

**National Geospatial Advisory Committee Webinar Meeting
September 7-8, 2022
Minutes**

The National Geospatial Advisory Committee (NGAC) held a public meeting on September 7-8, 2022 from 1:00 p.m. to 5:00 p.m. The meeting was held via webinar and teleconference. In accordance with the requirements of the Federal Advisory Committee Act, the meeting was open to the public.

NGAC members present:

Gary Thompson, NGAC Chair
Roberta Lenczowski, NGAC Vice Chair
Nadine Alameh
Clio Andris
Frank Avila
Chad Baker
Byron Bluehorse
Maggie Cawley
Garet Couch
Jack Dangermond
Lynn Dupont
William Haneberg
Tony LaVoi
Siva Ravada
Felicia Retiz
Vasit Sagan
Cy Smith
Kathleen Stewart
Tim Trainor

Josh Delmonico, Acting Executive Director of the Federal Geographic Data Committee and Designated Federal Officer (DFO) for the NGAC, and John Mahoney, Alternate DFO, were also in attendance.

Other Attendees:

Brian Akers (NOAA), Dierdre Bevington-Attardi (Census), Michael Bevis (Ohio State University), Melanie Bick (NGA), Juliana Blackwell (National Geodetic Survey), Yehuda Bock (UCSD; Scripps Institution of Oceanography), John Byrd (National Society of Professional Surveyors), Dana Caccamise (NOAA), Francine Coloma (NGA), Pat Cummens (Esri), Clayton Davis (MITRE), Julie Raye Dixon (Census), Terrence Dolan (ArdentMC), Libby DuBan (FGDC OS), W. Joseph Durkin (Ohio State University), Debbie Fugate (NGA), John Galetzka (NOAA), Gary Gold (DOI), Demian Gomez (Ohio State University), David Grover (NGA), Everett Hinkley (U.S. Forest Service), Holli Howard (Google), Jim Irvine (ArdentMC), Nathan Jones (Census), Darcee Killpack (USGS), Jenna Leveille (State of Arizona), Steve Lewis (USDOT), Lynda Liptrap (Census), Vicki Lukas (USGS), Damien Maggio (Plains All American Pipeline), Emily Morgan (ArdentMC), Ryan Nelson (BLM), Elizabeth Newton (Ohio State University), Edward OBrien (Green International Affiliates, Inc.), Glenn O'Grady (URISA), Lindsey Plumley (ArdentMC), Chris Rasmussen (NGA), Jill Saligoe-Simmel (Esri), Richard Salman (Ohio State University), David Sandwell (Scripps Institute) Lorna Schmid (FGDC OS), Jarrod Schnell (Texas Department of Transportation), Jack Settelmaier (NOAA), Ken Shaffer (FGDC OS), Vaishal Sheth (FGDC OS), Dru Smith (National Geodetic Survey), Scott Spauhorse (NGA), Steve Steinberg (Los Angeles County), Tanya Trujillo (DOI), Kim Valentine (NOAA), Jim Van Rens (Riegl USA, Inc.), Alex Vinot (Plains All

American Pipeline), Lynda Wayne (GeoMaxim), Keith Woolford (Siemens Digital Information Services)

Wednesday, September 7, 2022 NGAC Public Meeting:

Welcome & Brief Introductions:

NGAC Chair Gary Thompson called the meeting to order at 1:00 p.m. and welcomed members and public attendees. Member introductions were made. The Chair introduced Roberta Lenczowski, the NGAC Vice Chair. An overview of the agenda was provided.

Review and Adoption of Minutes from May 2022 NGAC meeting:

The draft minutes of the May 2022 NGAC meeting were reviewed, and the Chair called for approval.

DECISION: The NGAC adopted the minutes of the May 18-19, 2022 NGAC meeting.

FGDC Update:

Josh Delmonico (FGDC) provided a briefing on current and upcoming FGDC activities. Highlights included:

- Current focus areas for the FGDC are the Climate Executive Order, Geospatial Data Act (GDA) implementation, and revisions to OMB Circular A-16. The Report to Congress showing progress and alignment to GDA requirements is due in 2023 and will be a priority for the FGDC.
- FGDC is coordinating with OMB on revisions to Circular A-16, FGDC staff will keep NGAC members apprised of the status of the revisions.
- FGDC is reconstituting the FGDC Executive Committee, which includes agencies with major geospatial responsibilities. The Executive Committee will provide strategic support for key FGDC activities including governance, standards, and metadata.
- The Executive Committee will also provide support for the Steering Committee for a more inclusive feedback process on Circular A-16.
- FGDC is beginning early planning for the next version of the NSDI Strategic plan. The current plan will expire in 2024. FGDC will be looking at approaches such as the UNGGIM Integrated Geospatial Information Framework (IGIF) as potential models for the next NSDI plan.
- FGDC is planning a workshop this fall to explore learned from other countries and how those might be applied in the US.

