The Hydrographic Services Review Panel met in the Pinnacle Grand Ballroom, Doubletree Hotel, 8727 Colesville Road, Silver Spring, Maryland, at 9:00 a.m., Scott Perkins, HSRP Chair, presiding.

MEMBERS PRESENT

SCOTT R. PERKINS, HSRP Chair
DR. LARRY ATKINSON
RADM KENNETH BARBOR
DR. LAWSON W. BRIGHAM
RADM EVELYN FIELDS
ED J. KELLY
DR. FRANK KUDRNA
DR. GARY JEFFRESS
DR. DAVID MAUNE
JOYCE E. MILLER
CAPT. SALVATORE RASSELLO
SUSAN SHINGLEDECKER
NON-VOTING MEMBERS

ANDY ARMSTRONG, Co-Director, NOAA/University of New Hampshire Joint Hydrographic Center
JULIANA BLACKWELL, Director, NOAA/NGS
RICH EDWING, Director, CO-OPS, NOAA

STAFF PRESENT

RADM GERD F. GLANG, HSRP Designated Federal Official
W. RUSSELL CALLENDER, Ph.D., Acting Assistant Administrator, NOAA/NOS (participating telephonically)
ASHLEY CHAPPELL, NOAA/OCS
TIFFANY HOUSE, NOAA/NGS
CHRISTA JOHNSTON, NOAA
CAROL KAVANAGH, NOAA/NOS
GARY MAGNUSON, NOAA
LYNNE MERSFELDER-LEWIS, HSRP Coordinator
RUSS PROCTOR, Chief, Navigation Services Division, NOAA/OCS
ADAM REED, NOAA/IOCM

ALSO PRESENT

J. ANTHONY CAVELL, NSPS
GERHARD KUSKA, Ph.D., MARACOOS
TODD MITCHELL, Fugro
# A-G-E-N-D-A

<table>
<thead>
<tr>
<th>Welcome.</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Scott Perkins, HSRP Chair</td>
<td></td>
</tr>
<tr>
<td>Review and Discussion of Day 2</td>
<td>4</td>
</tr>
<tr>
<td>Discussion: Coastal Intelligence and Resilience Working Group</td>
<td>44</td>
</tr>
<tr>
<td>Dr. Larry Atkinson, Co-Chair</td>
<td></td>
</tr>
<tr>
<td>Legislative and Policy Working Group</td>
<td>67</td>
</tr>
<tr>
<td>Ms. Joyce Miller, Chair</td>
<td></td>
</tr>
<tr>
<td>Planning and Engagement Working Group</td>
<td>97</td>
</tr>
<tr>
<td>Dr. Dave Maune and Dr. Frank Kudrna, Co-Chairs</td>
<td></td>
</tr>
<tr>
<td>Engagement Strategy Discussion</td>
<td>108</td>
</tr>
<tr>
<td>Dr. Frank Kudrna, Co-Chair</td>
<td></td>
</tr>
<tr>
<td>Public Comment</td>
<td>173</td>
</tr>
<tr>
<td>Deliberations and Assignment of Working Group Tasks</td>
<td>184</td>
</tr>
<tr>
<td>Deliberations and Framing of Meeting Outcomes</td>
<td>223</td>
</tr>
<tr>
<td>Review and Consensus of Meeting Outcomes</td>
<td>228</td>
</tr>
<tr>
<td>Closing Remarks</td>
<td>250</td>
</tr>
</tbody>
</table>
CHAIR PERKINS: Good morning, welcome to day 3 of the hydrographic services review panel. We'll now get started with the public meeting portion, if you could please rise and join me once again in the Pledge of Allegiance.

(Pledge of Allegiance.)

Thank you, please be seated. A short recap from yesterday we had a very informative panel presentation from government stakeholders yesterday chaired by Dr. Maune, excellent Q&A session afterwards. Yesterday afternoon we had a very educational field trip up to Maryland to visit the MITAGS Institution, we got to take a look at their facility and spend some time on their large ship simulator. So for those of us that haven't spent time on the water in that environment it is an amazing facility so compliments to the Admiral and to staff for putting that on the agenda. I think it was very beneficial in broadening our understanding and
awareness of what life is like on the bridge of these ships in today's environment. So the simulation showed a near real-time virtual view of Boston Harbor under daytime, nighttime -- pardon? Baltimore, I'm sorry, thank you. Baltimore Harbor, yeah, the B's. An amazing facility daytime, nighttime view of the harbor, you know, on the bridge, multiple scenarios so excellent activity for the evening.

Task at hand for us now is to work towards conclusion and outcome from the information that we received from our working groups and from the information that's been presented by the panelists here over the last 48 hours. So one of our housekeeping items is to do a quick vote on both geographic location and tentative date for the next meeting so both in the public session and in our informal breakfast meetings we've kind of kicked this around so I will make the proposal that we put the Houston, Texas geographic location in the week of March 14th as the next place and time for our HSRP
meeting, so I'll open that up to any discussion.

All right. Hearing none, we don't follow
Robert's Rules of Order so I don't think we need
a motion and a second but let's do the customary
all in favor say aye.

(Chorus of aye.)

Great. Any opposed like sign. Okay.

I look forward to seeing you and our public
counterparts and we'll try to get that date
published and circulated as soon as procedurally
we can do that after the administrative process
takes place so thank you very much for that.

The next item that we'd like to talk
this morning is an adoption in some form of
consent for the Emerging Arctic Priorities
Working Group Report. So it has been suggested
that we distribute the Emerging Arctic Priorities
Working Group Report in concert or concurrently
with the Report Out Letter that will be produced
from this. There has been some discussion about
some additional modifications and not to say
corrections but there's some temporal aspects to
that report that we may want to wordsmith based
on the testimony that we've heard at the meetings
and other events but the intent is to get that,
you know, distributed with the recommendation
letter, so. Dr. Brigham.

MEMBER BRIGHAM: Do you want to go
through some of the recommendations? I think one
where we need the consensus are the eight or ten
recommendations we have. We can wordsmith the
narrative and the answers to the questions but we
really need to have a consensus to make this as
an HSRP report for the recommendations anyway.

CHAIR PERKINS: All right. Thank you
for the clarification. The intent is that it
goes forward as an HSRP report, not as a working
group report. So that it signifies that it's
embodied by the full panel so prepared by the
working group and embraced by the full panel.
Does the panel feel it's necessary to review the
recommendations individually or can we take them
as a slate? We have the luxury of time, you
know, this morning sessions up until lunch time
is for us to work through exactly this type of
information.

MEMBER BRIGHAM: I think we should go
through just quickly each of the recommendations
and get an idea.

CHAIR PERKINS: Okay, great. So I'll
take you up on the quickly part because I've
learned that a schedule can evaporate before my
very eyes. Okay. Do you want to cue them up on
the projector or do you want to do them orally?

MEMBER BRIGHAM: I don't care.

CHAIR PERKINS: Okay, great. The
floor is yours.

MEMBER BRIGHAM: Everyone has them
before them.

CHAIR PERKINS: Yes, that's true,
everyone has them in your packet as well. Yes,
it should be in the left-hand pocket of the blue
folder. While you're doing that, one reminder,
please complete your clerical sheet and turn that
into Tiffany -- actually to Russell who is
filling in for Tiffany this morning. So if you
havent completed your, and signed your sheets, please do so.

MEMBER BRIGHAM: Lawson Brigham, so maybe I'll lead us through this little discussion of the recommendations. The first two respond to the first question and the question again was related to attempting to prioritize Alaska with the rest of the nation, and the answer to the question is that it's very difficult if not impossible to do for a variety of reasons. So while NOAA itself might not be able to say this or would not say that we need a line item budget we can say that with HSRP and I think this is one of the most important recommendations we could ever have. Where it goes and whether it evaporates is somebody else's business but I think we should ask for a line item budget for this new emerging activity of which the President himself has talked about. And it might move the President to put it in his budget but we don't know. So that one I think is -- and then the second recommendation is internally in NOAA it's
to place a bit more emphasis, a lot more emphasis perhaps in their Arctic strategic documents on this very same subject of charting and hydrography.

Well, internally we can say this but internally they might have a different answer but we can say it, they asked, so those two. Are people comfortable, are all the members comfortable with those two?

MEMBER MAUNE: I agree with that, Dave Maune speaking here. Dr. Callender asked for guidance from us on prioritization and I think that's exactly what we're doing.

MEMBER BRIGHAM: And I did speak with Bill at some great length so he is supportive of these two.

CHAIR PERKINS: Thank you, I failed to mention panel members Lockhart and panel member Hanson both have prior working engagements so Vice-Chair Hanson is not able to be here with us today, we knew that ahead of time and he did pass his proxy and consent on the working group
report, you know, to both Lawson and I prior to
his departure last evening.

MEMBER BRIGHAM: The second question
that NOS gave us was related to internal
prioritizing the hydrographic needs within Alaska
or within the United States Maritime Arctic and
we don't necessarily answer the question directly
but I think we added some refinement to what are
the marine uses in the area. So I went through
those, looked at the AIS and there are a number
of important, perhaps equally important marine
uses, national security, resupply of coastal
communities, resupply of the North Slope and you
can segregate out these in a package. But we
don't have maybe the expertise to give the
priority to each one and I think that priority
comes from CMTS or whatever analysis NOAA does
itself. So the recommendations are three, from
our look at this it is unclear that the National
Security requirements are integrated with this
effort. Pretty straightforward.

People don't have to agree with us but
from our essence that's what we're saying and we
do say in this recommendation that CMTS might be
the facilitator of trying to gain some integrated
national hydrographic plan, not planned but
including these National Security requirements
so.

The second recommendation deals more
specifically with analyzing, have the NOS staff
analyze and take a closer look at the coastal
barge traffic and operations that deal with
resupply of coastal communities and also resupply
of the North Slope and how does that fit in to
this picture of traffic in the US Maritime
Arctic. And the third one is we have offshore
leases and what are the requirements from DOI and
the requirements of the commercial world both
inside and outside the lease sites. And I am
pretty certain that those requirements are not
clear to anyone so our recommendations are these
three that deal with three different marine uses
that it's unclear to us as a recommending to NOAA
with some expertise here that it's not clear that
those three requirements have been analyzed

MEMBER MILLER: Since you're talking

about National Security here, this is Joyce

Miller, and yesterday Lawson and I both asked the

NGA representative if data were available, could

we in some way in this section since National

Security, could we in some way include in either

the explanatory paragraph or the requirements to

investigate what other data. And it's not just

government data, I mean the oil and gas companies
certainly have some data out there and since

charting is such a high requirement, you know,

whatever data is available it gives you some

guideline as to, and whether it's feasible to get

that or not I don't know but maybe in this one

isolated instance where, you know, the Arctic has

become such an issue perhaps we could have some

leverage, Lawson.

MEMBER BRIGHAM: It may be just the

language in the narrative. This particular

recommendation was in fact focused on the DOD
intelligence agencies and what knowledge they have but we didn't actually specify, it's just the relationship of the organizations and their contribution and an integrated whole government approach where we don't have a lot of data and we know they have some. I know personally they have some so and you do to, so two of us on the committee know, and I think Andy does, enough of us know that they have data and the question is how are they going to share it with us all for this remote and challenging area where we don't have a lot of information so we can massage that recommendation if you'd like slightly to say it a bit harder on that. A consensus on those three I guess.

CHAIR PERKINS: Yes, I think, it's my opinion, Dr. Miller, that what you're suggesting might fit better under 3A, the alternative strategies for Arctic coverage, you know. And I think that maybe the concise way to state that is that we recommend full release of all bathymetric data collected by other agencies into the NOAA
stream for consideration into our production. It
may not be worded perfectly but because it's not
just NGA or the Navy's data, any data that's
being collected by any federal agencies should be
considered part of the chart, it should be
considered in the process of available data that
goes into the chart process.

MEMBER MILLER: I would agree that I
hadn't really thought of that but yeah, wherever
the recommendation fits I just think this is a
chance to include the knowledge of other data
that exists.

CHAIR PERKINS: Okay. So I think that
means that you and Dr. Brigham have a window of
about 14 days to get that penned so we can have
it included when the recommendation letter goes
forward if we stay on schedule with their
standing operating procedures.

MEMBER MILLER: That's doable. Do you
want me to draft something, Brigham, or do you
want to do it?

MEMBER BRIGHAM: I like it better in
the alternative strategies. Actually there are
some synergism, we have it here and then we
mentioned it again in --

CHAIR PERKINS: Yes, I think it fits
better in the strategy question than it does in
the prioritization questions.

MEMBER BRIGHAM: I reordered and
retooled these questions, we had 3(d), 2(b), I
forgot what they are. We had actually, the
number one question was about the Coast Guard
routes but that time passed for our input so we
didn't address that one directly. But I think
it's six questions in question one, two, three
just to make it a bit more 101 and simple for
everyone. But okay, we'll work together on that
one.

The next question deals with tide
gauges and CORS and the recommendation is, it's
fairly soft but it's direct in one area, it says
we must improve access to the National Spatial
Reference System and fundamental ocean graph
data, tides, currents in the whole of the US
Maritime Arctic but with the caveat that additional tide gauges and co-located CORS stations are urgently required, essentially it's in the lease site area but we say Bering Strait, Chukchi Sea and Beaufort Sea, where there are leases across all the area so is that specific enough or is it -- I don't think we wanted to say that Rich had to have X number or Juliana, we just wanted to say it's important and it's really important in this one area where we don't have essentially the triangulation capability to do the surveys adequately.

The next one is what Captain Armstrong was working on with us and giving us some advice on recognizing the shorter seasons and the effort that's required, what might we recommend for an annual survey. Of course NOS also asked for what percentage and not knowing what the box says it's difficult to know what the percentage is so but we recommended 500 square nautical mile minimum per annual but I think this year or maybe last year you have more than that, right Admiral?
Maybe this year is 800 or something?

RADM GLANG: Gerd Glang, Coast Survey.

Because we had both the Rainier and the Fairweather operating in the Arctic and we had one of our contractors we were able to exceed the 500 square.

MEMBER BRIGHAM: But of course this is based upon current funding, current technology, you've reprogrammed money to do some of this so it's not an extrapolation, it was what are we doing now and can we continue to do it, but our recommendation also says as a second part of it that NOS or NOAA should develop a strategy, in fact should have it already underway in case there is new money, in case we are successful and so and have a plan that they can roll out. This percentage thing, people ask me how much do we do in a year and I can't tell because if it's the whole of the US Maritime Arctic by law, it includes the Aleutian chain all the way to the Canadian US border, that's a very big chunk of the Bering Sea, the Beaufort Sea and the Chukchi.
I think we're talking about north of the Bering Strait and all of the Chukchi Sea and Beaufort Sea is the box maybe. But to come up with this percentage we all should be talking the same language, it's just an artifact of the discussion and the question.

RADM GLANG: Gerd Glang, thanks Lawson. I think the intent was in the US Arctic as it's defined in the Act, so it would include the Aleutians. And so for instance for us Dutch Harbor and Unalaska area are a priority for next year's so we're going to account that certainly as part of our Arctic effort next year.

MEMBER BRIGHAM: I'm smiling because one wonders why because of the Fennica of course. So but that makes sense because I think being consistent with the United States law, there are lots of definitions of the Arctic and I hear them all the time spouted out by various agencies including the State Department and I always bring them back when I'm there saying wait a minute, we have a federal definition in the US law, it's the
Arctic Research and Policy Act 1984. So anyway, we should use it but then the percentage of course, 500 square nautical miles, I don't know but a couple of percent --

MR. ARMSTRONG: No, not even.

MEMBER BRIGHAM: Okay, point something percent. So it doesn't sound like much and it isn't much.

MR. ARMSTRONG: Right, I mean I agree that when we include that whole area, if we recommend that NOAA do one half of one percent a year, that's a non-starting recommendation.

MEMBER BARBOR: Yes, Ken Barbor. Do we have that broken down into significant areas like we do --

MR. ARMSTRONG: That's right, I think that's the first step and I think that's what Dr. Brigham has said is that the first step in order to get to percentage is actually to identify sort of an Arctic critical area that needs to be attacked.

MEMBER BRIGHAM: I mean, in the
narrative we split it out to saying we're going
to cover some of this 500 square nautical miles
is devoted to the corridor and the axis which the
Coast Guard wants to have this route. Some
surveying is done for the approaches to the lease
areas and some is for the approaches to the end,
the survey of the refuge area so we've identified
that there are components to this annual that
have to be worked out. And of course things
happen and so more time will be devoted to Dutch
Harbor but eventually more time will be devoted
to Nome perhaps as a new Arctic port and we don't
know how that's going to play out but we know
that the 500 square nautical miles, how small it
is still won't be devoted to specific areas over
a 10 or 11 year period.

And it may take a century to chart
this area but anyway so it's kind of a swag, this
one, but it's minimum so if we want to do a lot
more like what was done this sheer that's great.
Is everyone comfortable with that short analysis?
I mean, we could actually say, you know, 2000 but
that might be unrealistic, well it would be unrealistic in terms of the federal funding today and, you know, there are lots of issues. So we didn't stretch out there.

MEMBER BARBOR: Ken Barbor.

MEMBER BRIGHAM: Yes, sir.

MEMBER BARBOR: I think we serve two purposes here, one is to establish a level of effort and yes, it should not be disjointed with what the expectation is but, you know, it should push that expectation to its fullest, I would think, in order that, you know, if to allow Gerd to take up his chain to say our advisors believe that this is the minimum level, you know, acceptable and I need more resources to try and meet that, you know, but obviously to the point where it is realizable in some, you know, sense but I don't think we should say well, they managed to get 500 so let's keep it at 500. If there is an ability to raise it but now again that is a difficult question I know you've wrestled. Thank you.
CHAIR PERKINS: Dr. Maune.

MEMBER MAUNE: Dave Maune, is it possible that this 500 number might be used against us when we say well, we only need -- well, it's a minimum but somebody could say HSRP recommends 500 and therefore if you get 501 we're fine but 0.5 percent to me sounds like an attainable number and I just wonder that number is too low for a political reason?

MEMBER BRIGHAM: Well, I think the number is based upon how many ships we have in the US inventory to do this and the short navigation season on through the centuries so lots of constraints besides just budget constraints that even physically you might not be able to do a couple thousand square nautical miles because we don't have the ships and they might not be operating well, it might be only one ship so I think there's lots of factors in this.

MEMBER MAUNE: Oh, I agree from a realistic perspective 500 is a good number, I'm just wondering from a political perspective
though.

MEMBER JEFFRESS: Scott, I was wondering if we should put in a parenthetical statement saying that at this rate the Arctic will be surveyed in over 200 years' time.

CHAIR PERKINS: Your point is well taken, I'm not sure that we know how to actually state it. I am inclined to agree with Dr. Maune though that what we should be recommending is a plan that address a much higher number than the reality of what we've been accomplishing. You know, the plan we should be recommending that we plan for a thousand and put the challenge forward, you know, to both the administration and to the US Congress, you know, to implement and authorize the level of funding that it would take the accomplish the President's directive of chart the Arctic, you know, 500 square miles is not the right number to accomplish that.

MEMBER KELLY: Scott, Ed Kelly here. I would also agree that we need to aim for a much higher number. Realistically we have a limited
window of public opportunity where NOAA can make
a statement they want to comply with this
presidential, you know, directive and that we
need to move at a much faster pace to get it
done. If that's accepted as a concept that also
helps us as far as pushing NOAA to increase their
fleet assets and their operational times so it
adds to that.

Dave, I agree operationally and
realistically right now with the tools we have in
hand that might even be a stretch to get that
done but we have now had the opportunity of a
publicized presidential, you know, objective to
chart the Arctic and I think it's our opportunity
to aim high to get this done and enthusiastically
and aggressively seek to be a lead agency in this
and if we say we should be doing it at a much
higher rate which will require additional money
let's see what we get in that may also help us to
put the spotlight on the need to increase the
asset base of the NOAA vessel fleet and
operations. So I think it serves really several
purposes, all of them good for what we're looking
to do.

CHAIR PERKINS: Admiral Barbor.

MEMBER BARBOR: Yes, in taking the
words that exist there rather than should plan
for I think that is the plan, you know, and a
less plan is a minimal annual survey rate of 500
square miles. And then you hit it with the next
sentence that, you know, they should develop
alternative plans that, you know, that bring
those numbers up. So our recommendation is you
need to have alternative plans and execute those.

CHAIR PERKINS: Dr. Miller.

MEMBER MILLER: I would suggest that
since they were able to accomplish 800 square
nautical miles this year that perhaps, you know,
a 50 percent up here 750 which is still, you
know, some percentage of 1 percent, you know,
it's a 50 percent increase over what's planned
and that might be a realistic number perhaps.

MEMBER KELLY: I think it's our
opportunity to go beyond trying to deal with the
cards that we have in our hand. We know that NOAA is challenged with their vessel fleet and this could be an opportunity where we’ve been given a presidential directive to do something and we as a panel should say yes, we want to do that, it needs to be done, we can't wait 200 years to chart the Arctic, we need to up the game here. And I think, you know, make that statement. When people come back to us and say well how are you going to do it, say well we need to invest in the vessel fleet, we have a new objective, a new mission, we need to up the ante here to be able to enable NOAA who is the proper lead agency for this to do what the President and what the country wants done.

I think, you know, we were told to be edgy, I mean is there anybody that doesn't agree that NOAA needs additional assets and they should be the lead agency doing this job? Is there anybody that's comfortable that it's going to take 200 years or longer because the ships are on the verge of just breaking down and sinking and
killing people. I mean, is there anybody that's out there that really feels that that's what we want to be recommending as this panel?

MEMBER BRIGHAM: I disagree with the whole discussion because I'm going to go back to the question that was asked by the NOAA staff, given the realities of shorter survey seasons and mobilization costs what are the realistic annual targets and percentage surveyed and realistic means in my mind the current budget level and what's the potential for deep draft ports and all the rest of that. I agree with everything that is said but it's not said to answer this question and the recommendation, I think we were asked to give something realistic and so we are trying to do that but the realistic part is what are the components that make up that 500 square nautical mile thing. Sure, we can say it should be 10,000 a year but that would be unrealistic, implausible.

MEMBER KELLY: I believe in gravity and realistic things but I think we should give a
realistic target with an existing asset base but make the statement that we should be doing a lot more with this and that it should be done at a much faster rate and that will require additional assets for a new mission of critical security and economic importance to the nation as espoused by the President. I'm not saying that we don't get realistic at the end of the day but I think we need to plant our flag as far as the recommendation of this group that we should be doing it at a much faster pace.

MEMBER BRIGHAM: Well we can say that we had the first question. We're the only body that has ever going to say has a line item, we need a line item in the federal budget so there we can, I would say amplify the words this is critical for the United States and the reasons why. I just don't see having to load all of that into this particular answer to the one question, I don't know. But the second part of the question I think the Admiral mentioned we do say we need another battle plan so may be in that
second part of the recommendation, this plan needs to take into account what we've been talking about, I don't know.

    MEMBER BARBOR: We should put more emphasis on that second part.

    MEMBER BRIGHAM: Second part, okay.

    MEMBER BARBOR: Yes, this exists but, yes, as opposed to they should also, you know, they should go forth.

    MEMBER BRIGHAM: Probably you need a few words from somebody to tease that out so I don't miss the bubble here on that one.

    CHAIR PERKINS: Susan.

    MEMBER SHINGLEDECKER: I would just say that I know that the panel has struggled with the concept of coastal intelligence, coastal resiliency and how to bridge those two. I think we know that when it comes to the Arctic, it's a matter of when not if some sort of disaster happens, some sort of accident happens and I think this actually is a place where we can make the link that coastal intelligence, this key
hydrographic data will lead to a more resilient Arctic but the thought of the Arctic being resilient right now is laughable. And I think that when that accident happens, are we going to be able to say at least we told you so. Did we at least make a strong enough statement that says you need to chart these key areas, this is where the risk is and there needs to be more of an effort. If it's ignored at least we can know we tried.

