Wave Glider® Technology

Autonomous Surface Vehicles as Data Gathering Platforms
UK Ocean Acidification ASM 22-24 July 2013

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CO2 Flux Monitoring

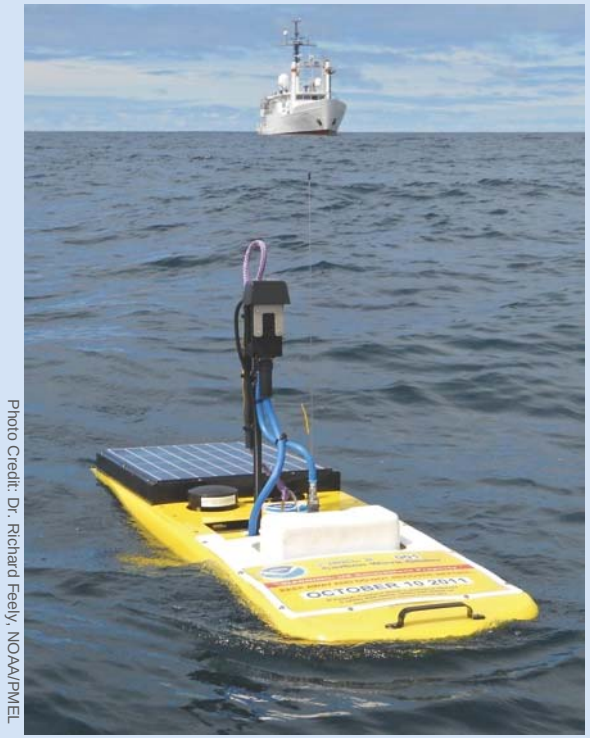


Photo Credit: Dr. Richard Feely, NOAA/PMEL

Solution – The Carbon Wave Glider

- The NOAA PMEL carbon group, led by Chris Sabine and Chris Meinig, teamed up with Liquid Robotics to integrate a MAPCO2 system, a SeaFET pH sensor and a SeaBird CTD+DO into a Wave Glider®
- Capable both of conducting autonomous, basin-scale ocean transits to evaluate spatial variability of carbon uptake or create long-duration (6 months) "virtual moorings"
- Two units deployed on maiden voyages off US Pacific Northwest coast & Hawai'i for calibration against measurements from a research vessel and existing buoys

