

USDOE

NW National Marine Renewable Energy Center

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Briefing to the
Marine Technology Society
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Northwest National Marine Renewable Energy Center

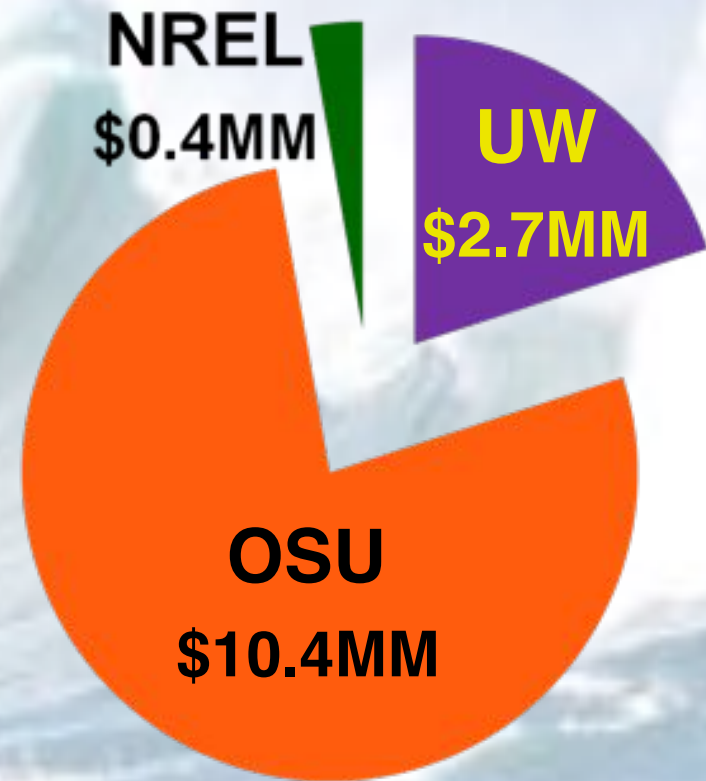


A partnership of OSU and UW to support wave and tidal energy development

- Oregon State University:
 - Headquarters and Director (Bob Paasch)
 - Focus on **Wave Energy**
 - College of Engineering, Oceanography, Hatfield Marine Sciences Center
- University of Washington:
 - Co-Director (Phil Malte)
 - Focus on **Tidal Energy**
 - Mechanical Engineering, Oceanography, Applied Physics Laboratory
- Industry Partners:
 - Snohomish PUD, BioSonics, PNWER, Verdant Power, EPRI, Sound & Sea Tech.