CHAIR PERKINS: I would suggest that we word this in the context of plan for a 1,000 square miles of Arctic critical areas, then the alternative plan could be the structural beyond that. This is the plan.

MEMBER BRIGHAM: What basis do you give that swag, sir? I'm challenging you because I think it's not realistic to me. With the current technology, the number of ships we have.

CHAIR PERKINS: The number of ships we have --

MEMBER BRIGHAM: We can contract it
all out maybe.

CHAIR PERKINS: Right. And in the business world you don't plan next year's activities based off of last year's performance, you base your plan on what your return on investment needs to be on what your mission is, on what your customer demand is. I think we have to approach it in that same regards. If we accomplished 800 this year, then a plan for a 20 percent up to 1,000 does not seem unrealistic. There is more capacity to accomplish charting than with inside the federal fleet. We've talked about that before, there's contractor capacity, there's potentially ship time from other agencies that we've discussed so the plan should be more robust than based on two ships.

MEMBER BRIGHAM: I'd like to know what the average number of square kilometers -- square nautical miles has been done over the years and I put money on that it's less than 500 but that's for the Admiral to answer. There may be some years where it's much less but I don't know maybe
we shouldn't fixate on a particular number, I don't know. If you want to have a thousand we can make it a thousand.

CHAIR PERKINS: Well, I think this is why the question was originally put in terms of percentage because there's a lot of difficulty with putting the number, the geographic area.

MR. ARMSTRONG: So it seems to me there's a couple of things we're saying here, as we know, the NOAA hydrographic capacity is pulled in many different directions. If we add 500 to the Arctic, we're taking 500 away from someplace else in Alaska which also needs to be surveyed. I mean, there's an existing resource, there's a finite number of ships and contract dollars and we all know that, you know, we can't ignore Charleston and New York and so 500 is a number I think that's an adequate, it's not adequate, we're way short of adequate but it's a reasonable approach given the existing resources today.

And I think one of the things we want to say is that okay, you've got 500 plus this
year, you know, don't stop going to the Arctic. In other words keep going every year because we don't know for sure that there's a plan to go back for 500 more next year or next year or next year or next year. I think one of the things this says is don't take the 500 in the Arctic out of the plan to go down to some other part of Alaska because our perception is that the Arctic needs to at least get in the game. That's how I would perceive this.

MEMBER BRIGHAM: That's what Captain Armstrong was talking about is southeast, where you have a million passengers a season coming up on the largest cruise ships on the planet so that would get my attention and number one priority. And even compared to the frontier so I don't know, I focused on or I think we all focused on the word realistic of what NOAA and NOS was asking us. But we can do whatever the consensus is. If we want to elevate it and give it more robustness, it's still a very small percentage of the United States Maritime Arctic and we should
figure that out and be honest and transparent on what that number is, I think it's less than a percent, so okay, it sounds like a big number but it's still inadequate.

MEMBER JEFFRESS: Gary Jeffress. I think somewhere in the recommendation should be the total square nautical miles of the Arctic that we're talking about because anybody who reads this document won't know that, to give them some idea of the vastness of the project.

MEMBER BRIGHAM: But again, I agree but vast area of the Arctic in the US Maritime Arctic won't be traversed by ships, and so for the whole of the Arctic Ocean the number is about 8 percent is charted international navigation standards, 8 percent leaves 92 percent that most of the area doesn't have charts. Now the numbers may be different in IHO by when we did the Arctic Marine Shipping Assessment we have a council and we try to figure out this number and 8 percent is still pretty small but some of the routes of the Northern Sea Route, Northwest Passage and a few
around Alaska robustly surveyed.

But nonetheless this number game is interesting but I agree with Gary that we should give that number and show its smallness even at this level or even modest increase in the federal budget for this. On a line item budget item we'll still be pretty small because of, one of the major things is this navigation season and the survey season I guess you could contract out to 15 vessels maybe. There's probably not 15 vessels in America to do this kind of work but so what would you like to do, Mr. Chairman, on this one? What's the consensus, we'll do whatever.

CHAIR PERKINS: Well, we've certainly not done this quickly but it's important. I'll be willing to concede to the recommendation of the 500 and I think that's a good suggestion that the report be expanded to include what we think the overall number is.

MEMBER JEFFRESS: It doesn't have to be in this particular recommendation, just somewhere in the beginning of the document like
this is what the challenge is.

MEMBER BRIGHAM: And maybe enhance the second part of that recommendation, add some more robustness to it, to what Ed was talking about and the Admiral.

MEMBER SHINGLEDECKER: Potentially you could in that part put under, you know, with current resources and current funding to state that we're striving to hit that realistic but like you said somewhere else have something that certainly to hit what we need to do is going to have to be beyond that.

MEMBER BRIGHAM: Let's keep going and see if we can get through these last couple.

CHAIR PERKINS: Yes, please.

MEMBER BRIGHAM: Number 5 was the use of different technologies and the integration of the federal fleet so to speak. Now, we heard yesterday from the Admiral that NOAA has done some crowd source work so we should probably adjust the recommendation to say -- we did say further explore but maybe it needs some continue
to explore and implement or whatever. We'll adjust that to make sure that we know that things are ongoing. But the second one is integrating the rest of the federal fleet to do at least surveying that is not to international standards but is surveying for information to be used. And so meeting with NSF and integrating the Sikuliaq. I mean, the Sikuliaq has the right equipment to do, Drew, I think, Captain Armstrong, to do this kind of work but not to the level that we're talking about for --

MR. ARMSTRONG: Right. I think first in Sikuliaq's case it's not a question of whether they have the equipment or the technology, they do. The question is, you know, do they have the staffing, the expertise, the mission time to do that.

MEMBER BRIGHAM: But can't NSF and NOAA work that out with the university, and the same with the Coast Guard but already NOAA, NOS has worked to integrate the buoy tenders and the Healy.
MR. ARMSTRONG: Right. So perhaps the Admiral would be a little bit more comfortable if we didn't use the word hydrographic survey in there, we used something more like hydrographic data or sounding data or something along those lines.

MEMBER BRIGHAM: And the third part of it was to slip in, if we're going to have this new billion dollar icebreaker it better have the equipment at least to take some soundings.

MEMBER MILLER: I would add just from experience not directly in Alaska doing hydrographic surveying but other places, generally most of NOAA's priority areas are in what for a large ship is considered very shallow water and so there's a lot of restrictions on what a larger ship such as the Sikuliaq or an icebreaker can realistically bring to NOAA in terms of safety and navigation because the launches are what generally really do the shallow survey. And secondly is this where were we should add either a separate recommendation or an
addendum about other sources of data in the Arctic?

MEMBER BRIGHAM: I'm not sure I can answer that part but I can answer the Sikuliaq is a shallow draft icebreaking ship and that the deep draft ships, the Healy and the new icebreaker won't be able to go to most of the places around the coast of Alaska but the Sikuliaq can actually. So I think they can go places where may be the Rainier can't. But of course again you have your launches that can go everywhere so. But the Sikuliaq can do some areas. Now, the other data I think, Joyce, that comes in answers to other questions but we have to integrate it, maybe not here.

MEMBER MILLER: I thought Scott's recommendation was to put it here and other alternate strategies.

MEMBER BRIGHAM: The next question.

CHAIR PERKINS: No, you're correct, this item 3(a) is in alternate strategies, you know, opening access to the other data sets for
an alternate strategy.

MEMBER BRIGHAM: Maybe write it up and I'm sure we can put it in as a fourth recommendation.

MEMBER MILLER: I'll take that as an action item.

MEMBER BRIGHAM: Sure. Sure. And then the six question is how might NOAA think differently about -- oh, excuse me, let me go back to question 5. The other recommendation is to explore this public private partnership with the commercial operators of the tug-barge companies. And maybe that is under way or you have spoken with, Admiral, or spoken with these operators to maybe explore crowd sourcing?

RADM GLANG: We have not spoken with the operators yet. We've done a proof of concept with a commercial software package and that's the direction we want to pursue it is to enable the software first.

MEMBER BRIGHAM: So our general recommendation is to explore a higher order of
potential partnership?

RADM GLANG: Yes.

MEMBER BRIGHAM: Finally the last question, how might NOAA think about this region differently? Well, we can go in all kinds of different directions but I think in general as an organization, at the highest level of government, it's not just NOAA, but it's the CMTS and this Arctic Steering Executive Committee, need to expand the interagency private sector relationship, I mean, I think that should come from us as HSRP because we have private sector with us but I don't know if it's expressed quite the way we want to say it but that's the intent.

And then the other recommendation is that NOS should request this new executive steering committee coordinated by the White House for this integrated charting requirements and there is where maybe DOD and the intelligence agencies can be brought in to this if asked by the White House and the steering committee at the deputy secretary level, it's pretty high maybe
that's where that could be forced or requested I guess is the right word, the data issue. Well, it's question 6 and it's the second recommendation.

MEMBER MILLER: So it's 3(b), okay.

MEMBER BRIGHAM: And we worded it in particular bringing clarity to those critical requirements of DOD, the Navy, Coast Guard and DHA, I mean well anyway so those are the recommendations and we can adjust a couple but there's general consensus I guess, Mr. Chairman? Sorry it took so long but important to do.

CHAIR PERKINS: I do believe we have general consensus to move forward with these revisions as we've discussed. Is there anyone who feels differently? Great. Dr. Jeffress.

MEMBER JEFFRESS: Can I recommend that as soon as we have this wordsmith the way we want it that you email it to Admiral Brown as soon as possible.

CHAIR PERKINS: 10-4. Thank you, that's a lot of work, your working group is, you
know, hit the mark. A good healthy discussion so I thank everyone for your input. What we have next is our report from the Coastal Intelligence and Resilience Working Group. What I would like to do before that is allow us to take a quick look at the three and a half, four minute video that we weren't able to watch when Dr. Callender was with us, I think that will be a nice -- it will kind of set the table for the CI/CR discussion.

(Video played.)

CHAIR PERKINS: That is actually a very well done short video segment, so.

MS. BLACKWELL: Send it to your friends and family.

CHAIR PERKINS: I think you're going to have to -- do we have the podium wired up or do we need to use -- great, thank you very much.

MEMBER ATKINSON: Is it on, okay.

Anyway, the Long Beach meeting I really felt like a deer in the headlights but after we've had conversations since then I guess I wasn't the
only one. So I came up with some ideas about how we might go forward which we will see in a minute. And to read Lynne's email, so a little humor. It says Spaghetti Junction, fork in the road ahead so I don't know which fork were going to take but we'll talk about it. Okay, next slide. So I just tried to write down some realities, this is based on a phone call we had and a lot of sidebar conversations and it's just trying to get down some of the realities. You know, we found that hard to get our arms around this whole CI/CR issue in the context that we were given and that may have been naivety on my part or others but anyway, that's where we are.

The other realities as a group, a group may not have the appropriate expertise to address a specific topic, the expertise may be in another group or not at HSRP at all. And then a reality, your question, you know, should we form, you know, temporary or ad hoc groups to address specific topics filling in the appropriate HSRP members or people from the outside and it was
hard to express it but it would be a lot easier
if we attacked specific topics which I'm going to
list here and as part of that, you know, the
assignment would be how does that fit in to the
CR/CI contacts.

So let's go to the next slide. These
all were topics that that just kind of flew out
as I was listening over the last couple of days
and we're going to focus on the second one. And
we also need champions and I think, you know, the
Arctic was a classic. You know we had a person
that was passionate about it so we also need to
take topics if somebody is enthusiastic enough to
spend some time on it and understand it. Some of
those are more explanatory than others, I'm sorry
about well even GRAC-D, I got it wrong, so GRAV-
D. Anyway, there's something there but I don't
know what it is. Anyway, there's all these
topics that we could address and to pick one off
and let's just hear from the Captain on a topic
that, you know, we may want to think about, this
is an example of something.
MEMBER RASSELLO: Sal Rassello, I apologize for the tone of my voice, I'll do my best.

MEMBER ATKINSON: Sure, perfect.

MEMBER RASSELLO: Okay, the challenge we have with navigating larger vessel in ports nowadays is connected with the under-keel clearance most of all. Vessel of 1,300 feet, the weight of 160 feet, they need a good 20 percent of under-keel clearance where in some ports these charts are not assessed adequately. They're not adequate to be safely navigated with the larger vessel. Nowadays we navigate with ECDIS. ECDIS is in our system. ECDIS and precise navigation goes hand to hand.

Charts are electronic and ECDIS reads only electronic charts. ECDIS does not read the paper chart. So therefore if we are going to accomplish the meaning of navigating with ECDIS we need to have more adequate charts that means detailed survey and details of the sea bottom and all the changes that the ecosystem will produce.
during the time, so continue survey.

MEMBER ATKINSON: You know, I think yesterday we heard from him that there will be ships carrying 7,000 people, life boats with 450 people.

MEMBER RASSELLO: Yes, I have more numbers. Our next ship will have 8,200 in total, 6,500 guest and the rest is crew, 18 life boat with capacity of 440 person each, so imagine the impact I don't even think about though an incident with all these people involved. So the charting and the surveys are vital for us to continue safe navigating the ports and the coastal waters.

MEMBER ATKINSON: So I think a lot of these, you know we had discussions; non-navigational uses may not be phrased quite right. But I think we know what we're talking about. You know I've talked to people that have certain modeling for FEMA. You know there's a real need for better surveys in shallow water outside of channels and so on. There's just a lot of
topics; so what I would suggest is that as a path forward that we think about forming groups that are I don't know, temporary, ad hoc, call them whatever you want, that can work on a specific manageable topic like that. Also one that's got a person passionate about it that can be reproduced, maybe one page. A couple of quotes from somebody, the heads of the cruise lines and from Navigation World, some bullets, maybe a couple of sentences about how this can accent CR and CI and that's it. You know, you get a page out. And I'd talked to the admiral a bit; but sort out how this fits in to the, how the FACA works and DFO. I don't understand all that; but this may be a way to go forward, I suggest. So if you had a little comments and -- sure.

MEMBER BRIGHAM: I think that you need something iconic to take the subject forward; and I think it's these mega-ships.

MEMBER ATKINSON: Yes.

MEMBER BRIGHAM: And then the relationship of all of this intelligence to those
ships. I think what Captain Rassello just showed us.

MEMBER ATKINSON: Yes.

MEMBER BRIGHAM: But there are the LNG ships and then the mega Maersk Line, Costco 1,200 foot ships. They're all in the same boat so to speak; and it's errorless. It can't have a mistake; and the world doesn't work that way of course, the immensity. So I think we could frame, at least one topic could be these mega-ships.

MEMBER ATKINSON: Yes.

MEMBER BRIGHAM: And then how does the new world of e-navigation and intelligence, how we will frame this subject could be framed around this particular new technology so to speak.

MEMBER ATKINSON: Yes. Yes, Joyce.

MEMBER MILLER: Yes, Joyce Miller.

Two comments, can you go back two slides?

MEMBER ATKINSON: Sure, maybe.

MEMBER MILLER: No, the next one.

Okay, potential emerging topics, for instance
precise navigation, which port next. This is kind of a question for Admiral Glang. In the coastal intelligence session, primarily because of Ed Kelly's expertise, we were able to come up with a partial answer to that, the PAWSA system and the Army Corps of Engineers and so forth. We put that in the notes from the coastal intelligence session. And we assumed that coastal intelligence, coastal resilience would incorporate that into the questions we got.

MEMBER ATKINSON: Yes.

MEMBER MILLER: Okay. So you were at the discussion and so forth and you got that information. How formal do we have to be in capturing that information? It's already in a report of what happened in the working session. Do we need to formalize that? Do we need to put -- I mean I thought maybe it could go in with the Arctic report because that also answered some of those six questions, which were about coastal intelligence, coastal resilience. You know there was at least a partial answer provided during the
MEMBER ATKINSON: Yes. Yes.

MEMBER MILLER: Do we need to go further? Was that enough? Do you need more? Do you need it more formally?

RADM GLANG: Gerd Glang. Good point, Joyce. I think in that specific example where the panel discussed and at least during the Long Beach meeting suggested we take into account the PAWSA studies from the U.S. Coast Guard, the Port Access Waterway Study Areas. The answer is yes we did take those into account; and we are using those as part of our risk-based methodology for coming up with our survey requirement and prioritization scheme for the coming years.

MEMBER MILLER: So that was a question answered or at least partially so. So I was a bit confused with all the coastal intelligence resilience about you know exactly what did we need to do with that?

MEMBER KELLY: Yes. I mean I felt, in fact I've got a document where I took our
assignments, who was at which, and then the two
reports that came out of the two breakouts. It
hasn't been cleaned up; but that could be cleaned
up a bit. At least something could get as a
report to turn in. But that's all the further it
went. I hate to see the work wasted.

MEMBER MILLER: Yes.

MEMBER KELLY: Yes. Maybe it wasn't
wasted.

MEMBER MILLER: Yes. In thinking
about this, and I've talked a little bit to Frank
about this. We've been talking about engagement
documents; and I'm the next report up.

MEMBER KELLY: Right.

MEMBER MILLER: And as part of that I
was thinking of engagement documents. And I've
been listening carefully to what Dr. Sullivan
said what Dr. Bamford said and Mr. Leveson, et
cetera. And they all pointed toward needing to
talk to individual groups about their needs and
be very succinct. And I was awake a lot last
night thinking about it, you know, exactly your
ideas. Could we maybe have a series of
documents, one or two of which were produced
before the next meeting. Something like cruise
ships and NOAA Navigation Services or National
Security and NOAA Navigation Services or Port
Complexes and NOAA National Services. You know
specific topics that we have expertise on. Have
a template and a guideline, and make those sorts
of outcomes of our working group. And then at
the end state what additional needs there are or
how can you help NOAA. I don't know exactly what
would be appropriate. And I'm sort of jumping;
but it's exactly what you're talking about.

MEMBER ATKINSON: Okay. So if we hear
from you and others this may all make sense. Can
we just quickly go around and make sure we get
opinions from everybody about this? Silence
can't be approval.

MR. ARMSTRONG: I think this is a very
good framework, having the CICR group as an
umbrella-type group that picks up these specific
topics to work on. And I think your list of
topics is certainly approved.

MEMBER ATKINSON: You know what, that was a brain dump really as we went along.

MR. ARMSTRONG: Right. But I think that conceptually I really like the idea of the approach for the group.

MEMBER ATKINSON: Okay.

MEMBER KUDRNA: And I would add this is good stuff I think. And agree with much of what Joyce said. I think we may when we get to this engagement discussion a little later I think we may be able to roll some of these together.

MEMBER ATKINSON: Good. Good.

Anything else? Better get back on schedule.

CHAIR PERKINS: I agree. I think we have an opportunity here with the coming increase in the size of the vessels. Maybe whether it's on the entertainment/recreation side or whether it's on the cargo side it seems like our Engagement Working Group, we should be reaching out to the Coast Guard NAVSAC FACA. It feels like we should have a common interest here. You
know the importance of precision navigation
should be on the radar screen on the NAVSAC FACA;
and I think that we, our engagement group should
be communicated to that FACA in a letter of
support from HSRP to NAVSAC when they put that on
their agenda and when they start speaking about
it. And then if we can get that cross
communication if they are so inclined, put pen in
hand and support precision navigation as an
improvement or as a tool for improving the safety
as these vessels come into our waterways and
enter our exclusive sound.

MEMBER ATKINSON: Thank you.

CHAIR PERKINS: It feels like that
should be a challenge for our engagement group to
reach out to NAVSAC.

MEMBER ATKINSON: Yes, Captain.

MR. EDWING: Rich Edwing. So two
weeks ago I was an invited speaker at the Coastal
Engineering Research Board, which is the board
that advises the Corp. of Engineers under their
research needs. And Bill Hanson is a member of
that board as well; but we were able to talk a little bit about precision navigation at that meeting. And talked about how we're kind of figuring out what are the next ports to go to.

There were actually a number of comments received from the audience there about that NOAA should be working closely with the Corp. in terms of utilizing a lot of the economic information they have amassed, a vast store of data and tools that can maybe help with that effort. So I just wanted to pass that along.

CHAIR PERKINS: Thank you. I didn't mean to overlook the Army Corp. And when the Admiral and I did our testimony to Congressman Hunter and his subcommittee, that was one of the challenges that he put forward was increasing communication among those three agencies. So I think this topic does create an opportunity for that.

MEMBER RASSELLO: I would like to include in this context also the VTS, the Port Authority and the Pilot Association. All these
need to be addressed in the safety, in the
precision navigation context because they are
part also XXX-09:22:26. These three entities are
vital. The presence of the three entities in the
discussion is very important to get somewhere.

MEMBER BRIGHAM: I guess that the
Marine Board at the National Academy has done
some work in this area too. So we could roll it
in. I think wherever our next meeting is, in
Houston or wherever, we could have a session on
this mega-ship e-Nav coastal intelligence issue
and invite the Coast Guard, respond and they come
and other entities and invite them to the meeting
and help us flesh out this topic. And of course
we have one of our own members who can handle the
mega cruise ship side of the house.

CHAIR PERKINS: Dr. Maune, I think we
have just outlined our next panel of our next
meeting that could use your tender love and care.
You know the phrase good work leads to more.
Thank you, doctor.

MEMBER MAUNE: Yes. We need to have
a recording of everything that's been said.

RADM GLANG: Gerd Glang. So I don't want to lose sight of the fact that, so broadly the questions that NOS posed to the panel at the Long Beach meeting were about how the coastal intelligence, the three programs within the domain of this FACA, how they contribute to resilience. And I wouldn't want to lose that thread. I fully appreciate Captain Rassello's point on certainly the special case of paying attention to the requirements of these larger and ever increasing in size cruise ships; but the coastal resilience piece is important to NOS. And perhaps the panel could single up a bit on a focus area. For instance, on that list, maybe Adam you can jump back to that list, you had Hampton Road's flooding federal project, which there's a considerable effort across the federal government I believe, and Larry you're involved with that as well. It might be interesting for the panel to understand broadly what the questions are that that panel is trying to, in
that project what they're trying to resolve and
then to identify what are the products and
services that CO-OPS, NGS and Coast Survey
already have or are providing or are being used
that underpin what the requirements of that
project are. It seems to be water level is kind
of a key component there. So is there a
requirement to do more or is what they have
adequate? Is there a requirement to improve our
models, for instance, the Operational Forecast
System models, do they play a role in that? I
don't know. I don't have enough insight into
that. It would be good to understand; and
perhaps it's just simply a story that our
products and services are important to that
project and here's how.

MEMBER ATKINSON: Actually we're doing
a science road map or framework for the December
10th gathering of all the pilot projects in the
U.S. And that will address some of that. I
don't know if you all know, every other Monday at
9:00 a.m. we have a phone call between all the
federal agencies involved in this and all the
city academic groups. There's between 10 and 30
people on the call going over all the subsidence
issues, the water level, the projections from
tomorrow to a hundred years. There's a lot of
action right now, all volunteer. So actually we
could come up with a, you know, a statement like
that for this.

