VOLUME II

HYDROGRAPHIC SERVICES REVIEW PANEL

PUBLIC MEETING - WEDNESDAY, APRIL 15, 2009

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The Public Meeting of the Hydrographic Services Review Panel was continued on Wednesday, April 15, 2009, commencing at 8:32 a.m., at the Renaissance Baltimore Harborplace, 202 East Pratt Street, Baltimore, Maryland 21202, before Robert A. Shocket, a Notary Public.

REPORTED BY: Robert A. Shocket

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AGENDA:

FORMAL MEETING CONTINUES - DAY 2 WELCOME
Brief Recap of Day 1
THOMAS SKINNER, HSRP Chair

INTEGRATED OCEAN OBSERVING SYSTEM (IOOS) UPDATE

DISCUSSION WITH NOAA LEADERSHIP:
Mary Glackin, NOAA Deputy Director Under Secretary

NOAA BAY HYDRO II DEDICATION AT INNER HARBOR

MAPPING SYSTEM OF SYSTEMS AND IOCM UPDATE:
Jack Dunnigan, Assistant Administrator, National Ocean Service

OPEN DISCUSSION - RECOMMENDATIONS, STRATEGIC PLAN WORK from TAMPA HSRP MEETING, NEXT STEPS
FINAL PUBLIC COMMENT PERIOD
CLOSING REMARKS, ADJOURNMENT



P-R-O-C-E-E-D-I-N-G-S

MR. SKINNER: Welcome. This is the second day of the Hydrographic Services Review Panel Meeting here in Baltimore, Maryland. Welcome, every one. I wanted to start off again just going around and quickly introducing the panel members and the guests that we have here. If we could start that, I will warn you, we will probably do this again when the Deputy Undersecretary arrives so this is sort of a practice round. Larry, would you --

MR. WHITING: Larry Whiting, "tired."

(Laughter)

ADMIRAL WEST: Dick West, retired sailor.

MR. WELLSLAGER: Matt Wellslager, employed, Program Manager.

CAPTAIN MYRTIDIS: Minas Myrtidis, Vice President, Environmental Regulatory Compliance, Norwegian Cruise Line.

MR. SZABADOS: Mike Szabados, Director of CO-OPS.

MR. ARMSTRONG: Andy Armstrong, the NOAA Codirector of the Joint Hydrographic Center.



MS. WILLIS: Zdenka Willis, Director of NOAA's IOOS office.

MR. WELCH: Ed Welch, Passenger Vessel Association and the Union of Greek Shipowners.

MR. SKINNER: Tom Skinner with Durand & Anastas, Environmental Strategies in Boston.

CAPTAIN BARNUM: Steve Barnum, director of NOAA Survey.

MR. DUNNIGAN: Jack Dunnigan, still learning, sailor, working, from NOAA.

MR. DASSLER: Jon Dassler, Director of Marine Services, David Evans & Associates.

MS. DICKINSON: Elaine Dickinson, also a learning sailor and with BoatU.S.

MS. BLACKWELL: Juliana Blackwell, Director of the National Geodetic Survey.

MS. STUBY: Danielle Stuby, with National Geodetic Survey, HSRP staff member. And if you guys want to teach me how to sail or boat, I'm ready anytime.



Ms. DENTLER: Virginia Dentler, CO-OPS and HSRP staff member.

MR. SKINNER: Mike?

MR. ASLAKSEN: Mike Aslaksen, National Geodetic Survey.

MR. LOWELL: John Lowell, Chief, Marine Chart Mapping Division, OCS.

MR. FERGUSON: Jeff Ferguson, Chief, Hydrographic Survey Division, OCS.

MS. ERICKSON: Mary Erickson, Chief of Coast Survey development, OCS.

MR. PARSONS: Roger Parsons, IOCM coordinator.

MR. MARTIN: Ed Martin, office of Coast Survey, and I'm glad to give a sailor lessons whenever requested.

MS. TROMIG: Kristin Tromig, CO-OPS, Office of Planning.

MR. ENABIT: David Enabit, Coast Survey staff.

MR. SKINNER: Thanks very much. We'll get

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a jump -- oh, I'm sorry.
DR. JEFFRESS: Dr. Gary Jeffress, Professor of Geographic Information Science, Texas A&M University, Corpus Christi. I'm sorry I'm late. I had to buy some lottery tickets.
(Laughter)
MR. SKINNER: I think we'll jump right in and welcome jack. It's always a pleasure to have you and we appreciate you making time for your schedule.
MR. DUNNIGAN: Thanks, Tom. Good morning, everybody. Once again it's really great to be with you all. I was in the door three minutes when Gary Jeffress gave me this great package about height modernization and why it's critical and important. And I think just a reminder of how important the work that you do and help us do really is.
I was really glad to hear that your panel went well yesterday and that you learned a lot. Those continue to be some of the best parts of these meetings and somehow we got to think about a way of capturing that information so that we can use it. And I guess

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what I learned this morning was that I need to learn a little bit more about Domino Sugar. So, I look forward to that.
I wasn't able to be with you yesterday. You know I place high value on these. We had just a wonderful IOOS industry workshop kickoff and it was sponsored by the Interagency Working Group of Ocean Observations and that date was picked a long time ago and I had a fairly solid commitment to be there and emcee that event. And you know, what we're trying to do is to build out the sense of who really owns the need for ocean observing. And, the target right now is to look at sort of the third-level people. These are the people whose businesses depend on having good ocean observing data.
And this was the first of a number of workshops. I think we're going to try to come to Houston sometime later in the year, and there's one that we're scheduling, we're not scheduling it directly but it's being scheduled for Copenhagen and then trying to coordinate it with all of the things that are

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happening in that part of the world later this year with world climate conferences and things like that. So it's very exciting and it was something I needed to be there for and it would take something important like that to keep me away from one of your meetings. So, I'm glad to be here.
I want to give just a little bit of credit, I have been travelling around a little bit and my, if it wasn't before, my new favorite cruise line is Norwegian. I was in -- I just mentioned this to Minas. I was in Hawaii doing a bunch of site visits a couple of weeks ago and talking to our educators and they were talking about this program and that program and they told me about the great work that Norwegian is doing in Hawaii to provide platforms for education for the school children of the state, where basically they just, you know, take the kids onto these cruise ships for a day and, you know, work with local educators, whether sanctuary programs and with others, to give them a real experience of the sea and those resources. So, thank you Norwegian really for doing that. I

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wasn't aware that went on and it's a great thing to be able to do.
Let me tell you a little bit about NOAA right now. Of course, you know, we bureaucrats are inpatient people. We now have our new Undersecretary, and I met with her a couple of times on various issues. She is just an interesting person. She's a very nice person. And right now there it is her and a woman named Monica Medina, who was general counsel in the first, or the last Democratic administration and she's now a senior policy adviser. So the two of them are really trying to carry the entire political load for NOAA.
And Mary Glackin, who will be here in a little, while has done a really great job in sort of, you know, making sure that things continued on and helping them get in. But the fact is right now, they're snowed under. They were hit by northeast fisheries conflicts the day that Dr. Lubchenco was sworn in. And we have had to go to the Secretary with a coastal zone management appeal over an L&G proposal

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in Long Island Sound which we upheld the state's objection so that can't go forward until we have some lawsuits.

And, so that there have been a lot of things that have really just have overwhelmed them; otherwise, I think probably we could have gotten Dr. Lubchenco to be here. I think it's good that we're going to have Mary here and we're going to have a great event despite the rain for the Bay Hydro. But the tone and tenor right now really is full of expectations, a lot of optimism right now about NOAA and our ability to get traction and move forward with a lot of high priority issues. So, we're all feeling pretty good about the future right now.

The other thing is that I want to just tell you about the CMTS because I know you're interested in that. The CMTS right now, it's amazing, you don't really see it until you're a couple of months removed but we built up a lot of momentum over the last two years and that will momentum is really still carrying the group forward. We have a number of integrated

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action teams that are operating on a multiagency basis. We decided at our last meeting to start a new one on collaborative research for, to support maritime transportation, and NOAA and the Corps of Engineers are going to co-lead that.

So, although there are no new politicals who have started engaging, a lot of the senior people that you would typically expect to see at the CMTS are not there yet. Those of us who are sort of at that next level down are still meeting, still engaging and keeping the program moving forward.

Now, that being said, we're only going to be able to do that for so long until some of the agencies, some of the other agencies really get politicals to be in there. MARAD, it will be while probably before they get their political leadership. And, so, you know, once those things sort out but CMTS right now is not standing still, waiting.

I mean, the program that we have been building over the last couple years is still active and producing results. On the Nav technology side, David

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MacFarland is helping to lead, is moving forward with great speed.

So, it's good to see that being able to continue, too. So that's really all I wanted to say at the beginning. Thank you very much, and look forward to having a good discussion this afternoon about some ideas I've got about the concerns for the future of our business and, looking forward to a good meeting. Thank you, Mr. Chairman.

MR. SKINNER: Thank you, Jack. You raised a very good point. There have been a number of discussions both in this meeting and afterwards over dinner and so forth about eventually reissuing our report, including sections that highlight many of the panel discussions that we've heard in various locations across the country as a way of highlighting what I think what most of the panel feels is a very important source of information on the importance of hydrographic services so I think we're in sync on that. And we will be talking more about that in the last session this afternoon, so, stay tuned. Zdenka?

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MS. WILLIS: Yes.

MR. SKINNER: You all set?

MS. WILLIS: All set.

MR. SKINNER: All right. We're ready to jump right in. As many of you know, Zdenka Willis is head of the Integrated Ocean Observing System office at NOAA and has been a frequent presenter here. And, as always, we look forward to what's going on in the world of IOSS.

MS. WILLIS: Good morning. I'm going to provide the sides ahead of time and there's CO-OPS slides and I have a short amount of time so I'm just going to hit the highlights and hopefully we're going to generate discussion. I appreciate you giving me the opportunity to provide you an update. IOOS is not just PowerPoint slides anymore --

MR. SKINNER: Use the mike --

MS. WILLIS: All right. Yes, okay. So, I thought I could tell folks we're not just PowerPoints anymore, we have actually come a long way and where we have come in this whole thing of data integration

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and providing products to customers. You see our tag line. Part of what want to show you and bring your attention to, is we're really kind of brand IOSS. We have registered this trademark. We will very soon come out roll out and the official government IOOS site, WWW.IOOS.GOV. We're finishing up the comments from our interagency partners. We bought the domain. We're about ready to roll that out.

We could start to understand and brand this thing we call IOOS. At this point I am still NOAA's IOOS program outlet. I'll talk briefly about the legislation at the final part of this slide but we are still working on what does that legislation mean. We are meeting with Jack Dunnigan and the I-W2 on Thursday, our agency work group for ocean observing, and then when Jack as the chair of the IW-2, also my boss, and also the chair of the JSOST on Friday to begin to understand what that implementation means.

Meanwhile this is what inside my office we have been focused on and have done so for the last two years so I don't think this should be anything new.

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And this is what I will quickly go through other than our basic programmatics, which I'm sure you have heard most of that. So, when we talk about the data management and communications it's always hard to explain what that means. You know, very simply, what we are trying to accomplish is regardless of what type of oceanographic data and who collects it, that it's actually available in a consistent format or what I would like to refer to as a bi-chain management for oceanographic data. We recently completed a business case study on the value of integration. It is available on my Website, it is published, and we found inside NOAA between 25 and 50 percent of anybody's time is spent trying to find the data, get access to that data, reformat that data before they can even use it. And if we look at what we think we'll spend on DMAC, national DMAC, there's a net present value return of between 38 and 60 million. And that's just inside of NOAA and that doesn't even account for the value that we think that will generate for end user products once we get this data into a format where we can use it. So

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this is where we want to go on the national level.

What have we done so far? We have certainly been advancing the IOOS-DMAC standards process. We have a slide on that. And in addition we have been doing what we call this acquisition planning approach. There are two documents. I think you saw both of those documents, a high level functional requirements concept of OPS. They are on the Web site, my Web site in a public forum. We've taken recent feedbacks. We've done the IOOS business case.

This is quickly what the high-level functional requirements in ConOps looks likes. Really what it did was take the 55 or so documents that talked about IOOS and put it into what is it we're really trying to build as we move forward. And the high level function requirements is about the entire system. The concept of operations is focused on DMAC.

What did we do? We did a different kind of Industry Day than what Jack talked about yesterday on the 12th of March. This Industry Day was run by our Brands and Acquisition office and this was targeted to

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industries who might want to help us build this thing we call DMAC.

So we did that on the 12th of March and we had 60 participants from 35 companies. So that was a half a day event where we briefed in a little bit more depth the briefings that I'm giving you here, that is only focused on the DMAC. The request for information went out on FedBizOpps yesterday, so I sent that out via Z-gram. That's the best way I can get; it's the largest list I have. Again it's not really run by my office per se. That's run by acquisitions and grants so there's a number of questions and that is out on the street. That will be due in 30 days. That would be a market survey for us within the office to be able to understand how we move forward.

We will have a time to do one-on-one vendor meetings. They're scheduled in late May, early June, depending on the vendors that provide response. And then we're doing an analysis of acquisition alternative and that will be completed in August, and that will inform us on how we can move forward from an

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acquisition perspective.
Meanwhile we can't, we're doing that because you need to be able to have all that in place when such resources become available to us to do that large-scale procurement. In the meantime we have been working on the data integration framework. You know, depending on what your favorite term is, you know, the Pilot Project, the first spiral of the DMAC, a risk reduction but nonetheless we have been working on that. And we talked about that we're going to do five variables. We've actually gotten and completed seven variables. And it's really from your primary providers inside of NOAA and we're moving out to each of our regional associations.
And, so, this is who our partners are. I'll talk about, I'll show you an example of what the accomplishment is on the providers, our customers, working with regional associations, and then the partnerships that we have had with OGC and we have some emerging partnerships with Google. As you know, NOAA, Navy and many others have Google Ocean. We are in

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discussions with Google. One of their programmers was the DMAC data management communication rep for the Great Lakes so that gives us a leg up and they're going to start to use the DIF services as a way to wholesale get to the oceanographic data because they also don't want to be translating every single format that's out there. So that's really exciting.
NSF has the -- OI -- Ocean Observatory Initiative, excuse me, and they have a side for infrastructure. They get to look out forward-thinking and cloud-computing many of the things I don't even understand and they're using an Amazon web services. They don't have any data to test with so the good news is we have a lot of data to test with. So those collaborations are really working well.
Here it is in, you know, kind of graphic form for those of you who don't remember the data integration framework. And the other thing, I wanted to make sure that this was well-documented because you can have a pilot project and if you cannot repeat it, it really doesn't do us a whole lot of good. So, all

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of this is documented. It's being picked up internationally.
We're checked into, you know, GEOSS has a data management group. Everybody has a data management group. Some of the folks were there yesterday. We are checked into all of those demonstrations that are happening at the international level. So really it's pretty amazing how the data integration framework is now becoming the foundation through all of these programs. And, we really worked hard at that because you don't want to be stand-alone because that flies in the face of the concept of an integrated ocean observing system.
This is kind of how I put it up here. We're trying to figure out how is an easy way to explain how we've done the DIF. I mean, I can buy you a cup of coffee, I can buy you a glass of wine and you know what it looks like. I say that, and you and deputy kind of look at me, like what do you mean? So actually we need to actually change that so NDBC CO-OPS have databases and those databases were all delivering

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the variables in different formats because they were tailored to their own mission. There's nothing wrong with that but they were tailored to their own mission.
So if I was a new forecaster to do a new forecast and I needed to get the data, I had to do multiple calls. So what this graphic is supposed to tell you, actually each one of those cylinders, ADD-IN-BBC -- CO-OPS look different as well, may have to color code it but suffice it to say all that data now that used to look different now comes out in a single format. So that's really we where we have come and that really represents a new way of looking at data across NOAA. Regardless of who collects it you can have access to it in the same format.
We have to go to that next level because this is again the first spiral and we were looking to what are the customers so this isn't the only customers working with but these are four focus projects that we are doing. So for coastal inundation basically we put water level and winds on top of the SLOSH. The SLOS is the storm surge model that is used operationally by

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our weather forecast office. There's an IOOS spot in there. Where does the data come from? It comes from CO-OPS. It comes from NDBC and we're trying to get the water level data in from Army Corps, all through this DIF service. And it's now on top of the machine. As I say, no more two-screen integration. It is being piloted right now with WFO Wakefield and WFO Slidell and they love it so much that every single WFO on the Gulf Coast and East Coast now wants it and now I have a load problem. That's a good thing. Okay? We're moving to discussing load problems on moving our data through but that's really cool.

Additionally we're working with Mary Erickson. I don't know if she had a chance to talk with you. She's leading the charge for our storm surge coastal inundation. Okay? So storm surge data inundation, tomorrow, so she's leading that so we're all trying to work with her to bring our projects into that larger plan.

We need to be able to get currents delivered -- this is the one in the eastern part of the

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Gulf of Mexico that was a bulletin again. People were doing that eyeball look. Now we have delivered those currents. We now have the ability to deliver that into other models that are actually transport models, okay? So we have a bulletin in the eastern part of the Gulf of Mexico and the western part is actually a transport model. In the New England area we're working the coupled model which a biological physical model and also some pretty exciting new sensors that are coming and being delivered from the IOOS world into the New England.

Integrated Ecosystems Assessment, we're all still trying to understand what an integrated ecosystem assessment is. How do we with start to get to that biological data? We met with Andy Rosenberg last week when he was in for the ORAP and trying to tackle the biology but that's the forerunner to tackle the biological data.

Hurricane intensity, this is looking at synthetic temperature and salinity and how that affects hurricane intensity forecasting. And we're looking at

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historical storms. So far the data looks really good. The good news is that we're going to try to go operational with that. And then it delivers, and then since they're using the DIF data, again, it delivers a whole host of oceanographic data not previously available to the NCEP forecasters again without doing that translation. Subsequently we're doing internal to NOAA because we again have to document that return on investment of the hypothesis that integrated data to support multiple mission is cost-effective.

