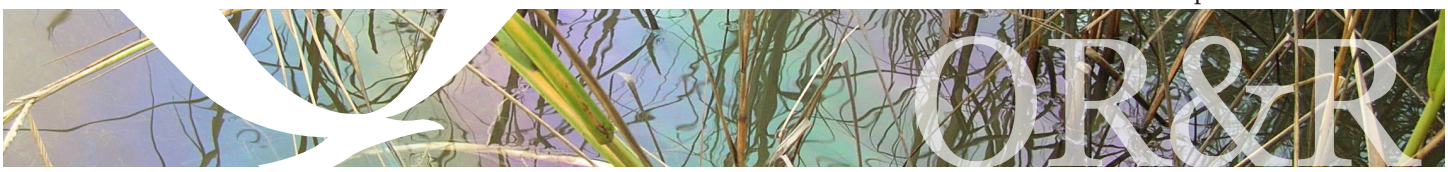


Trajectory Analysis Planner (TAP)

The Trajectory Analysis Planner (TAP) uses an innovative, statistics-based approach to give oil spill contingency planners real-world answers at the click of a mouse.

TAP answers the crucial question in any Area Contingency Plan: **How do I develop a plan that protects my area against likely spills?** TAP graphically uses the results of thousands of simulated oil spills to help emergency planners understand and anticipate many possible outcomes. Planners can use these statistically valid scenarios to develop realistic local-area contingency plans for oil spill response, as required by the Oil Pollution Act of 1990.

Each TAP implementation is region specific. TAP is now operational for San Francisco Bay, CA; San Diego Bay, CA; Puget Sound, WA; Kaneohe Bay, HI; Lake Calcasieu, LA; Lake Sabine, TX (and LA), Inchon Harbor, Korea, and the Persian/Arabian Gulf. These locations include NOAA's Environmental Sensitivity Index (ESI) data where available.

TAP has been further developed for the San Diego Bay region to extend its capabilities to account for cleanup and and response efforts, including booming and skimming. This allows users to assess the efficacy of different possible response options over a wide range of likely conditions in a statistical framework.

Planning Tasks:

- Assessing relative potential threats to a given sensitive location from possible spill sites.
- Determining which shoreline areas are likely to be threatened by a spill originating from a given location.
- Assessing the time in which a response method could be successfully mounted at a given location.
- Estimating the levels of impact on a given resource from a spill.
- Analyzing efficacy and shortfalls of response personnel and equipment.