MEMBER KELLY: Just to help build on
this a little bit and perhaps building an agenda
for the next meeting, certainly precision
navigation and that aspect of it has far-
reaching, you know, ramifications to most of the
major ports in the United States. And I think we
could certainly build a pretty good panel to talk
about that. As far as municipal or coastal
resiliency, the big project is down in Hampton
Roads; but New York City post Sandy has initiated
an awfully large effort. And they have a
distinct separate New York City Office of
Resiliency. Dan Zarrilli up there runs that; and
we've dealt with him extensively in our local
community. It might also make a good panel to pull together certainly from the Hampton Roads area, possibly from other cities that are in the process of looking at resiliency and how we can best feed and work with them. That might be something we would look at as well because I think there are efforts moving that would be very helpful for us as NOAA, making them totally aware if they're not already of the possible collaboration that can be had with the NOAA products. And on the flip side, it does give NOAA the reconfirmation that it's doing the right thing, and raises the public profile because resiliency is a big thing. Also, not to be purely pecuniary, but you know New York City among others are throwing millions and millions and millions of dollars at this. If you can somehow get resiliency tattooed on your forehead they will just throw hundred dollar bills at you. So I think it's certainly a valid, current topic that has public appeal as well. So it might be a good thing for us to pursue a bit further.
MEMBER SHINGLEDECKER: I would just state I know that we as a panel have struggled with the issue of outside expertise and using outside expertise. I think on the community resilience side of things, I think thrilled that we do have Larry now with his expertise in the Hampton Roads project. But I would say as we look to build a panel, if we're going to need to have a product that comes out of this or anything we're going to need to look for some people that could advise a working group informally or however we do that because I don't know that the panel as a whole -- I mean NOAA has the expertise on staff in various places of NOAA; but the panel as a whole I don't think has a real robust understanding of it.

MR. EDWING: Rich Edwing. So I was just going to go back reinforce what Ed just said and also Larry in terms of, you know, back at the big kickoff meeting for the Hampton Roads effort in June of 2014. The White House was there. I think it was -- right. And there are other areas
where similar efforts are going on around the
country that the White House is interested in;
and I think it's through the National Security
Council. I think the rep was from this -- yes.
Right. So I guess what my point is, we're
looking for pathways to emphasize the national
security aspects in connections of what the
navigation services do; and this is, you know,
one potential pathway.

MEMBER MAUNE: Dave Maune speaking.
The Houston-Galveston area not only has to worry
about the sea level rise but subsidence is a
major issue down there. And I think NGS can
validate that how that area's been subsided for
such a long time. And it seems to me as though
or I didn't realize I was going to be doing some
planning for the next meeting. I mean I
volunteered to help plan this one. I didn't
realize it was continued. But subsidence is a
big issue there; and it seems as though when we
were Houston we ought to, if we're talking about
resiliency, we certainly should include the
special problems they have from that area.

MEMBER ATKINSON: Yes. Just to point out, I guess half of our sea level rise is subsidence. We've bought our own CORS stations you know; and we have a working group on subsidence with NGS.

MEMBER JEFFRESS: On that topic, Dave, this is Gary Jeffress, we are working on a project which is funded through an earmark in NGS. It's called Geospatial Modeling for the Gulf of Mexico. That's what it's all about; but in the past couple of years what we have focused on, co-locating CORS stations with tide gauges. And we have about ten of them already in Texas. And we've been working with CO-OPS to put all this in place as well. It's funded through an earmark from Mississippi through NGS.

MS. BLACKWELL: It's congressionally directed in a sense; but it is something that has been in the budget from the past and it's definitely focused in one particular area. So there are a number of states that are involved in
this. And as Gary mentioned, we are working
closely with them as part of what was previously
the Height Modernization Program, trying to make
better connections with what's happening
geospatially in the Gulf of Mexico. And also,
just to point back to what Larry was saying
regarding the work in the Hampton Roads, NGS is
part of the team and working as technical
advisors and looking at the subsidence issues and
things that can be done in order to get more
detailed information about what's happening in
the Hampton Roads area, bringing that and tying
that into our CORS Network or providing guidance
on how to best do that as well as looking at it
from a remote-sensing perspective and maybe other
opportunities using other technologies to try to
get a better understanding of what's happening, a
snapshot of what's happening in Hampton Roads.
So we can apply that information and what we
learn to other parts of the country as well.
Thanks.

CHAIR PERKINS: Great. Good
discussion. I do want to acknowledge that we did receive an online question, pardon me, from one of our virtual participants. I would like to take a little bit of time to contemplate that and address an answer to that after our lunch break.

MS. BLACKWELL: During the public session?

CHAIR PERKINS: Yes, during the public session. So we appreciate the input from Mr. Harrison; and we will try to formulate a response at approximately 13:00 hours during the public comment period. So Joyce are you ready to move forward?

MEMBER MILLER: Yes. I don't have a PowerPoint. What I do have is something you all got about two weeks ago. My Legislative and Policy Working Group report, September 2015. I want to go through the first portions of it very quickly. The working group, we agreed upon three action items between the L.A. Long Beach work meeting and this finalization of the HSRP Charter, which is reviewed every two years. We
were told I believe on Wednesday that that
charter has been renewed. So that's kind of
check.

Recommendations for standard operating
procedures for the HSRP, they were attached to
this. I want to point out we consider this a
dynamic document that as we refine it, as we
discover different things that we will, it's a
dynamic document; and it's not something that we
have to necessarily officially vote on but
perhaps just get consensus. There are four parts
to it: recommendation letter, meeting notes and
summary, working groups and planning. I believe
everyone, we have discussed it earlier in
administrative meetings with one minor addition
that the number and missions of working groups
will be reviewed and modified as necessary. Is
there any discussion or comments and can we get
consensus that as of this HSRP meeting these will
be our guidelines as to standard operating
procedures? Comments?

MEMBER KUDRNA: Sounds good. And I
think we had informal discussion of the ability
to amend working committees later on. So I think
it looks fine to me.

MEMBER MILLER: Okay. Thank you. All
right. Just shall we say "Aye" that we're agreed
that these will be our standard operating
procedures?

(Chorus of aye.)

MEMBER MILLER: Opposed? Okay. Hit
your gavel or something.

CHAIR PERKINS: Okay. Thank you. And
I just want to say I really, this seems like busy
work. It looks like another list of items; but I
think for future panel members this will really
beneficial. For new panel members coming in, if
they read this, if they embrace it and get up to
speed on it, they'll have a much easier path.
And maybe we can avoid the deer in the headlights
look that new panel members get about how and
what is it that we're doing here and what are the
mechanisms, you know, that make it happen. So I
appreciate your efforts Joyce.
MEMBER MILLER: Thank you. Lastly, the most important item since we are the legislative and policy working group, the Hydrographic Services Improvement Act was enacted 1998. It was amended in 2002 and 2008; and reauthorization legislation has been proposed both in last year's congress and this year's. There was some unclarity about what the HSRP as a working group can do in terms of either encouraging reauthorization or reviewing reauthorization bills. And Mr. Boledovich, I hope that's the right pronunciation, gave us two different briefings, and I very much appreciated them that helped clarify in my mind what it is we can and can't do. And in particular he made it clear that we cannot directly engage as a working group as the HSRP with congress. We can do it as individuals but not representing ourselves as members of the HSRP. And so there is a reauthorization in congress. It was introduced by Representative Young of Alaska, HR2743; and the questions that we were asking, this was
before our legal briefings, are there any changes
that HSRP would suggest if/when reauthorization
is underway? How important is it to the HSRP to
have the bill reauthorized? If there are or not
changes we would recommend; if the HSRP decides
to recommend reauthorization what can/should HSRP
do as a panel to make it happen? Can/should we
as individuals take actions to get
reauthorization? And how would any changes that
we propose affect NOAA Navigation Services?

Many of these questions were answered
by Mr. Boledovich; and so what we decided to do
as the legislative panel was to look at the HSIA
and the proposed reauthorization and focus on any
areas we thought to be important. One of the
parts of the proposed reauthorization was an
additional five million dollars for survey in
Alaska. And we certainly would agree with that;
but many of the other proposed changes, for
instance, additional funding for Law of the Sea
surveys or extended economic zone surveys in
Alaska, that surveying has already largely been
done and not directly through NOAA Hydro or NOAA Navigation Services. It was done more through Department of State. Is that correct Andy?

MR. ARMSTRONG: For the last few years ocean exploration has been the source of funding. I'm sorry, Andy Armstrong. So for the last few years NOAA's office of Ocean Exploration has been the source of funding for mapping surveys in the Arctic; although the execution has been done through the Office of Coast Survey.

MEMBER MILLER: Okay. Additionally, there was a recommendation for cost comparison survey. And as we've seen so well here, there have already been many cost comparison surveys done by NOAA. Whether the panel should, this was not considered by the working group, but should the panel perhaps recommend that additional or augmenting economic surveys be done. We didn't really address that. And there was also in the HSIA there is discussion user fees. That was discussed back in 2011, 2012. And we just pretty much decided that advocating for increased user
fees, given how NOAA operates and how successful
their free access to charts has been, that that
doesn't make sense either.

In the latest actual reauthorization
in 2008, there was an authorization for a ship, a
hydrographic ship in particular. And so that was
the area that we decided to focus on. We had
extensive discussions with Admiral Lopez
yesterday at lunch. And will say that many of
the topics about how the ships are operating,
what the challenges are and so forth were
discussed at that time. In my report there is a
brief discussion of that; and this year's budget,
160 million dollars was requested to build a
general purpose NOAA vessel. And that did not
appear in either the House or the Senate mark.
Actually, I have a question for Admiral Glang,
something that I learned in sort of sidebar
conversations yesterday. I understand that one
of the reasons that the Appropriations Committee
would not even consider the ship was that they
needed a fleet augmentation plan,
recapitalization plan, which NOAA has completed; but that was not released by OMB. Can you enlighten us on that?

RADM GLANG: So that's exactly right.

I think Jeremy Weirich actually said that during his comments that in order for the congress to understand the context of NOAA's request for a new ship they really wanted to see that report. And that report was still at OMB and had not been released. And that was straight from Jeremy Weirich.

MEMBER MILLER: Yes. So that was something I noted as a possible issue. I mean the entire issue of hydrographic survey efficiency we expressed in our letter last time, perhaps in too negative a manner. I heard from Dr. Sullivan. But I think it's still a great concern. And one of the things that we discussed as a working group was how can we help Navigation Services NOAA, NOAA at large actually, think out of the box about increasing fleet capability, or I won't say fleet capability, but hydrographic
survey capabilities and just throwing some things out, you know, kind of in the middle of the floor?

Through contacts in NAVOCEANO I understand that one of the NAVOCEANO vessels, the Sumner, which is one of the 320-foot ships; so much larger than NOAA usually handles. Very expensive to operate, however it's a U.S. government vessel. It is now laid up in Mobile. I don't know whether NOAA got an offer on it. But I have been on several of that class. They're highly capable survey platforms, probably noting that NAVOCEANO probably took off every scrap of equipment they could for other ships; but if NOAA can't get a vessel -- Anita Lopez yesterday mentioned increased used of launches. We suggested increased possible keeping on a couple of the older NRTs and thus increasing the survey capability perhaps only in the lower 48. Or you know perhaps sending an NRT up to Alaska, which was requested in the Alaska meeting.

I was on the Okeanos Explorer. She
does not have full sea days this year. Is there any way that Hydro could use, you know, the Explorer or another ship, basically throwing out some ideas just trying to encourage a conversation about what's realistic, what can be done, what can't be done. And I personally would recommend that we reiterate our concern about hydrographic survey capabilities whether to Admiral Brown or again in a letter or whatever. So I'll leave it at that. Would any of my committee, Admiral Fields, Admiral Barbor, Gary Jeffress, would any of you like to add anything or comment?

    MEMBER FIELDS: My only comment is that one of the other things that we talked about a little bit was about the expertise.

    MEMBER MILLER: Yes. We also said we should consider more contracting, possible contracting for only a vessel, possible contracting for a vessel and the survey. You know, basically thinking on a broader scale; but the a caveat with that that Admiral Fields
mentioned is that the working group considered it just as critical to maintain survey expertise within NOAA as it is to just flat out get the surveying done. So that was the second part of our recommendation was that we have to, NOAA has to maintain its survey expertise in order to have credibility, especially with the liability issues in charting. Admiral Barbor do you have anything?

MEMBER BARBOR: No. Again a lot of our discussion could be you know better informed with dialogue between NOS and the other; but yes I think you've captured everything pretty well.

MEMBER KUDRNA: Joyce, very good report. Two comments, you are correct that Glen said that we didn't have the authority to go directly to the hill with recommendations on a reauthorization. That doesn't preclude us from recommending to the administrator things we think should be included in the next revision of the reauthorization. And I think Susan hit on one that's at least a gray area whether we could have
outside experts working with our working committees. Maybe we ought to clarify that within our reauthorization. Or there may be some other things. If we put that in some sort of recommendation that goes forward to the administrator, then it's a public document that could be carried forward individually too. So I'd suggest we don't just abandon the topic of reauthorization. We see if there are some issues we want to bring forward as a panel to the administration.

MEMBER MILLER: I hear you but as a panel, I mean for instance this reauthorization that's in congress right now and has really gotten no traction it appears was introduced by Representative Young of Alaska.

MEMBER KUDRNA: Right.

MEMBER MILLER: And we cannot say, unless there is either a senator or a representative who wants to introduce a bill, we can't say that NOAA should, I mean it has to come from the congress. And since we're limited in
our interaction with the congress, now I don't
know if NOAA can or should say oh we need a
reauthorization bill; but there's a disconnect
there.

MEMBER KUDRNA: That's true.

MEMBER MILLER: You know I don't know
how much the administrator can really influence
that. It really has to come from the congress.

MEMBER KUDRNA: Not necessarily,
reauthorizations drafts on various topics have
come from the administration many times. So I
don't think it hurts to put on record with the
administration any items we think should be in a
future reauthorization bill because the
reauthorization is up. It will continue of
course until a reauthorization occurs; but I
don't think that's hurtful. And if it starts
moving in some way we meet twice a year and have
to develop something; so it's at least clearly on
record.

MEMBER MILLER: Yes. Let's see, you
said Susan's recommendation about what was the
topic?

MEMBER KUDRNA: Susan mentioned the question of our being able to have some outside experts.

MEMBER MILLER: Oh outside okay.

MEMBER KUDRNA: And that's the challenge.

MEMBER SHINGLEDECKER: Well I should clarify that statement. I was fine to work within the confines we'd been given; but suggesting that that was a topic where we might really need to look to find some individuals and engage them in the appropriate way. I don't know. I feel we beat that one a lot; and I'd rather just see us try and move forward within the means that we have.

MEMBER MILLER: And we'd have to, you know, the working group would have to reconsider that. What we really found the compelling issues were hydrographic, you know, maintaining and/or increasing both hydrographic survey assets and hydrographic survey expertise. That's what the
working group came down to. That's what we thought in the reauthorization was important.

MEMBER SHINGLEDECKER: Yes. And I think in terms of levels of importance, resources for the fleet and capabilities rise, you know, way above the workings of our panel.

MEMBER KUDRNA: Second point is you're topic of the congress' reluctance to move without the recapitalization plan. That's a topic to push up to Admiral Brown.

MEMBER MILLER: Yes. I wondered about that. I have no idea how OMB et cetera works. You know, shaking that report out of OMB would be important for the next cycle. Admiral Glang do you have any thoughts? I mean how does that work?

RADM GLANG: Gerd Glang, I don't believe I have any more insight into it than what we heard from Mr. Weirich on Wednesday. So but let me, since I have the microphone for a moment, I believe we did settle that working groups are certainly welcome to seek outside expertise, the
views of outsiders. The restriction is that we cannot call them members because that's what's defined in the HSIA. So if that is important to the panel then certainly a recommendation about what a next HSIA reauthorization might contain, certainly the views of the panel to the administrator could be appropriate. I would leave that to the panel though.

MEMBER MILLER: I think that's more in the bylaws and the charter than in the actual reauthorization. I believe that is.

RADM GLANG: So it was the HSIA reauthorization of 2002 which authorized the formation of this panel; and in that language, in that statute then it defined what a member was.

MEMBER MILLER: Oh okay.

RADM GLANG: And then from that the bylaws were derived.

MEMBER MILLER: Okay. Actually since you're on the microphone, the sort of grab bag of options for increasing survey efficiency maybe not now but offline, or whenever perhaps the rest
of the panel would like to hear your thoughts on practicality or are there things we should advocate for or

RADM GLANG: So the fact is that the ships, the entire fleet, the 16 ships operate from a budget line that OMAO manages, the Office of Marine and Aviation Operations. It's a budget line that I have no control over. And then I think you heard from Admiral Lopez. She touched on the Fleet Council. And there is an allocation process. And so those ships that serve our hydrographic survey mission are part of that allocation process. So a portion of the budget for sea days, the operating budget, is then allocated to NOS; and then a portion of that goes to the hydrographic ships. And that's by agreement within the Fleet Council fixed at a certain percentage. Keep in mind it's one jar of peanut butter they're trying to spread across 16 ships. And that same budget, as I understand it, that same budget line also is balanced by their maintenance costs and repair costs. So if the
panel wanted more insight into that allocation process we could certainly provide that information.

MEMBER MILLER: What about the NRT's, which as I believe are coast survey.

RADM GLANG: That's right.

MEMBER MILLER: And you have a limited budget. I totally understand.

RADM GLANG: The navigation response teams are funded through coast survey's base budget for mapping and charting. I wasn't sure where you were going with that Joyce.

MEMBER MILLER: Well you're limited by the fact that OMAO has the budget for the ships; but NOS has the budget for the NRTS's. Is that correct?

RADM GLANG: Yes, generally.

MEMBER MILLER: Generally.

RADM GLANG: So within NOS it's in that Navigations, Observations and Positioning budget line that was described on Wednesday. A portion of that comes to coast survey and then
within coast survey we use that portion of those base funds to operate the navigation response teams.

**MEMBER MILLER:** So I mean the real question Bill and Andy have said, you know, you want to look higher. You don't want to look at individual things. The real question is maintaining hydrographic survey efficiency or production capacity both in assets and in personnel. And so I think you've already probably been incredibly creative; but in a no-increase budget situation as Anita Lopez says, you've got to think out of the box. And part of it is you're using the small ROV's and autonomous vehicles too. Can we, how can we help you? I mean that's what we're here for. Lawson has had a comment for a while.

**MEMBER BRIGHAM:** Back to the authorization of the hydrographic ship and that study being bound by OMB. There is an opportunity now when the president talked about hydrographic and charting, hydrography and
charting, although it specifically focused on arctic he has mentioned the topic. So the president himself or his lieutenants can actually make that happen with some suggestions from wherever. It could happen attached to that statement about what we just talked about for arctic.

MEMBER MILLER: Good point.

CHAIR PERKINS: Joyce, I'm going to ask for just a little clarity in an earlier comment you made. And if my recollection is correct it was, you know, our last recommendation letter perhaps was soft or dish-watery; but I thought I heard you make a contrasting remark about it was too direct?

MEMBER MILLER: No. I think it was we should have probably given recognition to the difficulties rather than just saying this is something NOAA is not doing well. However, I have to say I took Margaret Davidson's comments three or four meetings ago to heart that our job is to look at what NOAA is doing and telling them
what they're doing well and what they're not. So that was what I took from Doctor Sullivan. I mean but she also gave us some very good advice about talking to individuals and what they need and so forth. So, you know, I listened and that's what I heard.

CHAIR PERKINS: Okay. Thank you. My listening ability is challenged when trying to conduct the meeting at times; so I appreciate that. On that note though, at the last HSRP meeting the ship's engineers, if I heard it correctly, the lack of ship's engineers was a contributing factor to the inability to maximize the number of days at sea. And we wrote a recommendation in early May that went forward, took nearly 100 days, you know, to work through the administrative process. So I just would like you to take a look at the screen and see on there. This is federal business opportunity; it's the FedBizOpp.gov advertisement in mid-May for three licensed engineers. And if you can scroll that down a
little bit. Yes, if you'll keep going. Okay. You'll see, my eyesight's not what it used to be, but that looks like the most recent change to that solicitation for three ships engineers was September 16th, this week, still trying to get them hired. I just want to bring that to the panel's attention that, you know, it takes a long time to hire these ships engineers.

MEMBER MILLER: Yes. And having been on one of the ships recently, they are offering signing bonuses for certain ships.

CHAIR PERKINS: And this is not a hiring request. This is a solicitation for services going out to the private sector for the private sector to provide three ships engineers on a contract basis. So I just thought it was relevant that we put that in the recommendation that action on the part of OMAO, who we heard from at our lunch yesterday, addressed it. You know, the bureaucratic process that they're involved with, it takes a hundred days and I don't know how many changes to the advertisement.
You can see them for yourself. I won't read the
dates of them to you. There has to be a more
efficient matter. I think that the panel needs
to advocate for a more efficient manner. You
can't hire them quickly. You can't on-board them
as staff quickly. You can't even hire them as
contractors quickly. And how many days at sea do
we have in that region? How many days in the
north? How many ship days? It's a limited
window of opportunity to get these people on the
vessels and accomplish the mission. Andy --

MR. ARMSTRONG: If I may counter the
chairman a bit, it is important that when the
government advertises contracting opportunities
that they follow the process and insure complete
competition. And so I would instead of objecting
to this note that perhaps our concern prompted
some action that's being taken.

MEMBER FIELDS: This is Evelyn Fields.
I was going to say that I think that listening to
Lopez yesterday, that it is apparent, whether
it's enough or not I don't know, but it is
apparent that they are thinking outside of the box; and that they are doing some things to try to staff the ships. So the staffing issue is not the problem, not one of the problems is what I heard. And I think, you know, we said that in our letter that this was a concern. And I think we should acknowledge that it sounds like they are at least trying to move forward in their thinking and keeping the ships underway, the hydro ships underway.

MEMBER BRIGHAM: Lawson Brigham. I don't know the relative compensation for what Captain Rassello pays his engineers to advise to the government; but I would presume that there's a vast difference and that maybe we have to have special employees in the government that are engineers on these specific ships. I mean thinking out of the box probably means it's going to cost more money even at the junior levels; but I mean that's got to be one of the issues. If I'm going to sea for a couple of months in a government ship I want to be compensated like the
commercial world or else I'll go with the
commercial world. Unless you're a lieutenant in
the Coast Guard or at NOAA COR you're locked in
but not in the engineer. Well of course in the
Coast Guard we have our own engineering officers
as similar to the Navy. So why you have contract
engineers is probably a long history; but if you
had officers that were paid at the officer level
you order them to a ship. But there's a long
history. I don't need to know that; but I think
it's a compensation issue isn't it?

CHAIR PERKINS: Susan.

MEMBER SHINGLEDECKER: I was just
going to go with what Evelyn said. I mean I took
some short notes yesterday and it sounded like
they'd made some progress on the engineer
situation. Now if the situation changes with the
price of oil and how that impacts the market, we
may be back in the situation again; but I had a
note that they've hired 40 engineers and they've
worked to increase their retention rate. So it
seemed to me that the biggest limitation in the
most recent history had been unscheduled
maintenance, not necessarily the staffing. But
that was what I heard. I don't know if I
misheard what she said.

RADM GLANG: So let me offer some
observations. As you know Dr. Sullivan wants to
courage FACAs to keep the broader view to be
more strategic; and where we're going in this
corner, although it's, you know, it's of
interest to us, we may be in the weeds too much.
I think if the broad concern, if the panel were
to broadly express their concern for instance
that the panel may be unsure to the NOAA
administrator that the panel is not clear on
hydrographic surveying is prioritized, perhaps
that would be a better direction to go. In other
words, the panel could express their concern that
for instance in the arctic given that the survey
season is so short, that the priority of insuring
the sea days are there, that the ships are
operating and that they're appropriately staffed
for that short window given the panel's
expressing the arctic as being important. That
might be a more fruitful recommendation. So I
would encourage you to aim high; but express your
concern that hey this is a priority and we think
NOAA needs to make sure that it executes
consistent with that priority. I'm deeply in the
gray zone here in my role as DFO; but thank the
panel for its indulgence.

MEMBER MILLER: That's pretty much all
from the legislative; and I don't envision,
unless we put a follow-up recommendation in the
letter to the administrator or to Admiral Brown,
I don't envision really doing anything further
than this report. Oh, the one last thing was I
would be willing to propose, given that we've
pretty much accomplished the task we have, and
given the legal advice we've gotten, that you
know the legislative and policy working group
could take a pause here. We know in two years
the charter will be due again.