Standards, we continue to move forward on this. We are leading the world in this and the world is watching us and taking the standards. You know, we don't make up the standards. We're basically taking the standards that ISO, FTDC, OGP, pick your favorite standards body, and tailoring but you have to tailor it to what the intent is. And that's really what this is all about. So, you know, we've got our next DMAC steering team meeting in May. We're going to continue to refine the process and make sure that it continues to make sense.

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Waves and currents, very important to you here. We have completed the National Waves Plan. CO-OPS is working the MOU with the Army Corps to ingest waves into ports. I'm sure Mike talked about that. This is actually taking a look at it from a holistic perspective. It's out on the Website. It's been there. We're following up with HFR. No, we're not going to go variable by variable because yes, we do need to be integrated. These were kind of unique elements of the program that we felt were suited to having these plans. The HF radar, we've got a hundred of them on the Net right now. We've got a really exciting, going live with the Coast Guard on the 20th of April. They have a search and rescue, called SAROPS.

The SAROPS version one was the first time it took any live environmental data from that and SAROPS 2.0, so they're releasing SAROPS 2.0, and behind that is an environmental data server, 2.0 and for the first time they're going to actually take on the East Coast the HFR currents so basically from North Carolina

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all the way up into the New England area and we'll be able to put some money back into the New England area to get the four radars that went off the Net last year back on the Net.

And not only the currents are important but there's a forecast system that forecasts the currents, about six to eight, six to twelve hours out and that was developed by one of our partners in the IOOS region and now the Coast Guard is going operational with that on the 20th of April. So we're excited about that.

What does my office do? We're still working the frequency issue. We're on experimental frequencies and we are doing all the engineering work that one must do to get your frequency to an operational perspective. And that's in the World Conference in 2011. And then we are working the data management to make sure again all the data is available in that standard format, the primary data service at MDBC Scripps at Rutgers.

Just for a reminder, there are eleven regional associations and the Alliance for Coastal

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Technology makes up the regional coastal component of IOOS. I put this up because I don't know how right now a better way to show you the projects that are going on in the regions. This came out of the regional assessment that we did in December. We put eyes on every single project so we know what was going on. We continue to put the fact sheets out on the Web site so you do know what's going on. And there really is, you know, regardless of what the IOOS mission is we certainly have projects that are completing. Certainly at LA Long Beach we've got the harbor project that has been completed.

I know the work in San Diego and there's also discussions to work up to San Francisco, which allows you a tailored look on the conditions that are there, overlaid on NOAA charts that have been referenced to Google Earth, which is new, and not only do you have the outcome of the buoys but you also have the virtual buoys. The Caribbean has picked up the same concept with the virtual buoys for the output of the models based on what we did in the Long Beach LA

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area because that is something that the ferries' captains needed in the Caribbean. So this is, if there's any one of these that catch your eye, I think I can talk to all of them and as I always tell folks this chart is exactly wrong and just about right. So if I say that I've got about four of the RAs working on it, it may be five. I was trying to compile this.

A sense of validation and verification, that's the Alliance for Coastal Technology, a consortium of eight universities, and they're working on, they just completed salinity and they're working on some, interestingly enough, there's a tie to the Great Ships Initiative which is looking at invasive species and ballast water systems for getting rid of invasive species in the Great Lakes, the first one in the Lakes. They're actually tied into the Alliance for Coastal Technology because the Alliance for Coastal Technology has been looking at some of those testing methodologies for understanding what you can or can't do to the ballast water to protect from invasive species.

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Our regions are certainly taking observations out there. They're providing data management and they're doing models. And the reason I put this up is because this is the kind of things they're also putting together at regional data assembly centers, as we are putting together the DIF. They also have architectures out there. And those architectures are pretty mature in some cases.

And the good news is we had them all in town for two days on the 10th and 11th of March and by the middle of 2010, and hopefully by the end of this, well, we will by the end of this fiscal year, five of the regions will be completely compliant with the services that you saw that we have orchestrated there inside of NOAA and by middle of 2010 all eleven will be compliant. So the good news is we now have visibility into the structures that they have in place and we're starting to move this out nationally.

IOOS regional funding tends to be a topic everybody likes to understand. Here is the layout. Fiscal year '09, it's really 21 million we wrapped up.

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We did get a one million dollar earmark for the Alliance for Coastal Technologies, which is just wrapped up in the $21 million for the region, so if you look at budget tables and can't quite make that correspondence.

As we move forward, in fiscal year '10, that's really a bridge year for us from a funding perspective for IOOS, for the IOOS regions. As you know, we started the competitive process in fiscal year '07 and then we had an additional competitive process in fiscal year '08. I have a mix-and-match so we will do a limited geographical FFO. We've just put that draft, that sensor validation and verification, we put that draft into Grants Online. That comes out in July because NOAA does that twice a year, July and December. And, we'll process those through in October.

In fiscal year '11, we're really going to try to really put an FFO out -- I would like to do it for five years if I can -- that really states the core capabilities and the core needs that the regions will meet and we are basing that on a regional business

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model that was developed for us with our programs support contractor. That's also publicly available. And we will be working very hard with our regions and inside my office over this next year to complete that. You know, the timeline for us is April of 2010, when we have to have the draft FFO in. That's kind of the outcome of the discussions that we need to have.

I have a NOAA port captain coming into my office on the 11th of May who will be the division chief for all of my regional communication, legislation, policy and planning. So, we've had that gapped, since Timmy Van (phonetic), who was there was selected to be one of NOAA's regional coordinators.

We do continue again. IOOS is about integration so there are a number of interagency projects that we actually connect to. And, these are our list here. I won't go over all of them. I think the one most interesting, the National Water Quality Monitoring Network. They also need to monitor and put sensors out. We're trying to understand what their sensor network layout is. Unfortunately right now it

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says we think we need about 50 per IOOS RA. That doesn't quite help us but what we are working on is at the national level making the services that we've put out under IOOS compatible with the services they're putting out for water quality. So that work is going on.

We need to bring the biology in. We're working with OPUS. I've already talked about our Oceans Observatory Initiative with NSF. We're working with Roger and the interagency working group on Integrated Oceans and Coastal Mapping to understand, to be using the regional associations to better understand those regional needs.

Another factor that watches out for us is the marine protected areas so there a joint paper on how IOOS can support the marine protected areas and again we participate heavily in the GEOSS working groups as well as making sure the data integration framework is checked in. As we said, it's the underpinnings of the ocean data in the GEOSS structure.

Legislation, the good news is it passed.

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We are now trying to understand the elements of the legislation. There is a number of governance discussions. We have a council, a committee, an office, an advisory panel. RAs are no longer RAs. They're RISIS (phonetic). Because we couldn't keep standard terminology, we have do, we understand we have to do rulemaking on certification for these RAs. There is a discussion of liability. We have had our first initial meetings with the lawyers. The first half of the paragraph is comfortable; the last half of the paragraph is making the lawyers very uncomfortable.

There's a number of reports. There's one actually due in six months to understand that private-public partnership. This one probably scares me the most because in one year the administrator of NOAA and the Director of NSF are supposed to do an independent cost estimate of everything there is to do with ocean observing completely unabridged to Congress. I haven't quite figured that one out yet. So we're reviewing this. As I said, we'll talk with the interagency working group on ocean observing and the

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co-chairs of JSOST and the IWGOO as well as trying to make sure that the agency of NOAA understands what that interpretation is.

We are trying to build a communications effort as to what does IOOS from an interagency perspective mean. We will move to a U.S. IOOS Website. We are trying to do the branding of the IOOS still within the context of the agency that we work in, of course that I work in, NOAA. Here's an example of the IOOS outreach material. We're in final draft with IOCM, which is another one that's available. National Ocean Service's Website is really moving forward and trying to get information out with regard to all of the ocean services. They've come up on our National Ocean Service Website, there's twitters and there are podcasts. We've been trying to be very supportive of that. We have two podcasts, what is IOOS and then a second one about the glider. The glider that's going to go back across the Atlantic, for those of you who followed the Z-gram last year, the students from Rutgers had been crossing the Atlantic, developed a

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leak by The Azores. It did sink last year. We're about ready to launch the new glider. We were hoping to do it on Monday. Weather is the problem right now. We need to do one more test run and hoping to get that out. We also have Ocean Hall videos. I'm sure you're familiar with Ocean Hall. We have the first video associated with IOOS and the second one is IOOS and sea level rise, which we're working with CO-OPS on that one. And that I think is it and I think I can take some questions before Mary Glackin's talk, if you would like.

MR. SKINNER: Great. Thanks, Zdenka. I didn't think it was possible but you actually sound busier than your Z-grams would indicate. So keep up the good work. I know, being on this panel, there seems to have a certain cache with being retired. So I'm a retired GOMOOS board member but when I was involved with the organization there was some serious funding issues. Some of the money from the L&G projects went to just keep the doors open instead of expanding the system, which I think was very

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unfortunate and I think it's great to hear that you have gone back in and reestablished the radar syste and I think taking a rising tide, floats-all-boats type of approach. I think it's great.

MS. WILLIS: Thank you.

MR. SKINNER: Questions and comments? I think that there have been a couple of meetings when something IOOS-related has come up and we have had meetings with this panel and we've seen if we can get you on the agenda and it's too late in the process and we've missed that. I don't think we've seen you for a little while. And I think that's my fault for not paying close enough attention. But I think it would be great if we could work you into the standard meetings, if we can fit it into all the things you're working on.

MS. WILLIS: Be happy to.

MR. SKINNER: Any final comments? Great. Thanks very much.

MS. WILLIS: Thank you.

MR. SKINNER: I just want to point out, Roger introduced himself earlier but it seems to be

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reunion week. Always nice to have you back, Roger. Doing great work on the IOCM issues. And we have been joined by Helen Brohl, former panel member, I think who was mentioned earlier. Helen, you probably don't know this but John Oswald was here yesterday so we're sort of doing a stroll down not memory lane but it's nice to see you all back here again today.

We're very pleased this morning to have Deputy Undersecretary Mary Glackin here. All of you know that Ed and I met with her last year at about this time to go over some of the work the panel has done. I think we had a very productive meeting. We're thrilled that you're here and we look forward to your comments and welcome.

MS. GLACKIN: Thank you. Thank you.

MR. SKINNER: Oh, would it be helpful to just introduce everyone so you know who you're talking to?

MS. GLACKIN: Sure. Well, I did have a chance to kind of look at your, you know, look at wh is on the panel and go over that, so, but, I would be

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happy if you wanted to go around.
MR. SKINNER: Want to do a just quick round-the-table?
MS. GLACKIN: Okay.
MR. WHITING: Yeah, Larry Whiting, retired, hydrographic surveyor, formerly with Terra Surveys, TerraSound now.
MR. WELLSLAGER: Matt Wellslager, I'm a program manager with the South Carolina Geodetic survey.
MR. MYRTIDIS: Minas Myrtidis, Vice President of Environmental Regulatory Compliance for Norwegian Cruise Line.
MR. SZABADOS: Mike Szabados, Director of CO-OPS.
MR. ARMSTRONG: Andy Armstrong. I'm the NOAA Codirector of the Joint Hydrographic Center at the University of New Hampshire.
MR. WELCH: I'm Ed Welch from Alexandria. I do governmental relations work for the Passenger Vessel Association and the Union of Greek Shipowners.

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MR. SKINNER: Tom Skinner with Durand and Anastas, Environmental Strategies in Boston.
MR. BARNUM: Steve Barnum, Director of Coast Survey.
MR. DUNNIGAN: Jack Dunnigan, NOAA.
MR. DASSLER: Jon Dassler, Director of Marine Services at David Evans and Associates. We're a NOAA contractor for hydrographic services.
DR. JEFFRESS: Gary Jeffress, Professor of Geographic Information Science, Texas A&M University, Corpus Christi.
MS. DICKINSON: Elaine Dickinson, BoatU.S. We represent 600,000 recreational boat owners.
MS. BLACKWELL: Juliana Blackwell, Director of National Geodetic Survey.
MS. CHAPPELL: Ashley Chappell, NOAA.
MS. GLACKIN: Okay. Well, in turn I'm Mary Glackin, NOAA's Deputy Undersecretary. There's mostly new faces in the room for me so I'll take a minute to kind of tell you. I'm new to this position, about 18 months ago, but I'm not new to NOAA. I've been at NOAA

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nearly 32 years starting in the Weather Service and then kind of bouncing around after that. And, it's my pleasure to be here today. And I would like to start first by thanking you for your service to NOAA. NOAA really does rely on the advice and we really value the perspectives that come to us through forums through this panel and other similar forums like this across NOAA. So thank you for your service.
My job here this morning, what I thought I would do is set a bit of context for you about the change in administration and what we see, that means for NOAA. We want to give you a little bit of kind of how we have been talking about the messages in transition and what we're hearing from the administration and Congress. We have had as kind of a major priority climate services, so I want to spend a few minutes on that and then talk about our administrator's priorities. She's currently flying back from Hawaii where she opened a new learning center there, started with a shovel in the ground for a new learning center so she wasn't able to be here today,

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and then end on really the specific mission area here of hydrographic services.
So, this is really an exciting time for us in NOAA. Never has NOAA had an administrator appointed as early as we have, under this administration, and we're very fortunate to have Dr. Jane Lubchenco as NOAA administrator. She's an ecologist by training from Oregon State University. I think one of the things that was really exciting about her nomination when this came out before Christmas was that she was nominated with Dr. John Holdren over here on the right-hand side. He's the President's Science Advisor and the head of the Office of Science, Technology and Policy.
And specifically President Obama talked about these two as a pairing combination and the overall importance of science to this administration and really emphasized that. So, we had, I believe, the first subcabinet level position nominated in the federal government, in this transition team. So I think it speaks very well of NOAA and I was able to be with Jane last week when Vice President Biden did her

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ceremonial swearing in. So that's been great.
We also are fortunate to have on board Governor Gary Locke, who many of you might recognize the name. He's the former Governor of Washington State. So again, this was actually only the second time in the Department of Commerce's history that we have had a governor come into this slot. Very typically it's the businessmen but we have somebody that's actually been involved in government, been very much a user of NOAA's services from a coastal community so it's really a kind of a wonderful alignment of those issues. And he's tremendously engaged. He's a workaholic. He works us till eight o'clock at night sometimes but he's here and he's on board.
The other two that I have shown here are Carol Browner, as you know from the press, is working President Obama's issues in climate and energy at the White House, extremely engaged and we have been meeting with her and her task force on a number of things and I'll talk about those as we go through. And then Nancy Sutley is the Chair of the Council on Environmental

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Quality there that is so concerned with so many of our resource issues that are here. She was actually on board on I think January 22nd in her slot and was able to spend some time with us.
So we have all in all I think for the players within the administration an amazingly skillful group of people that are, actually NOAA's on their radar screen and they're engaged with us. All of these people on the screen I have met with, you know -- and I'm not a, the most senior level -- in the course of just the last couple of weeks and all. So I think that we're feeling, you know, quite energetic and quite hopeful and we're hoping that Dow Jones kind of keeps going up like that and all the Stimulus because that's really the issue, I think.
Just to speak a little bit about Congress and the Congressional elections there, a lot of turnover and things are just still settling out on that. So, you know, not only is Senator Stevens, who had been a big supporter for NOAA not there but three of the House Ocean Caucus co-chairs that we had been

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working with, Tom Allen, Jim Saxton and Wayne Gilchrest are not back as well. We also more on kind of some our dry-side programs, Nick Lamson in Texas was also not reelected. But then there's a lot of shifting.
We have Mark Udall, who's from Colorado, where we have a big presence, is now on the Senate side. We have Senator Inouye, a long-time NOAA supporter up at the chair of the full appropriations and Rockefeller and Kay Bailey Hutchinson in Senate Commerce Committee. Brian Baird is there that we have been working with, is the chair of the House Committee on Science Technology and the Subcommittee on Energy and Environment. And that's kind of a key committee for us as we move forward with a number of energy issues. And then Barbara Mikulski remains the chair of our Appropriations Committee.
So, we're working through kind of those new relations up there. Dr. Lubchenco has spent, you know, I would say quite a bit of time on the Hill and is very actively engaged there so we're working to build those relationships.

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Staying on the Hill front, I thought I would just highlight to you kind of the things that we have been looking at but not yet confirmed within the administration where we'll push through. You are probably familiar with NOAA's interest in an Organic Act that would give us some overall basic authorization there. So we haven't made a decision in this administration whether to go forward with that or not but it's kind of basically sitting there.
There's a number of reauthorizations that we're very interested in moving forward with. Coral reef, our Coastal Zone Management Act, we've been doing an incredible amount of work in the last couple years. The Sanctuary Amendments Act is there, and then Zdenka just talked to you that we have been successful in getting the Coastal and Ocean Observing Act through, offshore aquaculture and then the Harmful Algal Bloom and Hypoxia Research Act.
So we're going to be kind of sort of sorting through that with this administration in term of, you know, how things will move forward. I can tell

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you overall from an administration point of view the number one focus area here is energy and what we do about cap-and-trade (phonetic) and how we move forward with alternative energies. On that front, NOAA has been active at the table in talking about the ocean environment and potential sources of alternative energy there.

The other thing we have been very active about is that as we move forward with any kind of energy legislation, it needs to be underpinned by good observations and science. And we need to be prepared as we adopt an energy policy to basically be prepared to reassess and reiterate that policy. So as we go to, for example, limit carbon emissions, we need to make sure that what we're doing at the smokestack really pays off in the atmosphere and the carbon is really responding the way we think.

And that's going to take good measurement systems to do that. It's going to take understanding the full cycle, the full carbon cycle and things like that. So NOAA has very much positioned itself as I

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think the kind of honest broker for providing the science and information on areas like that.

At the bottom here, the National Climate Service, we see in a number of bills up on the Hill that we have been actively working on, and I'll come back to that. And one of the challenges I'll also highlight later is our satellite programs and some of the challenges there.