ACTION: FGDC will collaborate with NGAC to hold a workshop on the Integrated Geospatial Information Framework (IGIF) in the near future.

Geospatial Excellence and Innovation Subcommittee:

Vasit Sagan and Siva Ravada provided an update on Geospatial Excellence and Innovation Subcommittee activities. Highlights included:

- The Subcommittee's role is to assess and identify approaches and opportunities for the U.S. geospatial community to enhance key geospatial capabilities and initiatives.
- Over the next year, the subcommittee will review issues related to U.S. geospatial competitiveness.
- Potential focus areas suggested to the subcommittee included:
 - Engaging with private industry and Federal agencies to identify work on similar programs (NGA);
 - Consolidating resources into a national academic center which would grow emerging

- geospatial experts and technologies;
 - Looking to the UN for future trends
 - Identifying methods for quick wins on the topics listed above and more.
 - RFIs were mentioned as a useful approach for agencies to solicit new ideas and connections.
- Ohio State University was recently awarded a contract to develop a geographically distributed, multi-disciplinary network of universities to educate the Federal geomatics workforce at advanced levels and provide opportunities for applied research and technology development.
 - This consortium could serve as a potential building block or blueprint for future engagement opportunities.

ACTION: The Geospatial Excellence and Innovation Subcommittee will request feedback from NGAC members on identification and prioritization of the subcommittee’s study areas.

ACTION: The Geospatial Excellence and Innovation Subcommittee and FGDC staff will work with National Geodetic Survey representatives on follow-up actions related to understanding and implementation of datum modernization.

ACTION: The Geospatial Excellence and Innovation Subcommittee and FGDC staff will work with NGA representatives and other organizations on follow-up actions related to strengthening U.S. geodesy capabilities.

Datum Modernization Discussion:

Dr. Dru Smith (NOAA National Geodetic Survey) led a discussion on the topic of datum modernization, including the following highlights:

- The NSRS datum modernization will occur in 2024 with a reprioritization of a “data first” approach.
 - The modernization will include four new reference frames and one new geopotential datum.
 - Ten existing frames will be combined into NAPGD2022, which will include gravity for the redefinition of the American vertical datum.
- The finish line had to be redefined, as many tools had been promised and the team had to prioritize which tools would go live with roll out.
 - The following tools will be released alongside the initial data roll out: a DDS, a downloadable version of LASER, a browser based online multi-GNSS service, NCAT, and Vdatum.
 - The goal is to have all data and limited tools released by mid-2025.
- Dr. Smith identified steps to ensure a successful transition to the modernized NSRS:
 - Stay Calm: Many ways of doing business will remain the same and many new tools will finally support long established practices
 - Familiarize Yourself: The blueprint documents and presentation library are available online along with the NGS webinar series and NSRS Modernization newsletter.
 - Ask Agencies and Companies That You Rely on About Their Transition Plans: Contact your representatives at ESRI, Trimble, Leica, etc.
 - Organize Your Historic Data Archives: Help yourself so that when a new frame or datum is released, you can easily establish what areas may need to be adjusted versus re-surveyed.
 - Check Out NGS Tools as They Are Released: Updates and Alpha versions will be rolled

out by the end of CY2022; reviewing these tools upon release will benefit both users and the creators.

- Embrace the Future: The planet is round, dynamic, and complicated; let us lean into the future of data gathering.

Additional discussion points included:

- FEMA has been working closely at the FGDS level and also attend the relevant summits; FEMA is aware of the VERTCON roll out, but many internal practices at FEMA have to evolve.
- The United States is losing expertise in Geodetic Science and is losing the understanding of geodesy.
 - The NGA is taking initial action to support rebuilding this expertise, but at the current rate, within 30 years, the risk is that geodesy expertise will come from foreign nations.
- NGAC members suggested that the FGDC Executive Committee connect with Dr. Smith and his team to promote this transition and more broadly involve Federal agencies.