If there were another reauthorization
next year, depending upon what happens with this
year's, you know we could reactivate. But I
don't see any immediate priorities; and that
would allow our members to perhaps spend more
time on say if we agree on an engagement document
or in the coastal intelligence and resilience
working group or wherever. So that, I guess
unless there's any objection, that's what I would
propose for the period between this meeting and
the next. And then we could take a look at it at
the next meeting to see if it needs to be
reactivated.

CHAIR PERKINS: Comments from the
panel? Okay. I think that's an acceptable --
we'll take that after we do the engagement
presentation. Okay. Great. I think we've got
consensus, Joyce that you've done a lot of work
and until there's a change in congress or the
will of congress to look at reauthorization of
HSIA, no further action required on the part of
the legislative and policy working group.

MEMBER MILLER: And, you know, I
intend to spend whatever, provide whatever
assistance I can to other working groups.

CHAIR PERKINS: Okay. Dr. Kudrna,
your presentation is up next; and we have eroded
10 minutes of your time. So my apology for that;
but --

MEMBER KUDRNA: Let me my time
following-up was finished 10 minutes ago. We're
40 minutes behind schedule. Right?

CHAIR PERKINS: You're right. I
thought it was beginning at 10 and it is now
10:10. So

MEMBER KUDRNA: So say 8:10.

CHAIR PERKINS: Yes. We've taken,
we're 40 minutes behind schedule.

MEMBER KUDRNA: Okay. So what do you
want to do now?

CHAIR PERKINS: Break.

MEMBER KUDRNA: You want to break now.

Okay.

CHAIR PERKINS: Let's try to keep the
break -- break is scheduled to go to 10:15. So
do your best to adhere to a compressed break.
(Whereupon, the above-entitled matter went off the record at 10:12 a.m. and resumed at 10:35 a.m.)

CHAIR PERKINS: Okay, if we can proceed with the Planning and Environmental Working Group to reports and presentations.

MEMBER KUDRNA: Maybe I'll begin and then turn it over to David. We had several calls of the Planning and Engagement For Work Committee. And one of the things we did you began to discuss earlier, is we talked about future meeting locations so that this wasn't held to the last 15 minutes of a meeting when folks are running, and came up with a suggestion of Houston, the Houston-Galveston area, which is what was adopted this morning. And the other two sites we discussed were the Great Lakes, following that potentially in September when the ice is gone in a place, maybe even Cleveland. And then the third was Seattle beyond that. So we brought those forward and we'll continue to help develop potential sites.
The second thing we intend to do in
this committee is to work with the Admiral in
fleshing out the agenda for the next meeting and
helping to develop that. The two new topics we
talked about were the topic David led, and I
should clear the public record. I was given
credit by David and Bill Hanson for those two
wonderful panels that took place. It was all
David; David did the yeoman work clearly on that.
And he's going to talk about that in a minute and
where we might go next. And we'll use our
committee to discuss that, and following that
when we go into the engagement discussion, we'll
talk about future engagement activities. David.

MEMBER MAUNE: Thank you, Dave Maune
here. Well, we wanted to engage with our users,
and I think we did that. I was looking to see
where there are areas in which NOAA needed to
change something. I don't recall seeing any
major recommended changes. I did see the plea
for more data or faster delivery of data. We
needed that sort of thing, but I didn't see
anything citing NOAA needs to change course. So
I guess that's good that you're basically on
course, but we need to go faster if it's possible
to do that.

One thing that came out of it -- and
Admiral Glang reminded me of that -- is that we
have the need to constantly track the benefits
from our customers, and how might we do that? I
asked a question the other day. I'm not sure if
I got an answer to it. Does NOAA currently track
the people -- the kinds of users who download
your data sets?

RADM GLANG: Gerd Glang. That's a
good question, Dave. So anecdotally we've gotten
reports about, these are sort of selected stories
that the National Center for Environmental
Intelligence, where our hydro surveys are
archived. We have gotten stories from them about
select individuals who responded positively that
we were able to use this hydro survey; and so we
didn't have to do our own. So we've got some
stories like that.
In general, I believe there are restrictions to what you can ask folks because of the restrictions on how you take surveys. So you can't ask everyone, hey, before you download this data what are you using it for, and what are you going to do with it? I think there may be some restrictions on that.

MEMBER MAUNE: Can you ask them, do you represent federal, state, county government? Do you represent private industry? What kind of private industry, or anything like that? Are you in the recreational business? Are you in the commercial cargo business? Are you in whatever?

RADM GLANG: I'm not sure. I know they do like IP analyses and things like that, unless there's somebody in the room who can answer those questions. But I did want to point out that Coast Survey does a customer survey at least every two years. We just completed one most recently. In that customer survey we had sort of a stock list of questions that we asked every cycle, every cycle for the survey. And
that's done by an outside contractor. The same company has been doing it for quite a while now. We've briefed a panel on it, but it's been a couple years.

We have a new report. We could certainly turn that into an information session to share with you what came out of our most recent customer survey. I don't know if Rich or Juliana want to respond to that customer survey.

MR. EDWING: So the survey that Coast Survey conducts also includes questions about tides and currents and maybe about some aspects of their GS as well. So we use that, but then kind of on top of that -- and I know NGS subscribes to the service, I'm not sure about Coast Survey -- but we have a company called 4C, which kind of has that survey. You come into a website and they ask you to take a survey. We've been subscribing to that for a number of years now. It provides a lot of useful information. More about how people are using the website than maybe the broader range of products and services.
And there is some information you can get, you know, in terms of kind of where they're from. You know kind of more generally, is it from academia, because it looks at the URL. Is it EDU or -

MEMBER MAUNE: Right.

MR. EDWING: You know but by giving privacy protection probably not too much past that. And I'll ask Juliana if you want to add anything to that?

MS. BLACKWELL: Juliana Blackwell. Yes. NGS also does use the 4C as Rich described. We utilize the information that we gain from that feedback -- again, from website visitors -- to help improve our products and services and get a better understanding of what people are looking for and who they are based on what they provide to us. So that's a volunteer type of thing. We also do polling at our events.

So at the Geospatial Summit, we had an idea of the individuals who were participating and better understanding of some of their desires
and applications of our data, and what they're looking for us to do in support of the replacement of the DAT/EMs. Branching out from there, the Transportation Research Board, or at least a committee under the Transportation Research Board, as well as the National Society of Professional Surveyors sent out a questionnaire on their own but relevant to what NGS is doing.

So using these professional organizations to help gather feedback and then submit that back to us was something that they asked if they could do, and we said sure, you know, that they were free to do that. So we've kind of branched out into different avenues because of the stakeholder interest in learning more about what their members are -- how they feel about what we're doing.

So I think that there are a number of ways that we have grown in getting that stakeholder feedback, but it's hard to send something out based on law, just what we can ask
people directly to provide feedback to our organizations. So any way or any suggestions you have on ways that we can do that better within the laws that we're governed by I think would be great recommendations.

MEMBER MAUNE: Thank you. Well of course the reason I asked the question in the first place was because we learn so much on who's the user of LIDAR data when open Typography Portal shared their user base statistics, and it was very eye-opening for me.

We will review the transcript from this week's meetings. I know there were some good things said that were not on slides during the user group presentations, and I need to digest that better to see is there something in there that I can perhaps pick up on. But I don't recall any major changes in the direction that anybody was advocating for NOAA other than to accelerate things if possible.

That's pretty much my review of this week's session. Would you like to move on to
planning for the next one? Or do you want to
continue on this week's session -- reviewing what
we heard this week?

MEMBER MILLER: I wondered if one
thing from Dr. Leveson's presentation was this
may not be high level enough but it might be
something we might have mentioned. It seemed
like the surveys -- you had talked about cost
benefit surveys, and it seems like Doctor Leveson
had already done a number of them. Are there any
further cost benefit surveys? I mean it seems
like these things need to be redone at a certain
interval. So I guess my question to you, are
there any of the surveys that he's done that you
think need a re-look, or are there any additional
cost benefit surveys you think might be
beneficial to NOAA?

MEMBER MAUNE: Well the one I'm most
familiar with NOAA already knows about and
participated in -- the National Enhanced
Elevation and Assessment. There is an ongoing
national hydrography requirements and benefits
study, but that's run out of U.S. Yes and has more of a focus on river rain hydrography than coastal. That would have some relevance to NOAA, but not as much as if it had a coastal focus to it.

If other people have ideas I'd love to know about it. I'd also personally like to know more about the other FACAs. We talked about how do we interact with other FACAs, and I don't know anything about the other FACAs. And I wonder if there's something we might all benefit from if we knew what the other FACAs have done and what the things they're working on relevant to us.

CHAIR PERKINS: I think that's a good suggestion. I think it's useful both for new members like yourself, Dave, and just you know for existing panel members too. I wonder if we could accomplish that you know with a WebEx type presentation by staff? Vice Admiral Brown, if I remember correctly, mentioned that he has an interest or is overseeing in somewhere near 20 FACAs. So getting some transparency on that then
and seeing that list.

Yes, I'm sure there's a FACA website.
You know there is a public facing FACA website, and I think it's over 1,600 FACAs on there. So trying to accomplish it through that mechanism of self-learning, I don't advocate that; I've tried that. But I think that's a good suggestion, and it's something we should ask for.

MEMBER MAUNE: Gary back there had some comment he wanted to add if he can.

MR. MAGNUSON: Gary Magnuson, NOAA.

Good. Thank you. If you recall when Dr. Bamford met with you yesterday morning she mentioned a CMTS network of DFO's for NTS-related federal advisory committees. That network is healthy. There's about a dozen or so who are more active than others. The CMTS did a compilation of the Marine Transportation-Related Federal Advisory Committees. It is dozens, and I'd be glad to provide that to the staff and make it part of your minutes if you like.

There has been discussion; HSRP is
represented in the network by Russ and Admiral Glang. There have been a number of talks about referencing each other in each other's charters, about levering each other's recommendations, particularly about the Marine Transportation System. So I'd be glad to assist the panel on this if you want to pursue it.

RADM GLANG: Gerd Glang. So let me recap this. We're going to take an action at NOAA to provide the panel with more information about FACAs within NOAA. There are the FACAs that Admiral Brown identified that he would be involved with, not all within NOAA. And then there are the FACAs under the Committee of the Marine Transportation System through this network that Gary just described. So we can bundle all this together and make it intelligible and provide that as information to the panel.

MEMBER MAUNE: That would be helpful. Thank you. Lawson?

MEMBER BRIGHAM: And you can be sure that the word "arctic" will be taken up by some
of the other FACAs. We don't want them to reinvent some of the wheel here. So we maybe provide if they're dealing with arctic issues this mini report we have.

CHAIR PERKINS: I think that's a very good suggestion that we should be proactive in our engagement and outreach on the results that we produce here. Good idea. Dr. Kudrna?

MEMBER KUDRNA: Thank you. In following-up on Admiral Brown's suggestion I think my Secret Service handle will be edgy today. What I'm going to do is I'm going be very candid on the topic of an engagement document to spur some discussion here. The Planning Committee chose two topics to push toward the series of meetings, the first David did a really fine job on looking at users and the benefit cost ratio. The second is a new engagement document. And I circulated some lengthy reports to you. I don't know if you had a chance to go through them, but I'm going to fill in between the lines.

The first was the Science Advisory
Board's engagement report. And the full title of that was "Engaging NOAA's Constituents: Putting the Pieces Together to Create Impact." And this was done in 2008. I chaired that. It was a whole series. Most of the folks were outside folks, experts that worked on that committee. There were a whole series of meetings that ran over a year, year and a half. It was adopted by NOAA. And the report has a series of 33 recommendations. But I'm going to give you a little background before that. It was the discovery of engagement by NOAA by this committee.

One of the things that happened that was really revealing -- I'll give you three or four examples of what the state of affairs is. One of the things is Jerry Schubel, who runs the Aquarium of the Pacific out of Long Beach, while we were at one of the meetings one of the members googled "public perception of NOAA." And it came back, "Do you mean NASA?" And that tells you a lot.
Another thing that we did is we put together a survey. And Jerry, who's very influential with the other Aquarium directors, had that survey prepared in I think it was the summer of 2007 at the Shedd in Chicago, at the Aquarium of the Pacific in Long Beach, at Point Defiance Aquarium at Point Defiance Zoo. And when we set this up to get an idea of what the public perception and understanding of NOAA is we thought, well we're going to be a little biased here because folks who go to the Aquarium probably are more knowledgeable in NOAA than the average folk that you might find in the grocery store or from a blind survey.

One of the questions asked, or one of the responses that came out in the conclusions is more people think NOAA is part of The Weather Service than The Weather Service is part of NOAA. A high percentage of people had no idea what NOAA was, or thought it was something associated with an ark. So that was enormously telling information.
And then we started to delve into NOAA. And there are perceived restrictions on engagement by various pieces of NOAA. To give you an example, the Joint Institutes believe in any of their work products that are funded in part by NOAA, but also in part by other parts of their organizations or universities. They are not allowed to cite credit on any of their research or products for NOAA. And we said this is outrageous. Many times NOAA is paying two-thirds or the work. You're passing up an enormously effective way of identifying the work, you know. And in theory that's been fixed, but it's a continuing problem.

The other thing that came out is that scientific and technical individuals do not communicate well, and when they do they communicate in scientific and technical ways. And as we heard, plain language, talking in understandable ways, crisp identification of issues, those kinds of things that generally if you ask not only NOAA but no one in particular,
but other scientific organizations give me an

elevator speech. If you got a Congressman going
up the elevator you're going to pitch something.
He'll never get it out because it would have to
be the Sears Tower in order to get something
identified as clear and crisp.

So all of those things came out, and
there were a series of recommendations on a big
problem, identified big problem in NOAA across
the board. I mean it's aggravated by the subject
you don't have a clear, crisp-defined
organization that has one authorizing committee
to work through. You've got an executive order
organization that's spread over all kinds of
authorizing committees that may deal with a
little piece of NOAA but a series of pieces of
other things that make it all that more
complicated. So the ability to communicate an
engagement message for NOAA is not good. The 31
recommendations that went forward, some of them
started out making a little traction.

One of those supposedly implemented
was in the performance evaluation of NOAA employees there would be an engagement element added so that when folks are looked at they would understand part of their responsibility within NOAA if you have to do something for engagement. I don't know how far that's going. They set up an Engagement Council. Jim Murray of Sea Grant headed that. Jim retired, budget concerns, it was also everyone that sat on an Engagement Council was duel-tasked with other things. They had more than enough to do. So that went away.

So there hasn't been an enormous amount of progress on engagement within NOAA even though it was broadly agreed that there's a huge, massive need here within NOAA to communicate. So given that suggestion we need to deal with communications. And Joyce and I have had some conversations; and she makes a very good point. Who do you need to communicate with? Who is the purpose of communicating? Where is the central location we need to communicate? Well that happens to be the Congress. I mean NOAA and HSRP
does a lot of good stuff in a lot of places.
Virtually everything we talked about is dollar-
restrained and restricted.

We also circulated, there were two
versions of a 10 most wanted list. The last one,
2010, Rear Admiral West, Dick's a good friend of
mine. We've had several conversations, and he
told me that that document generated over $50
million dollars of additional funding for HSRP in
terms of mapping. And if you looked at the
charts that were presented by Jeremy the other
day, you saw that big bump in the 10 area. And
that was a direct result of that document. And
what happened is that's when shovel-ready
projects were available. And because that report
identified the need there, there was funding that
moved in that direction. And it's the same kind
of thing. That kind of document, there was a
Supplemental Sandy Funding. If you have clearly
identified needs and the benefits that would be
achieved by a portion of NOAA, and that's
communicated to the Hill, that can be used to be
a piece of a supplemental appropriation if, you
know, there's going to be another disaster.
There's going to be another supplemental funding
at some time. Budgets are tight.

You heard the story, there's a mark
for the particular Senate division that we deal
with, and the likelihood is it's going to be a
smaller number than we had last year. So, you
know, we're going to struggle to maintain the
kind of resources that are here, but there may be
opportunities in the future with additional funds
or another category of funds or funds following a
disaster. And if the groundwork is laid to allow
that to be funded, you're prepared for it. So I
think that's the important case.

Now the audience eventually is the
Congress. We don't talk directly to the
Congress, but we can certainly generate a report.
And that report can be viewed by the Congress.
That report can be carried forward by individuals
or organizations along the way to say these are
the kinds of needs that take place. These are
the kinds of needs of safety that need to take
place for the cruising industry. These are the
kind of needs that take place in terms of Alaska
for charting. These are the kinds of needs that
take place for commercial shipping and ports.
The pilot systems that need to be installed,
there's not enough resources, and there's a
waiting list of folks to do that. They can
identify those so they're able to be carried
forward by members of Congress when resources
come forward.

There is also a Defense Against
Reduction budget. If there's a push to cut
budgets or there's not, you know, every year if
you have a flat budget you know there's cost of
living and salary increases, and you'll get
passed down from OMB and commerce a smaller
number you have to deal with. Well this helps
you defend against that if there's an
understanding of the needs of NOAA. So I think
there's a great opportunity. The discussions we
had with the administrator and we had with Russ,
we've heard many of the things plain language,
clearly identifying needs, dealing with
stakeholders. We heard the ability to tell the
story. And I think we can do all of those within
an engagement document.

And I like the 2010 document. Two
things I would suggest I heard from the first two
days of meetings. One of them the administrator
made a very good point. She said you don't want
a document that's going to be used against NOAA
and HSRP. You know, you show some huge numbers
that you're not effectively using the resources
you have. So I think the document has to talk
about your effectively using what you have and
doing as much as you can looking for
efficiencies; however, there's a huge gap in what
needs to be done for the country. So it isn't
perceived as something negative toward NOAA.

And Joyce makes a good point too. I
think if you had a document that had several
sections it would be useful to be able to
separate pieces that could go to individual
organizations. You could take a piece on a particular section that goes with a particular interest group and separate that individual item to go forward.

I belong to the biggest sailing club in Florida -- the Punta Gorda Sailing Club. It's huge, really active, and one of them mentioned that I sit on his board. And I said well I don't speak for the board. And they said can you tell us a couple of things that are going on, and I said I'll just give you an observation. I said the resources are such that for recreational boating waters, to get them re-charted if that's their principle purpose, they don't make the list. They don't make the list at all. We don't even have resources to do it.

However, the average person who buys a boat and goes over to West Marine and picks up a Garmin or a Raymarine GPS and plugs it in on their boat and bought it in 2015 assumes everything on there in the chart is 2015 charts. Basically, if they're in Western Florida they
assume, new boater, they assume everything on
that document is 2015. Little do they know that
Brigham has told us that Captain Cook has done
some of the early work for Alaska. And many of
these things are very old; many of these are
shallow waters. And there's not an understanding
of that.

It certainly is not the fault of HSRP
because clearly if you got PANNA MANGA vessels
coming into ports, that's a huge priority. And
if you've got massive cruise ships coming in
that's a massive priority. However, that's a
need, and that's completely un-understood by the
public. So I think there's an opportunity to put
together a document that talks in plain English,
that talks about the kinds of needs that need to
take place. I think it could be separated into
categories that could be individually carried to
individual groups and in plain English and also
satisfy the administrator's requirement of not
being something negative toward the existing
investments of NOAA.
So that's what I would see as a future document, and whether it's a top 10 or a variation or something else, but I think the thing it has to do, it has to have an ask. And I've been on the Hill in other capacities many times; and what happens is when you meet with a Congressman or senator or a staffer, the thing they love is when someone comes to see them and goes away and hasn't asked for anything. I mean that's wonderful. You know you don't have anything to do for.

If you have a very direct and pointed ask and you ask them if they can reply to it, you're either going to get a yes, very rarely a no or a staff member you're going to work with that you can follow-up with. But I think it's an opportunity that we can convey some of these issues and convey the needs of HSRP. We'd produce a document. It would of course be carried forward by other constituents or ourselves individually; but it would depict the needs. And they virtually all go back to
financial. Everything we talked about doing
there's not enough money to do this, there's not
enough money to do that, along the way in a very
tough budget year. And we'd be prepared for
opportunities like a shovel-ready series of
funding that took place at one time, like a
supplemental for a disaster that would give us an
opportunity to roll that out and use some of
those resources.

So that's my concept to develop an
engagement document that would meet that form.
And I think that's consistent with what our
speakers told us. And let me stop there. Go
ahead Joyce.

MEMBER MILLER: Yes. Frank has
obviously heard what I was thinking. We didn't
really have time to talk in detail. So you know
I was listening to, particularly Dr. Sullivan
when she advised us to talk to individual groups
or people that have individual needs, and one of
the things that I've learned is that okay first
of all you identify your audience. Then you
identify your story.

And Frank's right. You've got to have an ask, but our groups are very, very different. Talking to a surveyor who needs CORS and GRAV-D and that is very different than talking to a recreational boater. Maybe they need CORS and GRAV-D, but they don't know it. And the language has to be very different and especially with all these kind of national security, coastal resilience. So what I've been thinking about over the last two days and nights was yes we definitely need an engagement document. I think it's a very valuable idea. Honestly, I know from experience that even something this long, most people look at the executive summary and then they go away. That's just my experience. I think it would be effective and we could incorporate the 10 most wanted into these, but let's say a most wanted about GRAV-D or CORS would go to a certain constituency -- the surveyors, the geodesy community.

And I've been thinking of them as
certain of writ large, Coastal Management or Coastal Resilience, and then in smaller letters and NOAA Navigation Services. You describe what this group needs at the level they need. You show them what benefits they get from NOS Navigation Services, and then you perhaps tell them what they could do to or what they need more or find out what they need more. And then say this is how you can help.

Now perhaps the Congress is one of our audiences, but I don't think it's our only audience. I think we need to look at a variety of audiences. Also this could be done in an incremental fashion. We could pick out one or two important audiences, and I'm sure there would be an arctic advocate and a recreational boating advocate and a port complex advocate. But we could do this one or two a session rather than -- I know from Lynne and Gerd that resources are very limited. So the HSRP has to do this not NOAA NAV Services.

So let's also look at what's
manageable. You know a multi-chapter document I think is biting off more than we can perhaps chew. I've got time to spend. I just retired, but most of you guys are working day jobs. So at any rate, you know, I agree with Frank totally that we need an engagement document. I just have a little bit different perspective on how it might be accomplished, particularly given peoples' time constraints and what we can do.

We could have experts on one, you know. Ed could help with one. We would produce a template you know with some examples. Lawson could focus on one that did the arctic. Susan could focus on one. It's a two-sided, one-page document I'm thinking of with some nice pictures and so forth, but again I stress at the level that that community needs it because most people you start in with the NOAA acronyms and their eyes are going to cross in a lot of communities.

So that's just an alternate possibility that I'm presenting, and you know I think we can all work together. And if we decide
to do a document like this, I'll certainly contribute to it.

MEMBER KUDRNA: Joyce, the only thing I would disagree is that I think support from NOAA certainly is on the table. I mean for Rich, Gerd and Juliana, this is support of their future funding. And they certainly should have an interest in providing the technical information we need for this.

Now I don't think they should write it, and I don't think we should write it. Maybe Susan has the skill to write a document like this, and we said at the Science Advisory -- I'm not really going to bust some -- at the Science Advisory Board, we said NOAA shouldn't write documents. You should go to a place that knows how to write them and a place like I know there are different parts of NOAA. I would use Sea Grant Engagement.

I'd get one of the really good communicators from a program. Find a small stipend to bring them involved doing the writing
so we don't get technical details; and we get
something in plain language and clear language
that would go forward. We'd guide them on the
topics. We'd guide them on the stressors, and
we'd let the technical data come from NOAA.