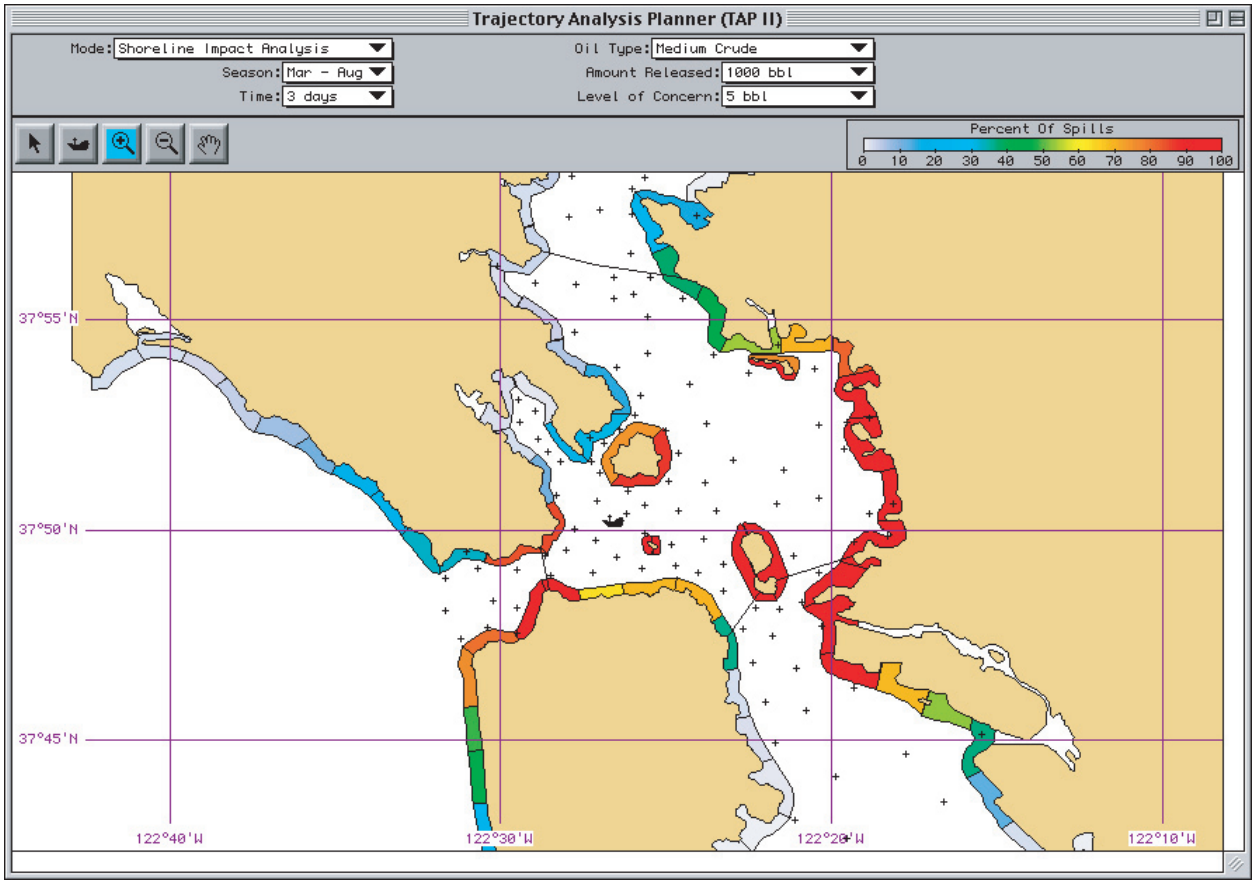
TAP draws on a database of thousands of modeled spill trajectories, created using historical wind patterns and both tidal and non-tidal circulation. The TAP interface helps response planners understand characteristics of the probable oil spills in a given region. Understanding these characteristics allows responders to plan not only for one or a few possible high-impact events, but to determine the best overall plan for many events, across the entire spectrum of probabilities and levels of impact.

Graphical Analysis

Graphical output from TAP is presented in five modes:

1. **Shoreline Impact Analysis** helps answer the question: If oil is spilled at a given spot, what shoreline locations are likely to be impacted? A spill source site in the bay is selected, and a color map is presented that indicates the likelihood that oil from a spill at that location will reach each of the shoreline receptor sites.
2. **Response Time Analysis** displays information about how quickly a response must be established at a given location in order to precede the arrival of the oil. The user specifies a spill site and a level of protection, and TAP displays a colored map indicating the margin of time after the spill before the oil is likely to have impacted each receptor site. This mode allows planners to know how quickly a response must be put in place.
3. **Site Oiling Analysis** provides a way to visualize how a particular receptor site is likely to be oiled by a spill originating at a particular location. The user selects a spill site and a receptor site and is presented with a graph showing the percentage of modeled spills that resulted in a given amount or more of oil reaching the site in the selected time-period.
4. **Threat Zone Analysis** helps answer the question: Where might a spill occur that could threaten a shoreline location of concern? The user selects a receptor site of interest (perhaps a sensitive wetland), and is provided with a color map of the entire bay, indicating the likelihood of oil reaching the selected receptor site from any location in the bay.
5. **Resource Analysis** provides data on the quantity of a given resource impacted by the modeled spills, or the level of response required to adequately address the impacts of those spills. The user specifies a spill site and a resource of interest, and TAP generates a graph that indicates the total costs of each of the modeled spills in terms of that resource. The values on this graph are the costs of oil impacting each site at greater than its LOC, summed over all the sites for which the LOC is exceeded. The cost of a site could be the number of nesting birds at that location, or the length of boom required to protect the site, or virtually any resource of interest, in any appropriate unit.

To order a copy of TAP for one of the existing regions or obtain additional information:
http://response.restoration.noaa.gov/tap
orr.tap@noaa.gov
(206) 526-6317



NOAA's Office of Response & Restoration—Protecting our Coastal Environment

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http://response.restoration.noaa.gov or call (301) 713-2989.