I think Steve Barnum talked to you a little bit about money yesterday. This is kind of a big picture on money. So, you're I think pretty familiar that NOAA had been in a really painful situation through FY05 to '08 and being flat at 3.9 billion so we're very pleased to be up. Our basic appropriation was 4.4 billion. We hasten to remind everybody, you know, we have been eating pay raises and cost of living over the time so that looks like a great increase but in some areas there's not an increase because of the way the devil in the details work out and in other areas it just about gives you some breathing room to do that. So we do, we were fortunate in getting 850

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million in the Stimulus Package and we will talk a little bit more about that as we go through as well.

I will make the point on this slide here that, you know, it's a challenge for us to execute the amount of money that we have now. There's a lot of pressure on us for the Stimulus Package. Never in my federal career have I seen kind of guidance and constraints the way they are to move forward. So we're definitely working through that in the administration.

We don't have the 2010 numbers out yet. Just the top line came out from the President in February. Our projected roll-out date for the Stimulus is May 5th. That's when -- not the Stimulus -- for the 2010 budget. That's when the President will put out the full details of his budget. We will have a constituent stakeholder meeting to kind of go through our budget and we will have the typical things that we have with our bluebook and other supporting materials on that. So, over the next couple weeks that will come out. And, I can tell you our budget people are stressed because it's been so long, you know, we've had

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a hard time getting the ball to settle down onto a number.

I want to just spend, when coming into this transition I want to take you through on the next couple of slides, the areas that we see as kind of national challenges that NOAA needs to respond to. But we had a couple of areas of urgent issues that I'll just briefly touch on here so that you are aware of it because these of the kind of things that take a great deal of time of senior management, not just at the NOAA level for the first two but even larger than that.

We have two very large satellite acquisitions going forward, one for a polar orbiting satellite, one for a geostationary satellite. They're very expensive investments and they've been very challenging for us. So we're still making adjustments in those management plans and all. There's been very keen interest on the Hill and I guess my message to you is if you track NOAA's budget very much and relationships up on the Hill, we're, you know, we very much have the message from the Hill is that we need to

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get our satellite acquisition problems solved.
And I think the Hill is somewhat sensitive to the fact, various pockets on the Hill, that because there has been so much money going in satellites, other programs haven't been able to grow in the way they would like them to grow. This is I think something that we're very sensitive to and working on and Dr. Lubchenco is committed to addressing.
The last one, in ship acquisitions, I would say is pretty much some good news. We've worked through some challenges there. You can see the Bell Shimada, which is a fisheries survey vessel went into the water late last summer, early spring, and, we've worked through some of the challenges on that. So that and its sister ship, The Pisces, we'll be taking ownership of later this summer. And, we're very much, this is all part of our fleet recapitalization and moving it through.
Down the bottom is the Ferdinand Hassler and this is still an artist's representation here but we should still be able to take an actual picture of

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that ship in the water at the end of May, so we're looking forward to that. Again we've worked through some of the challenges there. This will be doing hydrographic surveying for us so we're very excited to get this swath vessel in our fleet and get some experience with that.
So let me, this is kind of my overview sheet that was really a culmination of a lot of work NOAA did internally about looking at what some of the national trends and challenges were and then matching them up with areas that we felt that only, that NOAA had a clear mandate to kind of respond to. So, I'll speak to each of these as we move forward in the next couple of slides there saving climate for the end because I have a few more slides on that.
So I want to start actually with this issue of coastal area. And the challenge that we see and very much hear from our constituents that we work with, particularly coastal states, is that we have to position the nation in a place that it's better able to reduce the impact of both economic and social things of

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both coastal hazards, habitat lost and coastal pollution.
So we have been working through this in developing things like coastal adaptation strategies and we see as one of the main underpinning for this a reauthorization of the Coastal Zone Management Act. You know, very much we have challenges in getting support for some of our coastal programs because I think that they sometimes are perceived as really state programs as opposed to moving forward a national priority. We feel that there should be a national priority for that and I think that one of the things that should be a clearer priority is encouraging development and management at the coastline in a way that does make communities and businesses more resilient to challenges here.
This is something I think our new administrator has also picked up and echoed for us and I will talk a little bit more. I have kind of a slide about some of her unique messages here. But there's a lot of work to be done here. And there is a real

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intersection between the physical environment here, the biologic environment and then the particular communities and businesses that work forward here.
The second area is oceans and marine life, and we see it as a real challenge for us as being able to basically sustain the ecosystems that we have. You know, it's kind of interesting in fisheries that I think if you went back ten years ago you didn't hear the word protein very much. You know, the words were all different but now there's a growing recognition that we have a very large population to feed in this world and fish and the protein from fish, which is really valued, as the studies have said, needs to be a key part of this.
So we're fully committed to implementing the mandates that we got under the Magnuson-Stevens Act basically to end overfishing and rebuild these fisheries. We're uniquely concerned about the impacts of climate change to that and particular issues like ocean acidification and what will what that mean fo shellfish and fish and, of course, we're already seeing

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migrations of fish as well.
We have challenges in protecting marine mammals and some other protected species there in their vulnerable habitats. Again this is really exacerbated by population development, coastal development as well as climate change there. This is where we highlight leading the implementation of IOOS that Zdenka just talked about.
And then finally we see a need to lead the development of marine aquaculture and offshore aquaculture regime. And this again is still kind of being debated in this administration how we'll move forward with that. I don't expect this will be one of the first things out the box but there is a clearly a demand from this from industry and the fact that we import so much aquaculture right now and have so little control under the circumstance on which it's developed.
Okay. High impact weather and water, you know, my talking point on this is generally that this nation really enjoys, I think, a good level of weather services and water services in this country; however,

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it's insufficient for the challenges that we have. Some of us have been watching really carefully what's been happening up in the Minnesota, the Red River of the North there and you can see that if you've tracked this closely that our forecasts are good but they're not good enough for the kind of planning that needs to happen there and the critical and actually costly decisions that need to be made by communities.
So, we're interested in doing a number of things here. I've just spoken to kind of improving water resource management. We still have an overall goal to be improving our hurricane track and intensity forecast. We have made a lot of progress on hurricane track over the last ten years.
We have made much less progress on hurricane intensity, and for those of who that came from around the Gulf area when you go to bed at night and it's a Cat-1 and you wake up the next morning and it's a CAT-3, it doesn't feel so good and your decisions will be completely different. We're very much working with our sister agency, the National

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Science Foundation, because there's some basic challenges there. And I also think this is driving us to look at new technology, too, for things like aerial unmanned vehicles to be gathering data.
The last two things I'll highlight here that I haven't spoken to, one is fire weather forecasting, and we're seeing more challenges with fires in this country, and it's really gotten to be a great challenge as people tend to live in places that are at risk for fires. So, again, we're going to be working with our sister agencies to try to improve our models there. And it was certainly a sober reminder for anybody that saw on the news what happened in Australia about six weeks ago and the challenges there.
And then finally, you may not know it but we make forecasts for solar storms. And you may not even know why you care but it's basically because of your cell phone and every other piece of electronic information. So, there's quite a bit that we need to do there to improve our forecasts out to four days to really protect the energy infrastructure in this

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country and air transportation as well as global positioning and those type of things.
So, in transportation the team worked hard on this to try to look at, of the many needs that we have to improve an overall transportation system, what is it that needs to be done? And, there's an element of this that has to do with air transportation in working with the Federal Aviation Administration to improve weather information we give them to support the development of what they call the Next Generation Air Transportation System.
But the other area that really came really very much to the forefront for us when we looked at this area is the Arctic and how underserved the Arctic is and how many basic NOAA services should be provided there especially given the critical time with climate change and what we're seeing.
So, we've been clearly highlighting this and developed some strategies for how to address this. There's a lot of impacts here, I think, with respect to not only navigation and positioning but also kind of

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basic weather information that you would like to have to be operating in this environment. We see as we move forward probably the State Department will be a partner with us as we address how to meet some of these demands as well as the National Science Foundation.

So now I'll get to climate. And this is, NOAA has, you know, decades' worth of history with respect to understanding the climate system and providing some basic datasets for people to use. I think that the conclusion that we had come to over the last two years or so -- and this was based on advice from our own science advisory board, from national academies and all -- is that as an overall community of climate scientists we hadn't done a very good job at really making it very easy for users to find information. And we were certainly hearing that in NOAA with people like Coastal Zone Managers trying to say to us or saying to us, you know, what should I be assuming for sea level rise; what's going to happen there?

So, NOAA has proposed the establishment of

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a National Climate Service and as is articulated here that we feel that this by necessity -- we don't feel, we know -- that this going to have to draw on the full capacity of the government and other sectors. And I'll talk a little bit more about this, next couple slides.

Just a little kind of entree here to make a really significant point that I think is important about climate services, and that is climate and climate change really is an additional stressor on other things that are happening. So climate change is influencing the kind of extreme weather we get. We know we're seeing more heavy precipitation events, more very light precipitation events. We know we're seeing more droughts there, so how you deal with those kind of things needs to be taken in the context of what you're doing day-to-day.

Similar things with food supply, sustainable ecosystems; you know, that's another one where when you look at coastal development it's not just that climate has changed and that sea level is rising but it's the whole population growth and the

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pressures on the coastline. It has to do with how to manage those coastlines. So that when we think abo providing climate services we very much recognize they have to be delivered and developed in a way that's aligned with other challenges that exist in these areas.

As I've alluded to already, we see a really strong demand for climate services. It's been in legislation up on the Hill, a proposal there. The National Academy just basically recognized that, saying here, we need coordinated federal efforts to provide it but there should be a lead agency that would have broad participation. And that's very much what we're saying.

The kind of demands that we're seeing are from basic resource managers, whether people are running water infrastructure projects or things like that, and, policy and legislation. The whole issue of how we mitigate carbon really depends on climate information and data there to do that.

I just have a little bit of kind of examples to give you a little taste of the kind of

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services we're talking about. And we did these in a way of what is it we're currently doing and what is it we think we could be doing in the future and near future.

I want to talk first, though, or highlight first this bottom part because, you know, it all begins with observations. You can't be delivering any of these things without observations, and it's got to have a very active science program, a research program underpinning it because we don't understand everything about the climate system. And then hand-in-hand with that is modelling capability to be able to do it. So this is the whole trio here that this all rests on.

When we look at particular things and coastal systems, you know, we're currently providing services for sea level monitoring but we feel that what we should be doing within three years is really providing sea level and inundation prediction systems, to put tools in the hands of people that they can run "what if" scenarios and really understand what the impacts are going to be twenty years from now, forty

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years from now, so that very large infrastructure projects can be adjusted and people can make decisions on their risk levels.

In water resources we have had a focus really being driven by Western governors for drought early warning information systems. This is a service we've stood up over the last three years but what we think is we really need to be providing extreme projections for infrastructure and design operations. We know today issues like a hundred year flood, that's not a construct that works anymore. You know, the next hundred years isn't going to look like the last hundred years. So how people make decisions, we've got to reprocess a lot of data and make adjustments in that. So you can imagine the partnerships here, everybody from Corps of Engineers to state and local people in doing that.

In living room resources we're currently trying to understand ocean acidification and most importantly the impacts of ocean acidification. But what we think we could get to in just a few years is

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some early warning systems. It's interesting, as we, as I have the experience of briefing people that aren't so familiar with NOAA mission areas and things like that, as I say, people, it's amazing the number of people that think the ocean is a bathtub so if we just melt more water in the Arctic it will all come up. And they also think it's pretty homogeneous so if it's a little more acid, it's a little more acid everyplace. So I think providing this kind of information is going to be critical.

And then I alluded to before, energy, so, there's really quite a variety of things. Our data has been used for a long time to support things like wind energy, solar data, and we have put out things like heating degree days and people make projections, power companies make projections on even our one day, or not even, but on our one-day forecast in other things. But what we really see here is we've got to be able to be in a position to better support systems for both carbon and renewables.

So like what I talked about before in

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limiting carbon but then in looking at renewables, you know, what are we going to be able to get in terms of wave energy out of the ocean? How will we be able to get that? How about, you know, the heat transfer, the OTEC kind of things, will that be a sustainable energy source for us?

So there's a whole suite of things there and this is the area that we're really in pretty active discussion in trying to formulate some plans to move forward as part of the whole overall nation's energy thing. So I think this discussion will go on the next year, I'm sure.

I want to make the strong point here about partnerships. I've highlighted it all already. But, as we stand up the National Climate Service, it really is going to require very coordinated efforts among federal agencies with states, with academic partners -- there has to be a strong research component to this -- and with the private sector. We don't view that the federal government is going to be in a position to be really helping Monsanto make their decisions. We

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really think there should be just the way there's the Accu-weathers and the weather channels today, a big business model for businesses to come in, pick up basic government datasets and then work to apply it there.

And then the last point here is this really strong connection between users all the way back to the research community. We need to be driving research agendas but at the same time we need to have investments in research that are addressing the unanticipated things that users can't think about or think that they need. So, those are kind of some of the parts of the partnership that we have to think about.

And, so let me segue a little bit. This was what I pretty much gave you was what our story was to the incoming administration team and I would say it's resonated very well. Kind of what our administrator has been kind of shaping up as her top priorities within all of that, is moving forward fisheries to end overfishing and rebuild stocks. But she is looking at this in a very holistic approach and

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if anybody is from the New England area, do I have any New England people here? If you watch New England ground fish in the way this is played out it's very much the recognition that we have to look at whole communities and how to deal with the economics of that.

And I have there down the bottom here that she really sees integrated ocean planning and management. She would like to see us moving forward with promoting more spatial planning and how we use coastal ecosystems and balance those. If we're going to have less fishing effort there, then whatever the comparable things that we're balancing with that and how do we work with communities to do that. So, we're still kind of shaping up this dialogue within NOAA but I expect that you're going to see more integration of these issues here.

And then I have alluded to already are satellites, that we have to maintain the critical data that we get there but at the same time in particular with our Polar Program which we do with the Department of Defense and NASA is to get the management costs and

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schedule issues under control. In opportunities, the National Climate Service, she has wholly embraced and I think we have good support within the administration to move that forward. And, so, that will be part of the dialogue as we go.

And then I think just to say a few more words about this Integrated Ocean Planning and Management, which, you know, is part of kind of what we've been talking about in NOAA with an ecosystem-based approach to management but I think what we're going to see is more visible nesting of things, you know, what happens in Chesapeake Bay scale versus what happens in the larger marine ecosystem out there where the users are different.

There's a different scale of science that needs to be brought to bear. She'll be looking, you know, the whole intersection of how do we both use and protect marine resources but at the same time create and move forward an economy so that we are doing a little bit better job up front about where we can be doing some of this off-shore energy development,

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whether it's L&G terminals or actually drilling there. And that's part of an overall plan. So, we've certainly seeing states like Massachusetts move out in that arena and I think her vision is that we can move forward there.

And then the point here, that this is particularly important in the Arctic because we, you know, there's a lot of, everybody is looking at the Arctic right now in terms of, you know, some of our energy solutions but I was listening to this morning about how Secretary Salazar from Interior spent the day yesterday in Alaska and, you know, he didn't hear a common message. He heard people from, you know, both ends of the spectrum in terms of drilling there and what should happen.

So, I think NOAA's role in really supporting states through Coastal Zone Management Act and for bringing the right kind of science and tools to the table in terms of what if, you know, what we could do, will be a big part of it.

I'm going to kind of wrap up here in the

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theme that I started with, and kind of thanking you for your service. So your special report that you put out, which was I think so well-timed to come into this administration, has been part of what has been informing this. And I think things like the periodic letters that you have done to NOAA administrators are very helpful information. NOAA, as you know, has a fairly rigorous planning and programming process and those are just the kind of inputs that come in here.

In terms of our investment priorities and kind of where we have used the panel's advice, I think we continue to pursue increases in both in-house and contract hydroservice capacity so I think you know we have about $40 million of the Stimulus that's going to be going into this arena. We have our Spend Plan for the Stimulus up on Capitol Hill now. We're waiting. We're hopeful to get Congressional approval on that next week when Congress is back. We feel that we'll be able to move these things.

We're still sensitive to and have, will be starting dialogues with this administration about the

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PORTS capability, both working towards expanding it and then increasing their funding and dealing with the issue about what's federally funded versus any local funding for that. I think Height Modernization, we see, you know, multiple, the multiple benefits of this, and not only continuing to build support for this within the Department of Commerce but also with our sister agencies that depend upon this. And then working to expand the water level network, we have some modest work going on in 2009 and we're going to go be looking to moving forward. So I think I'm going to stop there and see if there are any questions.

MR. SKINNER: Great. Thank you very much, Mary. I think that we share some of the optimism you talked about. We had a very informative budget briefing yesterday. We, of course, would like to think that our report was helpful in that process but I think as Admiral West and others have mentioned that the real day-to-day work to get the right information in front of the right people to bring about those budget increases were the NOAA staff that we have been working

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with over the last six years. And we very much appreciate all the work that they have done. They've really done a fantastic job. So thank you all very much.

Having said that, there's no rest for the weary or the underfunded so we should, I don't think any of us are content to let things stand where they are so I think this afternoon we'll be talking about how both short-term and longer-term we can continue to help NOAA with some of the both programmatic and funding issues.

Just a couple of comments. In addition to the budget, one of the things that sort of echos, Zdenka's comments about the data demand overload. Boy it's kind of hard to manage but it's much better than having no one want it. And, I think one of the things that we have heard particularly at yesterday's stakeholder panel -- and I know Captain Nielsen is here from the Pilots -- I don't mean to put words in your mouth but I think the general message was that the products that NOAA, the hydrographic products that NOAA

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is delivering are great and excellent and very useful. If there was a common theme it was that there needs to be more of them. They need to be faster. They want more. It's the same issue that I think was mentioned earlier.

So that's actually a very positive message. And I think we had seven great presentations, one that was I think a little unusual for us was from the Domino, the person representing the Domino Sugar facility here in Baltimore, and I think most of us were fairly amazed that the suite of projects -- suite of -- I didn't mean to say that, that was unintended -- the full range of hydrographic products that their facility uses was quite impressive and was a very good ambassador for hydrographic services.

MS. GLACKIN: Great.

MR. SKINNER: With that there are questions or comments and you're welcome to join us back here if you want to make it more of a discussion or however you want to handle this.

MS. GLACKIN: Maybe I'll sit down but I'm

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happy to take questions.