I'll give you an example. And I
really believe money is the issue when it comes
to Congress. Now it's going to have to have
people that influence Congress take those
subjects forward if there's going to be more
resource, and I'll give you an example. American
Society of Civil Engineers, big organization,
probably 70-80 thousand members right now; very
interested in highway fund, water supply funding,
infrastructure funding, ports and harbors
funding, those kinds of topics. That's really
important to their membership.

What they do is whenever there's one
of those bills they have structured a fly-in, and
they have identified in every state two
individuals from every individual state. One of
those is a major government employer, someone
that runs an engineering company that might have
20, 30, 50,000 employees in it that has enormous
presence in that state or a massive contractor
that has huge numbers of employees in it.

They also would identify a government
figure, the Secretary of Transportation from a
state. And they bring of these folks in from
every one of those states; and then they don't
let them go on the Hill alone. They require them
to be there for a training session so they
understand the message. And they're told the
Highway Bill is up.

So we've set up these meetings with
your Representatives and Senators to talk about
the Highway Bill. And they go in and they really
meet with them. And it's not the kind of thing
where you get three staff members down the path
in the spring season. You get the actual member
there. And they're told this is the pitch.

Here's the list of benefits that have taken place
in your district; here are the benefits that will
take place under this. And they're also told to
ask. I've done this before.

They're asked will you support the bill, and they're either going to get -- and they never get a no. They're either going to get a yes, in which they'll report that back, or they'll get you know I'll certainly consider it. If they're considering it, you ask them for who is your chief of staff who's going to work on this subject we can follow-up with? And then they would follow-up more.

And they are enormously effective of getting more research. Now I'm not advocating as a federal group we do that, but we have to provide the information that will enable the constituent users to take that forward to Congress to get consideration for additional resources.

MEMBER MAUNE: Dave Maune. It seems to me as though Joyce was proposing that we develop a strategy document rather than the document itself that outlines ideas on how we go about promoting the value of NOAA as a whole and
what those strategies might be, how we go about
doing that. Am I reading you right?

MEMBER MILLER: No. Actually, let me
put it this way. I probably have written a dozen
or more one-pagers. I've also written -- I had
somebody contact me who I'd known back in the
60's who said I was looking for your name in the
internet and they said, "Are you that
oceanographer chick who has written so much?"
And so I personally have written these things,
one-pagers. I mean we have to have consensus on
what's in them. We have to be careful and pass
everything through NAV Services to make sure, and
we need to certainly use Juliana and Gerd and
Rich as resources. But I think it's within the
scope of things that the HSRP could do.

Maybe looking at it as a strategy is
you know the first step in it, but because we've
got such experts, Lawson on the arctic, Susan on
the recreational boaters, Ed on port concerns,
you would obviously put precision navigation in
ports as one of the this is important, we need to
support it more. Now we'd have to be careful about how to phrase that. You know I would see this as a document that maybe down in the corner it says "produced by the Hydrographic Services Review Panel." But we're not front and center on this. What NOAA does and needs is really the important thing. I mean that's what I see. You know and having somebody else do it that doesn't know the field, we're supposed to be the experts. I don't know. I certainly would be willing to look at it as a template, a first cut.

CHAIR PERKINS: I'd like to take this opportunity to let Carol Kavanagh from NOAA make comments.

MS. KAVANAGH: Hi. I'm Carol Kavanagh, and I'm the Communications Director for National Ocean Service. So thanks for the opportunity to provide some input. This is highly interesting discussion for me. We struggle with these topics every day. A couple of things that I'd like to add to the discussion or for consideration; first, I think just moving
back a little bit to the ask from Dr. Callender back at the last meeting. I know that he was specifically looking for engagement. There was an engagement element. Maybe going back to kind of what was he asking the group to do just as a bigger picture, and maybe consider that. And I think that there's a place that would be very helpful in terms of the input that you have -- not just how the HSRP might help engage stakeholders, but how we at NOAA could continue to improve the way that we do it.

Second, I think that the type of document that you're talking about and the approach sounds absolutely great. The context of that, because a document like that is a tool, and it's one tool in the toolbox. So then the question is -- and I think this goes back to the comment about kind of the strategic discussion -- is what do you want to happen because you're going to engage more or engage differently? What do you want to happen as a result of these communications efforts and start there? I think
the inference, one of the underlying themes is
definitely we want to insure and shore up an
increase funding. So what does that mean? It
means translating what we do, increasing the
understanding, awareness of the value of what we
do.

And when you're talking about
individual tools or individual documents, it's
got to kind of fit into that bigger picture. And
that will really help I think save you all a lot
of time in terms of what you want to put out. In
addition, I appreciate the emphasis on
identifying the audience and identifying what the
story is. I would say in between the step is
identify what that audience wants, because if
you're not speaking to that, and you know,
because you have a lot of noise thrown at you.
And I always think of it in terms of my eighth
grade, when my daughter was in eighth grade and
she wanted to be able to go out not just on
Saturday nights, but she wanted to go out on
Friday and Saturday nights. So she created a
PowerPoint presentation because she had just learned how to do that.

So her presentation was not about this would be more fun for me. It was about me, mom.

This will help me, your daughter, develop responsibility. It will help me prove my trustworthiness. And I thought this is exactly what we are always trying to do. It is always --

every communication that you have is always about the audience, not about you. It's always about what is of interest to them.

So I think that we get a lot of communication thrown at us every day about what's important to somebody else. And the thing that really strikes you personally is probably the thing where somebody communicating with you understands what your needs are. So I think just thinking about who we're reaching, whether it's directly Congress or a stakeholder that might be able to ultimately advocate on our behalf to a member of Congress, it's always about what they need. So I appreciate the chance to share those
thoughts with you, and I'm happy to continue to sit in the session and work with Admiral Glang in terms of next steps.

CHAIR PERKINS: Thank you, Carol.

Yeah, this is where the panel gets to say what they think.

MEMBER SHINGLEDECKER: To me I think we're still really stuck on audience. I think we're not sure who exactly we want to talk to, or can talk to, or how we can talk to them. I think we know who we want to talk to, and I'm afraid without a very narrowly-defined audience, we're going to develop a document or a set of documents that doesn't achieve its purpose. Now by saying that I'm not saying I don't think we need something, but I think we have to figure out that audience piece and think pretty carefully about that.

MEMBER ATKINSON: I thought our audience was some Hill staff or something. We produce something that they take, not necessarily us take to some decision maker. I mean we're not
writing something for the cruise industry. We're trying to represent their issues or whoever.

MEMBER SHINGLEDECKER: I agree that that's I think the audience we would like, but I don't know that we necessarily have the mechanism to get this piece to that audience. Am I incorrect?

MEMBER ATKINSON: It may be indirect, you know, not direct.

MEMBER MILLER: But if it's indirect, you have to talk to who that indirect person or persons are or organization is. I mean if we can't -- and not all of you were on both of the legal advice phone calls. I got the message loud and clear that the HSRP advises the NOAA administrator.

If we can, we help get NOAA's message out, but we don't go to Congress. So thinking we want to go to Congress but we want this to get to Congress. And talking in congressional terms to the average stakeholder is not going to work. So I agree with you -- defining the audience is
always the first thing you do, but I think we have many audiences. And if they can help us, if a nonprofit or a citizen could help us get the message of NOAA's need for resources to their Senator or through their lobbying organization then - if you don't agree then I'm fine with that; but I mean I just don't know how we can target this to Congress.

MEMBER KUDRNA: Joyce, I think it was clear that we can't go directly to Congress. There's no question about that. However, we can produce documents that become publicly available that others can take forward to Congress.

MR. ARMSTRONG: Andy Armstrong. It seems to me that the role of the panel is to give advice to NOAA. And so if we make a document, it seems like the document ought to be from the panel to NOAA. And I think that it needs to be written in such a way that people of a variety of constituencies can see it and use it.

And then NOAA really can choose -- I hope they would -- to say in their process
whatever that might be. Our HSRP is telling us this is what we need. And at the same time the documents are publicly available and can be made available to a variety of constituents. So I would say the document is to NOAA, but it needs to be written in such a way that says HSRP has learned that the recreational boating community needs this and this and this and this that's not being provided. You know and we think it's of urgent importance to do that and here's why; and then that sort of lays out the message that everyone can use in carrying that forward.

MEMBER KUDRNA: I agree with you. I think that's a logical way to do it. But it has to be pointed; it has to talk about the scale of need, and it has to do what I said earlier that the administrator suggested - not roll NOAA under the bus that it's not doing enough. But I think that can be done, and I think that can be effective.

CHAIR PERKINS: So what would you propose is the next steps, Frank?
MEMBER KUDRNA: Well I think it might be useful to flesh out particular topics with maybe a paragraph of description of what we might want to talk about. And maybe do that through a solicitation of the panel and let the Planning and Engagement Committee do a first cut of that and bring it back to the panel. I'd like to have some sort of aggressive time table on this so we get to a product before too long. But maybe the first subject would be to take topics.

I think one of the things in the old most wanted report that was very useful is it spent the first piece showing the scale of use of data. You know, the miles and users and cargo and tons and all of that kind of thing and number of recreational boaters and that. I think that sets the stage for any report as a preface. So my suggestion would be to charge the Planning and Engagement Committee with developing a first cut of some topics that might be contained in a brief starter description.

CHAIR PERKINS: Going back to the
request for information on other FACAs, are
similar documents -- and maybe Carol I don't know
if you can answer this. Are any other FACAs
producing forward-facing, engagement-type
documents like we've described here? You know do
we have to invent the wheel here, or is there
something already being done successfully by a
similar advisory group that we can build on?
Does IOOS have something that is close enough
related?

MEMBER KUDRNA: I don't know but
Gerhardt will be here in a few minutes. We can
maybe talk to him. He sits on the Executive
Committee of that. But I think the Science
Advisory Board has, in terms of talking about
individual topics, they've not done it for a
collective group. The one other thing I'll say,
in my discussions with Admiral West, he told me
that the Science Advisory Board asked him to take
this 10 most wanted list to them and present it.
And he says they cited it as an example for what
FACAs should be doing when he took it forward to
the SAB.

MEMBER MILLER: Scott. I questioned to Andy, I asked him is he looking for something similar to the 10 most wanted, what he was talking about with talking to NOAA. I think the idea of NOAA as the audience, you know, kind of what format. And what he said was no possibly a series of one-pagers that takes an individual group. Is that correct? To meet the needs of group X here's what's needed. And so ports and precision navigation might be covered in one and

CHAIR PERKINS: That report from 2010 I think predates -- does it predate everyone sitting here at the table today?

MEMBER JEFFRESS: Not me.

CHAIR PERKINS: Not you. Well that's a good segue. That should take this moment to thank Gary, Dr. Jeffress for his eight years of dedicated service to the Hydrographic Services Review. Some data metrics might be helpful. You know was there a budget number assigned? Was
this produced by the panel? Was it produced by
NOAA staff? Was there a budget number assigned
to it? What was the cost point? How many copies
were produced? And then the real question is:
was this effective?

MEMBER JEFFRESS: I can answer some of
that.

CHAIR PERKINS: Please.

MEMBER JEFFRESS: This one that we did
in 2010 was an update from the one we did in
2007, which was produced before I was on the
panel. The 2007 one appeared to be a very good
document because it was very comprehensive. It
was a new idea at the time, and I guess that all
of it wasn't actually put together. It
summarizes about everything that NOS needed at
the time. And, by the way, it still needs all
this stuff. So the actual, the latest one was to
update the numbers and bring that one more up to
date. And it follows pretty much the same format
as the first one.

I got the sense in the end it's a
little bit overwhelming to take to the Hill, for example. But it does contain a lot of good information. And I've used it on several occasions trying to sell PORTS and trying to get people more aware of the products and services that NOS does. It's a good tool for that, but I agree with Andy Armstrong is that if you are going to go to the Hill, and this is a rule of thumb that you probably already know, you have to take one-page document. This is the issue. This is what it's going to cost, and this is the benefit, and this is how this is going to make you look good. And that's what we need to do. We need to break this down into one-pagers I think as a more useful tool to take to the Hill. And get our constituents like NSGS or the cruise line industry to do that on our behalf because we can't go to the Hill.

MEMBER MILLER: Gary, I believe from what I was told when I joined the panel that the first of this was written largely by the chairman of the panel at the time but that it was a fair
amount of work on the NOAA staff part to produce it. So you can comment on it.

MEMBER JEFFRESS: You're right. Yes it was. I forget the guy's name. Do you remember Annie? No it wasn't Tom, Scott or something like that. Yes. Yes. And it was almost his full time job for a couple of years, I believe. He apparently had the time to put into it. And he was very passionate about it.

MR. ARMSTRONG: Yes. He was actually between positions when he did most of the writing. So he did put a lot of effort into it. It was almost a full time job for him.

MEMBER JEFFRESS: I'm not aware of the cost or how many publications were made, quite a few. I got a lot of them and handed them out everywhere I went. And I found it a useful tool. It's still relevant, so I think we could still hand it out now.

CHAIR PERKINS: Yes. I think in today's social media environment and the 140 character limitation on a lot of communication
that takes place nowadays, you know we need to do something other than a printed, bound document. So the one-page tear sheet concept. So is it the consensus of the panel that we ask the working group to come back with topics, you know, identify the five topics that could be addressed in this manner within the next 30 to 60 days so we can try to maybe have a mock-up before the March meeting? Does that seem like a reasonable plan of action? Admiral Fields?

MEMBER FIELDS: Evelyn Fields. Wouldn't some of those topics possibly be some of the things that were put up earlier when Larry did his presentation? I mean would that be the kind of topical areas, not all of them but some of them might be the kind of topical areas that I think I've heard over the last three years. That may be what you're looking for or what we -- I say you, the generic you -- would be looking for for these one-pagers or two-pagers or whatever you want to call them?

MEMBER MILLER: Could it be something
like who benefits from some of those topics you
had up, Larry, you know CORS or - this was very
sort of topically-related, sort of NOAA topics.
That's the reason I was kind of focusing on what
do recreational boaters or whoever he used and
take two or three of these items to each one-
page. You're not going to cell CORS and GRAV-D
to recreational boaters.

You're going to sell charts to - and
no they aren't our - yes. But they're going to
-- I mean, if we're trying to phrase these in
terms of to meet the needs of group X -- whatever
that group is -- NOAA needs to provide these
services. I don't know. Larry, what do you -

MEMBER ATKINSON: Well actually I
mocked up a one-page already on mega cruise
ships. She's got it over there; but it's
basically a picture. One sentence about whatever
your message is, background, HSRP statements,
references to NRC reports, some authoritative
reports or professional societies, a little thing
at the end on HSRP, that's it and some quotes
from the captain or one of his colleagues,
somebody from the reinsurance industry. That's
it. That's the minimalist view, but we can do
that.

MEMBER KUDRNA: No. I think that's
good. Just we need to have ask in there though.

MEMBER ATKINSON: Oh yes, yes.

MEMBER KUDRNA: But I think this is
good. Scott, I would minimize the first cut to
five. Let everyone on the panel dish up topics
they think, and let's look at a list and then
prune it through a call or something.

MEMBER ATKINSON: We could get some
today.

MEMBER BARBOR: The other thing that
interests me is that part of our vision here is
that someone would bring this forward. And I
don't know. Obviously we have one association
rep in the audience, you know, and CLIA and the
like. If you had your shot at the appropriate
Congressman, where does this stuff rise to in
your pile of one-pagers? Yes. I don't know.
But that's an important aspect is what advocates do we have that could carry this forward and get the ultimate intent, which is in front of a Congressman or staff, with sufficient clarity and a sufficiently clearer ask that produces a product or produces a result. I don't know; so I would NSPS bring something like this for GRAV-D, you know, point paper forward and say completing this ahead of the 2020 schedule is the most important thing that can transform survey in the United States? I don't know.

Or CLIA go forward and say precision navigation is the most important thing that the U.S. budget can do for my cruise line. I don't know.

MEMBER MAUNE: Dave Maune. I don't know if we can do this or not, but the thought occurred to me that the Management Association for Professional Photogrammetric Surveyors, MAPPS, has an annual meeting in which they send people to visit their own Congressman. And they have a series of handouts and one Congressman
this is a hot topic for him, for another
Congressman it would be different. And they have
a series of one page handouts. For this, you
talk about these hot topics and they just drop
them off for them to read and get back to them
later. I don't know how they come up with those
papers, if they develop those all in house or if
they use papers available from other people. I
don't know if there's any way to have that kind
of approach using other organizations that
benefit from our services.

CHAIR PERKINS: In that particular
group, they have a legislative affairs committee,
and they put forward a slate of topics,
legislative topics or issues to membership and
then membership you know speaks and they narrow
down, and then those position papers are
prepared. And those are very much political acts
in that case, and as some of the people in the
room know, this particular community is not
always pleased with what they advocate for.
There are two sides -- yes, there are two
viewpoints to many issues but that process, I mean we don't have a membership body of 180 stakeholders to reach out to filter these through. Right? We have 15 people sitting at a table here. So it's, you know, we've got to come up with a list of items and then we have to carry the water, there's no full time staff, as Dave mentioned there's full time staff there that write and develop those papers. Their stakeholder members also have their lobbyists and their legislative affairs people that contribute and vet those documents, and I don't think we have the resources, you know, at our disposal.

Admiral Barbor?

MEMBER RASSELLO: Precise navigation, I don't understand why we're struggling to prove that precise navigation is needed. It's a requirement of the practice. It's a requirement; it's nothing good. We have ports, we have area there's no assessment -- unassessed import.

CHAIR PERKINS: Yes, I agree. I agree with you. It's a requirement that's a known
responsibility; the challenge is, you know, getting the funding for it, that is the elephant in the room.

MEMBER KELLY: Mr. Chairman, I think there's a lot of good ideas if we were just throwing things against the wall to see what sticks, but I'm really starting to question whether we're an advisory panel or an advocacy group. And I think we're running down the path right now of becoming an advocacy group, and where that might be a minor by-product of some of the stuff we do, I think we really can't and shouldn't be - as significantly as this discussion is leading -- moving into advocacy and I think we need to be advisory.

CHAIR PERKINS: I think the word is engagement and not advocacy. Right? What we're working on are documents that help foster engagement to a broader community, and that is something that we have been tasked and that is a working group that was approved by the DFO and has been vetted by the NOAA Administration so our
focus is not advocacy; it's engagement. It's semantics, but it's important to have that distinction.

MEMBER BARBOR: Although the question was: how can NOAA engage its stakeholders better? Yes, so they were asking for advice on how they can engage better.

CHAIR PERKINS: That's a good point. Maybe our mission here isn't to prepare these pieces; our mission is to identify the pieces that would help foster NOAA engagement from other stakeholders. We don't have to make the sausage; we just need to say what size and color.

MEMBER KUDRNA: One point I think we should make is there's a lot of information we have that isn't understood by the stakeholders, and we can assist with that. Now there's different ways of telling various stories. You can talk about what you're doing with your individual budget or you can say for precise navigation we don't have enough resources and we have a waiting list of ports that are interested
in it. You don't have the ability to expand
entities because of resources. That's a very
different way of telling a story. You can say
we're mapping all of these areas, or you can say
we're falling behind in re-charting areas and we
have a backlog of x, y, z that takes place.
That's a very different story that lightens
people up. I mean, if we did a 200 year schedule
of our charting priorities and you told someone
they're in your 198, you might get their
attention to talk to the Congress. I'm not
advocating we do that, but I think it's important
that the stakeholders understand the limitation
of the resources and the degree of the issue.
Precise navigation is one; re-charting is
another; lack of anything for recreational
boating is another. There's a series of them out
there we could talk about that would be very
useful to communicate to the constituents.

MR. ARMSTRONG: It occurred to me that
one of things that we have heard with Admiral
Brown was that the Dr. Sullivan prepares an
annual guidance memorandum for the agency. It seems to me that one of the roles of the HSRP could be to provide some impetus for the Under Secretary to include priorities for these activities that the panel feel important, that the annual guidance memorandum so we're as a panel here to advise the administrator. So the first step in getting forward is getting on NOAA's priority list.

MEMBER BRIGHAM: Lawson Brigham here, back to the Arctic, and I mean that's a topic we can easily -- for guidance, whatever guidance, whatever comes out and the next one doesn't say that hydrography and charting of what the President of the United States has said, then we haven't done our job here or she hasn't done her job I guess. So I think that we should remind her of that whenever the timing is to maybe to recommend that it be included in her guidance. So she has gotten guidance from the President seems like we should correlate that. That's a kind of easy one because we have it in our
report, so we can just have somebody remind her to do that.

MEMBER BARBOR: Okay and I've got it, not since Thomas Jefferson had the President so clearly enunciated a path.

CHAIR PERKINS: That's actually not a bad quote. Was it FDR? Well I think the engagement committee has a challenge in front of them to identify the bullet points beyond the Arctic, which has been clearly covered this morning.

MEMBER BARBOR: A question to Rich, was this a Charleston document or did we get that in LA, I think Charleston, ports. New York, okay. So, again, what mileage have you gotten and comments or the like on not one page but skillfully put together.

MR. EDWING: I think that is the Long Beach Bridge, and that's the air gap sensor. You're looking at the air gap sensor from the bridge. Yes, you're up on the bridge, and that's the data collection platform; the sensors are
underneath but yes, yes. So it certainly didn't
result in full federal funding, or hasn't
resulted, but it has gotten a lot of very
positive you know feedback on it. It has been
used a lot; certainly we use this on the hill a
lot. And it is a way of, I think, hopefully -
because behind this is a 600 page report that
backs up all the information in here -- but this
was the infographic or simple way to try to
present it. You know, along the lines of the
HSRP top five report going back a number of
years.

CHAIR PERKINS: Frank, did you have
anything else?

MEMBER KUDRNA: No, I think we've got
an approach, and we'll try to do this
aggressively - put together a request to the
membership, I think we should probably just
initiate that right now, say within the next two
weeks. Suggest potential topics for individual,
put those together, and then let our committee
get together and do some recommendations for the
group as to how to go forward from there. We'll also be meeting to follow up on Dave's group, too.

CHAIR PERKINS: Okay; great.

MEMBER MILLER: Larry, can you provide that -- your template to the group, just what you were thinking.

MEMBER ATKINSON: It's at home.

MEMBER MILLER: Oh, okay.

CHAIR PERKINS: So we have lunch; we have a lunchtime speaker. Yesterday we were a little late starting lunch, so I want to avoid that today, so the other thing I'd like to ask, I would like to give the public -- both online and in the room -- an opportunity if there are any questions based on the topics discussed this morning, if they would like to put forward right now. I want to remind everybody that we do have the one question we agreed to discuss and respond to at 1300 hours when we reconvene after lunch.

MR. CAVELL: I'm Tony Cavell; I'm representing National Society of Professional
Surveyors, but I speak mostly for myself. I have a few comments to make relevant to this morning's discussion, mostly particularly to the coastal intelligence and resilience. There are four points, one is that bathymetric data is necessary. Increased capacity is necessary. CORS in the Arctic will play a very important part. And is there a possibility of having bathymetric data requirement of leasing? To elaborate on the first one, to accomplish the President's announcements regarding the Arctic, bathymetric data is necessary; it's very simple unavoidable fact that must be emphasized. As for the increased capacity of NOAA to meet these requirements, we've heard that it's less than 1 percent of the whole. We should not make plans to fight a house fire with a garden hose. Recent examples include the aftermath of Hurricanes Katrina, Rita, Sandy, Deepwater Horizon and currently there's wild fires that are metaphorically we're fighting with a water hose. Can you imagine where we'd be if the U.S. had
responded to President Kennedy's challenge to go
to the moon in a couple of centuries? Our
current capacity is woeful. NOAA needs to
leverage the urgency of safety of life and
Presidential priority to increase capacity to
more than a laughable amount. As for CORS in
Arctic, I'll start by saying that I'm familiar
with CORS at about 30 degrees latitude, so please
forgive any obvious misstatement. But I have
participated in creating a couple of CORS station
that are unique in that they are offshore.
They're on oil platforms. Now granted, by
comparison, I'm sure the Gulf of Mexico is a very
friendly place and there was in fact its
exceptional because if you go by the letter of
the rules they don't meet NOAA's specifications,
but they have been accepted into Dallas National
CORS network, and they have proven to be stable.
Perhaps, even if they work at a lower precision,
finding such stable platforms which imply some
form of maintenance as well nearby might prove a
place of opportunity to place CORS stations. And
as far as the leasing requirement of requiring bidders to provide data they most certainly have acquired to inform their bids, and later their production from their leases, consider requiring bidders - potential and successful -- to submit their bathymetric data that's collected in pursuit of the bid or the production. And I prepared those very incomplete sentences because I had a little bit of time, but hearing the last bit of conversation today as for an audience for your engagement documents -- your one pagers as you've called them -- consider organizations like mine -- ASCE, Hydrographic Society of America, et cetera. We participate with MAPPS, and in fact NSPS does annually in the fall to engage our members of Congress and Senate. Indeed, there's four of the six points, and we select two or three that are pertinent to that state or that Congressman's interest, et cetera. And on the flip side, I like the idea that I heard of keeping it simple, very sparse data on the front side, but consider - this might take a little
more creativity -- but consider on the flip side
to have a "did you know" aspect. Did you know
that there's - and then fill in the blank, about
whatever the topic and the point that you're
addressing. That's what I had to say; thank you.

