Synthesizing the Build Out Plans

Leslie Rosenfeld and Holly Price

11 submitted plans

- Over 400 pages of information submitted
- Many similarities due to templates
- Many differences due to interpretation, modification, level of detail, terminology, style, format
- Establish categories to describe products, platforms, models, etc.

Maritime Operations - Vessels

USER NEED	PRODUCTS / SERVICES	AOOS	CARA	CeN	GC	GLOS	MARA	NAN	NERA	PAC	SCC	SEC
Safe and efficient coast and ocean transit--shipping, fishing, recreation, ferries–scheduling, routes, etc.	Wind, wave, current, and sea ice conditions, nowcasts and forecasts for coast and open ocean, Great Lakes											
	Visualization tools combining obs and forecasts with bathymetry, nav charts, AIS tracking of vessels											
	Data/model output delivery via key existing systems (PORTS, E-NAV, AIS, portable units, etc)											
Safe passage into and inside ports, harbors, passages—scheduling, routes, keel clearance, loads, pilot boarding decisions, port status designations, etc.	Real time hi resolution observations and models of waves, currents, winds, water level and density near and in major ports, harbors, passages											

Climate – Ocean Acidification

USER NEED	PRODUCTS / SERVICES	AOOS	CARA	CeN	GC	GLOS	MARA	NAN	NERA	PAC	SCC	SEC
Long term planning, mitigation and adaptation to respond to acidification and its impacts	**Status and trends of acidification**	x	x				x	x	x	x	x	x
Effective and safe operation of facilities, e.g. shellfish aquaculture --short term responses such as suspending, moving ops	**Warnings sent to interested parties when conditions unfavorable due to acidification**	x		x					x		x	
Other				Map of aragonite satura-tion state along the West Coast	River to oceans carbon cycle		Coastal ocean corrosion indices					Portal for maps of areas particularly sensitive to acidification

Map of aragonite saturation state along the West Coast

River to oceans carbon cycle

Coastal ocean corrosion indices

Portal for maps of areas particularly sensitive to acidification

Fixed Platforms	AO	CARI	CeN	GC	GLO	MAR	NAN	NER	PACI	SCC	SEC
Shore Stns - Ocean # stns # FTEs											
Shore Stns - Met # stns # FTEs											
Moorings multi-purpose fixed-depth instruments # stns # FTEs											
Moorings single purpose # stns # FTEs											
Moorings multi-purpose instruments move up&down # stns # FTEs											
Bottom-mounted limited purpose # stns # FTEs											
Cabled observatories multi-purpose # stns # FTEs											

Many common products and services, different approaches to packaging, serving

Many common platforms—

- Growing move from fixed to mobile
- Strong monitoring of geophysical, chemical
- Relatively little biological monitoring in most cases, except for phytoplankton, vessels

Many common types of models, but diverse regional versions

Large total numbers of platforms and FTEs

FTEs	AO	CARI	CeN	GC	GLOS	MARA	NAN	NERA	PACI	SCC	SEC	Total
Fixed platforms												
Mobile platforms												
Remote sensing												
Modeling												
DMAC												
Product Development												
Education												
Governance & Management												
Total												

Why do platform and FTE numbers differ among regions?

- Incomplete numbers, or information packaged differently
- Amount of platforms already placed in region by others
- Some RAs listed more improvements to system of federal assets
- Ratio of platforms to FTEs needed to support them varied
- Length of history and development of RA
- Number of scientists involved in RA and BOP

Why do platform and FTE numbers differ among regions?

- Differences in number and level of proposed products and services
- Differences in geography or oceanographic processes—e.g.
  - Estuaries
  - Spatial complexity of currents and waves
- Differences in rationale or assumptions regarding needed spatial and temporal resolution
- Models—some RAs heavily involved, others more in partnership role
- Differences in perception of what constitutes a "VW" BOP plan

What products and services should be included in the national synthesis?

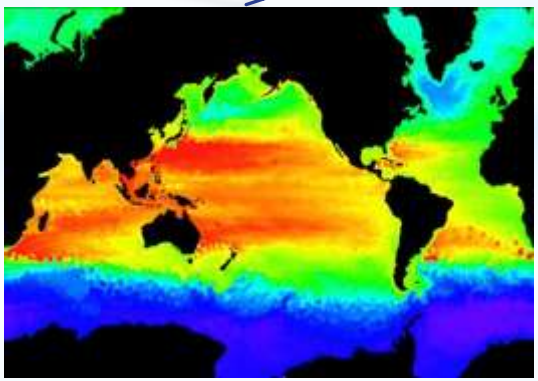
100 listed products condensed to 35 most common

What observing system is required at regional scale to deliver those products and services?

wind, wave, current climatologies

wind, wave, current, nowcasts & forecasts

surface current maps



Linking User Needs to Assets

User need/goal	Products & services	Variables	Platforms & models
Marine Ops-Vessels			
Safe and efficient coast and ocean transit--shipping, fishing, recreation, ferries, etc. – scheduling, routes, etc.	Wind, wave, current conditions, nowcasts and forecasts for coast and open ocean, Great Lakes	• wind • waves • currents	• shore stns, moorings, satellites, models • moorings, bottom mnts, satellites, models • moorings, HF radar, bottom mnts, models
Safe passage into and inside ports, harbors, passages— scheduling, routes, keel clearance, loads, pilot boarding decisions, port status designations	High resolution observations and models of waves, currents, winds, water level, density near and in major ports, harbors, passages	Row 1 at high res, spatially discrete, plus • water level • density (from T/S) • bathymetry • vessel path/speed	Row 1 minus satellites • shore stations, bottom mnts • shore station, moorings • LiDAR (various), vessels, PWCs • AIS, HF radar?

Beyond the Common Elements

Other regional products/platforms

New/innovative products/platforms

BOP summaries and common elements lists—

- all product themes (marine ops, climate, ecosystems/ wq, hazards, integrated)
- Fixed
- Mobile
- Remote *(not on agenda)*
- Models

Other subsystem categories—also summarized

- DMAC *(not on agenda)*
- Product Development
- R&D
- Education and Training
- Governance