MR. SKINNER: I think this is not a shy crowd so I would imagine that you'll probably have several questions.

MR. WHITING: I was going ask, Larry, what's the stock market doing today?

MS. GLACKIN: If I knew that I wouldn't have this job.

(Laughter)

MR. WELCH: Well, Mary, thank you very much for your presentation and we hope at some point in the future we can actually get the new administrator to come when her schedule settles down a little bit so we would like to work with you and her staff as a possibility of that in the future meeting.

MS. GLACKIN: Yes.

MR. WELCH: Your discussion of the Arctic, one of the things we talked about yesterday were the significant lease sales that have taken place in the Chukchi Sea out there, and the huge amount of money that the federal government, Minerals Management

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Services obtained from those lease sales but eventually assuming those lease sales are developed, there's going to be a need for increased hydrographic services from NOAA up in that area.

And, we've talked informally about whether there ought to be some kind of approach from NOAA to MMS saying that when you're going out into these frontier areas that eventually is going to translate back into demands on us to do hydrographic services, maybe there ought to be some kind of a funding sharing of all these huge amounts coming in from the lease sale to help fund the additional hydrographic services rather than having you have to go up to the Hill and beg for an appropriation or to ship something from a traditional area to another. So, we would encourage you to look at funding sources, sort of traditional -- nontraditional funding sources to help augment the existing programs.

Another thing that I've thought of is that the administration has got to, has made a request, I think, to extend the Superfund tax and there's an

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equivalent oil spill tax and in fact NOAA had some legislation last year to make NOAA response actions fundable out of oil spill trust fund.

Well, hydrographic services and ports prevent oil spills. It seemed like to me to be a very logical proposal to say, look, some of the additional uses of NOAA from that oil spill trust fund could be, you know, help fund the maintenance of ports or some of the hydrographic services. So, rather than just having to rely solely on annual appropriations and, you know, the vagaries of the budget process I would encourage you to look at funding sources like those two.

MS. GLACKIN: Yeah, I think that -- thank you. And we're definitely pursuing that with the oil spill thing. I would say in general, though, we have a hard time getting that one past OMB. You know, they definitely look at those revenues coming in as their offsets on the budget. But I do think that your overall point -- and this is I think what we're trying to do in the Arctic -- is we need to look holistically at this. We can't be doing one thing in one part of

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the government that's going to, you know, push a budget of activity up there and not have the underpinning dat and all for safe infrastructure.

So, I'm really pleased, Ashley and Steve have done a lot of work pulling together kind of an Arctic strategy for us that we're hoping to push, you know, up into the administration that says, got to look at this whole thing and come to terms with it.

MR. WELCH: I have one other comment, in that we appreciate NOAA and the various folks here doing what they did to assert themselves with the Stimulus Bill. It would be great if we could get, particularly for the ports, funding the administration, new administration to actually put that in the budget as a line item as opposed to having a congressional ad-on each year. So we would encourage you to take a look at that.

And I have one last question, which is as far as the Stimulus Bill, there was money for completing the work, I guess, on one of the fisheries research vessels and you mentioned one of the others.

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With these two new fishery vessels coming on do you have, what implications might that have as far as speeding up replacement of hydrographic vessels, since the fisheries vessels are coming in perhaps ahead of what people predicted?

MS. GLACKIN: Yeah, I think that it will, you know, certainly this is what the Stimulus Package did overall for us is it took some things out of our pipeline so we can accelerate and move up. So, you know, we're going to kind of more aggressively pursue and have those debates. You know, I will tell you just kind of honestly, and I think this is true across the board, in the federal government, is that OMB took a pretty hard line on 2010 given what we got in Stimulus, so, but still I think it puts us in great shape for 2011 and we've got a little more runway there to make those choices.

MR. WELCH: Which you're heavily involved in right now as far as getting ready for things, and pass-backs and things, isn't that correct?

MS. GLACKIN: What, in '11?

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MR. WELCH: Yeah.
MS. GLACKIN: That's right, we have. Well, the '11 schedule is kind of delayed because '10 was so delayed so we haven't actually yet gotten to the point of sitting down with our administrator of kind of what we've got to make some decisions. But, yeah, we can, that's what I mean. We got a little bit of runway to '11 to run this up before we submit to OMB. So these are the kind of discussions that we're going to be having.
MR. WELCH: Thank you.
MR. WEST: Mary, thank you for coming. I know you have been pretty busy the last few months running the show so thanks for coming. We talked a lot about IOOS, and a lot of your new missions, et cetera, and a lot of us are jumping up and down with the new bills that were passed, that legitimize a lot of stuff with the oceans. But what's missing in everything I have heard in the last couple days is Department of Defense.
Arctic, we've been operating in the Arctic

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for years and pretty -- there's been lots and lots and lots of info what's going on up there and how to operate. In fact, it's even easier to operate up there now. So, DOD needs to get involved with that and I would like to see that, and plus with IOOS. In fact, DOD is starting to look at the technology now that we're using for ocean observing. It's to the point now where you can actually make a section of the ocean transparent. I mean, it's not one sensor but a series of them. So they're starting to look at this.
So, I think DOD needs to get much more involved with what you're doing on ocean observing, climate change all that other stuff. I'm not quite sure how the process was put in place to do that but I don't know where that is, which leads me to into the organic piece of all this. A lot of us pushed that for many, many years. I'm not sure how that's going to be received in the new administration but I do hope there's some means to define NOAA's role, I mean, in writing or formalize it somehow.
MS. GLACKIN: Right.

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MR. WEST: A lot of us are looking at climate service, what do you mean, what's that going to look like, is there going to be turmoil in NOAA, how you going to stave that off, how the rest of the program's going to go so a lot of the folks that, you know, hopefully Secretary Locke will help you legitimize all that, so.
MS. GLACKIN: Yes, yes. I think it's going to take, you know, we're going to have all be a little patient as we kind of sort these things out because, you know, for example, on the whole ocean governance thing in the federal government, we have, you know, this administration hasn't had a chance to sit down and look at it. They did have, as many people probably know, the GOCE folks come in with some priorities last week so we have teed up some internal discussions on that. I do think, you know, we're very much hearing from Council on Environmental Quality; you know, they're kind of looking for NOAA leadership on this issue here.
And, I think your point about DOD is an

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excellent one and I think we're looking for opportunities for kind of richer engagement there than we've had in some of these areas but I agree with you and we now have, you know, Admiral Titley's coming in, which I think is a great selection there and we've got a good, good background of working with him.
MR. WEST: DOD's assessment is going to kick off this next week, so that all hopefully -- thank you.
MS. GLACKIN: Yeah, yeah.
MR. SKINNER: Other questions? Gary?
DR. JEFFRESS: Thanks also, Mary, for being here. One of my interests, coming from Texas, I'm involved with the surveying profession. We educate surveyors in Texas and we're pretty much involved in the Height Modernization Program. And my experience over the last few years, I have seen a lot more communication between NOAA and FEMA and the Corps of Engineers than I've seen in decades. I've actually been in the United States here for twenty years now.
So, I'm very impressed that that's going on

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but I still think there needs to be more of it. FEMA is like right now trying to update its flood insurance rates maps around the country, using elevation control that was put in back in the 1940's, which is out of date and a lot of it's missing, which is what Height Mod's all about. And they seem to be going off on this tangent of doing this mapping and not giving any concern to the control in the National Spatial Reference System they're trying to tie it to.

And I know, like Ed saying that Minerals Management Services is a source of funding for some of the NOAA services, FEMA is also I think a source of funding if you can convince them to do that. They're wasting a lot of money on mapping that's tied to ineffective control but I encourage NOAA to keep this communication and establish more communication with FEMA and the Corps of Engineers.

MS. GLACKIN: Thank you. That's a great point.

MR. SKINNER: Jon?

MR. DASSLER: Yeah, just along those

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lines -- thanks also for being here but along the same lines that Mary was mentioning is the Columbia River Treaty, which is a treaty between U.S. and Canada, both again it's flood issues and there's a lot of mapping effort that they're looking at for that effort. In memorandum of understanding with Corps of Engineers on mapping efforts where it could be coordinated with what NOAA is doing on the Columbia River and what the Corps of Engineers is doing, I think it would really be a big benefit in helping moving that forward --

MS. GLACKIN: Okay.

MR. DASSLER: -- and getting everybody on the same page because datums and a lot of those issues continue to be a problem there as well.

MS. GLACKIN: Yeah. Thank you. Those are great highlights. It's actually on our to-do list and I have somebody working on putting together NOAA's portfolio for the whole Department of Homeland Security, because we want to take Dr. Lubchenco over to meet with Janet Napolitano and kind of talk about, you know, the whole set of things. So, great, great

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highlights.

MR. SKINNER: Any other questions? Mary, again thank you.

MS. GLACKIN: I'll be around. Thank you.

MR. SKINNER: Great. Thank you. Just one sort of last comment about the support we've gotten. We, I think the panel feels that consistently we've gotten a high level of support from the NOAA staff internally for our meetings that allow us to make we hope informed decisions and recommendations so we do appreciate all the time that's spent by NOAA staff to help us out so thank you.

MS. GLACKIN: Thank you. Great to hear. Thanks.

MR. SKINNER: We have time now for public comments. If there is anyone signed in that would like to make some public comments to the panel, please indicate. Anyone? Helen?

MS. BROHL: Unless there's someone else -- thank you. I see by the schedule, I guess you're still going to have the dedication in the pouring rain but we

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look forward to that. My name is Helen Brohl. I'm the Director of the Committee on the Marine Transportation System and as Tom indicated I was a member of the panel. And so it's a pleasure to be here. It's a pleasure to see everybody. And, allow me to thank Mary Glackin and Jack Dunnigan for their extraordinary support to the CMTS. Jack Dunnigan is our day-to-day, and frankly without his support and the support of NOS I don't think we would be nearly as effective as we have been in the last two years.

But I just wanted to take just a quick moment just give you a quick update on the CMTS, and we'll go on but I'll be here for the rest of the day if you have questions. And, I think at one point you were provided copies of the National Strategy and the Marine Transportation System, a Framework for Action. This came out in July of last year. I brought a dozen copies with me for people who may not have had gotten one in the past and I just wanted to give you a quick update.

This plan even though it was approved under

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the previous cabinet still is very timely. These are issues regarding the marine transportation system that had been talked about for a lot of years. And there's a great deal of emphasis on marine safety. And we did take to heart the recommendations of the Most Wanted list that Admiral Lautenbacher brought to the CMTS last year. And so I hope that you have had a chance to make note of those. And we're currently developing an implementation plan for the strategy so it is not just a document that collects dust. And we are addressing the number of issues as it relates to marine safety that I think you would be comfortable with. But it is in development and we hope that we'll have it for our CMTS coordinating board, which is our subcabinet level board, in June and hopefully then the full committee, the cabinet level committee on the CMTS will approve that implementation plan in July.

One of the other things that we have done recently, the board approved the development of a research and development integrated action team. That was done just on March 19th. The goal of this team is

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to provide the CMTS with the strategic capability to identify, develop and implement innovative research and technologies, to address the pressing challenges identified in the National Strategy.

Now, the goal is to not to replace these -- it's going to co-chaired by the Army Corps of Engineers and NOAA. We sincerely appreciate that leadership. The goal is to in the end develop a marine transportation research plan and implementation strategy that will provide a framework for research investments out to 2030. It will not usurp existing research programs by the agencies. That's not what the CMTS does. But the goal will bring together the R&D experts in marine transportation to develop an overall arching list of priorities, and of course to be very clear about the way in which they would work together to fulfill those.

And we've continued, we're almost finished with a full assessment on the marine transportation system. The Army Corps of Engineers took the lead on this with the Bulpee Center and in fact there were six

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reports to be completed on the assessment and most of which are completed but not approved. They include an overall assessment of infrastructure needs, MTS economic and productivity challenges, environmental challenges, assessment of MTS safety challenges, national security challenges and institutional challenges. And the final report will be a summary.

Now, we hope to have this done by the third quarter of the calendar year if not by the end of the fiscal year. Just like everybody else, everybody's attentions are diverted to Stimulus, to new priorities, and that is no different with the Army Corps of Engineers. However, we had the ability for an interagency way to take a look at this and in some cases TRB subcommittees have looked at them and if the HSRP members have an interest in looking at any of these to review, then I suggest talk about it with your NOAA representatives and we can talk about a way to make that happen in a productive and/or helpful as way because we would appreciate that.

Also, I wanted to give you just a quick

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update on the Navigation Technology Integrated Action Team. Dave MacFarland, Captain Dave MacFarland, who works for CO-OPS, Mike Szabados, in NOS is the lead, the NOAA lead for this Navigation Technology Team and he has been here to provide updates in the past. But just to let you know where that's going, it is going gangbusters and it is in many respects our most successful -- from my perspective, because of my background working with you all -- our most successful interagency effort and we have to thank NOS and Mike Szabados and the NOS offices for their assistance.

But to give you a quick update, the AIS communications with the Mariner, the NOAA Ports data had been combined with the Coast Guard's AIS presentation. And we have a test of the system in Tampa Bay right now and that will continue for the rest of the year. And Mike, please jump in if I'm saying something incorrectly because, as you know, I know this big picture but I'm not the data geek. And we'll do additional testing that is scheduled to be conducted on the Columbia River this year.

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There was also a test of AIS communications with the Army Corps' real-time current meter effort on the inland river system. The goal of this is to bring the inland system up to real-time in a way that is compatible with the coast so it's a seamless system and the Army Corps put that on a high priority and they've set up 18 current meter areas. Because, as you can imagine, having barges run into locks and dams is not a good idea, does not help the infrastructure of the system. And those are areas of high current and very dynamic system. And, while you would presume that this had already been underway in the inlet system, it wasn't as advanced on the coastline. So they're in trials with that as well.

NOOA is finalizing their specs for Army Corp. Digital Precise Channel Limit Data, and for receipt of Army Corps Depth Survey Data, and both of these specifications are due to be completed in May of this year. The Army Corps and NOAA have agreed on the definition of a common water level datum. I think Mike may have mentioned that in the past to you. But Army

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Corps then needs to assess nearly 3,000 projects, and that's nearing completion but the expected conversion of these projects to a new common water level datum could be accomplished by 2015.

And while that sounds like a long way off it is a very expensive prospect for them to completely change the manner in which they're doing things. It's at least $30 million and it's my understanding that maybe a little bit of Stimulus money went towards this to perhaps push that forward.

Army Corps wave data collected at several major ports is available to NOAA for inclusion in the Ports data being disseminated, and NOAA is preparing an MOU that will cover the sharing of this data. And it's expected that a final version of this MOU will be ready by this summer. Okay. I got a nod in the affirmative. And the vertical datum transportation tool being created in NOOA is actively supported by Army Corps, is progressing on schedule with additional areas due to be completed this year.

Now in some respects there are activities

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that, especially the integrated coastal mapping effort, we have a lot of mutual people on the same team which is terrific because the goal of this is to be holistic and advance these efforts to have a seamless system. And I harken back to Bill Gray, who was a member of the Hydrographic Services Review Panel, who wrote the initial assessment of the marine transportation system back in 1996.

And the goal, one of his biggest concerns on behalf of Intertanko was the fact that as a mariner perhaps you have buoys, you have different products and projects and proposals to address navigation services for the marine transportation system but how do they all work together. And I wish he was here because I think that's what we're doing, and, in great measure, and it's really all because of the participation of the members.

But, lastly I also wanted to mention to you that one, of course, thank you very much for the recommendation to the administrator proposing the continuation of the CMTS. It does not exist in

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legislation or executive order. It exists by Presidential directive, which is the weakest form of authority; however, we have good feelings from the Department of Transportation'S Executive Office to continue supporting the CMTS.

Additionally, the board this year at the March meeting supported us moving out on legislation rather than executive order and we're doing our homework to make that happen. We do need to make sure that a few more politicals are in place before we, you know, shove it through. But we sincerely appreciate the fact that the HSRP propose continuation of this CMTS in one form or another.

So we hope to have legislation, draft legislation to the coordinating board in June, again, hopefully for the CMTS approval and we can move forward in June. And again this could not happen without the extraordinary support of NOAA. I can't tell you how it made a big difference in the last couple of years. And thank you, Mary, for being there in the in-between times and we look forward to working with the

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administrator. And I'll be here for the rest of the day to answer any questions because I know you need to get moving.

MR. SKINNER: Just thanks, Helen. Any quick questions for Helen? Thank you for continuing to make the connections between CMTS and this panel. I think it's very important to do that and we appreciate you taking the time to do that.

MS. BROHL: I'll put these, I just have a dozen copies of the strategy. I can put them out in the front for you unless you want to make sure the members get them first.

MR. SKINNER: I note, think I'm seeing a trend here. Yesterday NOAA received a quote, virtual hug, from one its sister federal agencies. You're getting good feelings. This sounds like an entire sea change in Washington so I think it's a positive development.

MS. BROHL: Fingers crossed.

MR. SKINNER: I think right now we're ready to break and maybe if people want to grab a cup of

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coffee before we head over, is that accurate?

MR. BARNUM: Yeah.

MR. SKINNER: Great. We'll be back here around noontime for lunch.

(There was a break in the proceedings for ceremony and luncheon.)

MR. SKINNER: We're going to reconvene the panel. I think there's a pretty good chance we will spend a little bit less time on the latter parts of the agenda this afternoon on planning and probably about an hour or so, hopefully, we'll be out of here by around three o'clock. And, first up is Jack Dunnigan on some mapping initiatives.

MR. DUNNIGAN: Thank you, Mr. Chairman. So, I would like to share with you some thinking that I have been doing, and I have actually been doing it for a long time but it really just over the last couple of months has started to come together. And, we've been having a number of extensive discussions in-house, and, then I'm going to ask you certainly to have some discussion about this but I'm going to ask you also to

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be willing to continue to engage with us as we move through this process.

I think in a way this is a big deal and it's something that we need some help from people in the real world, and probably we'll need some support from people in the real world over the long-term if we're going to carry it out.

Then there are others in the room who are with us here who have been a part of the discussions we've been having and so I certainly will ask them to participate, Captain Barnum and Andy Armstrong, certainly Roger Parsons -- is Roger back -- has been a part of this.