CHAIR PERKINS: Thank you Mr. Cavell,
and thank you to NSPS for sending you here. Any
online -- any additional online input? Mr.
Mitchell.

MR. MITCHELL: I'm Todd Mitchell with
Fugro. I just had a sidebar conversation earlier,
but I just wanted to suggest -- back to the
Arctic priority issue - when discussing the
amounts that we want to put in a document to say
that this is perhaps what we think we can
realistically achieve, I think it's good maybe to
look at the historically what NOAA has been able
to achieve, what it has been thinking in terms of
its fiscal investment historically, and say we
have already been making some of these
investments; this has been a priority to some
degree, and if we want to make a significant dent
then this funding part we have been using is still insufficient. And we need to – again, I'm going to use this expression -- grow the pie. If we actually use the numbers of not just this contract is also invested with NOAA'S own vessels, we can take those numbers and we can actually extrapolate to say we're still not meeting the adjective of what we would like to do and that value needs to grow to a figure such as this in order to meet whatever objective HSRB thinks is the right target. Thank you.

CHAIR PERKINS: Thank you for that input. We're at the point where we should adjourn. The panel has a working lunch in front of this with a presentation from Dr. Kuska, Director of the MARACOOS Organization. So that will take place across the hall in the room where we were yesterday, with the goal of reconvening back here at 1300 hours. At 1300m we'll give you from 1300 to 1302, or do you want them now? If you'll keep it to two minutes, okay.

MEMBER BRIGHAM: It's Lawson Brigham
again; I'm the architect report. I think we
don't have a preface, so in the preface, I'll
draft up a preface to cover the National Security
issues the totality of this. The President has
spoken, and I'll preface our report with that and
say something like how timely this is that we
have a working group at the same time the
President was speaking, and I'll try to roll
those in. And the second point is that on the
recommendation related to seeking additional
funding in a line item budget, there's a thought
to put a number in there like $20 million a year,
so we should think about that. And then the
final point is more of an observation from the
international community; I have a pretty good
network and talk to people. I have had a couple
hydrographers of the various countries talk to
me, and this is for Admiral Glang and his team. I
mean we're really being represented at the
highest level; we're the proactive Arctic country
in the hydrography world from what I learned.
I've not been to IHO or the Arctic Regional
Hydrographic Commission, of which the Admiral was a member, but I hear that we're pushing the agenda, and it's all very positive. So that's a congratulations to you Admiral and your team for giving the United States high profile on the very topic we're talking about Arctic today. So, thank you.

CHAIR PERKINS: Very good we'll adjourn to across the hall.

(Whereupon, the above-entitled matter went off the record at 12:01 p.m. and resumed at 1:26 p.m.)

CHAIR PERKINS: Yes, we have two online questions that we need to attend to, we have a little internal panel matter then we have our deliberations, we have many panel members that have travel staring them you know in the face later this afternoon so it has been asked and I will concur with agreeing to a 1600, 4:00 p.m. Central -- excuse me, 4:00 p.m. Eastern, 1600 hours. And I guess it's our target you know for conclusion of deliberations so that people
can make their evening travel obligations. And we have Dr. Callender who I believe we're scheduled at 3:15 will be able to join us via audio so our goal is to try to get to good talking points by 3:15 that we can receive feedback and input with Dr. Callender. Mr. Harrison's question is on the screen in front of some of you behind the other half of you so if you'll take a moment.

RADM GLANG: Do we know if Steve Harrison is still online?

MS. HOUSE: He is.

RADM GLANG: Does he have the ability to phone in?

MS. HOUSE: Is he on the phone already -- he's not on the line. So he can speak -- okay, just kidding.

RADM GLANG: So I'm going to take a stab at trying to interpret Steve's question, I think in the context of ellipsoidally referenced surveys his question has to do with the quality of positioning, I guess in the northern latitudes
and he's asking permanent differential stations
so in that -- just a moment on the science when
you do ellipsoidally referenced surveys you do
need some kind of differential service whether
it's from a base station on the ground or whether
it's a service that's coming to the user by
satellite.

So that's a good question, so I'm
going to answer it Steve this way. The way NOAA
hydrographic ships are surveying on the ellipsoid
in Alaska -- western Alaska is by setting up our
own flyaway differential stations and we're also
evaluating some commercial satellite services for
those differential correctors. There may be
other ways to tackle this but it's something
we're working on with NGS. We're kind of trying
different things seeing where we get the best
results, and offhand I think the satellite based
providers we're still seeing vertical uncertainty
of on the order of 20 centimeters -- don't quote
me on this, we can talk about this in a lot more
detail, which may be okay in some places but
maybe not everywhere.

Certainly not for higher resolution or larger scale surveys that may not be quite good enough so that's broadly how I would answer that. Juliana, did you want -- any part of that you want to tackle? She's shaking her head no.

MS. BLACKWELL: No, just -- well, since you put me on the spot, Juliana Blackwell, Director of NGS. We are as Gary mentioned working with CORS survey to determine opportunities even alternatives depending on location and CORS sites available or not available, different ways that surveying on the ellipsoid can be accomplished and the positioning aspect of that in referencing that to shore stations, CORS Network etc. So it is a work in progress and I think that is something that we should look forward to talking more about with the panel once we have more definitive ways of how we're going to progress with this. Not just in the northern latitudes but in multiple places and how we're going to try to address that, thank
RADM GLANG: More CORS stations will definitely help.

MS. BLACKWELL: This is an aside, Juliana Blackwell again. The question came up, I don't know if it was during the official session or not about the CORS in Alaska and a couple of things to note -- and NOAA does not own any of those CORS stations. There are a number of them up there, you can go to our CORS webpage and see where they are currently located. One thing to point out that wasn't mentioned yesterday when we had our federal stakeholder panel the FAA actually owns seven, I believe, of those CORS stations and one of them the very northern part I think near Barrow. So FAA has seven stations up there just for your awareness and a number of stations that are owned and operated by UNAVCO are of concern in the sense that National Science Foundation I think only has funding through FY18 for a number of their plate boundary observatory stations so throughout the community there is a
concern of what's going to happen with the
funding for the UNAVCO PBO stations after FY18 in
a big outreach effort to try to look for
opportunities for additional funds for that
network or for people to adopt those stations and
that's probably something we should talk a little
bit more about at our next meeting, thank you.

RADM GLANG: I think there was a
follow on from Steve on that, that we're trying
to get on the big screen. I think he's relaying
that when the Sumner was surveying in those high
latitudes they did have a challenge with a
sufficient number of satellites, agree with that,
I think we talked about that and then he mentions
additionally varying sound speeds throughout the
surveyor has plagued us. So that of course is
still an issue and we know that firsthand from
the Rainier and Fairweather's work in Kotzebue
Sound during this past year, this past summer
sound speed was a real challenge.

So what that impacted was how
productive we were going to be because originally
the plan was to achieve the multibeam bathymetry
and then use sidescan sonar to broaden our area
of coverage in order to meet our line -- our
object detection requirement. However, the sound
speed challenge in Kotzebue Sound was such that
the sidescan records were really unusable and in
order to meet our object detection coverage we
had to reduce the line spacing of the survey
launches and go to full multibeam coverage.

So that was one of the challenges we
were not as productive as we'd hoped to be. The
problem with the sound speed -- so you've got
layers of water that are in different
temperatures and they really distort the records,
especially in sidescan. That problem was less
just around the corner on the outside of Kotzebue
Sound where they were so in those areas they were
able to use sidescan but this was a question that
we had asked the panel and it's a bit in the
technical weeds about different approaches for
acquiring the survey data, maybe reducing some of
our requirements, not going to full bottom
coverage.

But because the way Kotzebue Sound is used the types of vessels that we understand are being used are going into that area. I ask that we continue to use our full object detection requirement, so it is, it's more work you know in shallow flat places we like to use sidescan sonar but if the record isn't readable because of thermoclines and thermal layers that distort the record then you really have to go with the multibeam and just if you need to get the object detection then it's that many more lines you got to really tighten up on your line spacing so I think I've addressed Steve's question. Okay do we have another question, do you want to handle this one Scott?

CHAIR PERKINS: Thank you Mr. Harrison. Okay our next online question is from Dr. Abdullah from Woolpert and he was with us yesterday and the prior day as well so thank you for the online question.

RADM GLANG: Just go to full screen
there.

CHAIR PERKINS: All right, I will read the question. I gathered from the federal agencies' discussions yesterday there may be a need for better coordination between NOAA and other agencies that are involved or in need of hydrographical surveys such as the Army Corps of Engineers and FEMA. As an outcome for such coordination a ten year execution plan may be needed based on common needs between participating agencies.

This is important in a time of shrinking federal budgets and support for NOAA's activities. Such a plan will maximize the values of the hydrographical surveys, assets and expertise for the Arctic hydrographical and bathymetric surveys it seems that we do not have a sense of the current and future needs, let alone the priorities. Suggest for the HSRP to task a working group to develop a 15 year plan for completing the survey of the American Arctic territories.
Such a plan should consider the Sumner navigation routes that Dr. Brigham presented yesterday and consider these routes as priorities. Human geography can provide tremendous criteria for designing a successful 15 year surveying plan. The plan will be based to request federal support and budget.

MEMBER BARBOR: That looks like Lawson's line item.

CHAIR PERKINS: Yes, my apologies for the discordantness in reading it, that's a reflection of my ability to see anymore at my age, not in Dr. Abdullah's comments. It is very good input so one I want to thank Dr. Abdullah for providing that. The thought of the HSRP being responsible for drafting a 15 year plan concerns me just because I know how hard it is to get a letter with succinct recommendations produced.

MEMBER BRIGHAM: A 15 year plan probably we do know the projections for the offshore oil and gas industry. I mean their one plausible thing is that they find something then
there are three companies probably out there, in 15 years there might be six to eight rigs exploring so we probably have a handle on that portion and that would mean there would be attended increases in the coastal trade and other sectors. So, we probably -- for 15 years that's not too long a horizon, we probably would build -- the Admiral and his team would be able to develop a plan that could cover the new resources that will come our way.

RADM GLANG: This is Gerd Glang from CORS Survey, so it is a good question and a couple of things I would like to draw Dr. Abdullah's attention to. For the Arctic, we do have our U.S. Arctic Nautical Charting Plan which is out for public comment right now. As I mentioned in my program update on Wednesday our Arctic Nautical Charting Plan describes the charts or the products that we believe need to be created. Underlying those products, of course, will be the need for new hydrographic surveys so certainly we have a plan on what products we need
to build and we continuously seek input from the
users on that as well as we adapt and revise that
plan periodically at least once every two years
using input such as AIS data.

We also have a NOAA National
Hydrographic Survey Priorities document which in
its present form I think the most recent version
we have online is from 2012 although it is
somewhat dated it certainly give the rationale
for why we survey where and when and we're in the
process of revising that plan. Specific to the
suggestion of outlining a plan for ten years or
15 years, so a ten year or 15 year execution plan
is a function of you need to know the rate of
your resources. This being the federal government
-- and we've spent three days talking about this,
I have no assurances that I'll have the same
amount of funds or more or less next year versus
even ten years down the road.

So I think it is important that NOAA
identify its national requirements and that we
make an attempt to prioritize those requirements
based on the best information available, that we
adapt and periodically reprioritize based on the
changing world and we've talked about changes in
use and all the other kinds of drivers for
change. And really though our planning cycle in
the government is you know nominally three years
we can -- we have a three year budget planning
cycle, we can assume we'll have certain levels of
funding maybe five years out but I think it's a
real challenge to say we're going to knock out
the U.S. Arctic in 15 years.

I would invite the panel to take
advantage of the work that Lawson's working group
has done, Dr. Brigham's and make that suggestion
that in order to do the U.S. Arctic in a
reasonable amount of time, say 15 years these are
the level of resources that are going to have to
be assured and brought to that problem, thank
you.

CHAIR PERKINS: Very well said, any
other comments? Great, do we have any other
public comments?
MS. MERSFELDER-LEWIS: There is -- a NOAA Fisheries group asked if we would share a sign campaign that they are doing on Right whales from Virginia to Canada so I'll send you a copy of the picture explaining what that is but they're just -- it's mainly for recreational boaters I believe so I'll send that to you all so that you can have a copy.

RADM GLANG: Lynne, when you say a sign campaign are you talking about an information campaign?

MS. MERSFELDER-LEWIS: Yes, it's literally like a two by three foot sign that they're putting in marinas and ports and other places to remind people Right whales are there, please slow down, if you see them please report them. So it's literally a sign.

MEMBER SHINGLEDECKER: If I can get that in electronic format we can push it out electronically through social media and other means.

MS. MERSFELDER-LEWIS: Okay.
MEMBER SHINGLEDECKER: Physically would be difficult.

MS. MERSFELDER-LEWIS: Yes, so I'll send that to you Susan but there's just a one pager and I'll send you the contact information for the scientist who's working on that, she may want to give you different information than that one pager.

CHAIR PERKINS: Great, that's good information that you can choose to use or not use as how you see individually. As a panel we don't endorse or advocate you know that's a Marine Fisheries issue not a HSRP issue. As we know we've covered some of that ground before but thank you very much Lynne for sharing that. I think if we don't have any other online questions and no public questions then we can move to deliberations and other orders of business.

RADM GLANG: Gerd Glang from CORS Survey, I do have one presentation, we do have a panel member, Dr. Gary Jeffress who was appointed for two terms to the Hydrographic Services Review
Panel and our statute does not allow us to
reappoint Gary as much as we'd like to do that so
I want to extend my personal appreciation to
Gary. I've learned a tremendous amount from him,
he's been a steadfast supporter of the panel,
he's always been here and I'll just read you a
quick note from myself to you Gary.

Thank you for your service and
dedication to the NOAA Hydrographic Services
Review Panel, your eight years of service to the
panel are a noteworthy achievement and your
expert contributions during that time are very
much appreciated. The Federal Advisory Committee
process which guides our panel is just one
mechanism through which citizens and experts such
as you can engage in our nation's democratic
processes.

Your willingness to take an active
role to make our nation's government more
effective is an outstanding example of
citizenship activism. I wish you well in your
future endeavors and hope our paths cross again,
I encourage your continued advocacy for NOAA's missions and support of navigation safety, coastal economies and coastal resilience. So thank you Gary, thank you very much.

(Applause.)

CHAIR PERKINS: Let the deliberations begin. We've had two and a half very full days of information and the task at hand in less than 120 minutes is to try and summarize and capture that into something real and tangible that I can walk out of here with on paper and then put back to you within our allotted timeframe in our standard operating procedures for panel's review and consideration and then we send it up the administrative ladder. So what's the most important thing that if we go around the horn I think that may be a way to do it and try to capture -- you know or have you share what it is you would like individually to have considered for our recommendation going forward subsequent to the meeting and we'll start with Admiral Barbor.
MEMBER BARBOR: All right a couple of items. One, I'll be exceedingly brief on the one, I assume there will be a nice boiler plate -- well, not boiler plate a very good introduction paragraph on the appreciation for the level of access we had, did wonders for our deliberations and understanding. On the more recommendation side I'll start it and I imagine it will get massaged as it goes around. Again from the standpoint of Admiral Lopez's presentation we appreciate the challenges that she is facing, however the importance or urgency of ship time especially in the Arctic where the survey season is short and requires that the hydrographic mission be given top priority with an appropriate level of effort, whatever, obviously you can change appropriate or the like but that's my first cut.

CHAIR PERKINS: We can come back to Captain Rassello.

MEMBER SHINGLEDECKER: I am still assembling my thoughts, I'm going to pass for
now.

MR. EDWING: Well I caught the fly, he's been contained. So I guess I would just encourage the panel I think maybe their biggest challenge right now is kind of in the engagement area. It's kind of really focusing down on who's the audience and I think that Carol had a very good point it's kind of what do they want, you know what is it that they want that we can provide and maybe if you think about it from that perspective that might help but I think it's narrowed the focus area down for what -- engagement's fresh, we might be helpful.

MR. MAUNE: Dave Maune, I liked our focus on the users and what their requirements are engaging with our customers to me that's an important thing for every HSRP meeting. On this particular one I also appreciate the fact of how we came together on focusing on the Arctic region. I think we were kind of unanimous that it's a very high priority and that with President Obama bringing it to the interest and stating his
personal desires in this area the time is right
for us to not dilly-dally around but to move
forward and I like the idea of not just going
with the 500 square miles but I kind of like the
idea of what can we do in the next ten to 15
years. He had 15 years to me that is a
reasonable period of time to try to solve this
problem and I hope we can move on that.

MEMBER MILLER: Sorry, I'm typing some
thoughts I had before. I'll continue Ken's
thoughts, I wrote up something last night the
HSRP appreciates the opportunity to meet with
Admiral Lopez which provided better understanding
of the challenges facing NOAA's Hydrographic
Survey Fleet and the NOAA Survey Fleet in
general. Aging ships, challenges in hiring and
retaining crew, the number of available survey
days and the need to maintain NOAA's in-house
hydrographic expertise. These are very difficult
tasks in today's challenging budget environment.
The HSRP would encourage NOAA leadership to
consider all options in order to maintain and
increase hydrographic survey capability. Arctic hydrographic surveying should be among NOAA's highest priorities in allocating vessel and personnel resources particularly during the extremely short arctic survey season.

I might also add that I don't know if in the main recommendation letter, I think highlighting the arctic hydrographic survey capabilities and highlighting the fact that there's a three month window and if they are given the President's remarks as high priorities as they are hydrographic survey resources should not be taken away from such as personnel or ship time should be allocated to hydrographic surveying and then consider multiple elements, consider all options in terms of increasing NOAA fleet capacity. Some of which we talked about other ships use of NOAA ship time, creative use of both the Lawson's and the NRT's etc.

CHAIR PERKINS: Thank you.

MR. ARMSTRONG: Andy Armstrong, all right. I thought Joyce's prepared statement
there was particularly well written and I would second that.

CHAIR PERKINS: You are indeed a wise man.

MEMBER BRIGHAM: Lawson Brigham and it gets back to the fact that the timing was impeccable for NOS in April to ask us a couple of questions to help jumpstart the working group. We had been working on arctic issues and briefing out for four or five years now but we haven't had a target so we had target with us answering these questions which helped to elevate all of these issues and again the timing was right for the present visit and I think that this may be model kind of showing how one of the working groups and then with consensus of all the members we can actually have some leverage on the system. So I would urge in the letter somewhere that we say directly that the NOAA has to be very proactive in responding to the President's statement, thank you.

CHAIR PERKINS: Thank you Lawson.
Just because you're retiring doesn't mean you're off the hook, Gary.

MEMBER JEFFRESS: The thing that I'm most impressed about this meeting was the fact that Admiral Brown showed a big interest in what we're doing and he's up there a deputy of the administrator and prepared to take our message right to the top and I think we need to take advantage of that at every opportunity. It's equally over the next 18 months which is the life span of the current administration and I encourage you to use email as much as you can.

MS. BLACKWELL: Scott's looking at me, Juliana Blackwell. I think the big take away is for me in this and I think there are a lot of specific things that Dr. Atkinson had put up on the screen earlier for specific areas we can focus on but I think based on the charge from Dr. Callender we should make sure that we reemphasize the point that we need to invest and support additional foundational data. Coastal intelligence and environmental intelligence
however you want to frame it in order to make this nation more resilient and economically strong and I think that no matter which recommendations come out of this that the messaging and I think Susan did a great job earlier expressing the coastal intelligence and coastal resiliency in the fact you know we don't really want to have to say we told you so but the situation is in a lot of places already. We don't have what we need to make good informed decisions and I think however the recommendations come out we need to continue to message the importance of the foundational data sets as coastal intelligence for resiliency efforts and economic growth of this country, so just a general statement, thank you.

MEMBER ATKINSON: Larry Atkinson, I agree with everything said so far and that was I guess specifically pleased that we could discuss out and go forward with these topics and hope we could maybe resolve more of it this afternoon before we leave and I think we can you know
include the coastal resilience, coastal intelligence weave that in there everything we do. So I just hope we can go forth with what I put up there.

MEMBER FIELDS: Evelyn Fields, I agree with Joyce's statement that was my part of my big take away from this meeting is the importance of prioritizing or making a priority the shifts in the Arctic and the data collection in the Arctic. How they do it, I don't care but that's the priority and I also agree with Juliana's comment about the foundational pieces that we need. I think it doesn't hurt to reinforce that because that's important too.

MEMBER KELLY: Got a couple of notes, it's kind of tough to be at the end of the thing because a lot of it's already been thrown out so I'm not really adding on a lot. I think Joyce is a great wordsmith I liked a lot of what she said in that.

A couple of my comments, I think to look at a higher view of things in our
recommendation we have to say that they must be increased operational efficiency in the fleet and that the subset to that is that the requirement for fleet replacement and the necessity to maintain internal expertise in the field. I think the Arctic is the big topic for us I would put that in two pieces, one right now I think we need to take advantage of Admiral Brown's offer and we should send him a thank you for his time and interest and ask about you know we presume and expect the NOAA would take the opportunity of the Presidential mandate to issue a press release and that NOAA should take all actions necessary to ensure that they become the lead agency in this area.

Precision navigation, I'll grab that because the Captain was out, the increase in technology has resulted in increased electronic capabilities of navigation and analysis that is also coincide with the increase technology of vessels. The vessels are the largest we have ever seen on a magnitude that we have not seen
before, however the channels and the physical shore lines have not changed.

That means to operate these much larger vessels in the same constricted channels require increased expertise and we should use our electronic capabilities to roll out precision navigation to as many ports as quickly as possible and that there should be a prioritization in a hierarchy of where to do that based on the port's needs.

I think that we've got to make sure that NOAA maximizes its ability to align and emphasize that it provides data and services that are essential for the security, the safety, and the commerce of the United States. I think NOAA takes a little bit of a back seat, because it's viewed as science. I mean those of you who are the science community love that. The rest of the world doesn't buy it. Science is not sexy. Security is recognized. Safety of human life is recognized. The integrity and resilience of our shoreline communities, and homes, and property
are important. Commerce is important. NOAA has to be part of that branding, not part of; boy, we know all sorts of acronyms about things that a lot of us can't even figure out what it is.

It's all essential of science, but we have to get that in a plain language message that NOAA is delivering essential foundational blocks that enable this nation to increase security, safety, and commerce. And finally as you will expect, we have to federally fund ports, because that is part of the backbone of this, and the current funding system is not actually fair. You know, it's much like who pays for the army. The federal government because there are too many. It is a common good. Academia, recreational, commerce, etc., there are so many users of the port system, that it's just inherently unfair the way the current formula is working. So, I'm done.