Lightning Talks:

Frank Avila and Chris Rasmussen discussed NGA's Tearline Project. Highlights included:

- The Tearline Project is an analytic outreach effort with NGA partnering with non-profits to produce public facing authoritative data.
 - NGA handles the structure, while the IP stays with the student that drafts the content.
- The Tearline Project has already won two transparency awards and has made the news for its high quality data.
- More information can be found about the Tearline Project at www.tearline.mil.

Dr. Bill Haneberg provided an update on Kentucky flooding. Highlights included:

- In late July, eastern Kentucky received 14 to 16 inches of rain over the course of five days, a storm that was well above the 1000-year event curve.
 - The rainfall spawned hundreds-to-thousands of landslides, as evidenced by before-and-after imagery of these landscapes.
- A five-county landslide susceptibility study had just been completed when this flooding occurred; the study has received additional funding to expand to additional counties in Kentucky.
- The research around these floods and their effect on Kentucky continues:
 - A sediment sampling study is ongoing to determine if the floods caused toxicity or other public health issues.
 - Two watersheds with coal mine footprints are under study to determine if the sediments were affected by the coal mines.
 - Research is focused on the 14,000 orphaned wells—with a potential of an additional 16,000 wells without records—to see if they had an effect on the floods and if there are any lingering public health concerns.

Leadership Dialogue:

Tanya Trujillo, Assistant Secretary for Water and Science and Chair of the FGDC, discussed critical Administration activities:

- The passage of the Inflation Reduction Act provided DOI with funding specific for geospatial work, including appropriations to support elevation data efforts.
- Additionally, the Inflation Reduction Act includes general support for data-related activities including millions of dollars to the Department of the Interior, Department of Energy, Federal

Energy Regulatory Commission, and Environmental Protection Agency for development of environmental data and information systems.

- Ms. Trujillo has been able to participate in recent activities related to the Landsat program and is looking forward to reviewing the new paper developed by the Landsat Advisory Group (LAG).
- DOI is looking forward to advancing the Climate Mapping for Resilience and Adaptation (CMRA) portal and will continue to work to highlight this portal and climate issues.

Ms. Trujillo expressed thanks to Gary Thompson and Bobbi Lenczowski for their leadership and reiterated the value of the partnership between FGDC and the NGAC.

Update on the Climate Resilience Information System (CRIS):

Tony LaVoi provided an update on the Climate Resilience Information System (CRIS). Highlights included:

- This will be the sixth discussion with NGAC on the climate mapping services as outlined in Executive Order 14008.
- NGAC has given the FGDC clear direction that local communities are dealing with climate impacts now and need access to authoritative data as soon as possible.
 - Federal agencies are focusing their activities on putting together resources to be used by those local communities.
- CRIS will be the warehouse of Federal climate resources, including decision-relevant data, tools, FGDC services, custom portals (like heat.gov), climate explorer, NCA5 Interactive, and the CMRA Portal.
 - CRIS will bring together all these resources to support local planning and decision-making to help protect people, property, and infrastructure.
- The READI portal has been renamed to the Climate Mapping for Resilience and Adaptation (CMRA) portal and is being funded jointly by NOAA and DOI, with NOAA managing the system on an ESRI platform.
 - Resilience.climate.gov went live on September 8, 2022.
 - Kim Valentine, GIO at NOAA, led NGAC through a live demonstration.
- The CMRA portal is the first of its kind and includes three components:
 - A real time dashboard;
 - An assessment tool to help communities understand their exposure to climate hazards; and
 - A funding section, which will focus on the latest Federal funding opportunities for which local communities can apply.
- Key partners of the CMRA portal include the White House (OSTP, CEQ, and OMB), the U.S. Global Change Research Program, FGDC, DOI/USGS, and DOC/NOAA.
- Over the next six months, a second task order will be developed to include real-time state-specific summaries of hazards.
 - This will expand the scope and utilities in the CMRA portal and incorporate solicited stakeholder feedback.

Additional discussion points included:

- The Opportunity Project (TOP) played a critical role in understanding the project's problem statement and developing CRIS through their sprint program.
- The initial conversations around CRIS were held in April 2021 and ESRI has been a great partner throughout this period.

