2021 Industry Workshop Engagement Summary

NOAA's National Geodetic Survey

Background

On May 6, 2021, NOAA's National Geodetic Survey (NGS) hosted a small invitation-only workshop to continue coordination between commercial equipment/software representatives and regarding modernization of the National Spatial Reference System (NSRS). This event was a follow-on to a 2018 NGS-hosted NSRS Modernization Industry Workshop and is critical to NGS NSRS modernization efforts because many end-users access and work with the NSRS in commercially available software packages..

Invitations and Responses

NGS invited 82 industry representatives from 26 private sector companies in the survey equipment manufacturing and geospatial software development industry. The invitation list was developed from previous participants in the 2018 event and supplemented with input from a data call from NGS leadership.

The NGS invitation list was populated and vetted by all Divisions and included NGS Leadership and Subject Matter Experts (SMEs) from across NGS, nearly all of whom participated.

NGS had 34 Representatives from 12 companies register for the event and nearly all participated (See participant list below). Parts of the workshop featured robust dialog and Q&A sessions. NGS Subject Matter Experts responded to many questions verbally and were captured for reference. Results from poll questions asked during the workshop and the post-meeting survey are below.

Most of the participants responded to a pre-event set of questions about their company's interests and concerns about NSRS Modernization. The feedback is summarized below. Most interest was expressed in properly implementing transformations and State Plane Coordinates, as well as geoids, and in supporting NSRS Modernization as a whole.

General Notes

- Nearly all reactions were positive in terms of interest in working more closely with NGS on NSRS Modernization and making the necessary upgrades to their software.
- There was particular interest in facilitating the submission of data to NGS by building interfaces with NGS' Online Positioning User Service (OPUS), including the idea of accessing and making the "Tied to the NSRS" NGS Seal of Approval available to their customers by following the OPUS recommendations.

- Larger companies reported that they are working on data converters now or plan to in the near future. Others said they would wait until they hear demand from their customers.
- Nearly all said they rely on or work closely with the open source community. Several companies said they will need the support of the open source community to implement the changes.
- Coordinate transformations are a primary interest, including implementation of the update of the State Plane Coordinate System (SPCS), which is part of the transition from the North American Datum of 1983 (NAD 83) to the 2022 Terrestrial Reference Frames..

Opportunities include:

- Collaboration on application development and testing.
- Access to existing open source communities that companies currently work with.
- Coordinated release of tools and applications.

Concerns include:

- Timing of access to frame definitions, alpha and beta products to plan their work
- NGS' choices of programming languages and file formats.
- Consistent use of open data standards and interaction with the open source community.
- Ability to use tools off-line in remote areas.
- Understandable documentation of tools and models.
- Availability of test data sets to allow companies and users to check the results of third party tools against what NGS says is the right answer.

Recommendations:

- Adopt a policy to ensure that NGS software is made available and supported through the open source community.
- Continue to communicate with partners about the developing impacts of the Geospatial Data Act and NGS' plans for future relationships with international standards organizations such as OGC, ISO, and EPSG.
- Include industry engagement strategies in NGS outreach and feedback plans.

Looking Forward:

- Plan for 2 Industry Engagement Events per year covering a range of topics related to NSRS Modernization.
- Plan to continue product specific feedback workshops as needed (like the two GVX workshops held with Industry partners over the past 18 months).

- Work to expand the participant lists to ensure that we have the right people from as many of the relevant companies as possible.

Suggestions for Future Topics from Industry:

- SPCS2022, Reference frames
- Updates on tools available from NGS,
- NGS expectations of the industry, specifically the equipment makers, to help enable NSRS modernization.
- Data formats (standards) and tools end-users need, in order of importance, to help enable NSRS modernization
- Adoption updates for the new file formats (GVX Vector Exchange file)
- Adoption updates on SPCS2022 (end users and jurisdictions/states)
- Example applications built on top of the code base in GitHub. As mentioned, any open source code or internship collaborations between Septentrio and NGS can help us to adopt some of these converters. Always open to discuss this. In any case we will try to implement these formats as the industry asks.
- Anything with regards to enhanced coordinate transformation in NCAT. The latest on NATREF and NAPGD transformation grids, formats, and standards. Honestly, I like hearing what NGS wants to talk about and I very much enjoy the deep dives on the individual topic areas. I don't mind sitting through the things that are less applicable to my company because sometimes there are possibilities presented that we haven't considered yet and it helps us stay informed of new areas we might wish to take action on. Directly hearing the other vendors' comments/questions during the sessions is good and valuable side chat can happen at breaks
- Formats for the x files so that we can get exporters built!