But I guess one of my jobs in the system is to think about the future, and, you know, have some visions and some plans for how well we're going to be able to execute these critical missions in coming decades, not just years but decades. It's especially important when you think that a significant portion of our capability is defined by hard assets that have a very long life span, forty, fifty years for our large

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hydrographic ships. And, as a member of NOAA leadership, I see a lot of things that are big issues in NOAA.

What NOAA does not do well, to nobody's, you know, there's no person who is the reason for this but I have never seen NOAA do a very good job at being able to plan and execute long-term large capital investments. Mary talked a little bit this morning about some of these that are problems for us right now, our large satellite investments and our fleet investments are problems as well.

So, you know, things that cost a lot of money in a 4 billion dollar agency, you know, where the whole program, you know, one program might cost a billion dollars over five or eight years, that's really hard for us to be able to maintain. We've got to build a large new combined center of activity for all NOAA folks in Honolulu. It's going to cost $250 million. NOAA doesn't have a way of coming up with $250 million. We need to rebuild our laboratories in that La Jolla. It's going to cost somewhere between 80 and $90 million

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and those are falling off the cliff. We don't have a way in NOAA of coming up with 80 or $90 million at a shot to do something like that. These are the kinds of difficult things that an agency the size of NOAA has a problem with.

So, as I have been looking at those things, I have also been thinking about our legacy missions in maritime transportation, in particular nautical charting, and recognizing that for, you know, most of the last 200 years when we've needed assets to take us to see, you know, we built and bought them, and the profile of being able to do that has changed significantly just over the span of my career at NOAA. You know, when I was a young NOAA lawyer, we had twelve or thirteen hydrographic survey ships and today we have three, maybe four by the end of May.

But, you know, the numbers, now, of course they are a lot more efficient than they were back in the days when we were using lead-lines but there's still been a long-term decline in the investment in those assets. And, not only that, but the assets that

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are there are not young. You know, The Fairweather and the Rainier are, you know, beyond 40 years, heading quickly to 50. The Jefferson is newer but we just decommissioned The Rudy. The Hassler will be a great new ship but, you know, there's obviously something that's going to be still experimental about that new ship design and how well it's going to be able to perform. So, we have a lot of lessons to learn there. That's not a clear answer.

So, part of my job is to think about how are we going to be doing these missions in 2050 because whatever assets we own we're going to own for that long and we need to be able to think in those kind of timeframes. So, I have been sitting in some of these, you know, large NOAA investment meetings asking myself how are we going to, you know, go to sea in 2040 and 2050 because we have to be planning that day.

You can look at the NOAA vessel recapitalization plan that the Office of Marine and Aviation Operations completed last year. And, if you look out in that plan, what you'll see is that there's

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a major repair period that's scheduled for The Rainier, which is our most productive vessel, but she'll lose, what, 18 to 24 months probably while that's happening. And then, you know, somewhere in the 2015 to '18 timeframe there's a plan to build and bring online another vessel but it's not called a hydrographic survey vessel, it's called an NSV1, NOAA survey vessel.

And, we don't know what a NOAA survey vessel is. We have to figure that out in the intervening period of time. It's hopefully to be some kind of a multi-mission basic platform that could be configured to be used for hydrographic work, habitat work, maybe fisheries work to try to build in some efficiencies. And there's a huge assumption that that makes sense, by the way, that all of these missions can be served by a common platform.

So we have a lot of thinking to do there but nominally at least that first NOAA survey vessel would be a Rainier replacement. There's nothing in the hydrographic, in the vessel recap plan that talks about replacing The Rainier. There's nothing in there that

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talks about replacing The Thomas Jefferson. We're not thinking, you know, that far ahead.

So, you know, for a mission and a business model that relies so much on large capital assets, my developing concern was that we weren't thinking far enough ahead and planning to really be able to carry out our future.

And then there was a whole other set of thoughts that came to me. Oh, and by the way, recognize that our business model has developed over the last ten to fifteen years to rely a lot more on the private sector to help do those missions for us. And I think that's a good thing and I think, you know, whatever is going to happen, you know, we're going to need to go there. We're don't need to have twelve or thirteen large hydrographic survey ships probably. We do need to be able to go to sea but maybe in a different way.

So, then the whole, the other second line of thinking that I went down was to think about changing technology, recognizing that until 60 years

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ago we were collecting bathymetric data the same way the Phoenicians did and we have had what, three major Tsunamis of technology change that have hit us over that 60 years and if you believe Moore's Law, those technology refreshes are going to be overwhelming us, you know, what, twice as fast as they move along.

So the one thing I know is, is that in 2050 we're not going to be doing hydrographic work the same way we do it today. I have no idea what we're going to be doing but I do know it's not going to be the same way that we're doing it today so we shouldn't be building large ships today based on today's technology. We have to somehow be able to think farther ahead.

And, it occurred to me that we would be better off thinking about our future if instead of thinking about, well, how are we going to build the next hydrographic survey ship, we thought about this really in terms of what this is, which is a data acquisition program. And, we thought about developing a system of systems that was focused on acquiring data and information, oh, and by the way managing that data

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and information and moving it through a pipeline to products and services that people can actually use, try to be more end-to-end rather than say, my gosh, how are we going to replace The Rainier or The Fairweather or The TJ.

And so with sort of that amount of background I started talking to some people inside the organization. I talked to Steve Barnum, talked to Roger Parsons and when I first started doing this I started talking about we got to get all this bathymetric data, it's bathymetry, it's bathymetry, and finally Roger just kept beating me over the head saying it's not about bathymetry, it's about data acquisition, about what's going on in the oceans, and it isn't just about nautical charting. It's about all of the multi-mission things that NOAA is focused on doing today. So habitat characterization is going along with nautical charting as sort of a fundamental part of facing our mapping future.

And as matter of fact -- just a little bit of an aside -- this California program has been a great

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thing, where the State of California, which had some really habitat-related reasons to want to do Benthic (phonetic) characterization along the whole California coast, has brought in some resources of their own. They're using our, some of our hydrographic expertise and contracting with one of our contractors, with Fugro, and everybody is just really pleased that this has been coming along. It's been a win-win both from the nautical charting as well as the Benthic characterization site.

So it's really sort of validating the concept of having IOCM. And I think that's really good but to me that just sort of reemphasizes the need for us to sort of step back and really try to think futuristically and systematically about what we need to do, not, not to say, oh, my gosh, how are we going to replace The Fairweather, will the NSV work as a replacement for the Rainier; those are the wrong questions, I think, at least, that was where I started and frankly all the more discussions that I have been having with folks have tended to validate that view,

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that that's the kind of discussion that we have to have. And frankly that's the kind of discussion that you folks have some very particular expertise that I think would be helpful to us as we think through and plan where this is going to go.

I have put together within the Ocean Service what we're calling a Tiger team. And it's not just within the Ocean Service. We have some folks from other parts of NOAA that are a part of this, and I'm going to be meeting with them tomorrow morning, in sort of a kickoff. And we're trying to put together the beginnings of white papers and thought pieces that can generate, stimulate thought and questions and analysis and ultimately lead us to a point where we can try to get a commitment.

What I want out of NOAA -- Mary's gone -- what I want out of NOAA is a commitment to build a system of systems to collect this data over a long period of time. I want to start thinking about acquiring Benthic and ocean data the same way we acquire data about the atmospheres for doing weather

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forecasting and prediction. You know, we always ask ourselves, you know -- to be crude -- why does satellites eat our lunch in the NOAA budget process? And part of the problem is it's because they are, they're bigger, they're end-to-end, they're not one-off pieces, they're systematic, they're tied to stuff that make large investments make sense from a programmatic standpoint. And that's how we have to start thinking about our hydrographic missions and our need to carry those out. So, that team is going to start working tomorrow.

Next Friday, a week from tomorrow, I'm going to have a similar kind of a discussion with stakeholders and these are, this is going to be a little, about every three times a year, I will sit down in Washington. And we usually do it at Ocean Leadership, and call in 25 or 30 people that are our constituents. It's not the same people all the time but we'll specifically invite folks depending upon what it is I want to talk about.

So sometimes it will be a very diverse

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group, if I'm talking about budget for next year right after the budget rollout. When we were thinking where we wanted to go with Coastal Zone Management, it was focused on coastal managers and environmental groups. Now, this is going to be a group that's very much attuned towards navigation and hydrography and also systems. I want to see if there's some way for us to get, you know, the large companies that would really care about helping us build this system of systems, companies like Lockheed or Northrop or SAIC or the others that we see a lot in the satellite world. Because, in the long run if we can develop a piece of business that's of interest to them, they're going to help build the constituency to make this work on Capitol Hill. You know, we're not really always in a position to be able to do that.

So, I want to see if it makes sense from a business operations standpoint to work towards a kind of a program that would have strong enough industry participation at the building level so that, you know, there would be more than just us coming in through the

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NOAA budget process and asking for the funding. So I'm going to have that a week from today -- or, excuse me, a week from tomorrow.

And the next level that I have to do -- and I have had some one-off discussions with folks from other federal agencies but at the same time that Roger was beating into me the thought that this is not just about nautical charts, I also realized it's not just about NOAA. A lot of agencies have concerns about this, clearly. The Navy has got an interest. NGA has got an interest. USGS has got an interest. EPA's got an interest, and probably MMS does.

I mean, there's a huge community of federal agencies that needs to be brought in to be a part of this so that we can get some leveraging done. And that will be at another stage down the road. I'm not exactly sure, you know, when that will happen but I do recognize that that's something that has to happen as well.

So, I think that this is the next big idea. I think it's critical for all of us to be aware of the

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need to sort of think out of the box and start building our future before it takes control of us and look at what we really see the requirements to be and how we can organize something to get it to move forward.

And I don't really have much more to say than that. I spared you a PowerPoint. I just wanted to sort of tell you what was on my mind and what I have been thinking about and invite you to engage with us and become a part of this process as we think it through. I'd like to have some discussion of it here today and, you know, any, certainly any advice that you would have for me as to how we should take these initial steps through the process. But these are initial steps. You know, my thoughts are not very well formed yet. I see a problem out there. I see a need to try to grab the issue and make it work for us. I think it's going to be tied to new technologies.

You know, for example, we may, instead of having six launches floating on The Rainier we may have a mother ship that would grab, you know, 200 AUVs that would, you know, go out for ten or twenty days and come

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back and report and get a new battery pack and head out and do some more. I mean, that may be the future of what we have to do. It's a very different business model so we shouldn't be building a ship today that's designed to take, you know, four, six or eight launches out and do business the way we do it now.

So, that's sort of, you know, the background I wanted to kick this off with and stimulate some discussion. Now, Andy and Steve and Roger, others who have been involved, I don't know if you want to add anything at this point but what I would like to have today is just sort of some discussion about your reactions to this and see what advice you have about how we ought to go about it that I hope, you know, generates some willingness for a continuing engagement. Thank you.

MR. SKINNER: Thanks very much, Jack. Any of you want to add at this point or just jump in when you want?

MR. ARMSTRONG: I think Jack has laid out pretty well, you know, what kind of thoughts he has and

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I think that, you know, I just hope that the panel here is willing to kind of put their comments in. We have our chance in the office with Jack and, so, encourage the panel members to join in this discussion.

MR. SKINNER: Roger, do you want to add something?

MR. PARSONS: I hope Jack told you what he told me. I missed the first part of it. But, no, I think the opportunity is ripe to sort of take a look at what the future holds for ocean and coastal mapping, as Jack said, take a look at where we want to be in twenty to thirty years and build a business case on how to get there. We're certainly doing a pretty efficient job right now. We can always do better. There are a lot in the federal agencies that heard Jack's initial challenge, Army Corps, USGS to name a few, and want to be part of this. I think those agencies are challenged in terms of capacities and capabilities as well and the technology holds the key to this.

So, it will be interesting to see how the development of this vision and the business case

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unfolds. I think there's a lot of support. There's a lot of challenges that need to be addressed and I think certainly this is a good approach to take and the HSRP will be a valuable source for advice and recommendations as we move forward in this.

MR. SKINNER: Great. Just one sort of clarifying question to sort of kick things off. Jack, what I heard was that under this type of scenario it may be possible to envision NOAA as organized on something like a data acquisition section, a product development section, and a policy development section. Just as a hypothetical; I don't want to sort of put boxes in it. But what you're talking about is sort of a resulting, potentially resulting in a restructuring of NOAA as a way to think differently about accomplishing your mission.

MR. DUNNIGAN: Yeah, I haven't thought about that so I wouldn't say that that's a part of what's in my mind. What I think is, is that we need to think about the problem in pieces and view this as essentially a data acquisition activity. You know, I

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got asked a question once when I was a Goal Team Lead. We were dedicating a ship which I think became the Yocahantas Explorer, and I was expected to set aside $5 million for some operational bridging funds and I didn't do it.

And so when I was making my presentation to NOAA -- is Steve Austin still here? Yeah, Steve's predecessor, Bonnie Morehouse asked me, "All I want to know is, is the ship going to sail or not?" And I wasn't cheeky enough. You know, what I should have said was, "I don't care." You know, because to me it's not a question of the ship and too often I think that's how we think in NOAA. We think in terms of the question of, you know, the asset rather than the mission that is trying to be carried out.

So, so, I started by thinking about, oh, my gosh, given all of these large capital acquisition problems that NOAA has, how are we ever in the next twenty years going to be able to replace The Fairweather? And finally the more I thought about it I said that's the wrong question. The question is, how

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are we going to acquire data that we can then use for lots of different purposes? And that's been sort of the whole orientation of what Roger's been working on with IOCM.

So I don't see, there may be some organizational, NOAA organizational issues that end up being tied to this but I don't see them driving it. I think this is still basically a question of how are we going to plan systematically over a long period of time to have a program that incorporates new technology and acquires data we need in the most efficient way possible.

MR. SKINNER: Thanks. I actually wasn't thinking that what should be driving it is reorganizing NOAA. I was just sort of taking it to the next, thinking it through that if your goal is to do a, think differently about how you do your mission, that that sometimes could lead to, well, does this make sense to keep things straight. That's several steps ahead but I just wanted to see if that was on the page. Admiral?

MR. WEST: Yeah, Jack, you're obviously

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right on. You got on two challenges, though. One is change is so extremely hard in the federal government. It's just hard. And number two is you've got so many different agencies involved with the ocean stuff. When I was working on navigation stuff with the Navy, there was five different agencies making charts and maps and they didn't talk to each other and their standards were all different, et cetera, et cetera.

So, that's another challenge, plus the federal government is not very good at doing large program management anyways unless you're going to have a professional force to do that for you, so, you know, NOAA was never set up to do that. That's why I have always said that your satellite ought to be set aside and made a specific program and not suffer as cutting the rest of the major -- minor programs.

One thing you might want to look at, some people might be familiar with the UNALS fleet, which is university-based federally funded ships to do ocean research. At one point there was 40 some of them and they're getting old. And how to replace them, it was,

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you know, the academic community wanted one-for-one; I had one of those and I want another one, without taking into consideration the technologies that, you know, AUVs, you know, bottom, all sort of capabilities.

So in the Navy because they spent a lot of money building these ships we looked at it for three years and you came up with it's a single hull, it's a multipurpose, et cetera, it may have a moon-pull because -- et cetera. So that's all been done. It's done by the federal government and it's there. You don't need as many but you need different technologies. NOAA can use this ship. If you build it quiet you can use it for other missions, et cetera, that's all there in the histories. So it's there; you just going to go kind of pull it together with the right folks.

MR. DASSLER: I think it's really refreshing to see that kind of forward thinking and moving it forward, because I think that's really the key thing, that the launches probably are going to be replaced. We've looked at that for a while where we would be sending boats out and rather than just having

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one boat collecting data you're going to have autonomous vessels or semiautonomous running alongside and parallel, similar to the Dolphins Systems. And we experimented with that a little bit in the Gulf of Mexico, or Mobile Bay for the hurricane debris mapping with a small surface craft that was just collecting data. But I think moving forward, you're right, it's going to be those large ships supporting those operations but it's not going be launches, it's going to be other things.

The other thing we have heard from the Oregon Coast on their concerns in mapping is the accuracy standards. Right now they look at IHO standards and say this isn't accurate enough for habitat mapping but a lot of times that data is collected to a much higher accuracy than just an IHO standard but they see that as flag.

So, getting more people on board on these programs on the data acquisition, also Roger's efforts in integrated ocean and coastal mapping and again n just collecting bathymetry data. We were talking about

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towing, moving vessel profilers that have dissolved oxygen sensors so they can look at, you know, dead ocean for measuring dissolved oxygen and other things that could be acquired at the same time to be more a comprehensive package. And it's refreshing, I guess, to see that's where NOAA is headed.

MR. SKINNER: Elaine and then Gary.

MS. DICKINSON: Elaine Dickinson. I think your you've hit the nail on the ahead. I sort of had the same thought for a long time. To me building big ships and paper charts is sort of like, you know, with bricks-and-mortar stores are to E-commerce. I mean, everything is moving electronically now. I see that in the print industry. You know, paper printing is just falling by the wayside.

But, in addition to the data acquisition mission, if you could also think the next step, and that's data distribution, because that's the other, you know, that's the next step after you acquire everything, you have to get it out to everybody. And, you know, if I had to guess I would say in the future

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it's all going to be electronical (phonetic) . It's going to be something downloadable. It's, you know, it's going to be something that is very efficient to deliver to massive numbers of people.

And I think the old ways of distributing all of your information like with printing paper charts and getting them to the store and all that kind of stuff, that's all going to change. I mean, it's kind of changed now. Most boaters get an electronic chip and they put it in their chart blotter. So, we're kind of, I think that's where everything is going but if you can think about the distribution equation as well beyond just how are you going to get the stuff.

MR. DUNNIGAN: Be very end-to-end, yeah.

