

HFR: Looking Forward

1 March 2016 IOOS Association Spring Meeting

Today's Goals

Together, we will:

- Communicate the vision for the HFR Network
- Review successes
- Generate forward-looking 'Key Questions' on HFR Network we need to resolve in the near term
- Set Goals for the coming year to achieve the vision

HFR Vision [Proposed]

A Resilient national High Frequency Radar capability with coverage corresponding to user needs, with an expanding user base, applications, and optimized system operations, staffing, and management.

Our Successes

- AWIPS-2 Ingest
- NCEP Ingest
- PORTS® Products
- National Archive of Real-time Velocities
- Routine Use by US Coast Guard
- Routine Use by NOAA Emergency Response Division
- Uptime Very Good

Realities We Face

- Flat Funding – we need to manage O&M, expanding applications and users, and recapitalization within \$5M appropriation
- Challenged within NOAA and gov't to expand user base and number of applications.
- Aging radar equipment & infrastructure, varying O&M costs across the network
- National HFR Plan's \$20M/yr is not likely
- Opportunity to be more aligned among RA Executive Directors, operators, and IOOS Program in communicating priorities, spreading best practices, finding efficiencies and savings, and expanding applications and user base.

HFR Network Mission Objectives

1. Sustain national network
 1. Maintain uptime
 2. Re-capitalize based on prioritized needs in consultation with RAs
2. Strengthen business case:
 1. Building new capabilities based on user feedback
 2. Enhance current capabilities
 3. Introducing new tools (e.g., AWIPS, PORTS)

Strategies toward the Objectives

- Better understand O&M across the system with goal of bringing overall costs down
- Leverage regional expertise in planning
- Increase applications and stakeholders
- Improve communications among the HFR PIs, RA Directors, and IOOS Program Office, and region-by-region
- Establish WG to bring Regional Reps (both HFR and Exec Directors), Program Office to consensus, work on network “Big Questions”

Big Questions

- What are more realistic build-out and O&M estimates for the network?
- How do we capture costs in a standard way across the system to allow for comparison?
- How do we build a recapitalization plan across the network?
- How do we fund any recapitalization within the \$5M appropriation?
- What are common metrics and data on users/impact/etc we need to be tracking?
- What are additional next steps?
- Other Issues?

Goals for the coming year

- Goal 1: Establish working group consisting of RA Executive Directors, HFR operators, and Program Office. Initiate communications.
- Goal 2: Begin gathering common O&M cost data through semi-annual reporting.
- Goal 3: Develop timeline for addressing “Big Questions” through Working Group.