Participants

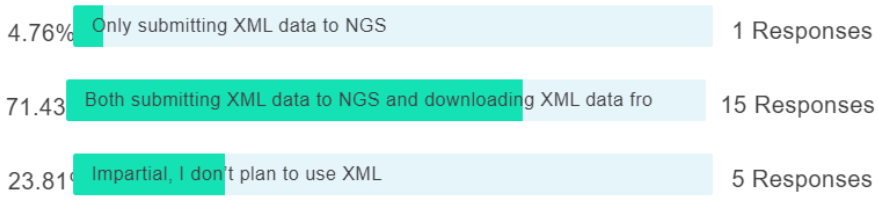
COMPANY	***Number of Attendees***
Applanix	*2*
Bentley Systems	*2*
Blue Marble Geographics	*3*
Carlson Software	*1*

ESRI	*2*
GeoCue Corp.	*2*
HERE technologies	*1*
JAVAD GNSS	*1*
Leica Geosystems	*2*
Septentrio	*2*
Topcon	*3*
Trimble	*13*
Grand Total	***34***

Poll Question Results

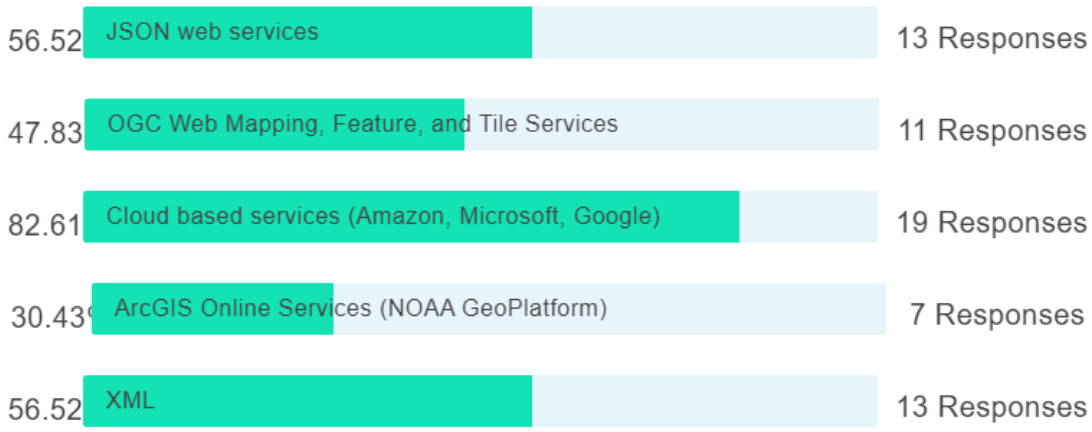
1 of 5. Given plans for GVX etc, is submitting XML data to NGS enough, or would you also like services to download XML data from NGS?

Multiple choice with single answer



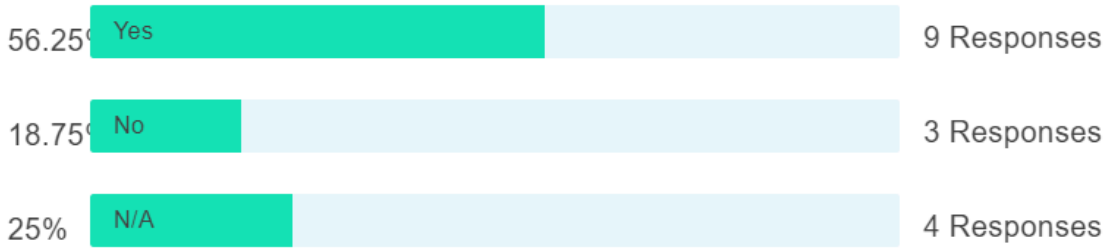
2 of 5. What type of web service would you prefer to access NGS data in the future?

Multiple choice with multiple answers



3 of 5. Do you currently use OGC standards?