DR. JEFFRESS: Jack, Australia faces the exact same problem. Australia has got a big coastline and we only have 20 million people and it's about the same population as Texas. So we don't have the resources to do intensive hydrographic surveys. So they actually going back fifteen years or so invented an airborne technology to do bathymetric charting,

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which was a single-dual laser system, a green and red laser flying across the water, one penetrates to the bottom and the other one gets a reflection off the surface of the water. And it's of course all integrated with GPS, et cetera, now, and shore-based tide gauges. And, but I think there's a lot of the United States that could be covered by that technology. It needs clear water; that's the problem. So you can't do brown water with it. But it's a technology that kind of answers the question you just asked about what are we going to do in the future.

MR. DUNNIGAN: But it's single beam?

DR. JEFFRESS: No. It's a scanning system.

MR. DUNNIGAN: Oh.

VOICE: LIDAR.

MR. DASSLER: LADS.

DR. JEFFRESS: LADS.

MR. DUNNIGAN: LADS, okay. Yeah, Yeah, what I want to think about is, why does it need clear water?

DR. JEFFRESS: Because the laser can only

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penetrate clear water --

MR. DUNNIGAN: Well, but maybe there's another technology. You know, that technology is not what we're going to be using in ten years.

DR. JEFFRESS: Well, exactly but --

MR. DUNNIGAN: So, you know, our opportunities I think are going to change. And I just think we need to, you know, be thinking about platforms for doing that work that are adaptable. And, you know, at first I thought geez, we'll end up doing all of this with AUVs.

DR. JEFFRESS: Right.

MR. DUNNIGAN: And, but you're sort of raising the point that, you know, if we can get the right match on LIDAR or some airborne technology it might be a lot more efficient not to use AUVs at all but to use UASs.

DR. JEFFRESS: Right.

MR. DUNNIGAN: So --

MR. DASSLER: But you could deploy all of those even off of a ship.

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MR. DUNNIGAN: Sure.
MR. DASSLER: Once they get small enough.
MR. DUNNIGAN: True.
MR. DASSLER: So basically that ship then is providing that processing transport to get those products out, I mean, so right off the ship they can pretty much be ready to go out to the users. So you have all of those resources to get that data out that are just monitoring the acquisition of the data and deploying those systems but then having that platform, taking that all the way through as far as possible.
MR. SKINNER: Other --
MR. WELCH: Jack, it seems like to me what we're looking at is, if I can look at, switch to NASA as a comparable, they committed to a huge expensive technology with long-life Space Shuttle, and for thirty years they've been trying to figure out, they've been trying to do their missions to fit the technology as opposed to, and, so what that says is if you spent all your money on a long-lasting technology, and your predictions are wrong, you have eventually problems

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accomplishing what you want to do and problems maintaining the public support for running those, running that technology.
But I don't think you ought to fool yourself in the fact that, I mean, we can just necessarily expect that if you have more diverse technologies or technologies with shorter life, to take care of the rapid transition of development of technology, that it is necessarily going to be any cheaper in the long run. You may end up spending a lot of money, over, spread out over a number of years for a wider variety of evolving technology, that, you know, one big slug of money for a big ship.
So, what I would be concerned about is if people feel like going down this road is necessarily going to result in fewer budget demands because there will be people to seize on this and say, ah-hah, this is the way to go because we won't have to contend with budget demands from these folks to the same extent.
MR. DUNNIGAN: Yeah, I think you make a good point. But I guess my observation of the NOAA

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system is that it's easier for us to spend $3 million a year for twenty years than it is for us to find $60 million.
MR. WELCH: Sure. Oh, of course it is.
MR. SKINNER: Other comments?
MR. WELCH: It also gives you the opportunity to make a mistake once in a while without it being overly costly. You know, you can more quickly identify that you went the wrong way and reversed course and write off the mistake in investment and move in a different direction, which is actually a good thing.
ADMIRAL WEST: And Jack, I would like to also encourage -- thanks on getting the industry involved. I encourage you to keep doing that. The oceans have never been supported by the large industries because there's no money. Look at NASA. I don't know, they're 18 billion at this point or whatever. There doesn't a week go by that you can't see a full-page ad in the New York Times or Washington Post or something on the Space Shuttle or the F-22, or

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you name it. I can't remember the last time I saw something associated with the oceans.
And so we've got to get industry involved with this but they've got to see a profit. They're a for-profit organization. So we've got to show something. That's why there's a subtle importance to this bill we had passed on IOOS. I have had industry tell me more than once, you give us a bill that we can work with on the Hill and we'll help you. Because, we never had that before because investment in our oceans was mostly earmarks and no funding line that they could see where they could grab ahold of.
Now they've got an Integrated Ocean Observing System and I think you're going to see that that's going to help industry because they want to get involved. There's a lot of money in the oceans. There's a lot to do there but they needed something to work with and, so, I encourage you to keep grooming the industry. I'm glad yesterday went well.
MR. DUNNIGAN: Yeah.
MR. SKINNER: Other comments? I would just

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like to add to what was said earlier. We had a presentation yesterday on strategic planning at NOAA by Paul --

MS. DENTLER: Doremus.

MR. SKINNER: -- and there were some really interesting aspects to what he was talking about in terms of looking forward and, you know, he was sort of joking about, well, we don't actually expect any of this to come true; we're not predicting things. But, it seems to me that NOAA is asking the right questions and I think it's very encouraging to see at all different levels at NOAA people saying "what if" in terms of future development. So, I think we'd very much like to be plugged in and I think that this is a really positive step.

MR. ARMSTRONG: Jack, I'm sensing a little bit of a dichotomy here in the way some of the discussion has gone in that we tend to be talking about attracting industry with big tickets and big amount of money and on the other hand talking about avoiding large, large expenses and recycling with lower costs.

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And I'm wondering if you could sort of comment on how you see that apparent dichotomy.

MR. DUNNIGAN: My impression as to what it is that, that really gets the interest from some of the large companies that work on our satellite programs, for example, or with NASA is consistency of an investment in a systematic program over time. It doesn't have to be a billion dollars all the time, although, let's face it, this is not going to be an inexpensive mission to execute. I mean, you know, America has the choice of walking away from the mission but I just can't fathom that we would do that.

So, yeah, it's an expensive mission to execute today. I mean, it's probably what, what's your budget, 40, $50 million? I mean, we have, we do a lot of expenditure today. So, what I think -- excuse me -- what I think the industry really would like to see is to have us not focus on building the next Fairweather but actually talk about, you know, a systematic approach to collection and management distribution of data and information. Because then they can see that

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there's a long-term in it for them rather than just a one-off and we need to quit thinking one-off, which is just the typical way of NOAA doing business.

MR. DASSLER: Seems like the other key to this, too, is the integrated mapping effort.

MR. DUNNIGAN: Oh, yeah.

MR. DASSLER: I mean, as a taxpayer you look back and you see all of the boats that are being purchased for the Corps of Engineers and then boats that are being built for fisheries and all the, you know, unique applications but again if you could just pool that resources and just that effort to a more integrated data acquisition that's going to meet USGS needs, Corps of Engineers, Fisheries, I mean, I think that's a huge first step that could bring in a lot more funding that's right now being so disbursed there's just not enough room to cover it all.

MR. DUNNIGAN: Well, Roger is the Chairman of the Integrated Ocean Mapping Subcommittee of the JSOST, the interagency working group. And so he and I have been talking about other agencies and what their

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interest is. I have had some discussions myself with USGS and with the Corps of Engineers. But, as I said earlier, I think that the federal community for wanting to deal with it is a lot bigger and that's probably, you know, after, you know, our, my discussions this week and next week, the next place I'm going to go is try to, you know, get that federal family together and have just basically this same introductory level discussion and start building the community of consensus about where it is we want to go. So I agree with you, I think it's a good point. Roger, you want to comment at all on the other agencies' sort of aspect on this?

MR. PARSONS; Yeah.

MR. DUNNIGAN: Because I know you're real sensitive to it.

MR. PARSONS: Yeah, certainly and it's no secret here that NOAA is and will continue to be the primary ocean and coastal mapping agency but others including Navy and Corps of Engineers and Army Corps and USGS, Park Service, everybody's got a piece of it.

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But I think they like NOAA are challenged in terms of what their capabilities are and what their capacities are. And individually there are no federal agencies meeting their ocean and coastal mapping goals. It's just not happening.

So, certainly the better part of doing business well is to leverage and cooperate. And again that, that works to a certain extent, and as Jack has indicated, the route we're taking now with existing technologies and with existing systems is only stabbing at the entire piece bit by bit. So, we do have to think bigger. We do have to think globally. We do have to bring the rest of the, not only the federal but the state and regional mapping interests together as well. This can't be done piecemeal. We've found that out.

MR. DASSLER: And what seems like a good opportunity moving forward is the Arctic, right? So rather than have a lot of different agencies building a vessel that's going to work well in the Arctic, as you build a vessel that's going to work well in the Arctic

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and support all of those missions, and it seems like that might be an early opportunity to move forward because there's definitely going to be a need there.

MR. DUNNIGAN: Yeah, and the only coda that I would put on that is not to think of building the vessel that will work in the Arctic but thinking about, you know, systematic unified acquisition of data and, you know, keep the focus there rather than on the asset. I mean, the asset will be there to do the job. It's like it's a very expensive pencil.

ADMIRAL WEST: There was another one of the bills that was passed, that group of five was, I think here again, subtly important to what we're doing here today and that's ocean exploration. There's not been a lot of interest in the ocean because it's pretty boring. What the hell have we done to get people excited about the ocean? Ocean exploration is exciting, going out and discovering things, get it to the kids and stuff. But if you're going to go explore, you better have a map. And the map is bathymetry and surveys and stuff we just don't have. So, I think

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that's shot in the arm for the OE and the NERRS programs being codified in law, too. So there's a lo that's changing in these last few bills.

Back to the Arctic research vessel, there is one being built by the NSF. The original estimate for the Iceharden (phonetic) ARRB was 60 to 70 million. You don't even want to know what it is now. I mean, that's the challenge we have with ocean stuff. If you want to build one and you can't even build -- they wanted two. They can't even build one for double what the first one cost now because there's no long-term vision on how to handle these long-term investments, so.

MR. DUNNIGAN: I think they actually did get the money for that in the ARA --

ADMIRAL WEST: They got the money but it's twice what the original --

MR. DUNNIGAN: About 120, I think, yeah.

ADMIRAL WEST: So that money's got to come from someplace. It's going to come from the regional UNALS (phonetic) vessels. Something's going to give

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when something like that happens. There's got to be some, well --

MR. DUNNIGAN: You're right.

MR. SKINNER: Other comments and questions? This has been helpful.

MR. DUNNIGAN: It's been very helpful. I detect that folks are interested and want to stay engaged so that's the other objective I had for the conversation today. And, you know, what always helps me and would help any of us in any of these is to have you point out where we're wrong, you know, to push back on things that might not make a lot of sense. So I don't come into these discussions hoping that everybody's going to say great idea, go for it.

It's always good to know, you know, where there might be some holes in our thinking that we have to patch up. So, please, you know, feel free and I encourage you that as we continue through this to, you know, be critical where you think it makes, where it's important because we want to make sure we do it righ But thank you. It's very helpful and we'll, I

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guarantee you we will talk about it again next time we get together because I'll update you on what all these discussions meant and where it seems to be going and I'll get some more advice from you.

MR. SKINNER: Thanks very much. I think there was a potential comment --

MR. KEARSEY: Yeah. Brad Kearsey. I'm from leg-affairs --

MR. SKINNER: Can you grab a microphone, either from the -- I think those are live.

MR. KEARSEY: Are they still on? Is it on?

MR. SKINNER: Yes.

PARTICIPANTS: Yes.

MR. KEARSEY: I know I can talk to you about this anytime, Jack. And one of the other things, you know, kind of covering the portfolio of OMAO and NOS or Marine Transportation is let's don't forget about that most important asset being people, about how they fit into this whole system. You know, that's the biggest cost as we have in the organization, is those people things and we always forget about it including

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the training. We're having a tough time of folks going to sea. I mean, this new generation just don't want to go out there and go spend time out there. So, when you have this Tiger Team, you know, please look at that aspect of it, too, about how we can, you know, tackle that big challenge that we have today, throughout the whole organization, so.

MR. DUNNIGAN: Yeah, and I should have said this, Brad, but that's an excellent point. And we do have OMAO as a part of the Tiger Team, and Admiral Bailey will be with me next week at the stakeholder meeting. So, we're really trying to open this up and make it a real one-NOAA thing.

MR. KEARSEY: Yeah, he passed that on.

MR. DUNNIGAN: Yeah.

MR. KEARSEY: I just wanted to bring up the people thing.

MR. DUNNIGAN: Yeah. That's great. Thank you.

MR. DASSLER: I guess just also just touching on staffing because I know that's been an

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issue for a while, but I would not rule out the possibility of contract staffing to helping on some of those operations as well. I mean, that was, there was some discussion about that years ago.

MR. DUNNIGAN: Oh, sure.

MR. DASSLER: So, contractors working aboard NOAA survey ships as well just to help on that staffing problem, maybe resolve some of your training issues and that kind of thing, just to toss that out as well.

MR. SKINNER: Any final comments?

MR. DUNNIGAN: Everything needs to be on the table.

MR. SKINNER: That's a good way to end it, for now.

MR. DUNNIGAN: Thank you very much.

MR. SKINNER: Thank you, Jack. We're going to move into the final portion of the meeting, which is sort of forward-looking both for the recommendations from this meeting and where we go from here. I think yesterday we pretty much decided that for the

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recommendations from this meeting I would draft up a letter, and, thank you very much, I think it was Ashley who put together the notes from yesterday -- I found those very useful, I hope others did -- and circulate the letter so that the panel members can add and edit and then schedule a conference call that would be noticed in the Register to approve the positions or the recommendations, hopefully in about I think -- what's the lead time for meeting maybe four or five weeks from now for the Register? If we did a conference call, because we have to approve our recommendations.

MS. CHAPPELL: Two weeks.

MR. SKINNER: Two weeks? Okay. Well, I don't think we can get it done that quickly. So, maybe about four weeks from now, focusing on having the letter done and sending it off as an initial timeframe. Is every one comfortable with that? Is that -- nod vigorously. Great. Okay.

The second portion of it was just to spend a little bit of time on the strategic draft, strategic plan that came out of our Tampa meeting. It was in

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your packet. It does have some fairly small typed print in it but hopefully you had a chance to take a look at it. I know Captain McGovern had a couple of corrections in the handout. Primarily I think the biggest ones were on Pages 11 and 12, the notes from the groups. Does everyone have this in front of them? Am I going too fast?

It's Page 11, group one, brainstorming, number two should be decrease annual survey backlog rather than increase annual survey backlog. It seems rather cruel to include that in our strategic plan when we've spent so much time elsewhere. I think that that is repeated a couple of times, so, further down under top items, number two, it appears again, decrease -- increase annual survey back -- this one says lob (sic), I think it's log, and that should be decrease annual survey backlog.

And, going over to Page 12, it appears again under strategies, number two, the first bullet, and the first bullet under action deliverable -- again this is Captain McGovern's notes -- increase survey

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production to 3,000 to 10,000, it probably should be a square -- I assume that's what it is but I think, whatever it is, it just needs to be added in there.

MR. ARMSTRONG: Should it say 3,000? Shouldn't that be from 3,000? I was just wondering if the wording on the increase survey production would be from 3,000 to 10,000, was that what --

MR. SKINNER: I think that's the intent. I think that these were just typed up as results of what was on the sheet. So, if it clarifies, goes to say from 3,000 to 10,000, I'm fine with that. Any, any other changes or recommendations to what we have here from the Tampa meeting? Jon?

MR. DASSLER: I just have, I think I have a problem with one of the reflection items on page three. And I'll make my comment and then maybe let Juliana speak to that. But under the fourth one down, on the second column, GRAV-D allows GPS to get accurate elevations, I mean, I think that kind of sends the wrong message because actually GPS provides very accurate height information and it's actually GPS

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that's been able to point out a lot of the problems we have of the National Spatial Reference System. So really what GRAV-D is doing is it's allowing us to develop a more accurate National Spatial Reference System which then GPS fits into. And it seems to be a little misleading, I guess, just the way that's worded there, but --

MR. SKINNER: Can you say that again, how it should read just so we can capture it?

MR. DASSLER: GRAV-D will allow for a more accurately defined National Spatial Reference System from which we can get GPS, accurate GPS elevations.

MS. BLACKWELL: I'm not sure that -- I think it could be refined a little bit more. I don't have the exact words but I think the intent of the way it's stated here is allowing GPS to get the accurate orthometric elevations, basically the elevations that would be more comparable to relative sea level. And, so, GPS gives you elevations now but it's elevations to a lot of us not as helpful for the types of elevations you need for tying it to water level. So I think

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there's a better -- there's something in between. I'm not sure what that exact wording would be but --

MR. SKINNER: Can we -- I don't see this as a huge --

MR. DASSLER: No, I think my point, just the way it's worded now it leads people to believe, I think there's a common misconception that GPS does not provide accurate, relative elevation information. In reality it does and that's how we found there's problems in the National Spatial Reference System. And it's really defining that and I guess it's again just maybe trying to word that a little differently so it doesn't propagate that misconception, I guess.

MR. SKINNER: I definitely agree with you. If you think there's some language in between, maybe we can spend some time offline.

MR. DASSLER: Sure.

