

## **Opening presentations – Setting the context**

CK: Opening remarks, thank yous. Reiterated that review is for reviewer and speakers/panelists; others should save comments for breaks, unless called upon.

TB: This review is third leg of the stool. Not review of the NCS, but that subset that is part of Chet's program. Also gave some thank yous.

Hooke: This review is different. Used to reviewing programs w/ a track record. This program is at a transformational stage. Trying to evaluate a program when the US, other nations are waking up to climate change and vulnerability. Part of the purpose here is to evaluate and advise with an eye towards what NOAA will be doing 15 years from now.

## **Eileen Shea**

Update on plans to enhance NOAA climate services

If you look at legislation, testimony, and discussions from this Administration, whenever "NCS" is used, think big -- many Federal agencies, academia, other interests (the enterprise). What's NOAA's role in that context?

Noted the many publications that NOAA has helped produced (via the US Climate Change Science Program). Impacts are why climate change matters. We care about physical processes, but folks who are demanding information and other services from us are interested in solving problems brought about by climate impacts.

NOAA's Administrator, Jane Lubchenco, has heard early and often about new info demands.

Our nation needs a climate service that is source of reliable, authoritative climate info and services that aid nation's citizens in making climate-related decisions that enhance their lives and livelihoods

NCS – no single agency can do this alone. This is a multiagency endeavor. Not just about the science – it includes resource risk management, as well as adaptation and mitigation.

Much Congressional interest – various bills.

- Waxman-Markey (HR2454) – Calls for Office of Science and Technology Policy (OSTP) to lead process for interagency mechanism within 30 days of enactment; a plan in 2 yrs; an NCS in place in 3 yrs. NOAA directed to establish Climate Service Office, network of regional and local partnerships, and utilize assets of all NOAA programs and partners.
- Senate – Six committees have jurisdiction over this legislation. Majority Leader Reid has set deadline for all committees to act by end of Sept. '09.

NOAA's Contribution to an NCS:

- Unique breadth of mandates
- Long history of doing science, assessments, modeling, and working w/ partners
- Some important attributes (guiding principles) for an NCS (and NOAA's role) that's meaningful
  - Commitment to scientific credibility
  - Engage diversity of users in meaningful way to ensure needs are met
  - Link human-caused climate change and changes in natural variability to meet broad user needs
  - Provide and contribute to science-based products, and minimize risk
  - Provide predictions and projections of climate at scaled relevant to decision support
  - Strengthen observations, standards, and data stewardship
  - Ensure timely assessments
  - Improve regional and local projections of climate change
  - Inform policy options (but you don't make the policy decisions if you're a science agency)
  - Inform decisions and mgmt options

Early priorities – where are we (NOAA) going:

- (1) Assessment services – science of assessing consequences
- (2) Tightly coupled regional partnerships – invest in infrastructure at regional level
- (3) Problem-focused product lines – coastal, water, living marine resources immediately
- (4) Sustain/strengthen NOAA climate services infrastructure

Next steps – Really boils down to continuing the dialogue

### **Chet Koblinsky**

Will review the structure of the program you're evaluating. Links nicely with Eileen's presentation – where we are now, and how that feeds into an NCS

Starts with NOAA strategic plan, alignment of Goal Teams to each of the strategic goals. Being revisited by new Administration.

CGT Strategy – builds on observations infrastructure, research and modeling, and then services portfolio. Services Program brought together a couple of years ago, and we have since then been focusing on integrating the 3 programs' capabilities. Does this approach make sense going forward, especially in developing sectoral and regional aspects and in communicating with the community.

Rather than look at small constituent parts, we want to look forward at partnerships, sectoral foci (coasts, etc). How would our services aid other sectors (health, energy, etc)? Look at regional approach...some prototyping and testing of ideas has been done. Time to look at this strategy as we make the big leap forward.

COM Program: Observations (oceans, atmosphere, forcing); Data Management and Information

CRM Program: Understanding Climate Processes; Earth System Modeling, Predictions, and Projections; Climate Analysis and Attribution

Over next couple of days, think about how services capacity we're talking about leverage these other resources. Are we doing a good job?