Present Network Status

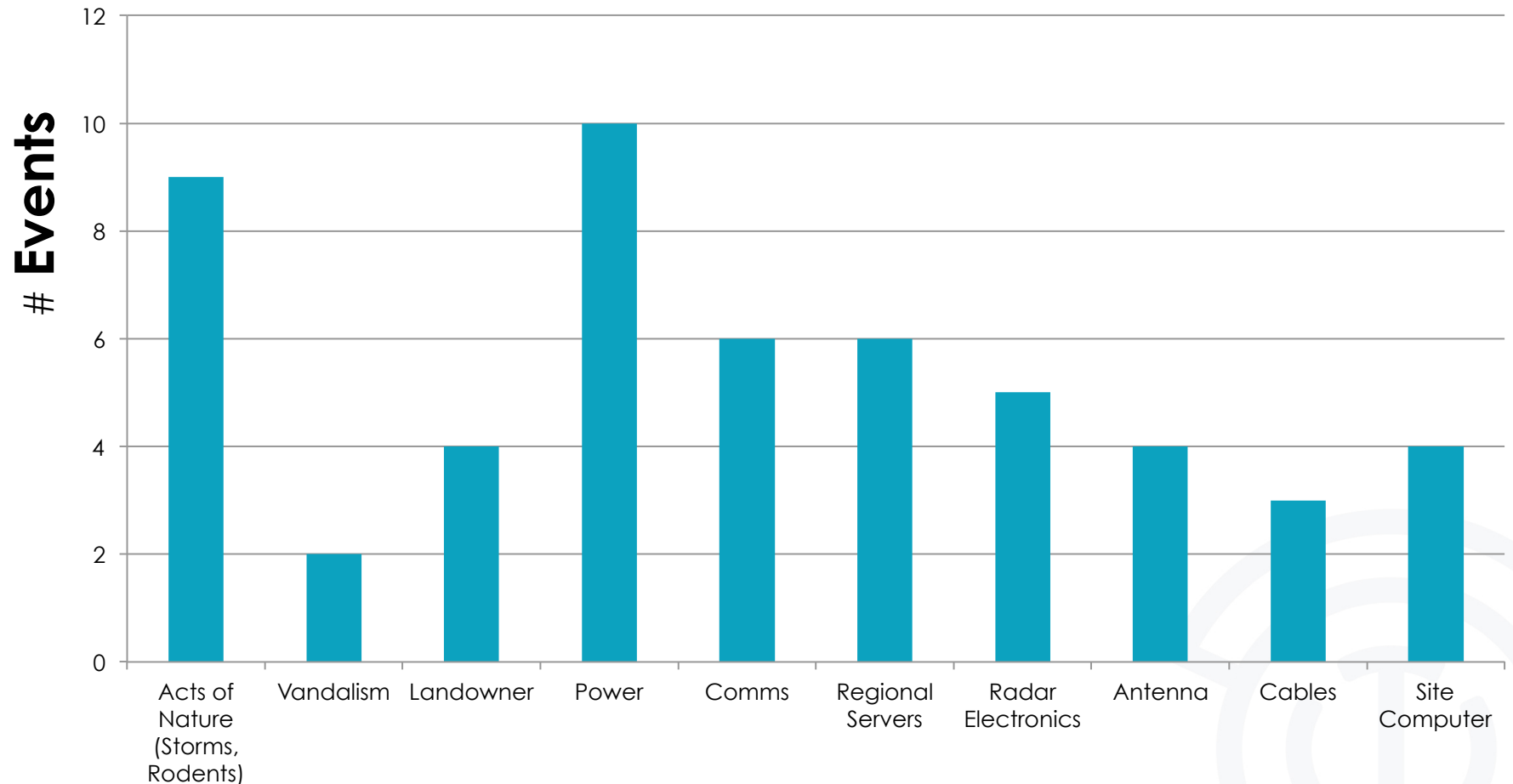
- ~140 Radars funded by IOOS (125 are CODARs)
- Uptime is actually Good

Location	Q1	Q2	Q3	Q4	FY
West Coast	86%	82%	0%	0%	84%
East Coast	80%	80%	0%	0%	80%
All	83%	81%	0%	0%	82%

- Most HFR Operators have nearly doubled the workload called for in the National HFR Plan
- Aging radars but downtime is not due to hardware failure (actually only ~20% of the time network-wide)
- Storms, Power & Comms Issues Dominate
- Wide variation in the cost spent for O&M

