Public Comments from HSRP meeting, Sept 1-2, 2021 Final 2Sept2021

Advance Public Comments

1) From: Cliff Mugnier, LSU
The LSU C4G wants to install, maintain, and operate CORS at offshore oil & gas platforms (GoM). We need NOAA help to recruit.

2) From Cristina Forbes, US Coast Guard
Need accurate modeled surface currents and winds in and around wind farms for USCG search and rescue missions.

3) From: Jose Martinez Diaz, Fugro
Keep the good work to ensure dissemination of data/information/tools find the target audiences and users, public and private.

4) From: Clark Alexander, SKIO, University of Georgia
We need to create a pathway and methodology for integrating bathymetry derived by non-NOAA entities into national databases

5) From: Matt Holland, XOcean
Increase the use of Uncrewed Surface Vessels (USVs) for data collection to improve safety and lower environmental impact.

6) From: Guy Knoll, ESRI
Blue economy is more than ops risk assessment (see EVERGIVEN) and needs digital infra baseline. Other sectors use GIS tools.

7) From: Rob Smith, Vice President Energies and Infrastructures Business Unit, Woods Hole Group
Expanded NOAA real-time systems will be crucial for future port facility resilience, safe navigation & maritime operations.

8) From: Christopher Ilori, Simon Fraser University
Physics-based satellite derived bathymetry (SDB) can be used for mapping shallow water (where clarity allows).

9) From: Verner Wilson, Senior Oceans Campaigner, Friends of the Earth, AK
Question: Have you notified Native American Tribes as part of your government-to-government trust responsibility of this work?

10) From: Summer Ohlendorf, National Tsunami Warning Center (NOAA/NWS)
A more consolidated approach to managing mapping efforts.

11) From: James Doyle, RPS Group
Easier to use software.

12) From: Houssem Sadki, Tunisian Navy
WebGis

13) From: Chelsea Fairbank, SBG Systems
Low SWAP INS and batch processing of INS data in Qinertia

14) From: Rada Khadjinova, Fugro-Alaska Area Manager - letter

Dear HSRP: Thank you for the opportunity to comment and for the work NOAA does both nationally and in Alaska, where I live and work. The baseline Geo-data and observations NOAA shares with the public make meaningful, positive difference to safety in navigation, while also protecting the built and natural environment and is essential to growing the blue economy and ensuring resilient coastal communities. I share your tremendous sadness at a loss of Rear Admiral Richard "Rick" Brennan, who I had the privilege of meeting in Alaska. During his visit in 2018, I saw first-hand his passion for hydrography, science, and innovation, and for building bridges across services, sectors, and mandates. His energy and hard work made a difference in the hydrographic health of our nation and especially in Alaska.

Fugro, as an active private sector contributor to the same mission, wants to see Admiral Brennan's efforts continue to grow. What do I mean by that? For Alaska, where the Geo-data gaps are vast and coastal mapping programs are in their infancy, one of the first steps is completing the Vertical Datum Transformation (VDatum) tool beyond the Alaska Southeast regional model. VDatum is an essential pre-requisite for efficiently acquiring and merging topographic and bathymetric datasets, which are the basis for informed decision-making for a sustainable blue economy and coastal resiliency.
As the Alaska Coastal mapping execution strategy is being finalized, it is my hope that the government takes full advantage of private-sector contributions. Qualified contract surveyors are ready and able to participate in what will be a very heavy lift to map the most variable and the longest coastline in the nation. If Alaska's hydrographic backlog is any indication, completing the Alaska coastal mapping within the next 10 years will require all hands-on deck. Collaboration with the private sector is the fastest route to tapping into technology innovations, optimizing technical approaches specific to different coastal areas, and increasing overall execution capacity. Fugro and other private sector firms provided practical suggestions through formal comments to the draft Alaska Coastal Mapping Strategy, and we look forward to seeing the difference those comments will make in the final execution strategy.

I am particularly proud of our most recent innovation in airborne lidar bathymetry (ALB) sensor technology, which combines superior depth penetration and data density while reducing fuel requirements by up to 98 % compared with legacy sensors used today. This technology is drone-capable, and can offer dramatic gains in coastal mapping efficiency, data quality, and carbon reduction in the US, just like it has for numerous other national hydrographic agencies around the world. In Alaska, where airports are few and far between and backcountry airstrips have short dirt or gravel runways, a full-depth ALB sensor deployed from a rotary of fixed wing drone means simplified logistics, dramatic gains in efficiency and pace of collection.

