

**NOTES FROM THE 31 JANUARY 2013 FEDERAL GEODETIC CONTROL
SUBCOMMITTEE MEETING (SILVER SPRING, MD)**

Meeting Chair: Juliana Blackwell, Chair, FGCS; Director of the National Geodetic Survey

FGCS Membership and Attendance

Department of Agriculture

US Forest Service – Everett Hinkley

Farm Service Agency – David Davis

Department of Commerce

US Census Bureau – Frederick Malkus

NOAA - National Geodetic Survey – Colin Becker, Juliana Blackwell, David Conner, Mark Eckl, Joe Evjen, Kendall Fancher, Rick Foote, Pam Fromhertz, Bill Henning, Marti Ikehara, Jeremy McHugh, Dru Smith, Tom Soler, William Stone, Neil Weston

NOAA - CO-OPS – Michael Michalski

Department of Homeland Security

US Coast Guard – LCDR Guillermo Vega

***Federal Emergency Management Agency* – Absent**

Department of Defense

***National Geospatial-Intelligence Agency* – Absent**

US Army Corps of Engineers - Mark Huber, James Garster

US Naval Observatory – Brian Luzum

Department of the Interior

***Bureau of Indian Affairs* – Absent**

Bureau of Land Management – Mike Londe

Bureau of Ocean Energy, Management – Steven Schwartz, Doug Vandegraft

***Fish and Wildlife Service* – Absent**

National Park Service –Karl Brown, Joel Cusick, Tim Smith, Neil Winn

***Office of Surface Mining, Reclamation, and Enforcement* – Absent**

***US Bureau of Reclamation* – Absent**

US Geological Survey – Glenn Guempel, Thomas Reiss

Department of State

***International Boundary Commission* – Absent**

International Water and Boundary Commission – Duane Price

Independent Agencies

***National Aeronautics and Space Administration* – Absent**

***Tennessee Valley Authority* – Absent**

***Federal Communications Commission* – Absent**

Others

DOT – RITA – Tim Klein
GPS World – Erik Gakstatter
Leica – Tyler Collier, Jill Johnson
State of Alaska – Megan DeRaps
University of Alaska, Fairbanks – Jeff Freymueller

Juliana Blackwell (Chair, NGS) – Welcome, Introductions

Juliana Blackwell – Welcome. This is a chance to hear updates and ask questions about federal coordination of geodetic control.

Jeremy McHugh (NGS) – Review actions from last meeting

I will post these along with presentations after the meeting and alert everyone via email.

Mark Eckl (NGS) and Joe Evjen (NGS) - New geopotential and geometric datums- progress and plans

Mark Eckl presented his slides.

Marti Ikehara (NGS) – Will airborne gravity data be acquired in IA with the GSVS13?

Mark Eckl (NGS) – Yes, we will.

Joe Evjen presented his slides.

Juliana Blackwell - GAO study of Federal Coordination of Geospatial Data – FGCS / NGS actions

Juliana Blackwell - The GAO has asked us to identify specific actions to develop a plan for geodetic control theme standards. Here are the actions that will be taken.

Actions

- (1) Inventory and review existing geodetic control standards, specifications, and guidelines documents (Q2, FY2013).
- (2) Determine what updates are needed for existing documents and standards (Q2, FY2013).
- (3) Prioritize the updates (Q3, FY2013).
- (4) Identify needs for the creation of new standards (Q3, FY2013).
- (5) Prioritize the creation of new standards (Q4, FY2013).

Juliana Blackwell (NGS) - To accomplish this, we are identifying category leads. They will then reach out to the FGCS group for input.

Mike Londe (BLM) – Is this just concerned with FGCS/NGS standards documents? BLM and the USGS have their own standards documents.

Juliana Blackwell (NGS) – Not necessarily, if there are other standards documents, we would like to know about them.

Neil Weston (NGS) – Internally, we may want to look outside the US to international standards.

Marti Ikehara (NGS) – In the recent 10-year plan, I see we have focused more on standards than on guidelines.

Juliana Blackwell (NGS) – That comes from a combination of things.

Mike Londe (BLM) – The problem is responsiveness. Things change so quickly, that standards can become out of date before they are even published.