CSD: Assessing Climate, Impacts, and Adaptation; Climate Services Development and Delivery. Not yet resourced adequately for national delivery.

Organizational chart – things happening across NOAA. Not necessarily designed to work well together. Looking to get better coordination across the agency. Customers are asking us to do this, to consolidate info and ease access/use by customers.

PPBES slide – purpose of the goal is to align activities with the NOAA strategic goal. PPBES is mechanism for formulating activities for out years. Things we should do (FY12-16), can do (FY11-15), will do (FY10-11), and doing (FY09). Concern that this process consumes a lot of resources, and NOAA is not doing a good job communicating with the external community about what we should do.

Funding slide – looking to ramp up services budget up 50% very soon, eventually tripling in next few years, assuming we get support up the line (with the Department of Commerce, Office of Management and Budget).

Key issues identified in previous reviews by SAB/CWG:

- (1) Balance of funding within versus external to NOAA (intramural research, Cooperative Institutes versus extramural research community)
- (2) Better strategic planning
- (3) Better integration across all observations and research/modeling CGT programs
- (4) Prioritizing user needs

Process for this programmatic review – recapping slide

### **O&A:**

TB: reinforcing a couple of points. Integration across programs – would appreciate guidance there, anything needing to be accelerated? Engagement with the external community – opportunities to raise issues on point here.

Q (Janetos): Have you thought about constructing a simple matrix of customer needs versus your programs, to evaluate coverage.

A (CK): No that would be useful.

Q: Re: the organizational chart you showed, not everyone works together as well as they could. Is the climate issue important enough to look at restructuring NOAA? Is this type of discussion off the table for this review?

A (CK): Time is right to look at this. NOAA has looked at this – Eric Barron led study of options last year. We’re talking with Dr. Lubchenco and her staff on how we’d organize this climate office. Would be great if the panelists could think about such changes structurally and functionally – what do you want NOAA’s organization to have versus entities outside of NOAA?

Q (Rice): Both Eileen and CK have stressed assessments. Do you view your assessments as feeding into Integrated Ecosystem Assessments (IEAs), or would the climate services’ assessments consider both the climate and IEA elements together?

A (CK): Looking at variety of types of assessments – at various scales (local, regional, national) and/or sectors (e.g., coastal). Overarching need is to fund national capacity that could lead into IEA, whose approach is a little different,

Q: To what extent has there been dialogue with other Federal agencies?

A (CK): NOAA has had some bilateral discussions, but waiting for OSTP and the Council on Environmental Quality (CEQ) to move on this on behalf of the Administration. Expecting more vigorous engagement over next 6 months.

Q (Janetos): You noted that portfolio is \$38M spread out over many programs. Missions vary – delivery of science, delivery of services that are useful to someone. Are they being measured against different criteria? How is NOAA having conversations about delivering new knowledge versus delivering other value to customers?

A (CK): Segue to Margaret’s presentation...

### **Margaret Davidson**

S&T has driven our work heretofore.

Renaming CIPA for purposes of this review. Two subsets (capabilities) in the portfolio, which Chet also described – looking at climate impacts, and services development and delivery.

Following on Hooke’s metaphor, I tend to think about this program in ecological terms. Looking at how to breed butterflies, not just relying on luck to see one or two metamorphose into good, relevant products/services.

May portion of the review was fire hose view of the \$38M. Looking at our experiences, accomplishments, and lessons learned (or not learned, as the case may be). Also looking forward at what will be an iterative process to evolve the portfolio.

A key question is how do we continue to nurture NOAA's S&T foundation, and move into more socialization and dialogue? We will also need discussions tailored sector by sector, and customer-by-customer.

Climate services is not just within the CGT – how do we interact with other parts of NOAA (i.e., doing inreach), leading to better communication and cultural evolution?

How do we interact with real people – the intermediaries who are some of the delivery mechanisms? We must work with them as we look to transform and expand this portfolio.