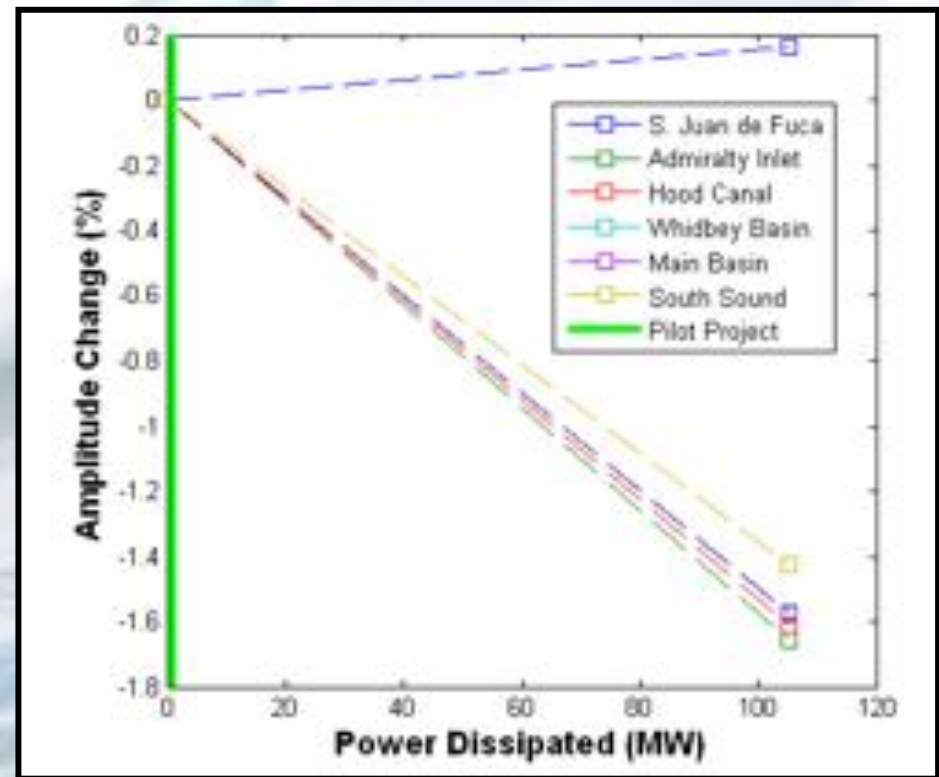
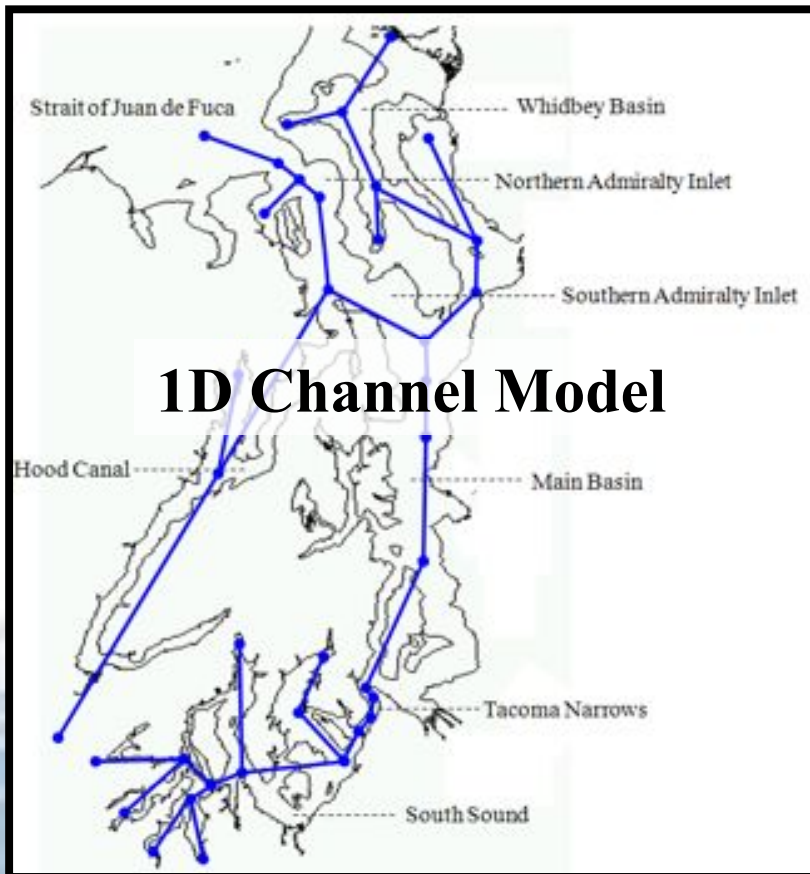
USDOE Funded Center

- Center award announced September 18, 2008.
- USDOE support for up to 5 years at \$1.25MM per yr.
- Minimum 50% non-Federal cost share



Area 1: Impact modeling

B. Polagye (UW-ME), M. Kawase (UW-SO)



Area 2: Mobile testing

J. Thomson (UW-APL), B. Polagye (UW-ME)



Field measurements (surveys + stationary) to inform:

- Site developers: cost & power projections
- Device developers: wakes, efficiency
- Regulators: potential effects

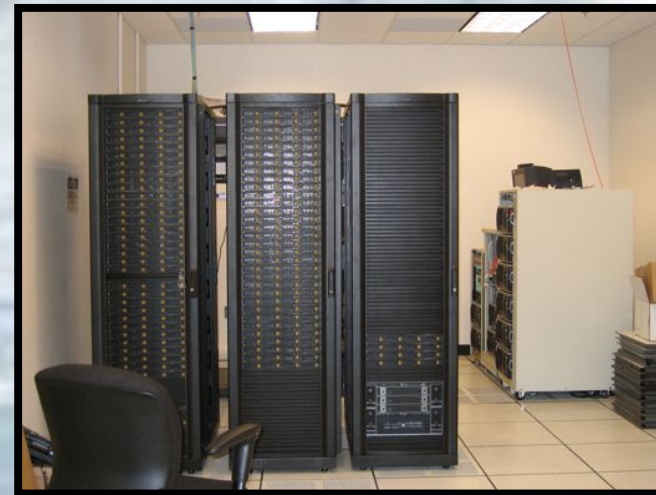
Area 3: Array optimization

A. Aliseda (UW-ME), J. Riley (UW-ME)



Wave-Current Flume:
Experimental studies
of tidal turbine wakes.

Computer Cluster: Parallel
simulations of tidal
turbine wakes using
commercial software
package (Fluent).



Area 4: Reliability/Survivability

M. Tuttle (UW-ME)

Composite materials for use in tidal energy systems:

- Identification of commercial composite material systems that minimize bio-fouling and corrosion
- Estimation of long-term durability effects due to saltwater exposure
- Studies of composite structural design options
- Fabrication and testing of prototype composite structures

Local projects

Snohomish PUD (pilot)



Clean Current

Navy (demonstration)



Verdant



OpenHydro

Questions?

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Oregon State
UNIVERSITY

OSU

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WASHINGTON