

## **ACOUSTICS2008/1846**

### **Using Seagliders for acoustic receiving and communication**

Bruce Howe and Michael Boyd

Applied Physics Lab., Univ. of Washington, 1013 Northeast 40th St., Seattle, WA 98105, USA

Underwater gliders are beginning to be used as tools in ocean acoustics and acoustical oceanography. Results from several experiments conducted in summer 2006 with Seagliders equipped with acoustic modems and receivers are described. Off Kauai, a glider received signals from the Acoustic Thermometry of Ocean Climate / North Pacific Acoustic Laboratory 75 Hz source; subsequent coherent processing showed close to theoretical gain for 12 minute records while moving away from the source at ranges  $>100$  km with velocity 20 cm/s (measured by travel time, Doppler, and dead reckoning). In the Monterey Bay MB06 experiment, two-way communications between other subsea platforms and shore via the acoustic modem-equipped glider was demonstrated (albeit with latency). The results support the future use of gliders as precision navigated platforms, communication and time distribution nodes, and thermometry/tomography mobile receivers. Work supported by the Office of Naval Research.