



O.H. Hinsdale Wave Research Laboratory

OREGON STATE UNIVERSITY • COLLEGE of ENGINEERING

Instrumentation

The HWRL has a large inventory of conventional and state-of-the-art instrumentation to measure free surface, velocity, pressure, stress, turbidity, and depth. Data can be made available in near-real time via the web.

Free Surface

- Up to 35 resistance-type wire wave gages
- 3 Acoustic depth gages (Banner Engineering, Corp) 0.2-5m
- 8 Acoustic depth gages (Senix Corp) 0.2-2m

Velocity

- 12 3-D acoustic-Doppler velocimeter (Nortek Vectrino)
- 4 2-D acoustic-Doppler velocimeter probe heads
- 3D Stereo Particle Image Velocimeter system (LaVision)

Pressure/Strain

- 15 miniature pore pressure transducers (Druck PDCR81)
- 12 pressure transducers, 0-15 psig (Druck PDCR830)
- 5 pressure transducers, piezo 0-8.3 psig (PCB,W106B)
- 5 10ch, 1 4ch strain gage conditioner (Vishay 2100)
- 4 50Kip, 4 20Kip pancake load cell (DeltaMetrics)
- 2 10Kip, 6 2Kip rod end load cell (DeltaMetrics)

Turbidity

- 16 optical backscatter sensor (D&A Instr., OBS-3)

Bathymetry

- 2 32 component ultrasonic ranging system (SeaTek)
- 4 laser range finder 0.2-200 m (Dimetix DLS-A30)
- LIDAR survey through subcontract arrangement

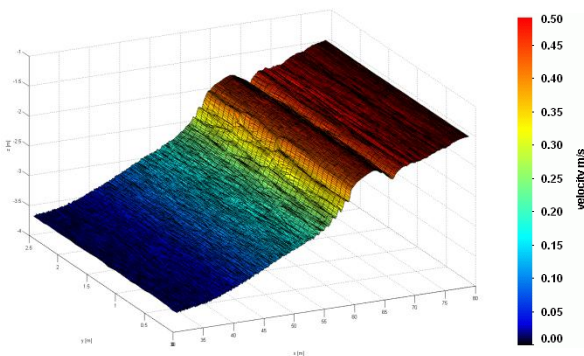


Data Acquisition System

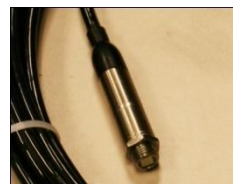
- 3 Modular PXI architecture DAQ systems, each with
 - Built-in signal conditioning and anti-aliasing
 - 64 channel, 16-bit analog acquisition
 - Digital pulse generation, external device synchronization
 - 16 channel RS-232 / serial data recording
 - DAQs can be synched to provide 192 analog 48 digital ch
- 1 Modular PXI architecture DAQ system with
 - 4 channel RS-232 serial, 3 channels IEEE 1394a

Video

- PhaseSpace Motion Capture system (8 cameras)
- 3 submersible DeepSea Seacom 2000 cameras
- Atlantis AUW-5800 underwater video
- 10 web cameras (7 Axis 213-PTZ, 3 Axis 211M)
- 2 Sanyo 9.1MP handheld camcorders
- ARRI Lighting System (Chimera Perfect Lighting)
- 2 DeepSea Sealite submersible lights



Acoustic profiler for sediment transport



Pressure Druck PDCR830



DeltaMetrics Load Cell



ADV 3D probehead



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