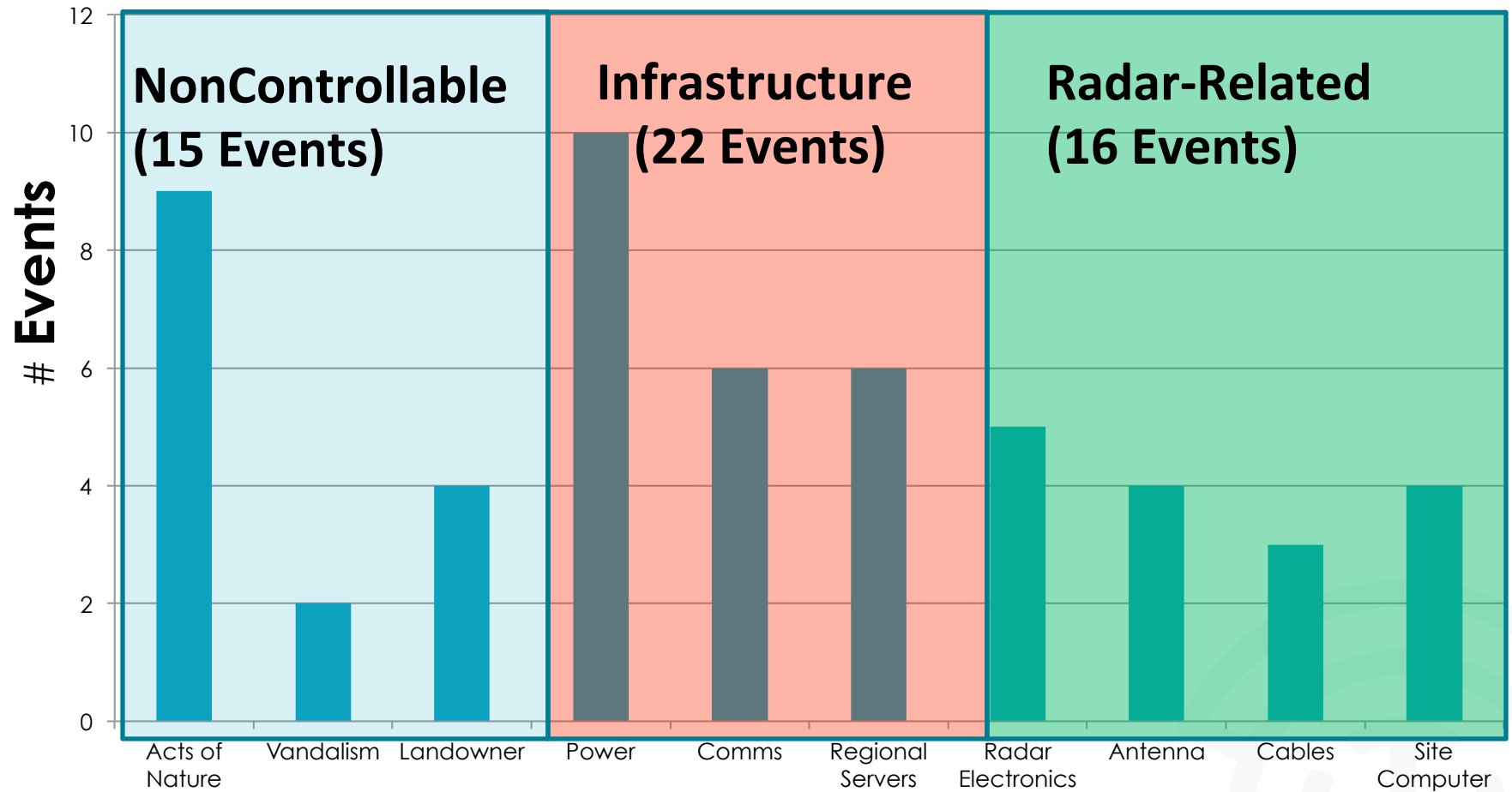
Downtime Events FY15-Present

Downtime Event Causes 53 Events FY15-Present



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Downtime Event Causes 53 Events FY15-Present



Significant Wave Height (SWH)

- SWH = “average height of the 1/3 highest waves”
- SWH has value but not “gold standard”
- Yr 1: Create CONOPS
- Working with NWS S&T to gauge NOAA interest from:
 1. EMC* (NCWCP) - College Park, MD
 2. AFS* Marine Branch - Silver Spring, MD
 3. NWS Regional Marine Program Managers
 4. WFO Perspective
 5. NOAA OPC (Ocean Prediction Center)
 6. NOAA NDBC (National Data Buoy Center)
 7. NWS NHC (National Hurricane Center)

*EMC:Environmental Modeling Center

AFS:Analyze Forecast & Support Office

New Projects for FY16 (cont.)

- Tsunami (NWS & CODAR)
- NWS need for “near-field” & meteotsunami data
- IOOS supplementing NWS funds
- NWS managed, HFR PM technical input
- Will use MARACOOOS radar data

Next Steps

- Questions?
- Discussion?
- Move out on Goals for the coming year

Backup Slides

Priority Sites Uptime

PRIORITY 1 SITES					
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East Coast	83%	86%	0%	0%	84%
All	84%	83%	0%	0%	83%