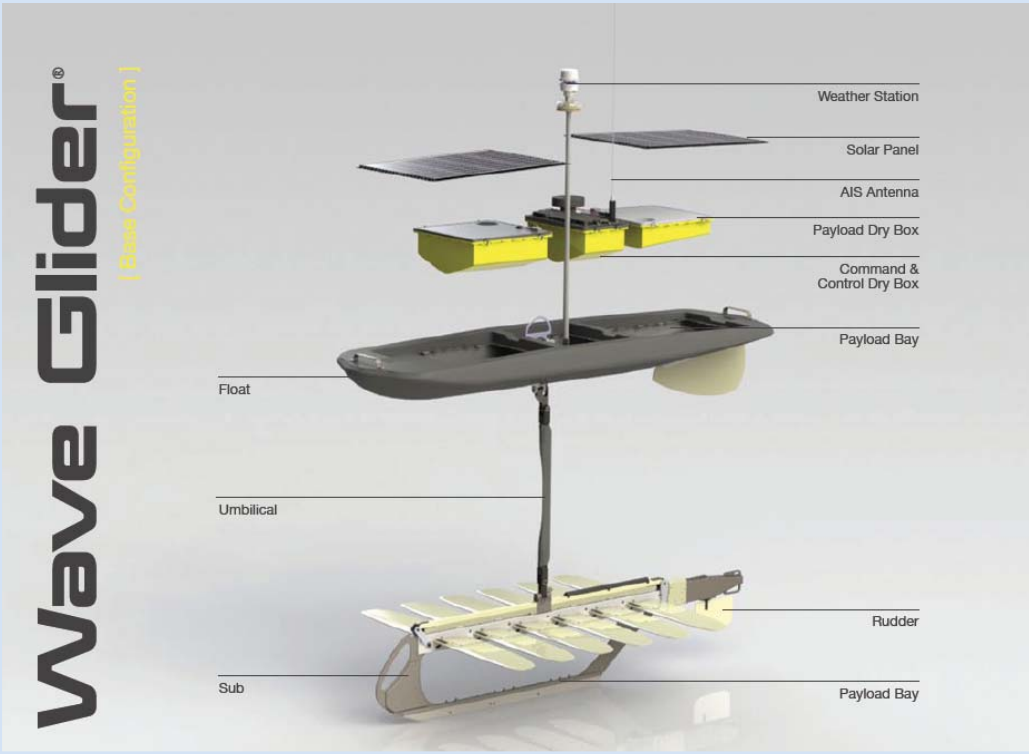
System Architecture

Float

- Solar Panels
- Navigation
- Communications
- Payloads

Sub

- Wave Powered
- Forward Thrust
- Rudder Control
- Payloads

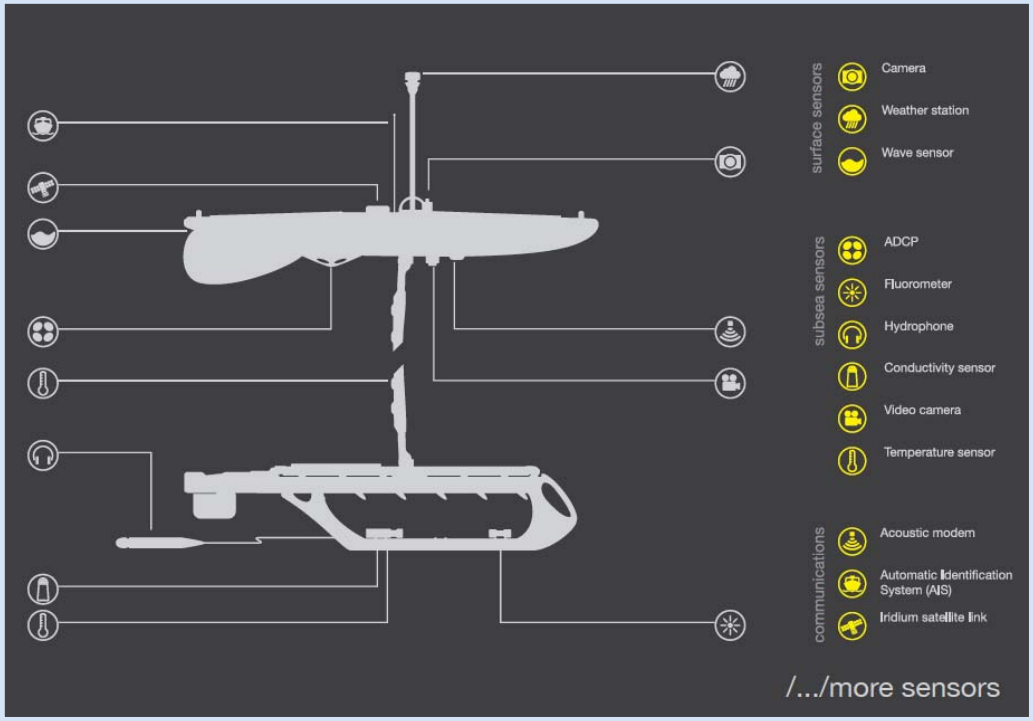


Available Sensors

Surface Sensors
- Camera
- Weather Station
- Carbon Sensor
- Wave Sensor
- High Precision GPS

Subsea Sensors
- ADCP
- Passive Acoustics
- Fluorometer
- Carbon Sensor
- Hydrophone
- Conductivity
- Video Camera
- Temperature

Communications
- Acoustic Modem
- Automatic Identification System (AIS)
- Iridium Satellite Link



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