- This could serve as a case study on agile projects.
- The NGAC played an integral role in this effort, but the success of these tools are dependent on uptake and utilization.
 - NGAC should continue their engagement and NGAC members should continue to make a significant effort to spread the word about CRIS and CMRA within their organizations and professional circles.

ACTION: FGDC staff will provide additional information to NGAC members about the CRIS and the new Climate Mapping for Resilience and Adaptation (CMRA) portal. NGAC members are encouraged to share information about CRIS and CMRA within their organizations and professional networks.

ACTION: FGDC staff and the CRIS team will continue to inform the NGAC and seek feedback on CRIS and CMRA as they are further developed and refined.

Adjourn

Mr. Thompson made closing remarks and provided an overview of the Day 2 agenda.

The NGAC remembers Dr. Robert Austin, who recently passed away. Dr. Austin was a member of the NGAC for two terms and served as the NGAC Chair for three years. He is remembered fondly and missed by all those who knew him.

Thursday, September 8, 2022

NGAC Vice-Chair Roberta Lenczowski called the meeting to order at 1:00 p.m. and welcomed members and public attendees and provided an overview of the day's agenda.

Geodesy Discussion:

Dr. Michael Bevis (Ohio State University) led a discussion on the topic of the U.S. geodesy crisis, including the following highlights:

- The Geodesy Crisis white paper was published this year and has discussed widely in professional circles.
- If the U.S. does not take corrective action soon, the US will be permanently eclipsed in geodesy and downstream geospatial technologies.
 - China and Europe—primarily Germany—have been investing heavily in geodetic research and training.
 - China now has more geodesists than the rest of the world combined, and its numerical advantage continues to grow.
 - Meanwhile, the largest national decline in geodetic research and training capacity has occurred the in U.S.
- Geodesy has a major economic impact and supports the entire geospatial economy, which also makes the decline of U.S. geodesy capability a significant national security risk.
- The geodesy crisis is multi-layer, consisting of an academia crisis, workforce crisis, and a Federal agency crisis.
 - The Academia crisis stems from the fact that there are almost no remaining geodesy departments in higher education throughout the U.S.
 - The workforce crisis has been ongoing for decades, with multiple National Academy studies showing that established American geodesists have been retiring more rapidly than replacements were being trained; even at the most basic level of geoscientists such as land surveyors are disappearing.
 - The Federal agency crisis is occurring because Federal agencies have limited geodesy research; NGS, NGA, and USGS have all stated their concern about the lack of geodesy professionals.
- Dr. Bevis outlined several corrective actions that the U.S. should take in order to reverse this ever-growing crisis.
 - Research and development funding for basic and applied geodesy should be increased; this can start with increased funding to academia.
 - The U.S. should follow China's lead in ensuring that multiple research groups are funded to perform parallel research and development in all mission-critical areas.
 - Training throughout the geodesy field should be expanded by removing barriers to entry in education, ensuring in-house training for existing employees of geospatial agencies, and training researchers at the PhD level in geodetic research groups.

Additional discussion points included:

- The recently announced Ohio State Consortium is an excellent example of working towards solving this problem.
 - The NGAC should work on maintaining this momentum by bringing attention to both the geodesy crisis and positive developments like the Ohio State Consortium.
- The NGAC's Geospatial Innovation and Excellence Subcommittee is investigating this crisis and potential solutions that the NGAC can work towards, in tandem with the FGDC and other Federal entities.

- Other potential areas where the NGAC can assist include highlighting information about the geodesy crisis and providing resources to the community through their website.

Landsat Advisory Group Subcommittee:

Frank Avila and Roberta Lenczowski provided an update on Landsat Advisory Group (LAG) activities, including the following highlights:

- The LAG Subcommittee was established in 2012 and has published multiple impactful reports and recommendations since its inception.
- With the approval of the publication of Task #2 Paper, the committee will now focus on its new task for 2022, examining the evolution or trends of what data products are being requested by the users and to consider recommendations on new products that the National Land Imaging program should offer users in the 2030 timeframe.

Ms. Lenczowski provided an overview of the paper, “Water’s Edge of National Land Imaging (NLI) Program Scope”, which was developed by the LAG Subcommittee and approved for final consideration by the full NGAC. Following discussion, the NGAC adopted the paper.