Glen Guempel (USGS) – Will any new standards be incorporated into FGDC's list of approved standards? In 2010, FGDC brought in 64 standards from outside the FGDC

Juliana Blackwell (NGS) – possibly

Pam Fromhertz (NGS) – I saw that the FGCS theme description was updated.

Juliana Blackwell (NGS) – Yes, Jeremy will post that along with the notes and presentations for this meeting so you all have that. It is just more descriptive and easier for everyone to understand what Geodetic Control comprises.

Discussion / Questions / Comments

Now is the time to bring up anything you want to talk about. You can also tell us what you might want to hear about at future meetings or ask any questions you may have.

Bill Henning (NGS) – This morning the Fixed Reference Station Work Group of FGCS met and discussed the future of NDGPS. There is a lot of concern about what to do if and when NDGPS goes away. There is a proposed 3 year process to close down NDGPS starting in 2016. We also talked about data streaming from CORS. There were three GNSS manufacturers there and all three welcomed streaming from CORS and stated that, in their personal opinions, there is no perceived competition.

Mark Eckl (NGS) – I am catching up on where Renee Shields left off with the Vertical Reference Systems Work Group. I am the new chair of that work group.

Juliana Blackwell (NGS) – Anything else that you all would like to talk about?

Mike Londe (BLM) – Where is NGS at with distributing GNSS data from the CORS network with stations that are already GNSS capable?

Neil Weston (GPS) – As GPS receivers reach their end of life, they will be replaced with receivers capable of using GNSS data.

Giovanni Sella (NGS) – We are moving towards having the CORS network fully GNSS-capable. We are close, but have more work to do.

Neil Winn (NPS) – I want to use OPUS-DB to input our data so the public can access it.

Joe Evjen (NGS) – OPUS-DB can do what you want, but right now we are still developing the product and have requirements for 4-hrs of data. Right now, the official way to get information into NGS, is through bluebooking. For that, get in touch with a state advisor that can help you with how to bluebook data. We are developing a project to reinvent and improve bluebooking.

Neil Weston (NGS) – Please email us with more detailed concerns. We are happy to help you more with that. The USACE has a lot of experience doing what you are asking about.

Jim Garster (NGS) – What is the status of the OPUS Projects being fully turned on?

Neil Weston (NGS) – We recently got a request to provide WGS-84 coordinates. We will try to satisfy that request.

Juliana Blackwell (NGS) – We don't yet have a firm date to formally release OPUS Projects. Bluebooking is the official FGDC approved way to get data into NGS.

Joe Evjen (NGS) – OPUS Projects is a Beta project. We are working on proving that it 'works' and is reliable by comparing results from projects run through it with projects run through bluebooking.

Marti Ikehara (NGS) – Have we considered using the processing engine behind OPUS-RS for OPUS Projects?

Neil Weston (NGS) – Yes, we considered that, but the OPUS-RS engine does not cover every part of the NSRS.

Bill Henning (NGS) – Are we still requiring training?

Neil Weston (NGS) – Yes, but we need to make that training available again.

Juliana Blackwell (NGS) – That training will be made available again after we prove OPUS Projects is reliable.

Tim Smith (NPS) – What can NPS do to ensure that our Height Modernization data get in OPUS-DB in the future?

Neil Weston (NGS) – Currently, you need 4-hr observations because it provides the necessary for the position you get. Until software improves, we don't plan to change those requirements.

[discussion about OPUS-projects and how data run through OPUS projects gets into NGS for sharing with the public – bottom line, NGS has more work to do with this Beta product]

Rick Foote (NGS / PNT) - The future of NDGPS – outcome(s) from the DEC 13 PNT Executive Steering Group meeting

Rick Foote presented his slides.

Tim Klein (DOT) – High Accuracy NDGPS is still in the plan, because a lot of work and development has been done. Perhaps a 3rd party company would like to pick up the technology and turn it into a service.

Marti Ikehara (NGS) – Are there any users who really need this High Accuracy NDGPS in a 1 second stream?

Tim Klein (DOT) – I don't know.

Tim Smith (NPS) – Is Giovanni in the process of doing an analysis of CORS usage?

Juliana Blackwell (NGS) – We should have that by the end of the fiscal year.