MEMBER KUDRNA: I agree with much that has been said around the table, and I'd just like to build on one that Ed was the first to touch
on, and I think that this should be a primary element in the letter. We have totally lost the opportunity for congress to consider vessel replacement, because the modernization plan is tied up in OMB, and we ought to tell the administrator that was a greatly missed opportunity, and she ought to, in concert with the Secretary of Commerce, press for that to be released, so that this critical issue of fleet modernization and replacement of vessels can be considered by congress.

I also think it was terrific Admiral Brown and his participation and commitment to come here, and I think we ought to follow up with him on that subject in addition, and we ought to share with him the week of our next meeting, scheduled for the Houston area, so that we can try and get it on his agenda and block to attend.

MEMBER RASSELLO: Sal Rassello. I want to just make a really short addition to the comment from Ed Kelly. I fully agree with what he said about the technology aboard the vessel.
I just wonder that this technology is mandated by IMO resolutions. It's not the vessel choice to upgrade the technology. It is the International Maritime Organization that requires that the vessel now are navigated with electronic navigation. Therefore, we need to prepare the port in align with the same standards. Thank you.

MEMBER SHINGLEDECKER: I've got my thoughts together now. I just have one thing that I would add in terms of it hasn't already been covered. Just the general recommendation that we support the efficient use and flow of all data sources, whether you are looking at the arctic and it's; let's get the private data, let's get Coast Guard data, let's get all the data that is available in an efficient manner, but also it goes back to something that we heard at a past meeting, and I apologize if I missed an update. But on the recreational side, you know, hearing about E-Hydro with the Army Corp., and that we support that concept at all levels,
whether it's at the arctic, or whether it's on the ICW.

MEMBER BRIGHAM: You don't have to quote me on this one. This is more of an observation. It is useful in HSRP, of course, and all the way up to the admiral that they were dominated by people that have marine experience, and our mariners, particularly our new member here who gives us a new dimension. But, I'm talking about almost everyone here has been to see, and I know the vice admiral very well, the reason he's interested in this stuff, he's been on ships. He probably knows even about the electronic, E-Navigation stuff now, but his perspective is from being a sailor, and we have some scientific sailors here too, with Joyce and Larry. They've been on probably 50 cruises, but I actually think that dimension, we need to have a certain percentage of HSRP, the actual mariners from the commercial world, whatever background, Navy, whatever. At least some, because that dimension is what we're talking about, I think,
that many other bureaucrats with their great
function and dedication in the government, don't
have.

I mean, we're talking about the roots
of this organization, and you have to understand
it better by being a mariner, biased completely,
but I think it is an issue here. Because when I
talked to Brown, I mean he's thinking Coast Guard
cutters, charts, navigating in waters where there
aren't charts, and that kind of thing. That's
his perspective. That's where he learned it all.
Just an observation, really.

MEMBER ATKINSON: I agree with you,
but then I disagree a little bit too, because
there are non-navigational uses of stuff. We
need a good mix.

CHAIR PERKINS: You know, it's a good
comment, and me sitting where I'm sitting at this
table, being a non-mariner, I learned a lot last
night when we went to MITAGS. It definitely
broadened my perspective, but I think the
balance, I think the mix is beneficial. I think
the structure of how NOAA has been handling the
appointments to the HSRP, and as we heard over, I
think, 33, 34 applicants applied for the one open
seat that was advertised in August, so we
certainly wouldn't want to have this panel be
full of non-mariners. But then Dr. Atkinson
makes a good point. A lot of this data that is
being collected under these programs is going to
be used for non-navigational purposes, for the
storm surge modeling, for the coastal
intelligence.

MEMBER BRIGHAM: I could add that the
country runs on the oceans and all of what Larry
is saying. But it runs on trade and
international trade, and it's all the mariners'
business, including the tourism industry, right?
So it's a huge economic security thing, right?

CHAIR PERKINS: This is good
conversation. This may be not helping us get to
the end of our deliberation, but the spatial
reference, that's the framework; our highways,
our railroads, our ports, right? That's the
bigger piece that ties it together.

MS. BLACKWELL: Juliana Blackwell.

But, we live on land, and we conduct a lot of business and livelihood on land too, so we do need to not alienate the non-maritime component of the hydrographic services and the value to the entire nation, because I think that that is something that we need to keep that in our minds as we make these recommendations and listen to, you know, the impact of what maritime commerce does, but we live on land. So, that's all I'm going to say.

MEMBER BARBOR: Ken Barbor.

Continuing to kind of refine the dialogue on the arctic survey. I see a number of items there that we can link, most of which we've discussed a bit, but clearly the prioritization within the fleet allocation for hydrographic work in the arctic, the emphasis on recapitalization, so you have an available and an efficient fleet that is ready for service, and the use of all available innovation. There are all sorts of other
collection aspects that we can bring to bear. They generally cost money, but that may be the
force multiplier that's necessary. So, that sort of thing, you know; innovation, prioritization of
the existing fleet, recapitalization so we have a fleet that is ready, and use of innovative
technologies to meet the requirements.

CHAIR PERKINS: Going back to the precision approaches, precision navigation, it's not clear to me whether we have established the criteria for prioritization. We've seen slides. There are 20 ports that need precision surveys. But, our criteria or our recommendation on criteria for the prioritization of those, can we try to touch that while we have some time remaining here, because it may be done on the grass roots, but I think establishing or contributing comments to what that criteria of prioritization for precision navigation needs to be. Is it volume of goods? Is it national security? Go ahead, Captain.

MEMBER RASSELLO: I think precision
navigation will optimize the volume of traffic in
the port. Understanding what are the limits
whereas a captain can take to save battleship the
ship in the port, considering the dip draft,
considering the larger vessel, so there is an
under keel clearance that at the moment is judged
on presentation, 20 percent or 15 percent.
Having a more detailed charting of surveyed area,
you can minimize this presentation. You can
increase the traffic in the port. This can be a
plus for the commerce. And the safety of
navigation comes first before that, because
having a fully surveyed area will analyze all the
aspects of the safety of navigation, including
not just the under keel clearance, the squatting,
the currents, the tides.

There are reports where like St. John
in Newfoundland where a cruise ship can enter
only at a certain stage of the tide. Then the
tide goes down, she cannot get out. She has to
wait until the tide goes up again to get out.
This is staged on the data that the chart or the
provider, the sonographic surveys provides to the mariner, and the more efficient and the more exact this data, you can have two transits instead of one in the tide excursion.

MEMBER BARBOR: Ken Barbor again.

Looking back at our recommendation from Long Beach, HSRP fully supports the future enhancements of this system, as presented, and a nationwide build-up. The panel has provided initial criteria on how NOS may prioritize future efforts. At this point, I don't think it's our job to say, do Houston next. I think that's a pretty strong statement that says we support the system. We support the nationwide build-up, and we've given you some information to go forth. What we probably should have gotten is a brief that said, and here are the next ports we're doing, and here is why. We didn't get that, but of course, we didn't ask for it.

MEMBER MILLER: In the Coastal Intelligence Breakout Session Summary, this mostly came from Ed, Item 321I, whatever, how
should we choose the next locations for precision navigation. Ed pointed out the U.S. Coast Guard Ports and Waterways Safety Assessments methodology, PAWSA, which has a matrix.

We also discussed, there is a U.S. Army Corp of Engineers Cost Benefit Analysis, and in the discussion, other factors that are not in the PAWSA model; who is willing or ready to partner, who needs it most, places at most risk, which we could get from PAWSA, where is it easiest to install, timing, is it seasonal, are there recent disasters, what does existing infrastructure look like, are observations and models and high resolution bathymetry available, and economic impacts, and under the who is willing and ready to partner, it was whose willing to cough up some bucks too. So, we provided an answer to that in Long Beach. We can more formalize it in this outline, and we reflected that in the letter.

CHAIR PERKINS: So then, I guess, what's not clear is whether that initial
criteria, since it wasn't attached to the recommendation order, it's -

MEMBER MILLER: Well, Admiral Glang was in the discussion as was Captain Brennan. They both said; oh, that's really helpful. We didn't think of the PAWSA model. I asked Admiral Glang earlier today if that was enough, and he said; yes, we've already been taking action on that.

MEMBER FIELDS: That's why I think that what Ken said as far as us already putting out something at the last meeting, I won't say it as well as he did, and I won't repeat it, but I think we've already done that. What we do need is what somebody said initially, is that an update to see what's going on. I don't think we need to put something else more in a letter. I think we just need an update.

MEMBER BRIGHAM: Lawson Brigham. I got from that, that matrix is risk, but I actually think that we should identify the ports where the largest ships of the world are going to
go, and that should be part of the decision
making criteria, and that should come sooner
rather than later.

So, I don't know what the situation is
for whatever ports, but it should be part of the
criteria, and because these ships are coming, and
they really add a new dimension to the e-Nav
challenge. Could I add something? I thought it
was an interesting brief that we had, one of the
most interesting to me, being a hydrographer, was
the one from NGA, and the little ball that was in
the middle of the center of the earth, and now we
are at resolutions that we have to know. That,
to me, I was thinking of charts and how that,
knowing where the center of the earth is kind of
ties in with what Juliana's business is all
about, ties in oceans and land, but now we really
have to know to within tremendous precision. So
that was enlightening to me that that, I don't
know. It's probably 101 kind of thing, but I
learned a lot from that.

CHAIR PERKINS: Is that right? Do we
know where the center of the Earth is within a
millimeter now?

MS. BLACKWELL: I mean it continues to
improve, our knowledge and the technology that we
have on a global sense continues to knock down
the accuracy to an even better or greater
accuracy than we've ever known before. When you
do that, then everything you know geospatially
can also be known more accurately, and certainly
that plays a big role in particular with sea
level change and wanting to know your exact
elevation so you know when things flood, or how
much under keel clearance you have.

So, the idea is all of these things
build on knowing things accurately to whatever
level you can get to, and if it's a millimeter,
then that's going to happen. I don't know when,
but you know, right know, we're not quite there,
but we certainly have improved on what we know
about global geodesy, as well as how that applies
to the nation, and the data that we have now is
not up to par to what it could be.
MR. MAGNUSON: I hope I'm not speaking out of school. It's a wonderful conversation here, but you need to know that with respect to precision navigation, we're still gathering information. Captain Rick Brennan, just yesterday, appeared before the AAPA, American Association of Port Authorities, Harbors and Navigation Committee to brief them on precision navigation.

We also met with AAPA staff, Jim Walker, about the matter. He gave us some good advice to particularly factor in port users, not just the ports. I also want to remind you about Dr. Bamford's comments about U.S. supply chain and the role of precision navigation at play there. The key there is Secretary Pritzker's interest and her staff's interest. As you know, we've had a difficult time on occasion getting maritime matters up through the department. This could be a breakthrough of sorts, getting the department to embrace a navigation matter.

MR. ARMSTRONG: Andy Armstrong. I'd
like to step back a little bit from the issue of which port next, or what port is most important, and emphasize that, in my opinion, it's critical to move the sort of national charting infrastructure or underlying capability towards building systems that will support precision navigation as opposed to sort of picking the next port to incrementally update. We need to be sure that we put priority on developing the charting system and the tools in that system to the point that we can do that generally and nationwide. This sort of idea of a nationwide build-up, it's not just kind of going in and tinkering with this port by port. We'll be most effective if we get the system capable of doing this anywhere we chose.

MEMBER BARBOR: Scott. Ken Barbor again. I would offer that a paragraph of the panel continues to be, you know, interested in precision navigation as a whatever, high priority effort, and look forward to future briefs on the progression towards a nationwide system of
CHAIR PERKINS: Can you get Rick Brennan's presentation distributed to the panel?

MEMBER MILLER: We agreed the last time that we don't want to go in with a shopping list, and we've been three. So, what are our three high level points at this point? I mean the arctic is obviously obvious.

MEMBER SHINGLEDECKER: From my notes, I have reinforcement on arctic, something from our conversation with Admiral Lopez on ships, and I have something on precision navigation is what I have it distilled to. If I'm missing something -

MEMBER FIELDS: I think those first two can kind of be wrapped up a little bit together, because part of what we have said is that the arctic is important. The ships are important, and you can't do the arctic without either the ships so contracting or however they do it, that's important. So I think those two should be wrapped up. It might get a couple of
paragraphs, but it should be wrapped up as one, one topic.

MEMBER MILLER: I've heard several people encourage us to talk about hydrographic survey priorities, including the arctic, of course, because it is one of the high priorities, and kind of ships, and fleet enhancement, and prioritization of you know what personnel and resources. I don't know how that -

MEMBER FIELDS: I hear you, and yes, they talked about survey priorities. But I think the navigational services, hydrographic services, I think they have a good handle on the priorities. It's just that people may not necessarily know, so I don't even know that we need to talk with the administrator about prioritizing surveys. I think we should talk specifically about the arctic. I don't think we should color it with a whole lot of other stuff, because then I think it gets whitewashed.

MEMBER MILLER: Well no, what I meant was making hydrographic survey a NOAA priority,
not which places to survey first, but making hydrographic survey especially in the arctic, a high priority and as part of that, you know, point out use of the hydrographic fleet effectively, particularly in the short high arctic survey season. That type of thing, that's what I was talking about.

MEMBER FIELDS: I'll agree with that.

CHAIR PERKINS: This is good, but our last flutter after Long Beach, the number one recommendation was on that same topic. Full utilization of the NOAA hydrographic fleet. Then we'd talked specifically about the ability to deploy and use all of the allocated ship days in the arctic. So, what I'm hearing is we want to hit the reset button, reword this maybe a little more succinctly?

MEMBER FIELDS: I think that that's a great opportunity. Also, I think somebody said it to talk about the recapitalization of, essentially getting that report out of the way. You don't have to say it that way, but that's
what you are trying to do is get that report out of the way.

CHAIR PERKINS: Okay, so moving the ball down the field, and not talking specifically about ship days for a season, but setting it at a broader level and talking about the vessel recapitalization and the allocation of the 16 vessels.

MR. ARMSTRONG: Well, I think there was a focus on making the hydrographic ship day as a priority in the NOAA process, particularly given the urgent need in the arctic.

MEMBER FIELDS: A priority and a newer allocation process.

MEMBER BARBOR: Ken Barbor here. I think the recapitalization is worthy of a bullet, because eventually it doesn't matter how they allocate it. If they can't get to sea, it's not going. That's where we are headed. That probably is, so if the three are arctic priorities, whatever we append to that; ship recapitalization and prevision nav. I think
those are powerful.

CHAIR PERKINS: This is where I'm confused on the precision nav, because we've already addressed precision nav. We've put forward what we think the criteria for prioritizing which ports should receive that. We're going to expand on that. How do we move from saying here's our criteria. Use this list. Use this matrix. Use these wrist drivers. How do we transition to the nationwide program?

MR. ARMSTRONG: I guess I would phrase it as a reiteration of our strong feeling that precision navigation needs to go forward. We've addressed priorities, but we also encourage a sort of systematic capability for supporting precision navigation nationwide in the charting system.

MEMBER BRIGHAM: I think the added discussion was this time about the mega-ships, and we should weave that into the issue that the game has changed a bit. The importance of e-Nav has increased with the size of the ships'
increasing, so, wherever they go, whatever ports.
The first bullet still is the funding issue. The
issue is that the president has spoken, and now
we are going to ask him to execute, whatever.
How do we do that, but it is truly the line item
budget issue, I think, and identifying this as a
separate security issue, however framed. We need
to weave the first bullet a little bit, business
money. We have some capacity to do it today, but
it's constrained by budget, right?

CHAIR PERKINS: In answer to your
question, no. I am not capable of capturing all
of that in formulating the thoughts, so I am
going to need help and follow up input here. I'm
struggling with what's the most beneficial use of
the time we have remaining. Should we engage in
the group wordsmithing?

MEMBER MILLER: I would say that we
talked about that in the letter from the
previous, not Long Beach, but we did talk about
ships. But, given the opportunity to talk to
Admiral Lopez, then we have a much clearer
understanding of what's going on.

MEMBER FIELDS: Well, also when Jeremy, I mean to me, that's the reason why we can bring it up and make it a little bit more in your face than we did before, because he told us that they don't have a report, and the report has got to come from OMB. So, it's not like we're trying to get -

MEMBER MILLER: I'll make this bigger, so you guys can see it and help me.

CHAIR PERKINS: Okay. Lynne is working on getting the graphic up on the screen for us. The response received a week ago, two weeks ago, NOAA welcomes and appreciates the panel's support for this initiative, and any suggestions you may have on how NOAA could strategically target future precise navigation products and services, how to leverage the partnerships in order to optimize these efforts. Any suggestions you may have on how NOAA could strategically target future precise navigation products and services, not geographies. So, I
think that's the point Andy was trying to make.

MR. ARMSTRONG: Yes, that's right.

That's what I'm saying, right.

MEMBER FIELDS: Scott, I think when we start talking about the arctic, because I think Lawson makes a good point, that we probably need to preface our comments by; we understand that there are budget limitations; however, you know, or something along that line. Because, we understand that it requires more money, and who knows whether they are going to get it or not, but the fact is, it's still a priority.

MR. ARMSTRONG: I think the administrator, you know, we heard about the budget role up to provide flexibility. The administrator has some flexibility.

CHAIR PERKINS: That's exactly right.

The combining of the PPAs should create some flexibility.

MR. ARMSTRONG: But it's not just those PPAs, but it's the whole agency.

CHAIR PERKINS: Right, the whole.
Within all of annual newcomers.

MR. ARMSTRONG: You know, the Annual Guidance Memorandum.

MEMBER BRIGHAM: Lawson Brigham. I think we should say something like; we note that the president's recent visit to Alaska, and his issuing a fact sheet which we determined announces new investments to enhance safety and security in the changing arctic, specifically mentions X, Y, Z, charting and geography. Then something about taking action on that through the funding process, through the federal budget process. We can say we understand, of course, constraint in times, but this a new frontier, new initiative for America, and the president has spoken. We want our language to be relatively high level but reference the president, specifically. Quote him in the fact sheet, so we can work on the first one.

CHAIR PERKINS: I think it would be wise for us to try and craft something that speaks to the challenge put forward to the panel
to be thought partners. To be thought partners, so Dr. Sullivan used that terminology looking for the panel to become invested thought partners. We've got some really clear, succinct, specific things here about the arctic, right, and about the fleet replacement, but I'd like to take a little bit of time to think about how we can respond to that challenge of thought partnership.

MEMBER BRIGHAM: Lawson Brigham. I just have to have a little joke here. We just had a discussion and left the room, Admiral, about mariners and whatever. Most mariners are not particularly thought of as thought leaders, I have to add. We had a long good discussion about ballast and navigation and charting. My point was, just so you know, that Admiral Brown is interested in all of this, because he is a mariner, and he was on ships, and he used charts, and then I commented a little bit about that. But, thought leaders, even though we are. Of course, the admiral and others around the table, it's not —
CHAIR PERKINS: That's the difference between surveyors and mariners. Some of us make maps, and some of us follow them.

MR. ARMSTRONG: Some of us do both.

CHAIR PERKINS: Are we going to display Joyce's document?

MEMBER MILLER: I'm still trying to weave in the recapitalization.

CHAIR PERKINS: Okay.

MEMBER MAUNE: I would also like to spend a little time this afternoon putting a little more meat on what we are going to talk about at our next meeting. Are there some major things that we would like pursue at our next meeting? For example, I think we had an offer from Ed Kelly to talk about resiliency for New York City. We have Larry Atkinson who could talk about resiliency for Hampton Roads. Being in the Galveston and Houston area, to me, it's imperative for us to talk about resiliency in that area. So, I sort of see a resiliency theme here as one thing we could focus on while we are
in the Houston area. Also, there is a lot of
interest in mega-ships and maritime commerce, and
these huge ships and the cruise lines, for the
big tankers, for the big cargo ships, national
security, which flows into the hydrographic
surveying requirements where there are priorities
for the big mega-ships coming in. Those are just
two general themes that we might want to
consider, but I'd like to hear what other people
think we should cover at our session next March.

MEMBER MILLER: I would suggest that
we might request a briefing from NOAA on how
fleet allocation is done.

MEMBER MAUNE: NOAA on how fleet
allocation is done?

MEMBER MILLER: Yes.

RADM GLANG: Gerd Glang. I would
propose we do that as part of an information
session between now and then.

MEMBER MILLER: Oh, okay. Yes.

RADM GLANG: Sooner. It's pure, dry
information, Dave. I don't think we want to use
an in-person meeting time for that.

MEMBER MAUNE: Okay. Any ideas on what you think we should talk about at the next meeting?

MEMBER BRIGHAM: Lawson Brigham: Back to the megaship, who should come, and who should be involved? Well, obviously Sal, but maybe somebody from Maersk? Maybe we could invite Steve Carmel or one of his executives back.

MEMBER MAUNE: Someone from where?

MEMBER BRIGHAM: Maersk Line, because they operate these large ships, and then somebody from the LNG maritime world, but also Coast Guard. I recommend having one session to just give us a background on the size and scale of what we’re talking about. Then they can all talk about how precision navigation is important to the safety of these ships. Coast Guard and maybe the National Academy, there are some people who have worked on the issue. Maybe somebody that focuses on human dimension, although you, Captain, could give the human. What are we
talking about here in scale?

MEMBER MAUNE: Sal has even got a big
ship coming into port there that week, or several
of them it looks like. All of this in one week?

MEMBER RASSELLO: Sorry?

MEMBER MAUNE: You sent us an email.
I haven't read it in detail, but it looked like
you had a bunch of dates when you were going to
have Carnival in port.

MEMBER RASSELLO: I did send the
schedule to Lynne. So, there are three ships.
Yes, I did send the schedule of the ships in
March to Lynne. We have three ships Saturday,
Sunday, and Thursday in the month of March.
Every weekend.

MEMBER MAUNE: Oh, every weekend.

MEMBER RASSELLO: Yes, so we can plan
to have a last day or first day on the ship,
inviting also anyone. It's not the problem of a
number if we stay for the day, not for the night.

MEMBER BARBOR: I'm assuming you've
got a bang up Nav Manager down there, and
obviously they would have plenty of suggestions.
I think Gary gave us a good brief on the Texas
Water Level stuff last time that ties in well.
Obviously resiliency, and there's got to be a lot
of resiliency stuff going on a Galveston as they
dig out of Ike or whichever one it was.

MEMBER MAUNE: Well, maybe I can ask
people to send me an email on topics and names of
people to be invited. I don't know a lot of
these people you know, so it would help.

MEMBER SHINGLEDECKER: I suspect we
might be able to bring someone from, I think it's
Houston Yacht Club. They did a big post-
Hurricane Fran that went into their rebuilding,
so it would fit into the resiliency, but it also
would fit into the, I guess we'll call them the
micro ships, the smaller boats, but certainly
looking at water heights and the data that goes
into to helping waterfront marine operations
recover. I can find that.

MEMBER KELLY: Ed Kelly here. Captain
Bill Diehl is a retired Coast Guard captain. He
had been Captain of the Port in Houston. He
currently runs the Greater Houston Port Bureau,
which is like a sister organization of what I do.
He runs a very extensive AIS network, and he is
very well tied in down there. I see Russ', you
know him. Bill would be good, and he'd be a
local person that could discuss navigation with a
certain degree of expertise, having been the past
Captain of the Port for Coast Guard for Houston.
So he'd be a good one to talk to us for that
local flavor.

MEMBER MAUNE: Okay, thank you.

RADM GLANG: Ed, how do you spell his
last name?


Captain Bill Diehl.

RADM GLANG: We have a lot of
contacts. Gerd Glang. We have a lot of contacts
down in that region, so I don't think it will be
a problem to put together even a draft list of
speakers and get that in time to the members to
weigh in on, so I don't see that as being an
issue, Dave. We've got lots and lots of stuff.

