

## User's Guide

Welcome to the Location File for New York Harbor. This file simulates the transport of spilled oil in the waters surrounding the five boroughs of New York City, NY. The boroughs and major waterways are shown on the map below.



NOAA created Location Files for different U.S. coastal regions to help you use the General NOAA Operational Modeling Environment, GNOME. In addition, on a case-by-case basis, NOAA develops international Location Files when working with specific partners. Each Location File contains information about local tidal conditions that GNOME uses to model oil spills in the area covered by the Location File. Each Location File also contains references (both print publications and websites) to help you learn more about the location you are simulating.

As you work with the Location File for New York Harbor, GNOME will prompt you to:

1. Choose the model settings (start date and time, and run duration).
2. Input the wind conditions.

GNOME will guide you through choosing the model settings and entering the wind conditions. Click the Help button anytime you need help setting up the model. Check the “Finding Wind Data” Help topic to see a list of websites that publish wind data for this region.

More information about GNOME and Location Files is available at <http://response.restoration.noaa.gov/gnomelocationfiles>.

## **Technical Documentation**

### ***Current Patterns***

The New York Harbor Location File extends from the Lower Hudson River and Upper Bay to the Lower Bay. It also includes the East River, Newark Bay, Kill van Kull and Arthur Kill. This area consists of multiple freshwater sources from several major and minor river systems that mix with the tidal current. This circulation is simulated with 8 tidal current patterns. All current patterns were created with the NOAA Current Analysis for Trajectory Simulation (CATS) hydrodynamic application. Each pattern is scaled to tidal prediction station. The predicted tides are asymmetrical but are simulated as symmetrical in the Location File because GNOME does not support separate tidal current patterns for flood and ebb.

### ***References***

You can get more information about New York Harbor from these publications and websites.

### **Tides**

NOS. 1979. New York Harbor Tidal Current Charts, Eighth Edition. U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Ocean Service, Rockville, MD 20852.

NOAA Tides and Currents: New York/New Jersey Harbor PORTS  
<http://tidesandcurrents.noaa.gov/nyports/nyports.shtml?port=ny>  
Physical Oceanographic Real Time System (PORTS) measures and publishes observations and predictions of water levels, currents, salinity, and meteorological parameters (e.g., winds, atmospheric pressure, air and water temperatures).

Caplow, T., P. Schlosser, D.T. Ho, and R.C. Enriquez. 2004. Effect of Tides on Solute Flushing from a Strait: Imaging Flow and Transport in the East River with SF6. *Environmental Science and Technology*, 38:4562-4571.

F.L. Hellweger, A.F. Blumberg, P. Schlosser, D.T. Ho, T. Caplow, U. Lall and H. Li. 2004. Transport in the Hudson Estuary: A Modeling Study of Estuarine Circulation and Tidal Trapping, *Estuaries*, 27(3):527-538.

International Marine. 2008. Tidal Current Tables 2008, International Marine, Customer Service Department, P.O. Box 547, Blacklick, Ohio 43004.

2003 New York Harbor Water Quality Report: Tidal and Freshwater Circulation Patterns

[http://www.scc.rutgers.edu/coastweb/NYCDEPHarbor\\_survey/docs/factors/patt.htm](http://www.scc.rutgers.edu/coastweb/NYCDEPHarbor_survey/docs/factors/patt.htm)

A discussion of the circulation patterns within the New York Harbor estuary, published by the New York City Department of Environmental Protection.

### **Wind and Weather**

National Data Buoy Center (NDBC)

<http://www.ndbc.noaa.gov/>

1. Real-time weather and wave information: The NDBC site opens at the Recent Data tab. On the clickable map, select the New York area. To view real-time weather data, click a station ID number on the map.
2. Historical information: On the Home page, click the Historical Data tab. On the clickable map, select the New York area. To view historical marine data, click a station on the map.

National Weather Service Marine Forecast: New York Harbor

<http://forecast.weather.gov/shmrn.php?mz=anz338>

Current weather observations and forecasts for New York Harbor.

### **Oil Spill Response**

NOAA Emergency Response Division (ERD), formerly Hazardous Materials Response Division (HAZMAT)

<http://response.restoration.noaa.gov>

Tools and information for emergency responders and planners, and others concerned about the effects of oil and hazardous chemicals in our waters and along our coasts.