Joel Cusick (Alaska) – If the Galaxy 15 satellite goes offline again, that is a big problem for positioning in Alaska. WAAS is not very useful in the Arctic. The lack of an NGS advisor in Alaska is really hurting us. I will send something in to Tim Klein directly.

Dr. Dru Smith (NGS) - Foreign data distribution

Dru Smith presented his slides.

Tom Soler (NGS) – What about aerial photos? We have a lot of those.

Joe Evjen (NGS) – How do we control the data that is put into our database?

Dru Smith (NGS) – If someone gives it to us, we will give it back out.

Dr. Neil Weston (NGS) – Data Streaming

Neil Weston presented his slides.

Neil Weston (NGS) - The symposium in May will hopefully give NGS a list of recommendations about how best to move forward with real time streaming of data.

Tim Smith (NPS) – We need to be aware that the private companies like Trimble are looking to use this data to supplement the data that they have. It will help them provide better positioning solutions. It would help the DOI feel better about the decommissioning of NDGPS if we had a real time service like this.

Neil Weston (NGS) – Some private companies won't let us put everything in the messages.

Tim Smith (NPS) – The people I have talked to at Trimble have said different things. We should talk offline about that. Can you provide multiple casters?

Neil Weston (NGS) – There is a cost associated with that. The service we have provided so far has had very limited use.

Tim Smith (NPS) – I caution drawing usage conclusions from the limited service that you have provided so far.

Neil Weston (NGS) – We need to proceed carefully, because this is an expensive endeavor that does not have much demand now.

Bill Henning (NGS) – It is a cost / benefit decision.

Tim Klein (DOT) – DOT has to look at providing a data streaming service as an option for meeting our mission for surface transportation and deployment of intelligent transportation systems. We have no idea how the removal of maritime NDGPS will impact things.

Neil Weston (NGS) – If Trimble and Leica etc, are behind this, those companies should open up their data to a caster for streaming.

Juliana Blackwell (NGS) – It is not our mission to provide real time data for navigation.

Tim Smith (NPS) – You have a lot of projects like OPUS that help us tremendously. I don't think that it is a very big leap to provide real time access to the reference frame. Is the existing system today, which is in ITRF, able to be changed to another reference frame? It would be more useful if it was provided in NAD 83.

Neil Weston (NGS) – We can change the reference frame for that system?

Joel Cusick (NPS) – How can we get major GPS manufacturers to get them to better recognize NAD 83 (2011)?

Juliana Blackwell (NGS) – We will follow up about that. Thank you.

Tim Smith (NGS) – What is the status of Foundation CORS?

Neil Weston (NGS) – Yes, right now, we are considering building 10-12 of those stations. We plan to co-locate them with VLBI stations. The receivers will be for multi-constellation GNSS data. We are now working on building the first 1-2 stations. They will be the backbone for the NSRS and contribute to the global geodetic systems. The monumentation will be drilled to bedrock with stainless steel or invar rods that won't have much thermal expansion. We are studying the best place to put these stations.

Juliana Blackwell (NGS) – These stations will be built to achieve the highest geodetic quality and reliability.

Tim Smith (NPS) – I think you should look at turning existing NDGPS sites into Foundation CORS.

Juliana Blackwell (NGS) – We will certainly consider that where it makes geodetic sense.

Mike Londe (BLM) – Most people do not understand the cost of these geodetic stations. In these austere budget times, we need to separate the mission critical part of providing geodetic control from the other services (like real time streaming) that people would like to have.

Erik Gakstatter (GPS World) – I echo Tim Smith's comment about how the real time streaming NGS is providing is so sparse that I don't think we can make valid inferences from its limited usage. I suspect there is a healthy demand for it but our sample size is too small to detect it.

Neil Weston (NGS) – We are developing an OPUS-GIS tool. If a meter or submeter accuracy is good enough, you can use that tool to get a position for every epoch. I can talk with you offline about that. It is post-processed solution.

Tim Smith (NPS) – That is not a big issue for us.

Neil Winn (NPS) – We need measurements in real time in the field.

Joel Cusick (NPS) – We need those measurements in NAD 83 not ITRF.

Juliana Blackwell (NGS) – Closing remarks

Thank you for your participation today! If there are things that you would like to recommend to us or ask us, feel free to contact us anytime. You can send them to Jeremy McHugh (secretariat). Our next meeting will be in July.