Of equal importance is collaboration across agencies. In the context of Alaska coastal mapping, the value of coordination and collaboration between NOAA NGS, NOAA OCM, and the USACE JALBTCX cannot be overestimated. Afterall, the "J" in JALBTX stands for "joint". Fugro is eager to hear more about how USACE- and NOAA-led efforts are being coordinated, and how we, as private-sector stakeholders

and potential contributors, can find on-ramps to these parallel efforts, which would also help reduce duplication and increase efficiency.

Talking about efficiency, this year Fugro was excited to again be back in Alaska surveying for NOAA, my home state. Despite the ongoing challenges of Covid-19, we successfully collected over 4,000 linear nautical miles around Unimak Island, an area whose maps in some cases predate the 1940s. We used satellite reconnaissance data to optimize and de-risk our operations in the shallow nearshore, found lots of kelp and two uncharted shipwrecks. We demobilized on the same day as the 6.9 magnitude earthquake, the epicentre of which was in very close proximity to our operations. It should be noted that coastal nearshore bathymetry is used not only for safety in navigation but also by many other agencies in our state to manage land and resources like forests, minerals, and seafood. This specific area of Aleutians is an important fishing ground. NOAA Geo-data is foundational for multitude of government agencies, researchers, and private sector stakeholders to achieve their respective objectives. So the pace of reducing hydrographic data gap in Alaska, including priority coastal areas should be increased. On a positive note, 2021 is the first in the last 5 years when multiple private sector contractors and NOAA have been tasked in Alaska.

In conclusion, I want to recognise the good work of HSRP and one specific HSRP member, my fellow Alaskan, Ed Page whose service on the board is coming to an end, thank you for your service Ed, and thank you for representing Alaska so well.

Yours faithfully, Rada Khadjinova, Fugro-Alaska Area Manager

Sept 1, 2021 Public Comments:

1) From: From: Rada Khadjinova, Fugro

Question to OCS and NGS / USACE:

Administrator Spinard talked about NOAA's primacy over authoritative foundational geo-data including shallow water and coastal bathymetry. Looking at the Infrastructure bill and overlapping mandates between NOAA and USACE on the coast, appreciate more context of how AK Coastal Mapping program is envisioned to be coordinated between NOAA/ USACE/ JALBCX and how private sector contract partners can find onramps to increase use of advanced technology to increase pace and scope of data collection. Thank you.

2) From: Denis Hains, h2i

Thank you for the HSRP members leadership; and for the professional introductions from the VIPs so far. Your opening and transparency to invite public participation is much appreciated and demonstrate the US-NOAA's commitment to listen, consider and implement public feedback and comments. :-)

Excellent presentations Andy, John, Julianna & Richard. Impressive work accomplished, congrats! I understood from Andy-JHC that international collaboration is currently taking place in the Arctic MB cruise with Canada. Q (to read to presenters)- Are there other specific initiatives in OCS, NGS and CO-OPS that are conducted in collaboration with contiguous countries to US to maximize outputs & outcomes?

3) From: John Byrd, U.S. Geospatial Executives Organization

Part one of question: I'm John Byrd with the U.S. Geospatial Executives Organization, U.S. GEO, a coalition of CEO's and senior executives of the nation's leading geospatial firms, including several that perform hydrographic surveys. The LoBiondo Coast Guard Authorization Act of 2018, PL 115-282,

included the current Hydrographic Services Improvement Act reauthorization. In section 1002 NOAA was required to submit two reports to Congress. One was a method for comparing the cost of NOAA performance of hydrographic surveys with the cost of contractor performance. That was due to Congress one year after the date of enactment, which would have been December 4, 2019. The second was a strategy for how NOAA will increase contracting with nongovernmental entities for hydrographic data collection. That was due 180 days after the date of enactment, which would be June 2, 2019. According to the committees of Congress with jurisdiction over NOAA's hydrographic surveying, those reports have not been submitted.

Part two of question: These address questions HSRP has raised many times in the past. I'm wondering if the HSRP is aware of these provisions of law, has HSRP been consulted in the preparation of these deliverables to Congress, the status of these reports, NOAA's process for seeking private sector input to the development of these reports, and if they have not yet been submitted, why have the deadlines set in law by Congress been violated, and when the reports will be provided to Congress? These are important long standing issues and I appreciate HSRP providing this time for me to comment and ask these questions. Thank you.