Tim Newman (USGS) provided updates on the USGS National Land Imaging Program. Highlights included:

- There are currently three satellites in orbit: Landsat 9 (launched in September 2021), Landsat 8 (launched in 2013), and Landsat 7 (launched in 1999 and decommissioned in 2022).
- The reprocessed Landsat Collection 2 data is now available on the Amazon Cloud and is on track for 2 billion user accesses this fiscal year.
- Landsat Next will meet emerging needs at breakthrough effectiveness per user feedback, including improved revisit frequency, higher spatial resolution, additional spectral bands, synergy with Sentinel-2 bands, and sustained geometric and radiometric quality.

DECISION: The NGAC adopted the paper, “Water’s Edge of National Land Imaging (NLI) Program Scope”, developed by the LAG Subcommittee.

ACTION: The LAG Subcommittee will begin working on Task 1 from the 2022 LAG guidance, addressing “Ideas for NLI ‘Next’ Products.”

ACTION: LAG Subcommittee members will provide a presentation on the 2021 LAG paper, “Landsat in the Cloud”, at the Pecora 22 Conference in October 2022.

Public Comment Period:

Opportunity was provided for public comments. Glenn O’Grady provided comments, including the following highlights:

- How can geospatial organizations like URISA, COGO, and others help with the geodesy crisis issues and develop broad buy-in?
 - There was a Congressional directive for NGA to receive funding, though the NGAC’s role is not to request this type of funding.
 - COGO, as a wide-reaching organization, may be best to build momentum toward an appropriations request for additional geodesy funding.

3DEP Subcommittee:

Gary Thompson and Gale Blackmer provided an update on 3DEP Subcommittee activities. Highlights

included:

- The 3DEP Subcommittee was established through the National Landslides Preparedness Act (NLPA); FGDC coordinated with USGS/DOI to establish and appoint members.
 - Membership includes NGAC members plus non-NGAC members selected for their subject matter expertise.
 - The Subcommittee's objectives are to meet the requirements of the NLPA, to provide ongoing advice and recommendations to the 3DEP program, and to serve as a liaison between the sectors represented on subcommittee and the 3DEP program.
- The 3DEP Subcommittee's next steps are to establish the work groups that will develop the key components of the NLPA-required report.
 - The first annual report will be developed, including findings and recommendations, followed by developing a longer-term program of work.
- The 3DEP Subcommittee is establishing two work groups: the Trends and Developments Work Group and the Program Management Work Group, which will work in tandem to develop the 3DEP Subcommittee's NLPA-required report.

Vicki Lukas (USGS) provided updates on the 3DEP Program. Highlights included:

- The Inflation Reduction Act of 2022 provided a funding increase of \$23.5 million that will be available through 2031 and is partner-driven, with over 300 federal, state, and local partners providing 65% of the total cost.
 - This infusion of money will accelerate the planned completion of national 3DEP baseline.
 - Additional potential uses include expanding inland bathymetry acquisition; operations funding to ensure efficient processing of incoming data; developing seamless DEM to support deriving hydrography from lidar for 3D Hydrography Program; and conducting research for the next generation 3DEP.
- NGAC members are encouraged to participate in 3DEP Subcommittee meetings to ensure both solid connections between the groups and that 3DEP has the feedback and guidance to assist with future plans.

ACTION: The 3DEP Subcommittee will focus on developing the first report assessing the 3DEP program, as required under the National Landslide Preparedness Act (NLPA). The target date for completion is July 2023.

ACTION: The 3DEP Subcommittee will establish two work groups to develop components of the NLPA report.

ACTION: FGDC will hold a FACA ethics/legal briefing for the new 3DEP subcommittee members.

GDA Implementation Subcommittee:

Cy Smith and Maggie Cawley provided an update on GDA Implementation Subcommittee activities.

Highlights included:

- The GDA Implementation Subcommittee's role is to identify agreed upon outcomes from GDA implementation; measure GDA implementation moving forward; provide a high-level evaluation of GDA implementation towards outcomes; provide recommendations for improvements to the GDA's implementation; and conduct an evaluation of the NGAC's role as

authorized in the GDA. As a part of this review, the subcommittee will develop a brief summary paper with recommendations that can be incorporated into the FGDC's GDA Report to Congress.

