



CALIFORNIA
ENVIRONMENTAL
HEALTH TRACKING
PROGRAM

IN THIS ISSUE

CEHTP is working to develop a standards-based, coordinated, and integrated environmental health tracking system for the ongoing monitoring, reporting, linkage, and communication of data on environmental hazards/exposures and environmentally related diseases.

Simultaneously, we are working to build stakeholder (including owners and users of data) capacity to work with and utilize data. For the success of state and national tracking systems, it is vital to invest in partners who will not only help to contribute to the development of a tracking system but also to use data and information from a tracking system for public health functions and services.

In this issue, we feature two program initiatives aimed at increasing stakeholder capacity around environmental health data.

Capacity Building Mini-Grants: Seeking Applications

1

Spatially Integrating and Analyzing Data: CEHTP's Tools and Services

2

Announcements:

4

Cal/EPA Environmental Justice Grants

National Report on Human Exposure to Environmental Chemicals

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CALIFORNIA TRACKING

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Capacity Building Mini-Grants :: Request for Applications (RFA)

The California Environmental Health Tracking Program (CEHTP) is seeking applications for projects that increase or demonstrate organizational and/or community capacity around environmental health data, indicators, and information.

Eligible institutions include:

- Non-governmental organizations (e.g. community-based organizations, faith based organizations, etc.)
- City and county governmental agencies/departments/offices (e.g. public health, environmental health, education, planning, information technology, etc.)
- Tribal governments and agencies

The application deadline is October 19, 2005. The maximum grant amount is \$12,000 per project. The grant term is from November 2005 through May 2006.

CEHTP seeks to fund projects that better position a target audience to utilize data – from existing environmental monitoring/health surveillance systems and a future environmental health tracking system – to inform and perform public health functions and services.

CEHTP will consider funding projects that increase or demonstrate capacity in one of the following broad categories:

A. Working with environmental health data. Working with data may include: accessing and acquiring data; understanding what data mean; managing and formatting data; reporting data; analyzing data; and interpreting and presenting data or results of data analysis.

For example, a project could demonstrate organizational capacity to inform, characterize, or compare distributions, disparities, and trends in population exposures and disease burdens related to the environment.

B. Putting environmental health data to use for public health functions. Public health functions may include: program planning and development; community assessment; public education, risk communication, and outreach; amelioration of health disparities and environmental injustices; community organizing and mobilization; program evaluation; and public policy development.

For example, a project could increase community capacity by compiling and disseminating case studies (including successful models, common themes, best practices, and lessons learned) of how environmental health data/information was successfully utilized for action (e.g. influencing policies, regulations, program designs, etc.).

C. Integrating Information Technologies (IT) and related standards and methods to facilitate working with and utilizing environmental health data. Information Technologies, standards, and methods may include: Geographic Information Systems; database technologies; statistical software; information systems infrastructure; data standards, protocols, and policies; Management Information Systems; and data dissemination/visualization tools.

For example, a project could enable or work toward geocoding (see page 2), manipulating, analyzing, and/or mapping geographically referenced health and environmental data.

For more information or to obtain a complete RFA, please visit our website (governmental agencies should go to: www.catracking.com/gov/grant and non-governmental organizations should go to www.catracking.com/ngo/grant) or contact Eddie Oh at eoh@dhs.ca.gov or 510-620-3698.

Spatially Integrating and Analyzing Data :: CEHTP's Centralized Geocoding and Traffic Spatial Linkage Tools

A key component of building a comprehensive environmental health tracking system is the development of tools and frameworks that will guide the collection, management, integration, analysis, and dissemination of health, environmental, and socioeconomic data and information.

The Need:

A robust environmental health tracking system must integrate health, environmental, and socioeconomic data; however, these data are often very disparate. The challenge lies in the fact that these data are collected by various agencies and for various purposes (not always that of public health).

In a review of the major health and environmental data systems in California, CEHTP has found that there is limited capacity to link data from the various information systems. A major need exists for technologies, standards, and procedures for enabling interoperability (i.e. ability to share and integrate information).

