Coastal Response Research Center
at the University of New Hampshire

Numerical Algorithms to Compute Dispersion and Submergence of Oil Spilled at Sea

Methods

- Long term (~2 – 3 weeks) weathering of oil in temperature-controlled elliptical flume
- Measurement of weathered oil properties over time
- Measurement of droplet size distributions during dispersion process as oil weathers

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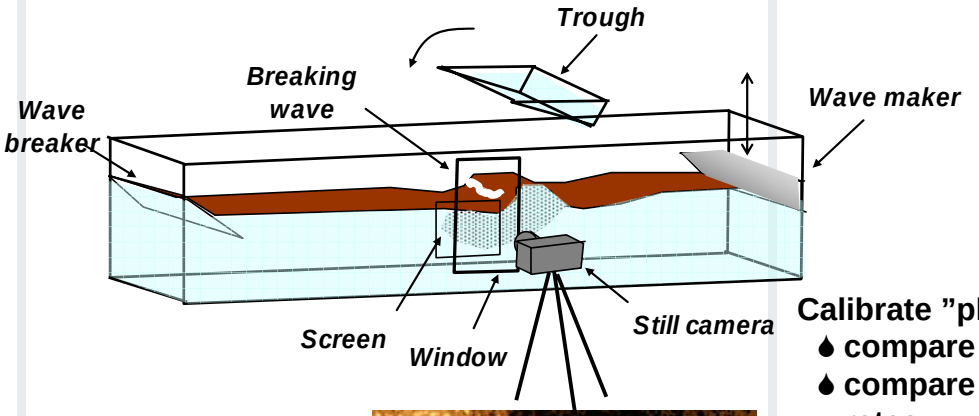

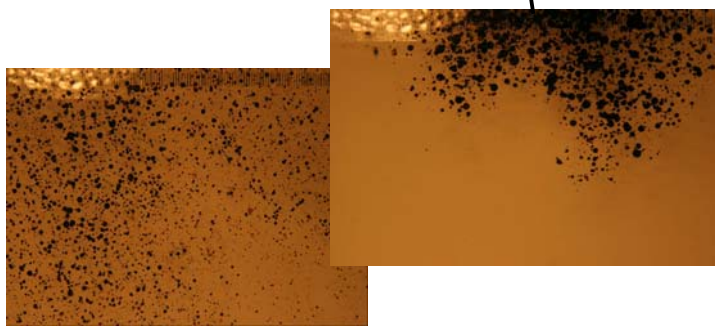

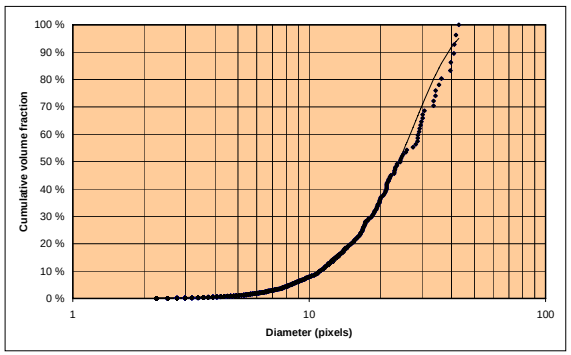

Summary

Calibrate "plunging jet" to breaking wave
- compare droplet size distributions
- compare turbulent energy dissipation rates

Run weathering studies with different oils

Produce database of oil droplet size distributions as function of weathered oil properties and input energy / energy dissipation

Use dimensional analysis and/or multivariate analysis to produce functional relationship for
- droplet size distribution
- criteria for cessation of droplet formation

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