Multiple choice with single answer

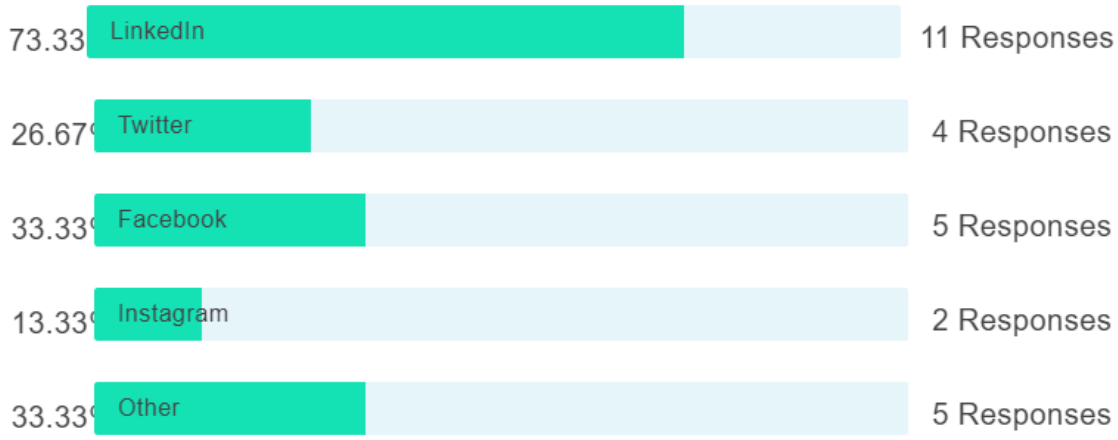


4 of 5. How often would you like to meet with NGS over the next few years until the Modernized NSRS is released?

Multiple choice with single answer

5 of 5. What Social Media do you use to engage your customers?

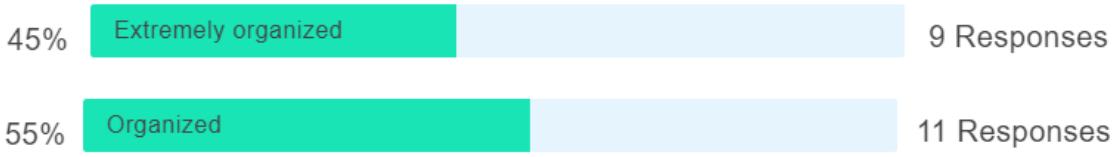
Multiple choice with multiple answers



Post event Survey Results

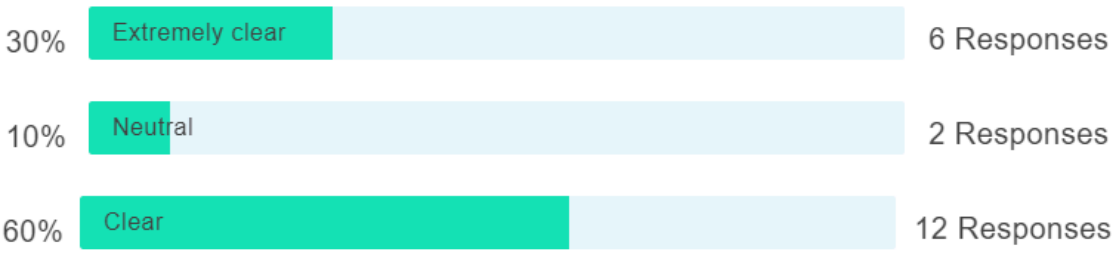
1 of 7. How organized was the event?

Multiple choice with single answer



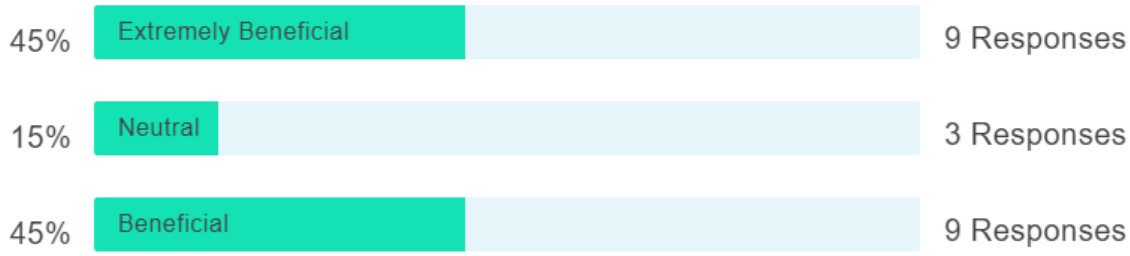
2 of 7. How clear were the objectives of the event?

Multiple choice with single answer



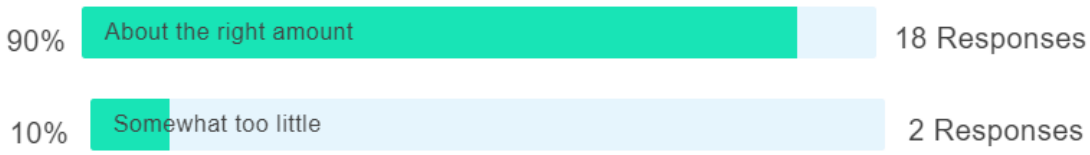
3 of 7. How beneficial was the information on Tools and Data?

Multiple choice with multiple answers



4 of 7. How would you describe the amount of technical content throughout the event?

Multiple choice with single answer



5 of 7. Overall, how satisfied were you with the event?

Multiple choice with multiple answers