Forward looking slide (slide #3) – looking to build portfolio that's robust, used, easily accessed and manipulated by its customers. Look at what we can learn from our prototype-level work – would prefer to make new mistakes than repeat the old ones.

How do we do better job of leveraging OPM (other people's money)? Here we're talking about funding sent to other Federal agencies, state/local governments, the private sector – how can we leverage these resources to deliver the climate services that our customers require.

We're ending this review with a discussion on Performance Metrics. This is a really important discussion, because there are fundamental differences in how we evaluate S&T and how we evaluate services.

#### Q&A:

Q: Asked about back-up slide (Evaluation Continuum).

A (MAD): Will be talking about this Wed AM – philosophical underpinnings.

Q (Hooke): Can you comment on how leadership above you is working?

A (MAD): Folks are still trying to get their bearings, let alone figure out how they're going to self-organize. Not so much a fan of structural reorganization, can waste a lot of resources. Only have one more budget to get a few markers down in this Admin.

Q: Who is the customer? End user? You seem to be good at identifying themes, partners. Not quite as good at identifying customers. Need to satisfy them and get quick wins to garner resources.

A (MAD): Agreed. There are some efforts we can build off of – largely opportunistic. Need to become systematic in expansion. Like the idea of the matrix from earlier.

Q: Seems to be an organizational component missing. NOAA needs to be informed by users. Learn by doing -- how is this integrated into the services development process?

A (MAD): Agreed – I strongly believe this evolution must be iterative. Non-governmental organizations (NGOs) are out in front of us in this regard – e.g., report by some Florida NGOs that brought stakeholders together and defined what’s needed. This product is now being used by the State of Florida to develop a strategic plan via climate. We’re looking to you (our stakeholders) to help us here.

Q (Branscome): What about an assessment of what’s going on outside of NOAA (i.e., by other Feds, private sector)?

A (MAD): Agreed. We get sidetracked on fire drills, we do need to do this.

Q (Macauley): You’re not telling us, “Who wants what?” In some cases, it was too early for some sectors/users to say, but time is getting ripe.

Q (John Dutton): I would add, who actually knows what they want?

A (MAD): Sometimes you have to give them a taste, and often what they ask for ends up not really being what they need. Some customers are already savvy, and we’re trying to respond with our current efforts. As the other customers get a taste of what can be provided and understand more how they can use it, we’ll be in a better position to deliver.

A (Shea): What “they” want will vary by region and you make assumptions about what’s needed at your peril, but in a sector (say, water), we can probably make a pretty good guess as to what users in this arena will want. Being driven by user needs is a totally new way of doing business for NOAA. It’s not a comfortable place for NOAA – help us. It’s a practical challenge (tradition grounded in science-driven service program), but there are also challenges with getting NOAA culturally to do it.

Q (Ray Ban): We learned a great deal on weather side – tried to take what’s been learned in industry (close contact w/ customer) and not make same mistakes here.

A (MAD): Agreed, I tried to get Ed Johnson here on that very issue. There are parts of NOAA that have dedicated offices to this (e.g., NWS). Would like to make new mistakes – don’t have time to

Q (Rice): Seems to me that a big problem here is the absence of a structured, advisory structure/process on climate. Scientists always looking for clients, and they don’t communicate well to policymakers.

A (MAD): This is why I stressed our need for intermediaries (e.g., American Planning Assoc), because they speak more clearly in terms that policymakers get (e.g., risk). Need to leverage them as we move forward.

Q (Schubel): Need to focus not on past customers, but on who will be customers. Can't wait for NOAA to get its act together on this.

A (MAD): While Chet and Tom Karl are trying to help NOAA get its act together, we're out there trying to prove that the new model works.

Q (Balstad): We're talking a lot about supply, not demand. Talking about organization of production, not talking about how we communicate. Not talking about how we structure the information products (i.e., weather products won't fit for climate).

A (MAD): Agreed. NOAA tends to get wrapped around some of these issues, e.g., line between weather and climate is something we fuss over, but our customers don't really care.