4) From: Shawntel Johnson, Director of Business Development, Ocean Infinity

With the hydrographic survey technology improving and more contractors available to assist in the backlog and mapping goals, is there any possibility of opening the 5 year hydrographic survey contract for rolling admissions to allow new industry partners the opportunity to participate? If so, when does the HSRP anticipate this occurring?
Thank you in advance. Shawntel Johnson, Director of Business Development, Ocean Infinity

5) From: Denis Hains, h2i

Very interesting session on Offshore Wind Energy and Ocean Mapping. It's all about Hydrospatial (Blue Geospatial, Economy and Knowledge)... Q (to be read to presenters): Are you seeing ALL data "openly and freely" shared with no restrictions? Do you see that some data sets might not be shared for commercial or defence restrictions? Are you making sure that the all the data you'll contribute will be respecting Standards to be easily Findable, Accessible, Interoperable, and Reusable?

6) From: Jason Creech, David Evans and Associates, Inc.

Public comment / question. I apologize if this was already discussed. Are there any MOUs, partnerships etc. between offshore wind operators and the federal government that would allow installation of scientific sensors on the wind platforms? I see lots of potential to push critical NOAA programs into the offshore environment …. CORS, VDatum, tides, state GPS RTNs, to name a few.

7) From: Joyce Miller, University of Hawaii

What is the status of getting interagency agreements and contracts better streamlined? This was an on-going HSRP issue since at least 2011.

8) From: Guy Noll, ESRI

California looking at Morro Bay because there is an old coal station there, and the Nuclear plant at Point Diablo is just to the south, so that is where the grid tie can be utilized. Yes, a bit deep, but floating wind farms are also possible.

Sept 2, 2021 Public Comments:

1) From: Carl Gouldman, Chief, IOOS
Keep working with customers to refine your service delivery.

2) From: Praveen Vamadevan, Fugro
Fugro can provide reliable Geo-data effectively and to the highest standards, contributing to safe navigation & development.

3) From: Andrew MacInnes, Moonbeam Sail
Prepare more consumer near shore charting for public access to and from waterways that may be outside navigable waterways

4) From: Alessandra Bianchi, SeaTrac Systems, Inc.
SeaTrac's versatile, persistent carbon-neutral uncrewed surface vehicle ready to assist in shallow mapping and ocean monitoring.

5) From: Chelsea Fairbanks, SBG Systems
Having worked in hydrography since 2011, first with Fugro and following, Teledyne, there are very few options for Inertial Navigation for surveyors. I now work with SBG Systems which manufactures both Inertial Navigation and Post-processing software. The solution has been adopted by the French Hydrographic agency SHOM.

What are the common avenues for private companies, such as SBG, to introduce new developments/technology?

6) From: Kyle Goodrich, President & Founder, CARTA

I fear that the HSRP is missing out on technology developed by TCarta under a NSF-funded SBIR grant to produce global 10m Satellite Derived Bathymetry, deploying Deep Learning to process the entirety of the ICESat-2 archive, and employing cloud computation to process every image collected in U.S waters, among numerous other advancements in Satellite Derived Bathymetry. I would strongly encourage the HSRP to take a wider view on who it invites to brief the panel to ensure the panel receives the current state of the technology across the various experts - not just NOAA and Prime contractors. I encourage the Panel to include U.S. Small Business within your search for Subject Matter Experts on the topic.

The panel is hearing on the topic of "Technology in Support of Shallow Water Surveys in Under 40 Meters and the Blue Economy" and two talks on SDB but is not hearing from TCarta who has two U.S. Government funded research and development programs (totaling over 1.5 million dollars of government investment, and more than 5 years of RnD, and counting) geared at scalability,

standardization, and novel satellite based technologies to address this topic and is generally viewed as a global leader in this field.

Is the panel aware that TCarta delivered a large-scale high resolution SDB project to the OCS in 2020? Would they want to hear about this technology, its deployment, complexities and ongoing advancements from a commercial provider with extensive experience? There have been many industry partners, big and small, who know our work & have recommended as recently as today that TCarta present to HSRP. We stand ready to present our work to you, as it directly aligns with today's topic and HSRP's purpose. Yet, we are unclear how an entity such as TCarta can go beyond public statements to be invited to the table, perhaps as part of the spring meeting? Best regards, Kyle Goodrich

