phone
Drew Decker	USGS	Yes, phone
Tom Mellin	USFS	Yes, phone
Danny Lawlor	U of A	Yes, phone
Faith Shelton	ADWR	Yes, phone
Joe Cook	AZGS	Yes, phone
Mike Shelton	ADWR	Yes, phone
Leandra Marshall	ADWR	Yes, phone
Shauna-Rae Brown	Ak-Chin Indian Community	Yes, phone
Jason Caldwell	Sanborn	Yes, phone
Chad McGann		Yes, phone

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The Committee discussed and acted on the following items:

- I. Call to Order, Introductions (establish a quorum), and Welcome (Mark Christiano)

Quorum was established and the meeting was called to order at 10:02 AM.

- II. Approval of February meeting minutes (Jenna Leveille)

Ben Hickson Motioned and Mary Darling seconded to approve February meeting minutes. Minutes were approved unanimously without further discussion.

- III. Announcements

- a. AGIC Education & Training Symposium 2022 | Aug 30-Sept 2 | In-person ONLY | Website

There is no virtual option this year at the conference, but there will be a LiDAR track there. Visit the website linked above for more information.

- IV. 3DEP (Drew Decker)

There has been some progress on the coverage since the last meeting, including some with some help from FEMA. There have been areas marked as hopeful collection for later this year, including the Navajo Nation (that should be collected this summer).

FEMA showed interest in flying Navajo Nation, with USGS providing the funding for the fly-over. Mark Christiano of USGS remarked at the amount of progress that has been made in coverage of the State of Arizona since 2018., including both quality and coverage. Grand Canyon National Park is nearing the end of collection as well as Yavapai County. Mohave data has been completed and sent over to FEMA, as well as multiple other projects. These projects include those that are finished processing and are making their way over to FEMA now.

- V. BAA Discussion (All)

- a. Open discussion – AZ BAA applications/updates.

Broad Agency Announcement is used to work with the 3DEP

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program to propose mapping of certain areas in joint project areas. These are generally released annually, with the 2023 one being released in September. Data availability will be determined within the year regarding the areas with less coverage. Any inquiries to projects and coverage can be directed to Drew Decker.

- b. AZ Lidar Coverage Map (<https://agic-lidar-workgroup-agic.hub.arcgis.com/>)
- at the bottom of the landing page)
- c. USGS Planning tools:
 - i. Seasketch planning tool:
 - ii. US Interagency Elevation Inventory
 - iii. Data download for existing lidar data:
<https://apps.nationalmap.gov/downloader/>

VI. Spring Symposium Debrief

The LiDAR, UAS, and Natural Resources Workgroups have been pulled together to offer an in-depth experience of the efforts made within the groups. Some of these efforts can be viewed on the AGIC YouTube channel from the 2022 Spring Symposium, hosted by Yavapai College. The intention of the Symposium is to remain free in the future, with the addition of the possibility of opening the presentations to other workgroups in the future.

VII. AGIC Symposium Lidar SIG Tracks

- a. Track One | Tues Aug 30 | 1:30-3:00P
 - i. Welcome/Lidar WG Overview
 - ii. 3DEP Program Status & Update
 - iii. OpenTopo – Topographic Differencing
- b. Track Two | Tues Aug 30 | 3:30-5:00P
 - i. Landscape Scale LiDAR Derived Individual Tree Segmentation and Its Use in Wildland Fire Effects Monitoring
 - ii. Lidar-driven deep learning accurately classifies species in a southwestern mixed conifer forest

The first portion of this track will include how this project was created and set-up before transitioning to results from the different flyovers commissioned.

The second presentation is a dive on how the different species

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of trees have not only been identified, but how the project was able to encapsulate over 95% accuracy with this identification.

- c. General Session lidar related presentations
 - i. Using Lidar and Multispectral Aerial Imagery to Support Wildfire Support Planning and Recovery | Sanborn
 - ii. Creating 3D Prints from lidar topography | Open Topo
 - iii. Airborne LiDAR – Traditional Nadir Versus Oblique Perspectives | Merrick

The first presentation will cover the process in using imagery in different wildfire support, specifically using the wildfires in the Boulder, Colorado area and what they did to approach the situation as well as the analytics used to make these decisions.

The 3D prints will be presented both in how they are created and how they can be used to further projects that are LiDAR-based. This also shows the applications students are able to use.

Airborne LiDAR will be presented in a comparison aspect between nadir and oblique perspectives in a higher-level application.

VIII. 2022 Work Plan Approval & Discussion

The LiDAR work plan includes supporting the acquisition of LiDAR data and utilizing AZGeo as a repository for the data acquired. The meeting dates have not changed from the schedule's quarterly meetings. One goal of the workgroup is to redefine the scope and direction of the workgroup regarding polling for naming convention and name change approval from the Data Committee. Another is to develop the educational materials necessary to expand knowledge in general LiDAR and uses. The acquisition plan will be updated from the 2019 plan currently uploaded, as well as collaboration between different Data Committee workgroups to continue to host virtual symposiums; inclusion of other groups mentioned prior.

The workplan for 2022-23 was motioned by Jason Nyberg and seconded by Craig Erdman. The plan was passed unanimously with no further discussion and is awaiting approval by the Data Committee.

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IX. Focus/Name Change Discussion & Approval

Given the different sources for elevation data, Mark Christiano talked on the different facets of the workgroup that would change the overall name of the group. The proposed name, when shortened, would be the 3D WorkGroup. Further discussion has changed the name proposal to the 4D Geospatial Data WorkGroup. Ben Hickson motioned to approve the name; Mary Darling seconded. The vote was passed unanimously, with no further discussion. The Data Committee will make the 4D Geospatial WorkGroup name change active by the next meeting.

X. BAER Team Presentation (Mark Christiano)

The Burn Area Emergency Response (BAER) uses LiDAR to understand the topography of the area to accurately plan and respond to different severity levels of an area, Flagstaff being used as the example. There are two teams involved: the short team and a long team. The short team analyzes the ground to see how far the fires reached, as well as severity levels by reviewing the soil contents.

The soil burn severity map is completed with the short team, passing the data off to the long team. The hydrologist of the long team creates the watersheds that allow for us to see the at-risk areas for flooding following a fire. Current LiDAR data is imperative to proper impact models, which supports keeping the data current. The combined hazards map is then created to identify critical areas that need to be prepared for by the county, further supporting the importance of LiDAR within fire severity maps.

XI. Call for team volunteers

- a. Acquisition Plan
- b. Hub Team

Mark called for volunteers to help with building and maintenance of the acquisition plan as well as share work within the hub team. If you are interested, feel free to reach out to Jenna Leveille via email.

XII. Call for future presentations

Anybody that wants to show different tips and tricks that improves their

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work is encouraged, although not required. No future presenters were volunteered during this meeting.

XIII. Information or Topics for Future Meetings

No topics or information was expanded on for future meetings that were not covered prior.

XIV. Adjourn

Meeting was adjourned at 11:27 AM

Upcoming 2022 Meeting Dates (Quarterly)

- February 22
- June 28
- August 23
- November 22