- The GDA Implementation Subcommittee is coordinating its approach with the GDA Reporting Subcommittee.
- In 2023, the GDA Implementation Subcommittee will enter a four phased approach:
 - Phase 1 (March 2023): High level GDA Implementation Evaluation
 - Phase 2 (September 2023): Initial Recommendations for Improvement
 - Phase 3 (June 2023): Detailed GDA Implementation Evaluation and Template
 - Phase 4 (December 2023): NSDI Governance Evaluation
- Additional questions for the GDA Implementation Subcommittee to consider include:
 - How much time do agencies spend on reporting?
 - Are agencies missing out on work because of how much time spent on reporting?
 - Do reporting requirements prevent collaboration?
 - How do can the NGAC shift the mindset of “data” to a “flexible outcome/system/application”?

ACTION: The GDA Implementation Subcommittee will develop draft NGAC inputs for the next FGDC GDA Report to Congress. Target completion date is Spring 2023.

ACTION: During the next phase of the GDA Implementation Subcommittee's activities, the group will focus on the following tasks:

- Identify agreed upon GDA outcomes and results for evaluation of GDA implementation
- High level evaluation of progress on GDA implementation, section by section from the statute
- Look at NGAC comments/recommendations from prior FGDC GDA report to see if progress was made and build on those recommendations, if appropriate
- Evaluate implementation of NGAC's role as authorized in the GDA
- Coordinate activities with GDA Reporting Subcommittee

GDA Reporting Subcommittee:

Chad Baker and John Mahoney provided an update on GDA Reporting Subcommittee activities. Highlights included:

- FGDC is responding to the NGAC comments on the FY2021 GDA Summary Report and will be utilizing these comments to develop the FY2022 reporting approach.
- The target date for completion of the GDA Audits is October 2022.
 - There has been discussion about recommending that the audits be conducted every four years instead of biennially.
- The core NGAC responsibility regarding GDA reporting is to provide comments on the FY2022 GDA Annual Report Summary.
- NGAC members requested that the GDA Reporting Subcommittee look at how the NGAC, FGDC, and agencies are using the information from the GDA annual reports.
 - There is some lack of clarity as to what the GDA reporting requirements are ultimately trying to accomplish; without a clear answer to this, it is difficult to improve upon existing processes and ensure that the reports are useful.

ACTION: The GDA Reporting Subcommittee will focus on two tasks in 2022/2023:

1. Review/provide comments on FY 2022 GDA Annual Report Summary.
2. Consider multiple factors (FGDC covered agency and NGDA reports, Inspector General GDA audits, COGO NSDI assessments, NSGIC geospatial maturity assessments, etc.) and develop high-level advice and recommendations on how FGDC might streamline GDA reporting, align with other assessment activities, and provide useful, impactful performance information.

Next Meeting:

The next meeting of the NGAC is scheduled for December 6-7, 2022. Additional information about the meeting will be provided soon.

Adjourn:

Ms. Lenczowski summarized the actions and decisions from the meeting, made closing remarks, and adjourned the meeting.

Certification

I hereby certify that, to the best of my knowledge, the foregoing minutes are accurate and complete.

Mr. Gary Thompson, Chair, National Geospatial Advisory Committee
Mr. Josh Delmonico, Acting Designated Federal Officer, National Geospatial Advisory Committee
Mr. John Mahoney, Alt. Designated Federal Officer, National Geospatial Advisory Committee

These minutes will be formally considered by the Committee at its next meeting, and any corrections or notations will be incorporated in the minutes of that meeting.

Note – these minutes were approved by the NGAC on December 6, 2022

Summary of Presentations and Handouts

The following is a list of the presentations and handouts from the meeting. These meeting materials are posted along with the minutes at: <https://www.fgdc.gov/ngac/meetings/september-2022/index.html>

FGDC Update

- FGDC Update

Geospatial Excellence and Innovation Subcommittee

- Geospatial Excellence and Innovation Subcommittee Report

Datum Modernization

- Datum Modernization Presentation

Update on the Climate Resilience Information System (CRIS)

- Climate Portal Status Update

Geodesy

- Geodesy Presentation

Landsat Advisory Group

- Landsat Advisory Group Subcommittee Report
- USGS National Land Imaging Program Update
- NGAC Paper: Waters Edge of National Land Imaging Program Scope

3DEP Subcommittee

- 3DEP Subcommittee Report
- USGS 3DEP Program Update

GDA Implementation Subcommittee

- GDA Implementation Subcommittee Report

GDA Reporting Subcommittee

- GDA Reporting Subcommittee Report

Lightning Talks

- Kentucky Flooding Response - Haneberg