MS. BLACKWELL: Okay. The only other thing I would throw out is maybe GRAV-D with GPS and the combination of the two things will provide the most accurate elevation. So, that would be, my initial

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change to that would be GRAV-D in conjunction with GPS will get accurate elevations or the most accurate elevations.
MR. SKINNER: Is that --
MR. DASSLER: Sure.
MR. SKINNER: -- okay? Is that -- Bob, were you able to get all the acronyms?
STENOGRAPHER: I didn't hear any acronyms.
(Laughter)
STENOGRAPHER: Yes, sir, I got it.
MR. SKINNER: Great. Thanks. Other changes? I guess the only one that sort of jumped out to me a little bit was on Page 7, year one actions, second bullet, on the subbullet, develop simple one-pagers from panel perspective for the uninformed. If this is sort of a public document, I'd much prefer to have it end at "perspective" rather than refer to the great unwashed. Does anyone have an issue with that? Okay.
MR. ARMSTRONG: Where are we looking at?
MR. SKINNER: This is on Page 7, year one

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actions. There are two major bullets under, second major bullet under the subbullet says develop simple one-pagers from panel perspective for the uninformed. And I would recommend just stopping at that, "perspective." Is that all right? Okay.
In terms of where we go with this, I think this is a very useful exercise. I know at the end of the day in Tampa we were all pretty exhausted but I found it very useful going through this again. I like the idea of using this more as a sort of a matrix with the sort of five strategic goals, visibility and awareness, budget, long-time viability of products and services, climate change and efficiency on one axis with the Five Most Wanted on the other. It's not a perfect matrix but it's useful in terms of keeping track of some of the things that we talked about at past meetings that we've begun to forget.
And I would suggest that as we go forward we continually refer to this. It might be a good idea to dust it off before each meeting and go over what we had worked on. If people have other suggestions on how

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we incorporate this into our work, I think this is, we can spend a little bit of time here discussing this. I would like to make sure that we do utilize this. We did spend a lot of effort on it and it's easy once its done to leave it on the shelf but I don't think we should. Ed?
MR. WELCH: Tom, some of our public panel yesterday were pointing out some NOAA products that they felt if like they could be simplified in presentation they might be more useful to people. So, in that spirit do you think perhaps the staff could reproduce these on, in one page to a page, and put them in numerical order?
MR. SKINNER: Well, this a sort of an IQ test to see if we could follow it along but I think I got to the center of the maze by the end of it. But there were, there was a little heads-up that there was a photocopying, something, so, I think we can work on that and make sure that this is something that people can use easily to be used regularly by the members.
MS. CHAPPELL: They're on the Web page.

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MR. SKINNER: What's that?
MS. CHAPPELL: They're available on the Web page.
MR. SKINNER: On the Web page, right.
MR. DASSLER: One Web page.
MR. SKINNER: And that is something, and I'm at fault for that, too. When they were first distributed I took a look at them. I did not look at them again till last night and it's a part of this, part of wanting to talk about it is to remind all of us that I think it's a good idea to do that, including myself. Any comments or further discussion on the strategic exercise that we did in Tampa?
(No affirmative response)
MR. SKINNER: I think the last portion here and probably the, I think one of the most significant is where we go in the next year or so. There are a lot of things happening. We've seen some successes in terms of programmatic and budget issues, which I think is great, but let's not lose the momentum. How do we become or how do we continue to influence what happens

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at NOAA, particularly in hydrographic services? And there have been some initial discussions at yesterday's meeting. There were some sidebar conversations last night after the meeting.

As I throw this out here for general discussion, there was, there seems to be a general consensus that we need to revise and update -- let me rephrase that -- update the Five Most Wanted report. I think the core of it is sound. I think the Five Most Wanted are still valid. I think we have a lot of new information based on stakeholder panels and some other changes that have happened in the last three years that make it, I think, fairly important to reprint the recommendations with inclusions such as what's going on in the Arctic, some of the comments we've heard from the stakeholder panels.

And also I think Glen, at one of our earlier meetings he said that on the congressional side if it has a date the year before it's, you know, it's sort of last, the last decade report; you have to stay current on this.

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So, with that in mind we're thinking, well, what would we need to do to move forward on this? And, I think everyone has discussed how useful the stakeholder panels are and how useful it would be to include that in our report, you know, that we have gone around to different places in the country. One of the issues with doing that, though, is that we haven't been to each region in the country.

We still have two fairly significant areas that we haven't, have not been to. One is the Great Lakes and one is the Pacific. And, where you have sort of two things that are coming up against each other, one is the need to come up with a revised report fairly quickly, I think. I don't think that it helps too much to wait another year-plus to issue the report if decisions are being made, you know, in the next six months. On the other hand, it's tough to make the point that we have gone around and listened to everyone when in fact we haven't if we've left out two fairly significant areas.

So, one of the things I wanted to throw

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open was what would people like to do in terms of, do people have the time, do they have the energy, does NOAA have the ability to support the panel to try and move forward aggressively with sort of a complete, revised report in the next eight to ten months? Do the panel members have enough time and energy to do that? And, those of you who have been through it before know -- I can see some people sort of putting their heads down on the desk saying, "Oh, no, not again," but I think it's a question we have to ask about, do we, you know, do we strike while the iron's hot and do we have the resources and energy to do that.

MR. WELCH: Tom, I speak as a panel member that came on after the report was done so I didn't have anything to do with the report before then. I found it exceedingly helpful as a new panel member to have that as a reference point. And I'm not sure how comfortable I would have been as a new panel member getting my feet up, you know, getting into the process and being able to contribute meaningfully to a report that was in progress or that was two-thirds of the way done.

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So what I'm getting to is we're scheduled to have a shift in some of the panelists within the next year and it would seem like to me all the panelists now have a degree of familiarity with this report and it would be much easier for this group of people to get it revised in whatever way than to expect our, a new, I mean, surely there will be plenty of carryover but the new folks will have a steep, quick learning curve. So I would be, everything else being equal, assuming the time and the resources are there, I would think that this is the group to do it.

MR. SKINNER: Gary?

DR. JEFFRESS: I agree entirely. I think I suggested yesterday to do this, and I really don't think it's a lot of work. I mean, basically the document still stands as it is. We need to just update some of the statistics and maybe some more recent events that will shake someone up. And I don't think it's a big effort. I think we should just go and do it.

MR. WELCH: For example, and I don't

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remember whether there's any -- I think probably what we're likely be wanting to revise is the elaboration as opposed to conclusions and trying to focus on more recent justifications that may have occurred. And I don't remember whether there's any reference to the National Response Teams in this document or not but if there were, I mean, we could put in to the extent that the NOAA National Response Teams had a role in the Hudson plane crash, for example.

MR. DASSLER: Right. And I think additionally adding -- we talked about this the other day, too -- adding input from the stakeholders, some of those comments. I mean, we can go back through some of those meeting logs to pull some of that out and get that into the report because I think they had some pretty meaningful stakeholder panels and some pretty valuable input that could be put in there as well.

MR. SKINNER: I think one possible way to do it is to do sort of a box with one highlight from each of the stakeholder groups so you hit all the differently geography, the geographical areas,

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different types of users and so forth but there are a number of ways to do that. Gary, I think you're right in that the report's largely written and I don't mean to go back and change a lot of it. I think it stands largely on its own.

On the other hand, even some relatively minor additions or changes is always more effort than we think it's going to be. And I hope if we get to December and we decide to go down this course and you all say, see, that was easy, I would be very, very happy to be proven wrong but I just want to make sure that people are prepared that even some relatively minor changes takes a fair amount of effort. Helen, did you have a -- yeah.

MS. BROHL: Okay. I don't want to interrupt anybody else. If I could just add just from the outside and the value of the document that you have now, and why -- just to reiterate what Ed said -- the value of it is someone new. It would be great if every federal advisory committee had something that defined them a bit. And that document was presented to the

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Navigation Safety Advisory Committee at Coast Guard. It gave them a sense of who you were and where you were and where your interests overlapped. It was given to the CMTS. It became part of what we put into the national strategy for the MTS. It had value there but it helps define who you are as well.

And to the extent that the current members want to have their imprint on what it is they think is important, I encourage you to do so. I do respect the fact that it's a lot different than putting a new date on the current document but you do want it to be timely because psychologically anything that's dated in the previous administration could seem as if it, even though everything kind of stays the same and you have the same interests and it just becomes more, more so, the timeliness right now would be important. Those are just my thoughts.

MR. SKINNER: One of the things that might work in our favor is, I think one of the things we have to wait on is if we did decide to do, finish out the sort of regional types of meetings we have been have

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something is that we don't have to start work on any changes after that meeting. We can start now on the revisions with placeholders for what we hear at subsequent meetings, so, you know, through this, through this year. Trying to put a positive spin. Andy?

MR. ARMSTRONG: I guess one of the questions was, could, would we have time to go to two more regions and get stakeholder input and have this document sort of redone with this group. So, I haven't heard any discussion on that and I wonder if it's feasible legally or logistically to split the panel for sort of a HSRP meeting that was built around stakeholder input in two different places so half the panel go to the Great Lakes and half the panel go to the Pacific. I volunteer to go to the Pacific.

MR. SKINNER: I'm sure it will be a lonely trip there.

(Laughter)

MR. SKINNER: That was also part of the discussions, of the sidebar discussions with

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logistically do we even have that capability to do it and could it be split off. I think it's all on the table. There are questions that we don't really know the answer to and we don't know whether even there are the financial resources to support this kind of effort. But, in sort of working back from what we, what was discussed as what we would like to see as a product it seemed that these were the things that we really had to spend some time talking about today. Dick, did you have a --

ADMIRAL WEST: Procedure-wise you can split it. You just put the announcement there is a subcommittee in the public announcement to do the following, and such and such. It's been done before.

MR. DASSLER: I guess just a question on it. So we're looking at waiting to release the final report till we get input from those other two stakeholder regions; I mean, we would have everything ready to go and just insert that or is that not going to be timely enough?

MR. SKINNER: Well, first I think we need

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to answer the question, you know, this is certainly my view that having done some work in the CZM arena, with the Pacific Islands that you almost raise more issues or more problems than you solve by not including them on something that's pretty important to them. And, same -- I know Helen's here so I will say this very loudly -- that, you know, obviously the Great Lakes are a critical portion of the mission here. So, that I'm perfectly, if people disagree that that's not an important part of it, you know, feel free to speak up but again I think that we run a real risk in saying that we've listened and here's what we've come up without hitting all of the sort of major geographical quadrants.

MS. BROHL: Who is it your trying to impress? I mean for political purposes you want to get the Northwest and for, I mean Congressional purposes --

MR. SKINNER: I'm sorry. Can you speak into the mike?

MS. BROHL: I'm sorry. I mean, if you're going to attach just anecdotal things to certain points

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that you are making in the document, it doesn't have to be geographically represented as long as there is somebody from industry or somebody from stakeholders who supports that concept or you have a follow-up to that one comment. In the end, if this is about reinforcement, using the stakeholder stuff to reinforce what you're trying to say or to justify why you're saying it, does it have to be geographically represented as compared to you just have to have people who sound impressive or are impressive or say the right things and come from geographic areas that are going to impress whoever it is you're trying to impress?

MR. SKINNER: I guess I'm not, I wasn't thinking about -- I was thinking more that it would be, I wasn't thinking specifically of who we were trying to impress. That was not the way I was framing it. I was thinking of it in terms of it's a national panel and to represent in a report that we've been diligent in terms of getting stakeholder input, you need to have both the different sectors and the different geographic areas represented. I think we have heard slightly different

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takes from the same sectors in different parts of the country, same message has been there but with a slightly different twist and I think those are important to try and capture. Ed?

MR. WELCH: Tom, was there a meeting in every area preceding the first report?

MR. SKINNER: No. But we didn't -- the reason why I think it would be more important is if we're doing the stakeholder section in the report that it points to the fact of where we haven't been or where we haven't received input if we only highlight, you certain geographic areas.

MR. WELCH: It just seems like to me we're bumping up against two things, the need for this panel to do the report versus to have meaningful visits to some of the places we haven't been before.

ADMIRAL WEST: I think we did the bulk of the report prior to starting to listen to stakeholders. I mean, we've done that in the regions -- so the bulk of the report was done by us. We thought it was important and it was. And then we started going out

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and confirming it with stakeholder meetings. So we're kind of verifying what we thought was important, and which adds a lot of credibility to the report.

So, whether you have all the regions or not, that's a different story. You can -- just a procedural thing -- you can go out as subgroups of, formal subgroups of the panel and go out and gather information but you have to remember you have to bring that back and have a quorum of the full FACA Committee to approve it. So you can go do a couple subs but you still got to get together. It doesn't necessarily have to be in person but you still got to publicly, everybody agree with the fact-finding subgroups. You look like I'm -- no, Tom --

MR. SKINNER: Me?

ADMIRAL WEST: No, you see what I mean?

MR. SKINNER: Yeah. Yes.

ADMIRAL WEST: Okay. Good. Yeah.

MR. SKINNER: I think I was just insulted.

ADMIRAL WEST: No, not at all. I just thought --

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MR. SKINNER: I'm not quite as dumb as I look but almost.

ADMIRAL WEST: No, I inferred I was the dumb-looking guy.

MR. BARNUM: Tom?

MR. SKINNER: Yeah, please.

MR. BARNUM: I think it's probably good and certainly the ideal goal to try and reach all the various regions of the United States and its territories but to be fair if you think in terms of our last meeting we had representatives from Alaska speaking to us in St. Petersburg, so on issues important to the Arctic. So, there may be some ways we can creatively maybe cover some of those inputs in our next meeting. Elaine?

MS. DICKINSON: Do you think the goal is to have a date of 2009 on the next report or is that too ambitious?

MR. SKINNER: I think that even if we were to scrap the, you know, only have one, if we're only going to have one more meeting and work starting

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tomorrow on the new report, it would be so close to 2010 that we just for longevity sake we should put 2010 on it. But I would defer to the people who know how the Hill works and publications work. Other, yeah, Elaine?

MS. DICKINSON: Well, I guess there's two, two thoughts there. To do it quicker gets it out there sooner, which is good with the new administration but if you put 2010 on it, then it lasts longer. So I don't know which is better, which is worse. I mean, I don't think it would take that much for each person on the panel to go through the old report and mark it up and then send in, each person could just send in what they think needs to be changed or a suggestion for a new piece of information and have somebody collate that into a new draft.

MR. SKINNER: I was on the receiving end of some of that the last time and it's not nearly as easy as it sounds. And again I'm not trying to pour cold water on getting something out quickly. I think it's just important to be realistic about what it takes.

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And I think we actually want not just to have sort of a -- well, I'll leave it at that. We can work out, if we agree to move forward with reissuing the report or revising the report, we can work out the details and the logistics. And, if it's done in 2009 we can still put 2010 and bill it as an advanced copy. Other thoughts? Yes?

MR. MYRTIDIS: Yeah, what I think we should do is -- there's fifteen of us, right? We should divide in little groups of three, probably, pick one recommendation, each group, work until the next meeting. When is going to be our next meeting?

MR. SKINNER: We haven't set it yet.

MR. MYRTIDIS: Okay. Around October, September, something like that?

MR. SKINNER: It's up in the air, I think.

MR. MYRTIDIS: And, you know, take all the input that we have and bring it up at the next meeting, discuss it and come to a conclusion. I think we can do that. I agree with you. It may take some time but I agree with the rest that, you know, the majority of the

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work is done so we can go ahead and just adjust it.
MR. SZABADOS: But the reality of a CR in October, I would recommend we meet -- in October -- we meet in September, that we might have a little more flexibility, you know, availability of resources. Limitations may be put on us for September -- for October-November timeframe.
MR. SKINNER: Yeah, Jack?
MR. DUNNIGAN: It just occurs to me if we don't have this done by October we're going to miss a window. I mean, right now is the time, like the JSOST people did, did the update of their report and to have the opportunity, now, they have met with Dr. Lubchenco, they might have a chance to meet with the Secretary. You know, by the time you get into real-life 2010, the wheels are going to be turning, the cadences are going to be moving and your ability to really get traction isn't going to be as good as it is, as soon as possible. So whatever your work schedule is for dealing with this, my recommendation is that you plan for whenever your next meeting is to make your

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decisions and put it to bed and authorize your officers to take it in and start marketing it. Don't let it drag out.
DR. JEFFRESS: I agree. I think the sooner we do this the better. And what I would really like to see is a document regularly every two years that's updated. So go for 2007, 2009, 2011, 2013, because, you know, the world is changing pretty quickly and you got to stay relevant and you got to stay on top of it. That's my opinion.
MR. MYRTIDIS: Tom, I agree. And I think we can do that and I would really, I would, really would like for the panel to think, this suggestion. If you recall this is how came about with the initial recommendations. We were divided in small groups with a common interest and then we collated everything together because that gave people the opportunity to focus on one topic at a time versus looking at the entire report.
MR. SKINNER: Right.
MR. MYRTIDIS: So I think that will be

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helpful. I think we can assign ourselves, you know, based on expertise, if you like, to address one specific recommendation, and then correspond, have a meeting in September if that is to be and then have it published by October, like Jack is suggesting.
MR. SKINNER: I think the, I think, Jack, your point about it really needs to be done by October refocuses the effort. So why don't we -- maybe we can do this by e-mail in terms of dividing up the chapters and thinking about a stakeholder section. And I think that just for the ease of logistics if we can do -- Elaine, you usually an issue in September? Is it sooner? I forgot. I know we were talking about this last night.
MS. DICKINSON: Oh, for a meeting?
MR. SKINNER: For a meeting, is early better than later?
MS. DICKINSON: Doesn't really matter.
MR. SKINNER: Okay. So maybe if we can aim for September. We had discussed Chicago at one point.
MR. MYRTIDIS: Why don't you want to

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consider Hawaii, for example? Jack told us how many wonderful things are there that NOAA is doing plus we have a cruise ship there every Saturday that I would like to invite you to check out. I mean, you can have the public portion of the meeting on a Friday or you can even go on a cruise, you know, for a few days and have the meetings onboard the Pride of America.
VOICE: Does that depart from D.C.?
(Laughter)
MR. SKINNER: I think that's an excellent idea. All in favor?
(Laughter)
MR. PARSONS: Tom, just to throw into your equation, there's going to be some public interest drawn to the Great Lakes later this summer with the Fiftieth Anniversary of the Saint Lawrence Seaway. Also there have been some preliminary discussions already between the Great Lakes mapping community, including the Canadians and the U.S. about the development of a, let's call it a Lakes and Coastal Mapping Plan. And so while the plan will not be fully

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developed at that point, there will be discussions underway and perhaps that community certainly would like to participate in your discussions.

MR. SKINNER: Thanks Roger.

MR. WELCH: I think we ought to separate the meeting time and place from the port process and what I would suggest is that we take a short period of time, you know, a week, two weeks, and have all of us commit to looking at the recommendations of the report, none of the supporting text but the recommendations, and see if we're all comfortable with the recommendations as they stand or if anybody says wait a minute, I think recommendation two needs to be modified.

