# Oil Spill Modeling Working Group Meeting
# September 16-17, 2008

Planning (Timescale)

| **Issues** | **Short** (Minutes to Days) | **Medium** (Days to Months) | **Long** (Multi year) | **Interdecadal** | **Climate Change Trend** |
|---|---|---|---|---|---|
| | Wind rose<br><br>Tidal charts River flow/gage data<br><br>General conservation principles | Forecasts<br><br>Seasonal transition occurance<br><br>Meterological storm time scale and tracks | Long record Climatology Monsoon<br><br>Eddy dynamics and statistics<br><br>Gulf stream meanders Seasonal reversals | Ex: El Nino | Ex: Summer extent of arctic sea ice |
| Likely locations (spill start sites) | X | X | X | | |
| Response Resources Needs | | | | | |
| Equipment Storage | X | X | | | |
| Disposal | | X | x | | |
| Transit times | X | X | | | |
| Shipping routes | X | X | X | | X |
| | | | | | |

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| | | | | | |
|---|---|---|---|---|---|
| *Model type* | Persistence | Deterministic advection and diffusion Ensemble forecast | Analysis of multiple trajectories Random process | Sensitivity analysis | Climate model |

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Response / Tactical Modeling – When needed

| | | Early moments | 1st hour | Hours | Planning cycle (24-36 hr) | Days - Weeks |
|---|---|---|---|---|---|---|
| Beach precleaning | | | | | | |
| Preplacement of boom | | | | | | |
| Response options | | | | | | |
| | Dispersants | | | | | |
| | Burning | | | | | |
| | Boom | | | | | |
| Mystery spill source ID | | | | | | |
| Trajectory | | | | | | |
| | | | | | | |
| | | | | | | |

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Response / Tactical Modeling – Model Types

| | | **Short** (Minutes to Days) | **Medium** (Days to Months) | **Long** (Multi year) | **Interdecadal** | **Climate Change Trend** |
|---|---|---|---|---|---|---|
| | | Wave dynamics<br><br>Langmuir circ.<br><br>Rip current dynamics<br><br>Tides<br><br>Mixed layer dynamics | Tides<br><br>Shelf waves<br><br>Alterations in mixed layer<br><br>Thermocline development<br><br>Coastal current dynamics<br><br>Freshwater outflow | Seasonal variations (no model is needed) | Climateology | |
| Beach precleaning | | **X** | **X** | | | |
| Preplacement of boom | | **X** | **X** | | | |
| Response options | | | | | | |
| | Dispersants | **X** | | | | |
| | Burning | **X** | | | | |

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| | | | | | | |
|---|---|---|---|---|---|---|
| | Boom | **X** | **X** | | | |
| | Skimming | **X** | **X** | | | |
| Mystery spill source ID | | | **X** | **x** | | |
| Trajectory | | **X** | **X** | **x** | | |
| | | | | | | |
| Model Type (state of the are) | | Persistence | | | | |
| Future model type | | Multiple scale model (intention of parameterization) | | | | |
| | | | | | | |
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