Drifting μFloats can measure tidal currents.

**Localization**

**Depth Control**

**Current Speed Measurements**

**Future Work**

- Comprehensive benchmarking of depth/pressure control, as well as localization accuracy and robustness (Lake Washington)
- Improving localization accuracy with additional sensor data (float GPS, IMU)
- Deployment in tidal channel (e.g., Agate Pass, Tacoma Narrows, Deception Pass)

**Localization Details**

**CONTROL ACTUATION DETAILS**

- Mean volume deviation from neutral: ±10 cc
- Pressure sensor drift is corrected in center panel.
- Neutral estimated as mean piston position at depth.

**FLOAT SPECIFICATIONS**

- Unit Cost ~ $2000
- Actuation 8% dvol/Vol
- Depth 100 m
- Endurance ~ 1 day
- Sensors Pressure, Temperature, IMU, Internal Conditions, Auxiliary Port (USB, PC, serial...)
- Comms Surface: GPS, RF, Cellular
- Submerged: Acoustic nanomodem

- Localization < 2 m accuracy, < 1 km range

**FUNDING**

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**TEST LOCATION**

- Straight of Juan de Fuca
- Sequim Bay
- PNNL - MSL 250 m
- WA

**FLOO00 TIDE 23 MAY**

**DEPLOYMENTS**

- 6 FLOATS
- 27 TOTAL DRIFTS
- 5 MIN EACH

**WE‘RE BUILDING 30!**

**FUNDING**

PMEC MEMBER UNIVERSITIES

UNIVERSITY OF WASHINGTON

- NSF
- NAVFAC

- Oregon State
- UAF
- University of Alaska Fairbanks

- US Army Engineer Research Development Center
- New England Maritime Energy Center