MEMBER MAUNE: Okay.

MEMBER RASSELLO: So, I have a contract with the VTS Director. I think that that is a good key person who should be present. They control the channel, the traffic in the Houston channel and Galveston all together from Houston. About the pilots, I'm not sure if it's appropriate to get them on board, because we may have a good conflict with them.

CHAIR PERKINS: We're about 30 minutes until Dr. Callender will call in and ask us for our recap. So, that gives Lawson and Joyce a short window of opportunity to try and - I know. I'm afraid I may not be able to verbalize succinctly where we are at.

RADM GLANG: So, if I could, Mr. Chair, this is Gerd Glang again. You'll be able to recap for Russell what the panel would like to articulate in the Outcomes letter, and then I think I heard from the panel also the desire to take advantage of Admiral Brown's offer to be the
political advocate and; therefore, you had a
suggestion to communicate with him in the
nearer term, so I think he would be interested in
that. Then also, maybe recap for him the outcome
of the Arctic Working Group. I thought there was
a tremendous amount of work that was done there,
and I think I heard from the panel some clear
ideas on what they wanted to communicate to NOAA
specific to the arctic. I'm just trying to recap
here on what I think will be useful for Russell
to hear. I would invite anyone else to add or
subtract.

MEMBER FIELDS: Scott, we did agree
that the arctic report was going to be an
addendum to the letter. Is that correct? This
is Evelyn Fields.

CHAIR PERKINS: Yes, we did say that
we would have the Arctic Working Group report
accompany the letter that goes forward.

MEMBER FIELDS: Okay, so that would be
another point in the letter not to regurgitate
all of it, but to say it's attached.
CHAIR PERKINS: Right. We'll reference the Arctic Working Group report in the letter and then attach it as the addendum.

MEMBER SHINGLEDECKER: Do we need to further talk about working group activities and the emerging issues, and who's doing what moving forward?

MEMBER KUDRNA: We're going to send out a time table for two weeks. We're going to ask for topic nominations and then work that into a listening and a time table. Well, I don't know if it would be five, but we will reduce the number over a time and pass that back to the group as a whole for fine-tuning.

MEMBER SHINGLEDECKER: Was that for the engagement document or for the engagement document and additional issues to work on?

MEMBER KUDRNA: Well, I thought we'd put it together, but maybe I, yeah, that's what I thought.

RADM GLANG: So, this is Gerd Glang.

You're going to have to recapitulate that for me.
For the Coastal Intelligence and Resilience Working Group, is that what you were talking about, Frank?

MEMBER KUDRNA: No, for the engagement topic, we were going to receive nominations for topics that could be contained in an overall report or individual one pagers, plain English business, and we were going to use as some of those nominees the Coastal Intelligence suggestions so that they would all role toward this potential engagement document.


MEMBER ATKINSON: So, we'll do our own call for the topics like mega-ships and non-navigational use.

MEMBER KUDRNA: I'm sorry. I thought mega-ships was a perfect one for the engagement document.

RADM GLANG: Could be both.

MEMBER ATKINSON: It doesn't matter to me. I think we should do it at once, not have...
two things going.

MEMBER KUDRNA: I agree. My thought was that your listing would flush into the topics we're looking at for one pagers.

MEMBER SHINGLEDECKER: So, how about I propose then that people send, within the next two weeks, ideas to Frank. It might be an idea for a succinct engagement piece, or if you think it is an idea that warrants further exploration and additional effort, then that idea might get moved to more of a working group topic. Is that what I'm hearing? I just don't think that everything that was listed as an emerging topic is necessarily going to fit under engagement.

MEMBER ATKINSON: Right. Correct.

MEMBER SHINGLEDECKER: I want to make sure it doesn't get lost and forgotten.

MEMBER ATKINSON: I think we talked about the CRCI Group becoming an umbrella that will take on different topics. The ones that are called engagement, maybe I don't know what engagement is.
MEMBER KUDRNA: I guess I'm viewing the ones we'll narrow down for engagement as in effect the marketing pieces for needs. Now that may not encompass everything that makes the list. Now after we go through that process on the engagement side, what's left over, some of those may need added study, added refinement, maybe a second phase later on, and I think your committee could continue on those or some. I thought the one that was sent over on cruise ships was perfect for an engagement one.

CHAIR PERKINS: We're going to take a break from deliberations until 3:10 p.m. During that time, please review the information on the screen, and provide your input to Joyce for any wordsmithing. So, we will reconvene at 3:10 p.m.

(Whereupon, the above-entitled matter went off the record at 3:02 p.m. and resumed at 3:17 p.m.)

CHAIR PERKINS: If you could put your attention to the screen, please, we've got the draft of the statement regarding the arctic
priorities and the working group.

RADM GLANG: Since we're back in
session, Joyce, we still need to use a
microphone.

MEMBER MILLER: Okay. After
priorities, we should put in working group, and
then the last sentence, we are going to add NOAA
Leadership must take immediate action to plan for
and execute the President's direction. Okay. On
the first line after Priorities, just put WG
Working Group.

MEMBER BRIGHAM: I think, could I
weigh in a little bit?

MEMBER MILLER: Does anybody else see
anything wrong until the last sentence? On the
last sentence we need a subject. The NOAA
Leadership must take immediate action to plan for
and execute the President's direction.

MR. ARMSTRONG: We could just say
NOAA?

MEMBER BRIGHAM: This is Lawson
Brigham. The idea was to remind the leadership
that we actually had a working group and,
amazingly enough, it's simultaneous at the same
time that the President spoke about the issue. I
think reminding everyone that the President did
go to Alaska. He spoke directly on this issue,
and just for entertainment, we added that rarely
since the time of Thomas Jefferson, that's to
take into account that Woodrow Wilson and a
couple of other presidents probably said
something about charts, but we're just bringing
it back to the roots of the organization, and say
the presidents don't speak about this issue as a
strategic requirement. Then finally, NOAA take
action on it all, plan and execute the
President's direction, I think is the right
wording.

MEMBER MILLER: Should we add that the
NOAA Working Group, or the working group's report
is attached as appendix blah?

MEMBER BRIGHAM: Maybe at the end of
the letter or something.

MEMBER MILLER: Okay.
MEMBER BRIGHAM: Or, Scott, you can put that in there somewhere. I don't know.
Sure, we should.

MEMBER MILLER: Okay, could you put at the end of it, so the working group's report is attached as an Appendix or as Appendix A. Great, thanks.

CHAIR PERKINS: So our takeaways for Dr. Callender, first is the improved level of access to NOAA Leadership throughout the meeting. We feel our working groups were both effective and worked well, and that's evidenced by the report from the EAP that will be attached to the recommendation letter, that we have agreed upon the location of Houston and the timeframe of early March for the next meeting of the HSRP, that we're going to engage in communication with Vice Admiral Brown in the near term regarding the importance of the release of the fleet recapitalization report from OMB, so that that information can be communicated to the appropriate staffers and other --
MEMBER MILLER: And about NOAA's plan for this. Aren't we going to talk to Admiral Brown about that as well?

CHAIR PERKINS: Yes, that's my next bullet. Yes, and then we are going to talk with Vice Admiral Brown about the importance of a response to the President's remarks on the arctic charting priority in establishing NOAA in a leadership role as that goes forward. Our recommendation letter is going to talk about the NOAA fleet time allocation to arctic priorities, the importance of maintaining the strong core competencies within NOS. We don't want to lose that expertise in the research and development of new technologies that can improve the operational efficiencies of the hydrographic survey effort.

Is it up there now? Is that what you are asking? I'm reading that off of my handwritten, you know, these are the talking points for Dr. Callender when he calls in. So they will end up in the document at some point, as long as I don't lose this one magic sheet of
MEMBER BRIGHAM: Lawson Brigham again.

Just a quick nuance. We could role in what I think Admiral Fields was talking about is the relationship of what the President said and the hydrographic ship replacement. I mean somewhere we can put in a half a sentence or so, or a phrase that says that this relates also. Because, we don't have any capacity in a few years without replacement. We're not going to be surveying the arctic. It doesn't have to be for Dr. Callender, but maybe we want to tie that in a little bit.

MEMBER FIELDS: This is Evelyn Fields. After the arctic portion introducing your report, maybe you could add this on, not add onto, but kind of roll it into the next paragraph that, with the arctic requirements that are coming up, or that were just discussed, we find it very important to prioritize ship time and so forth. It becomes even more crucial to prioritize ship time. Because, it really does need to be tied
back into, I think, the artic requirements. It doesn't have to be, but I think it's a great segue.

CHAIR PERKINS: The other item I had was that it was suggested to the HSRP that a 15-year plan to complete the critical artic areas be developed and considered. Anything else that we want to make sure we cover in our report out to Dr. Callender? Okay, I think those are the main things.

He'll be calling in at any time now, I believe. So, a year from now, after Houston, I think we had two things potentially on the table; Great Lakes or Northwestern U.S. So, that would be the Indians versus the Mariners in baseball terms. We could use and take some input on those topics, on those locations. Or we could always come back.

Yes, coming back here to the D.C. area as we saw. Definitely, we had extreme access to NOAA Leadership when we put the meeting location here. Yes, that is a little of the candid
feedback I've received is we bounce all around the country. Although, probably participation down in Building 3 was outstanding.

Go ahead, Lawson. We are in session, so let's make sure we use our mics.

MEMBER BRIGHAM: Lawson Brigham again.

If we think about another meeting in this town, it would be useful to have half a day or a day maybe with a body like the U.S. Coast Guard Marine Safety Council or some other body, National Academy or whatever. But some of these; the Marine Board of the National Academy does all kinds of studies. I know it takes away time from our duties here, but there is some synergism in this town that we should hear about. Maybe the Coast Guard Marine Safety Committee I think it's called. I don't know if it's a council. They are the ones that maybe we could meet with, although you could invite them over, but it would be fun to go there and break bread. Just an idea. If we are going to do something in this town, there's lots of other bodies doing stuff in
this town, including other FACAs, but I don't
know if we can talk to the other FACAs.

CHAIR PERKINS: Well, let's do a quick
show of hands. Who would like to come back to
D.C. one year from now? Raise your hand, versus
Cleveland or Seattle? So D.C. first? Cleveland
or Seattle? Not both, we probably can't do both
Cleveland and Seattle.

MEMBER BRIGHAM: This was pretty
productive coming here.

RADM GLANG: This is Gerd Glang. So,
we don't have to decide this now, although
certainly for purpose of contracting and
planning, it would be wonderful. But we don't
have to decide this now. We have some time, and
for the purpose of the panel interacting with
NOAA Leadership, we do have a new avenue now. So
as your opportunities to meet with Vice Admiral
Brown come along in the next few months, then in
the next half year, we will get a sense for what
the level of engagement is and whether it's
worthwhile, whether there is an expectation that
we come back to DC in a year. We can sort of
gauge this as we go. We don't need to make a
firm decision now.

MEMBER MAUNE: Dave Maune. The reason
I did not vote for DC one year from now is
because that's right next to the election, and we
are about to have a new administration, and I
wonder if we shouldn't wait until we get the new
administration before we meet back here.

RADM GLANG: Well, that's a good
reason to get out of town.

CHAIR PERKINS: Frank, I hope that
gave you some good input for the planning
committee.

MEMBER KUDRNA: While we are waiting,
can we go back to the letter, and I think the two
write ups are extremely good, but the concern I
have is, remember a couple of meetings ago when
we wanted a clean, crisp page and a half
recommendation, and we had about 15 different
topics, and one of them is a two-pager. How are
we going to get to something clean and crisp as a
recommendation letter should? Some of these
other things will be really attachments or
something? I guess I'm asking the question so it
doesn't become another huge shopping list on the
recommendation and disproportionate with some
topics being pages and others being paragraphs.

MEMBER MILLER: I note that that one
is 22 point font, so it's not two pages.

CHAIR PERKINS: Yes, I think I can
parse it down. Part of what we had on the screen
previously I think make better talking points for
engagement with Vice Admiral Brown. So we have
content in there that is beneficial for me, so I
don't forget it. So I can share it with Vice
Chair Hanson, but I agree, not everything you saw
in that draft will end up in the final.

RADM GLANG: Scott, did you want to
try and make that available through Google Docs
so the other members could -- I recall we had
mixed results with that. I'm just asking.

MEMBER MILLER: Yes, I added Evelyn's
suggestion on the back of that, and I corrected
the mistakes. I can send that out. I can send
the Alaska one out to the panel right now if you
want.

MEMBER BRIGHAM: Maybe just change the
word Alaska to arctic.

MEMBER FIELDS: I don't know about you
all, but as long as I can send my comments, other
than Google Docs, I'll be okay. Google Docs and
I don't get along very well. I can usually pull
it up and look at it, but trying to give you my
comments in that is going to be questionable at
best. But I can send them email or whatever, and
they can be incorporated.

CHAIR PERKINS: That's fine.

MEMBER FIELDS: Just so you know.

CHAIR PERKINS: Yes, I can live with
that. I'll do it just for you. Well, you've
earned it, sir.

All right. Two exceptions. Yes,
Joyce, I think if you - It can't hurt to
distribute both of those now. Under the premise
of keeping the letter as clear and succinct and
focused, I would say that we address Precision Nav. We got a response on Precision Nav. We put our criteria forward in the last letter. Okay. I'll try to put you on speaker here. Let's see if this will work.

MEMBER FIELDS: I agree. Yes, I agree, Scott that we should let it go. Yes.

CHAIR PERKINS: Dr. Callender, good afternoon.

DR. CALLENDER: Hey, Scott.

CHAIR PERKINS: Great. Well, we've been hard at work today. I just want you to know that.

DR. CALLENDER: I totally believe it. Actually, I've been on the phone line. I've listened in for maybe 10 minutes, but I was apparently on listen only mode, so I've been texting madly trying to figure out how to break the code here.

CHAIR PERKINS: Well, technology is both our friend and our nemesis at times.

DR. CALLENDER: But, I'm on now, so
that's great.

CHAIR PERKINS:  Great, thank you, sir.

We'll start with, we have identified Houston, Texas, and the second week of March as our targets for both location and calendar for the next HSRP meeting.

DR. CALLENDER:  Okay.  I think that makes sense and also kind of fits in with some of the, if you will, the marketing we're trying to do internally in NOAA. We've listed that as a possibility for the Precision Navigation if we can push that forward, so I think that's a great, at least from my perspective, I think that's the choice.

CHAIR PERKINS:  We spent a good deal of time this morning going through the recommendations from the emerging arctic working group. We've reached agreement on those recommendations, so our intention is to have those attached to the recommendation letter as an addendum or an appendix, so we can share those with you in short order.
DR. CALLENDER: Okay. You know, actually I've heard a little bit of the conversation on that a minute ago, and I think in terms of the offer that you got from Vice Admiral Brown for engagement, an addendum or an appendix, whatever is good, that maybe just for a more extended conversation.

CHAIR PERKINS: Yes, that's a great segue, because the next item that we wanted to report to you is that, in the short term, Vice Chair Hanson and I will engage with Vice Admiral Brown at the earliest opportunity, and the two things that we wanted to bring to his attention first or converse with him on, are our response to the President's remarks regarding the need for charting in the arctic, and then also we would like to bring to his attention to the importance that we feel of getting that fleet recapitalization report released by OMB. The input we have received from Jeremy from the Senate Science, Commerce, and Justice Appropriations Subcommittee, it really feels like
we are being hamstrung without that report being available for the appropriators to put their eyes on.

DR. CALLENDER: So, I think Vice Admiral Brown would like to be invited to the next meeting. Part of the challenges at our side, from my understanding, it's stuck at OMB. But if putting a little bit of pressure and making it known that it's important to the broader community, I think maybe you should make use of that.

CHAIR PERKINS: Yes, our hope is that that message can resonate upward and maybe it reaches at some level near the Secretary of Commerce, and that may be what it takes.

DR. CALLENDER: Okay. Okay.

CHAIR PERKINS: You know, we want to focus the recommendation letter on, we want to try to keep it as clear and succinct as we can with two driving factors. The importance of the NOAA Fleet. So our preliminary wording on that is along the lines of the importance of the NOAA
Fleet time allocation in relationship to the arctic priorities.

DR. CALLENDER: What is your emphasis on, to continue to push in terms of the arctic and enhance that in the fleet plan or what? I didn't quite get all that you were trying to say.

CHAIR PERKINS: Actually, I think two parts: more time allocation from the present fleet capabilities toward the arctic mission.

DR. CALLENDER: Got it. Okay.

CHAIR PERKINS: Then, the importance of the fleet replacement going forward.

DR. CALLENDER: Okay. Got it.

CHAIR PERKINS: You know, we are going to couple in with that some wording about the importance of maintaining the strong core technical competencies within NOS, because maintaining that and continuing the research and development done at UNH and in our research community, that's what's going to drive the operational efficiencies that we need to address the large task ahead of us with charting the
arctic, and the other national priorities with charting.

DR. CALLENDER: Did you have recommendations for specific core competencies that you thought we should focus on in the future?

CHAIR PERKINS: We didn't get that deep into it. That's something though that I think we can all think about and we'll take that input.

DR. CALLENDER: Okay.

CHAIR PERKINS: In the letter, a statement regarding working towards full utilization of all available non-NOAA data that can be contributed to the charting process in the arctic. So that's the soft-spoken way of are we getting full access to that Navy and NGA data that we heard a little bit about this week.

DR. CALLENDER: Yes. Okay.

CHAIR PERKINS: Not sure whether we want to say call out maybe an NGA by name, so your guidance or input on that when you see a
draft of the letter, would be useful.

    DR. CALLENDER: So, I would be a little bit clearer that you're looking for some of the authoritative federal data versus going down the route of outsourcing kind of side, unless that's what you really mean?

    CHAIR PERKINS: No, you hit it on the head. It's the authoritative federal data that potentially is being collected, that isn't making it into the chart process now.

    DR. CALLENDER: I'd be clear about that. That would be a good I think to push that conversation.

    CHAIR PERKINS: Yes, Lawson is coaching me on the sidebar here, so.

    DR. CALLENDER: Sure. That's okay.

    CHAIR PERKINS: What we're looking for are those coordinating bodies, the arctic coordinating council, the CMTS council, looking at making sure that we get that message to those coordination bodies.

    DR. CALLENDER: Okay.
CHAIR PERKINS: It was suggested, we did get good public participation and input. One of the suggestions that came to the HSRP from the public was that, a 15-year plan be developed to complete the critical arctic areas. We were struggling with do we make a suggestion on how many nautical miles should be completed each season. Do we address it in terms of percentage of area that should be charted? But the suggestion from the public that a 15-year plan to complete the critical arctic areas did seem to capture that concept quite well.

DR. CALLENDER: So, the comment that, maybe from Gerd if he is aware, we had some language in either a House or Senate mark, I thought, about an arctic mapping plan.

RADM GLANG: That's right, Russell. You're correct. In the Senate, one or the other, the Senate mark or the House mark, there was -

DR. CALLENDER: So maybe highlight that for the panel and with that language to come, so they are aware of what that request is,
so that we cannot do two different things, but we
can be congruent at least with the expectations
from the Hill.

CHAIR PERKINS: All right. Go ahead,

Lawson.

MEMBER BRIGHAM: It's Lawson Brigham.

I think it's estimated, just a rough estimate,
that it's 600,000 square nautical miles in the
United States Maritime Arctic, 600,000. There
might be a little bit more, a little bit less.

DR. CALLENDER: He's really breaking
up. Lawson, I can only hear about every other
word.

MEMBER BRIGHAM: It's 600,000.

CHAIR PERKINS: Lawson is saying that
it's estimated that there are 600,000 square
nautical miles in the U.S. Maritime Arctic.

RADM GLANG: According to my clever
table, it's 426,400 square nautical miles in the
U.S. EEZ and the arctic.

DR. CALLENDER: And we did roughly 800
square nautical miles this year with ourselves
and the contractors. Is that correct?

   RADM GLANG: Correct, but not all of
   the -

   DR. CALLENDER: It's a long ways to
go.

   RADM GLANG: Well, we don't have to
dive into this now. We don't need to survey all
of it to IHO Order One standard.

   DR. CALLENDER: Right. Right. You
and I have talked about it, and it's to
absolutely survey the main channels that we'll
expect to be using. So, I mean I understand all
that.

   MEMBER BRIGHAM: The issue is, do we
want to show numbers like point zero five percent
to give that to Senator Murkowski. We don't want
to do that, I don't think.

   CHAIR PERKINS: Yes, so Lawson's point
is we don't want to give the Senator Murkowski,
for instance, a value like point zero five
percent, which is why I use the term less than
one percent of the U.S. arctic. I think the
number is actually point zero seven, based on our calculations from last year.

    DR. CALLENDEER: So, it might be useful for us to actually pitch a briefing to the Senator and go and walk through to what the reality is of what we actually believe we do need a mapping of what those priorities look like. I think that would probably be a good idea.

    CHAIR PERKINS: That's a great idea, Russell. We did brief her staff last year, and showed them these numbers, but we can certainly do that again and, maybe with you actually speaking to the Senator?

    DR. CALLENDEER: Sure. I'm happy to go south, or we can use your new political champion, either way.

    CHAIR PERKINS: That is the goal. Sir, those are the items that we agreed that we want to put in the letter, and those are the short term things that we are going to engage Vice Admiral Brown on.

    DR. CALLENDEER: Okay.
CHAIR PERKINS: The thing you missed was a heartfelt send off for Dr. Jeffress for his eight years of service on the HSRP.

DR. CALLENDER: Well, I am sorry I missed that, and I absolutely appreciate all of the service on the panel. That's pretty remarkable. So, thank you.

CHAIR PERKINS: Gary says, you're welcome. All right. I think that's everything we wanted to share with you.

DR. CALLENDER: Okay. Well I appreciate that. It sounds like you guys and ladies have a pretty good panel. I certainly appreciate it. I learned a lot from the time that I was able to be there, and I frankly wish I'd been able to stay, because it was madness when I went back to the office. But, I hope you know that you definitely have a supporter in me. I'm willing to do what I can to certainly help advocate for the panel itself, for what you're doing, and absolutely for the NAV offices in NOS. I think we've got a lot of
momentum in the NAV offices. I think the panel, in my view, gained some momentum from a lot of the attention you had from leadership and from some of the partners that came in, both from the federal and nonfederal side, and so I'm pretty excited about where you are and where you're going, and again, I want to just thank everybody for all your time and effort on this.

CHAIR PERKINS: Well, likewise. We certainly appreciate the access to NOAA Leadership and being able to hear and benefit from their guidance.

DR. CALLENDER: So, you know, I think the big take home message is, let's not do this by a series of letters. Let's continue on the engagements and have an actual edgy conversation as Admiral Brown said.

CHAIR PERKINS: Vice Chair Hanson and I have heard that message loud and clear, and we are going to take you up on that offer.

DR. CALLENDER: Cool.

CHAIR PERKINS: Very good.
DR. CALLENDER: All right. I'm happy to help facilitate time.

CHAIR PERKINS: All right. I think, based on that, and people's travel schedules, we're to the point of adjournment for this meeting of the HSRP.

DR. CALLENDER: Great, again I appreciate everybody's time and hard work this week. Thank you.

CHAIR PERKINS: You're welcome, sir.

DR. CALLENDER: Okay.

CHAIR PERKINS: All right. Hearing no other business, we shall officially adjourn this meeting of the Hydrographic Services Review Panel. Thank you all and safe travels home.

(Whereupon, the above-entitled meeting of the Hydrographic Services Review Panel was adjourned at 3:49 p.m.)
CERTIFICATE

This is to certify that the foregoing transcript

In the matter of: Hydrographic Services Panel

Before: NOAA

Date: 09-18-15

Place: Silver Spring, MD

was duly recorded and accurately transcribed under my direction; further, that said transcript is a true and accurate record of the proceedings.

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Court Reporter