Then once we have a conference call or an e-mail exchange or whatever, once we're clear on recommendations, then we can take each one sequentially, as Minas has suggested, and see if we have suggestions about the supporting text of it. I mean, we're, I'm sort of assuming that we'll say the recommendations are fine as they stand but really we

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ought to make sure we're all comfortable with that.

MR. SKINNER: Yeah, I think you're probably right. I was mixing two things but I think we need to, we need to work on both. And, I would like to make sure we, I guess one of the reasons, I suppose we can divide up things today but I think it would be easier to do that by e-mail. And, as you say, people can go through the report again, read through it, have a better sense of which chapter they would like to work on and then start dividing things up.

But, I don't, my sense is that when we have not, when we have left the meeting without some idea of when we're going to meet next we spend a lot of time that goes by before we focus on the next meeting again and there's time lost in terms of advertising for the hotel rates and whatever else has to be done for this. So, I think you're right, they are sort of separate procedures but they're both things that we need to at least somewhat pin down.

MR. WELCH: I'm okay doing both today. I just thought one discussion ought to be independent of

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the other.

MR. SKINNER: Dick?

ADMIRAL WEST: Thinking back to the report again, I think we also would like to have input from NOAA folks because I know they have taken action on some of the things we've said, because that was three years ago, and we want to make sure that we reflect in there what we told them to do and they have done. Mike, you know, you can take a look. So, you know, it doesn't necessarily have to be their words but we got to make sure that what we've told them to do they are doing or are reflected in our report, that's been done or in process or making progress.

I mean, I think PORTS is probably a good example where we, I mean, we started out the first damn meeting beating that one to death and I think we're making some nice progress. So the report when you update it should show that and recognize that NOAA and the federal system is responding. So I think we're going to have to ask, well, they're members of the board, I guess, so you should be part of this review

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process.

MR. SKINNER: Yeah.

ADMIRAL WEST: And I think we ought to use the stakeholders of reinforcement of what we said, you know, like the little, like you said, the little halo-box where so and so from Miami said this and whatever. Just a format suggestion.

MR. SKINNER: Great. Thank you. Other comments? So, sort of as a roughed-out game plan -- and feel free to jump in and help me here. The next two weeks panel members will be looking over the report again, jotting down some notes, what could be added, what's been done. I think it's -- and maybe, Admiral, I'm putting words in your mouth but it's important to recognize what's been accomplished as well as what is left to be done and what on the greater scheme of things has changed, what are some of the new emerging issues that still fit in with the Five Most Wanted but need to be mentioned and culled out in a revised report. And for just a regular conference call would we need, I think where we're dividing up a task that

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doesn't require public notice, does it, or is it -- I forget what the --
MS. WATSON: That's an administrative process. Don't need the Federal Register notice to go out, no.
MR. SKINNER: We don't need it, okay. So it would be relatively easy to coordinate this -- relatively being the operative word -- either through e-mail or if we need to on a conference call. Does that sound like an okay, acceptable way to proceed? And, then we will look -- I don't think we actually voted on going on the American Norwegian Pride.
CAPTAIN MYRTIDIS: What was that?
MR. SKINNER: I think that was tabled or something happened.
CAPTAIN MYRTIDIS: That's Pride of America, Mr. Chairman.
MR. SKINNER: Okay. Thank you for that correction.
CAPTAIN MYRTIDIS: And if you don't learn how to say it I don't think you're going.

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(Laughter)
MR. SKINNER: I think realistically, however, as enticing an offer that is, that it's probably more realistic to think that we will be somewhere Continental side but I suppose that's -- boy, everyone's staring at me like I've got two heads. "What are you doing? I've already got my suntan lotion."
(Laughter)
MR. SKINNER: Mike?
MR. SZABADOS: I think we have some time to pick the location. And why don't we reflect on, based on some requirements, you know, where best to hold the meeting next but where the constituency, where we want to reach out to and then probably pass that around through the e-mails and get recommendations in the next couple weeks.
MR. SKINNER: I then go back to the fact that the meetings where we don't sort of say this is where we want to head to we lose two months, I think, and I just don't want to be in that position. I don't

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want to put the NOAA staff in the position of having to scramble to do all the due diligence that you have t for a meeting like this. So I know it's difficult. Trust me, I'm feeling all of your pain right now. But, I think we need to sort of narrow it down and decide where we want to have this. And we had talked about I think at the last meeting going to Chicago. It's where the President is from. It is sort of the --
MS. CHAPPELL: So is Hawaii.
MR. SKINNER: So is Hawaii. Thank you, Ashley. You're making my job so much easier. He's also from Indonesia.
(Laughter)
MS. DICKINSON: It's a big port.
MR. SKINNER: You're all enjoying this, aren't you? But, I would, I guess I would put out there that sometime in September that we try and do a meeting in Chicago. The question Jack asked, is there a larger port on the Great Lakes?
MS. BROHL: I can answer that. Me, me, me, call on me.

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MR. SKINNER: All right. "The Answer Lady."
MS. BROHL: Technically it's Duluth, Minnesota, is the largest port and probably like the tenth largest in the country. And, the caution about Chicago is that you don't necessarily get a lot of stakeholders there. Believe it or not, it's kind of whacky in terms of its maritime groups and people. The Coast Guard once held their annual Harbor Safety Conference there. I may have been the only person from the Great Lakes who attended that meeting, a sad but true thing.
Now, if you want to do the Seaway thing, that's, their thing is July in Messina, New York. It's not really going to be in Chicago but Messina is where the big hoopla is going to be and that's in July. However, Ann Arbor, Michigan is where the IOOS folks are, where you have the Great Lakes Commission. Cleveland is where you have District 9 Coast Guard It's where you have the Lake Carriers Association, which is the domestic lake carrier guys. You also have

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the group I used to belong to, used to work for, the Great Lakes Shipping Association, has a lot of members there. You want to get vessel agents. You want to get operators.

Chicago really isn't the home of pilots. It isn't the home of, it doesn't have a strong port authority presence. Chicago is a cool place, no doubt about it, but Cleveland, you're going to get actually more stakeholders, and if you went somewhere in the Upper Lakes you probably could, too, as well. I'm just saying that you would have more people if you go to either Ann Arbor if you want the IOOS types and the Great Lakes Commission type. Cleveland is where you're going to get a lot of actual stakeholders, I think. But Duluth is pretty, too.

MR. SKINNER: Great. Thank you, Helen. Dick, did you have something --

ADMIRAL WEST: Only that the Ocean Commission had a great public hearing at the Shedd Aquarium there in Chicago, that was pretty-well turned out, so, I mean, it's a different crowd but that's a

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place to have it.

MR. DASSLER: We could probably all go to Hawaii.

(Laughter)

MR. SKINNER: Sense of the panel? What's that, going to Hawaii?

MR DUNNIGAN: We're going to Hawaii.

MR. SKINNER: What's that, Hawaii?

MR. DUNNIGAN: So we're going to Hawaii.

(Laughter)

MR. SKINNER: So we're going to Hawaii and Jack's paying.

MR. DUNNIGAN: Well, that's true.

(Laughter)

ADMIRAL WEST: There's not going to be a huge difference in cost.

MR. SKINNER: What's that?

ADMIRAL WEST: There's not going to be a huge difference in cost in going to Hawaii or Chicago.

MR. DUNNIGAN: I just bought my wife a ticket to and from Hawaii for $438.

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ADMIRAL WEST: For 465 you can fly from Providence to Washington, D.C.

MR. SKINNER: Let the record state that I have been violently overruled.

(Laughter)

VOICE: I like the idea of the Great Lakes. I mean, really --

MS. BROHL: Rock 'n Roll Hall of Fame. Come on.

VOICE: Got the Indians.

MR. SKINNER: All right. I'm getting mixed messages here. Larry?

MR. WHITING: I have to coordinate a little bit of this with my wife, you know, if we're going to Hawaii.

MR. SKINNER: I'm sure that will be our primary consideration here, Larry. Thank you for adding that to mix.

(Laughter)

MR. WELCH: I have a question.

MR. SKINNER: Yes.

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MR. WELCH: We mentioned Thomas Jefferson. You know, when Thomas Jefferson sent Lewis and Clark out, he didn't ask for enough money to fund the entire thing. He said to his people, you know, "Once I got them out there, I can always tell Congress I have to have the money to get them back." So if we were going to Hawaii, if we went out the last week of September and extend it over to October, would we get stuck in Hawaii or not?

VOICE: You don't want to do that.

MR. DUNNIGAN: We don't want to do that.

MR. SKINNER: Well, if you want to -- let's get a sense. How many panel members would prefer to go somewhere in the Great Lakes, either Duluth, Chicago or Cleveland?

(No affirmative response)

MR. SKINNER: Come on.

(Laughter)

VOICE: Raise your hand, Tom.

ADMIRAL WEST: Jack, where would you prefer to have the panel if you had to pick --

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MR. DUNNIGAN: Well, I would prefer Great Lakes. But I do recognize where the chairman of my appropriations committee comes from. And not being there -- and let me tell you folks, I mean, the Pacific Islands are some of the most exciting places for the stuff that NOAA is doing right now, there no question about it, especially if you're worried about the real global implications of geospatial work and elevations. There's some very scary stuff on the horizon in some of those low-lying islands. So there's good reason to go to both places.

ADMIRAL WEST: You didn't answer my question.

MR. DUNNIGAN: Well, I did. I said if I had my choice, absolutely, I think we ought to go to Great Lakes. But there's a good case to be made for Hawaii and, like you say, it might not be that much more expensive. It's just every time you go to Hawaii it looks bad. You have no idea how much guff I took in the last two weeks about a ten-day trip to Hawaii that was all business, from my own staff, not Mary. Mary

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knows it was all business. That wasn't a problem.

MR. WELCH: Tom?

MR. SKINNER: Ed?

MR. WELCH: If we went to Hawaii in the spring and it coincided more or less with the Congressional spring break, there would be a chance -- might not be a big chance -- of getting one of the Hawaii Congressmen or Senators to be involved.

MR. DUNNIGAN: The summer break.

MR. WELCH: But there certainly would not be at the end of the fiscal year, September or October.

MR. DUNNIGAN: August, right? August break. I mean, spring break was last week.

MR. WELCH: Yeah, I'm talking about next -- a year from now, a year out.

MR. SKINNER: Ashley?

MS. CHAPPELL: Have you tabled the idea of two meetings, one in this fiscal year and one in the next fiscal year, just not immediately after the start of the year?

MR. SKINNER: I think that Jack's comment

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that this needs to be out by October has effectively, I don't see why we would need to meet after the rep came out until the following year until after January. There's no reason to try and push one in. I think the reason to have two meetings was if we're going to try and cover both bases in the Pacific and the Great Lakes. I don't think that's possible by October --

MS. CHAPPELL: Right.

MR. SKINNER: -- just logistically. So, to answer your question, yes, I think we have eliminated it and we're doing one meeting between now and January -- between now and the end of December. So that is just, we just narrowed it down. And we may wind up just as Mike suggested, deciding it in a couple weeks though I think that that just sets us back a little bit. I guess, I don't know for a fact that it costs the same. I am concerned about how it looks. To some extent, though, I think that that works against a very important region that we're responsible for, to some extent. So I'm sort of torn. I think politically in some ways it just looks better if we're in the Great

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Lakes.

MR. WELLSLAGER: I think we need to go to the Great Lakes. I mean, Jack basically made a good statement, it would look better if we went there right now. Ed made a very good point, and that if we can time it for next year, spring break, there's a possibility we would have a political power that would be there in Hawaii that we can go and have and attend the meeting as well. Just, I think that's where we need to go, as much as I don't want to do it but I think that's probably the best logistic thing we should do right now.

MR. SKINNER: Sense of the panel, is there any other -- yeah.

DR. JEFFRESS: Yeah, I like Jack's idea of doing it this August during the summer break, congressional summer break in Hawaii to have political support there and invite someone from the Great Lakes to be on the panel.

MS. BROHL: That would be me you're talking about?

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DR. JEFFRESS: Yes.
(Laughter)
MR. SKINNER: Jon, were you going to say --
MR. DASSLER: No.
MR. SKINNER: Well, I think we've talked about this a fair amount. I would like to make sure that people can break a little bit. I'm not sure how much more we're going to get accomplished going back and forth. Can I just take of a straw poll about, let's put two on the table, either Hawaii in August or Great Lakes in September, and see which, who would prefer what, given the two.
(The above was said off-microphone)
MR. SKINNER: Oh, I'm sorry. You want me to say that all over again?
(Laughter)
STENOGRAPHER: You don't have to. That's all right. I got it.
MR. SKINNER: All those who would prefer to meet in Hawaii in August, if we can -- and this is sort of subject to available funds and all the rest --

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please indicate so.
(Hands raised)
MR. SKINNER: One, two, three, four, five -- and those who prefer September in Chicago or Duluth or Cleveland.
MS. WATSON: Does my vote count?
(Laughter)
MR. SKINNER: Looks like four and four. It's about the same.
VOICE: Flip a coin.
(Laughter)
MR. SKINNER: Well, can we -- I think some of it would depend on whether, you know, how much it actually costs to do a trip to Hawaii. Would it be possible to --
MS. WATSON: Cost comparison?
MR. SKINNER: -- get some -- yeah. Is that easily obtainable?
MS. WATSON: We can look at flight schedules and per diem.
MR. SZABADOS: Just by e-mail next week

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maybe we can get all the members, the ones that are not here even. There are about five members not present.
MR. SKINNER: Right. But I think that having, if we're not going to decide here then before we decide something by e-mail if we can get some more information on it, that I think would help make, help us make a decision.
MS. WATSON: All right. I'll work on that.
MR. SKINNER: Larry?
MR. WHITING: Is the Congressional break is really bad for people that are involved in any type of politics around here? Because we have to be at where our Congressional people are at, not in Hawaii in August, so.
MR. SKINNER: Gary?
DR. JEFFRESS: Isn't our biggest political support the Senator from Hawaii? That's the whole point, to get him to come to our panel meeting, and another point is I don't know if it was the Governor or someone from the Hawaiian government was on TV this week, complained about there's absolutely no one going

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to Hawaii right now.
MR. DUNNIGAN: Hotel bookings in Hawaii right now are down 18 percent from what they were last year.
MR. GARY: Part of the Stimulus.
MR. SKINNER: All right. I guess as much as I'd hope to come away --
MR. DUNNIGAN: Down 17 percent in Cleveland.
MR. SKINNER: -- from this meeting with some direction on where we're meeting and when, I think we will have to defer this for a week or so, hopefully, and if it's okay, try and get some ballpark figures on the relative costs of --
MS. WATSON: Okay.
MR. SKINNER: -- Great Lakes versus Hawaii. I'm sorry to have taken so long on this. This seems like a fair amount of time to spend but I think that I want to make sure that we really had spent some time on the geographical aspects of what our committee is looking at and I think that it makes it actually

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slightly more difficult where we have to choose between one area over the other rather than trying to do both of them. But I think Jack's point is well taken, time's a-wastin' and we got to be fairly quick with getting out a revised report. So, thank you for putting up with this discussion. Dick, did you have your hand up or did you want to say something?

ADMIRAL WEST: (Shaking head from side-to-side)

MR. SKINNER: No, okay. With that, is everyone clear on what's going on? We've sort of got three things, where there will be a letter circulated for the recommendations from this meeting. And I'm in charge of getting that out. There will be a couple of other revisions made to the strategic notes from the Tampa meeting and those will be online.

Is that the best way to do it, I think, and people can print them. I think if all the panel members take that on as their own responsibility and have that as part of your working documents for this group, and third is to go through the HSRP, start

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looking at where you think some changes should be made and focusing on what chapter you would like to work on, and fourth, be prepared for some e-mail traffic in about a week, hopefully, to decide on the location of the next meeting. Sound okay? We haven't had a vote at this meeting. You like that. Okay. Well, actually we can have one now. Is there a motion to -- is there any further -- Jack?

MS. DICKINSON: We voted on the minutes.

MR. SKINNER: Oh, that's right. Thank you.

MR. DUNNIGAN: Yeah, just quickly. For my earlier discussion I didn't realize that we had actually gotten this into your packets. So that's what this paper is all about, it's the first two-pager coming out on the question of the future of mapping. And I assumed everybody knows Steve Austin, who is down here at the corner of the table, but Steve's basically the director of all programming for NOAA. So I'm glad you were here for this discussion. Thank you very much. It's very helpful.

MR. AUSTIN: I've taken notes.

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MR. DUNNIGAN: Thank you. I hope you are --

MR. SKINNER: Yeah, we're going to Cleveland.

(Laughter)

MR. DUNNIGAN: Programming, not budgeting.

MR. SKINNER: Oh. Well, then we're going to Indonesia.

(Laughter)

MR. SKINNER: Any final comments?

ADMIRAL WEST: Dates are more important than places at this point.

MR. DUNNIGAN: Yeah.

MR. SKINNER: Okay. Well, I think we'll try and work as quickly as we can on both. Anything else?

(No affirmative response)

MR. SKINNER: Is there a motion to adjourn?

PARTICIPANT: So moved.

MR. SKINNER: Second?

PARTICIPANT: Second.

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MR. SKINNER: Any discussion?

(No affirmative response)

MR. SKINNER: All in favor?

PARTICIPANTS: Aye.

MR. SKINNER: Any opposed?

(No affirmative response)

MR. SKINNER: Any abstentions?

(No affirmative response)

MR. SKINNER: Great. Thank you all very much for a productive meeting and see you somewhere, sometime in the near future.

(Meeting adjourned at 2:43 p.m.)

State of Maryland.
Baltimore County, to wit:

I, ROBERT A. SHOCKET, a Notary Public of the State of Maryland, County of Baltimore, do hereby certify that the within-named witness personally appeared before me at the time and place herein set out.

I further certify that the proceedings were recorded stenographically by me and this transcript is a true record of the proceedings.

I further certify that I am not of counsel to any of the parties, nor in any way interested in the outcome of this action.

As witness my hand and notarial seal this 29th day of April, 2009.

_____

Robert A. Shocket
Notary Public
My Commission Expires:
November 1, 2010

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