7) From: Denis Hains

Technology in Support of Shallow Water Surveys in Under 40 Meters and the Blue Economy is critical. Excellent presentations by 3 presenters (C.Lockhart, D.Mallace, R.Stumpf). A comment (to read) for the HSRP: It is suggested that Satellite-Derived Bathymetry (SDB) should "always" be used where conditions (water turbidity) allow. It is the best by far cost-effective tool/means for reconnaissance, planning and to identify where MBES and LiDAR surveys are needed or to complement other surveys. In addition SDB allows to create time-series of the past where satellite imagery is available over time... LiDAR is much better in term of accuracy and precision than SDB, but much more expensive to fly and not needed everywhere... where turbidity allows SDB might be sufficient to detect and report hazards to navigation and changes on the seabed and coastlines... USVs equipped with MBES are great, they are the best with also ship-based but much more time consuming, weather dependant and expensive to operate; they should be deployed in areas where more accuracy and resolution is needed than SDB and LiDAR! All technologies must be used in complementarity for their respective value, resolution and "not" be considered in competition. :-)

8) Bob Moshiri, Johnson Outdoors

I had brought up the subject of boating accidents during one of previous meetings. The US Coast Guard just reported that the latest stats show 25% increase in boating accidents, mainly due to record number of inexperienced boaters. There certainly were other contributing factors, but knowing that a third of new 310,000 boats purchased in 2020 were by first time boaters, it is not a surprise that accidents increased.

US Coast Guard study shows 26% increase in boating accidents last year as numbers of new boaters surge

According to a newly released report by the US Coast Guard, the number of boating accidents in the US increased by more than 26% in calendar year 2020 and the number of deaths jumped by more than 25%, reflecting higher numbers of inexperienced boaters taking to the water. Among the findings in the agency's 2020 Recreational Boating Statistics Report, the number of boating accidents was reported as 5,265, up by 24.3% from the 4,168 boating accidents reported during 2019. A US Coast Guard report says alcohol remains a leading factor in fatal boating accidents 8/9/2021 US boating accidents up in 2020 | News | International Boat Industry
https://www.ibinews.com/market-intelligence/us-boating-accidents-up-in-2020/39686.article?utm_medium=email&utm_campaign=Weekly IBI Daily Ne… 2/2

The Coast Guard reported 3,191 injuries resulting from those accidents – up by 24.7% over the 2,559 injuries reported in 2019 – and 767 fatalities for a 25.1% increase over 2019 figures. The fatality rate was 6.5 deaths per 100,000 registered recreational vessels, the highest in the program's recent history. Where the cause of death was known, 75% of fatal boating accident victims drowned, with 86% of

victims found not wearing a lifejacket. The report cites a sharp increase in overall boating activity during 2020 as pandemic-related travel restrictions resulted in boaters spending more time aboard their vessels with family instead of traveling abroad. The Coast Guard also cited increased numbers of inexperienced, new boaters on the water, as evidenced by higher numbers of boat sales to first-time buyers. Alcohol continued to be the leading known contributing factor in fatal boating accidents in 2020, accounting for more than 100 deaths, or 18% of total fatalities. The report also shows that claims for property damage resulting from boating accidents in the US totaled approximately $62.5m. Captain Scott Johnson, chief of the Office of Auxiliary and Boating Safety at Coast Guard headquarters, recommended that new boaters should be directed to take a boating safety course before heading out on the water.

9) Kim Holtz, Port of Long Beach
   For GPS corrections you are near land you can connect to State and USGS Real Time Networks (RTN. At the Port of Long Beach we have set up a RTN that the pilots use for cm level accuracy. Our system is based on Calif Spatial Reference Center base stations. Other States have similar systems.

10) Clark Alexander, University of Georgia
    New comment - there is alot of nearshore/inshore mapping going on in the academic community. There is no clear path to getting this highly accurate and modern bathymetry integrated into the authoritative national dataset. A mechanism and point person for this effort is needed.

11) From: Cristina Forbes, USCG
    What are NOAA plans to implement algorithms that include wind farms effects in their atmospheric and ocean numerical forecast models?
    The USCG-SAR uses NOAA ocean and meteorological numerical models to perform drift simulations of persons/vessels lost at sea for search and rescue and planning missions. The modification of winds and currents downwind of wind farms are currently not being modeled in their ocean/meteorological operational forecast systems. Without accurate ocean currents and winds, USCG-SAR is concerned that the search locations might not be able to be successful. The collection of data in and around the wind farm will be essential for future verification of the model results. This is an issue that was not discussed but perhaps could be recommended as future action.