The Solution:

CEHTP is developing prototype tools and services that enable the enhancement, integration, and analysis of environmental health data. The foundation of many of these tools is the application of Geographic Information Systems (GIS). For a basic overview of GIS, refer to the summer 2004 issue of this newsletter:

www.catracking.com/newsletter.

An important attribute of GIS is using both time and place as a means of integrating disparate data. Geographically coding (geocoding) information simultaneously enhances analytical capacity while improving interoperability with disparate systems.

The need for and trend towards coordinating, managing, integrating, and analyzing data through spatially- and temporally-specific identifiers have played significant roles in guiding the California Environmental Health Tracking Program.

In addition, a variety of data owners and potential collaborators have indicated the need for tools/services and technical assistance to support geocoding and integration of data. In response, CEHTP has committed

resources towards the development of tools and services to support both program and stakeholder needs.

For this issue we focus on two of the tools/web services that are furthest along in development: centralized geocoding and traffic spatial linkage.

Centralized Geocoding Tool/Web Service:

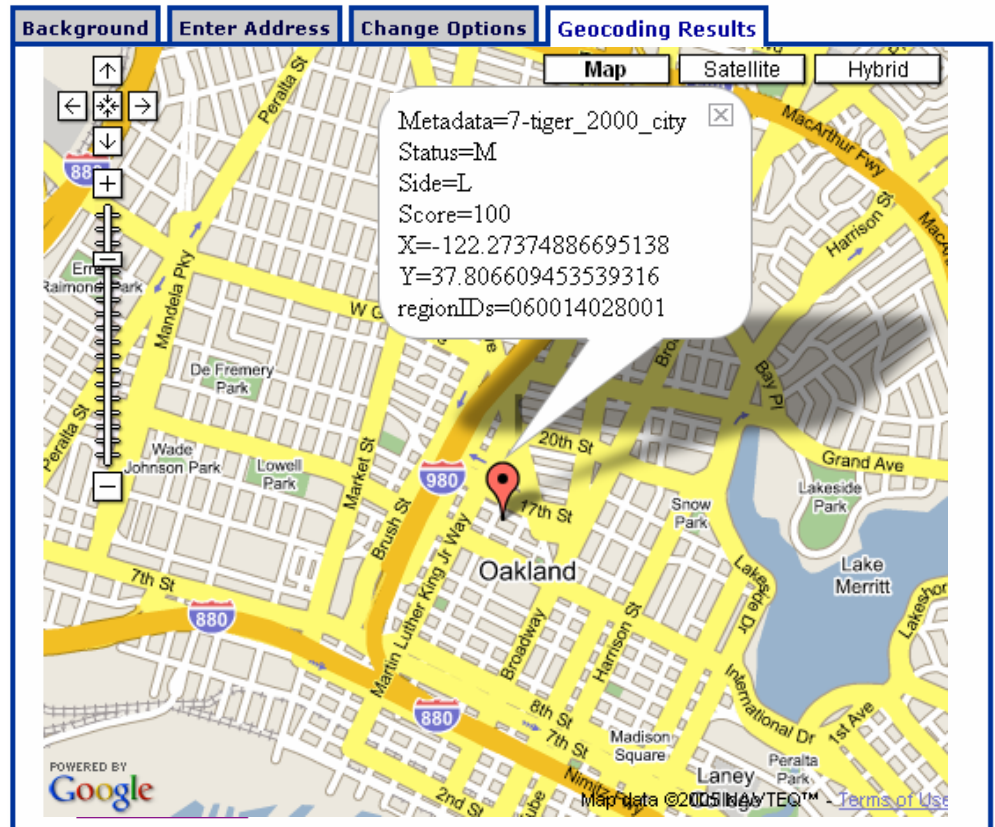
The centralized geocoding tool (see a snapshot in FIGURE 1 below) enables users to geocode address data to latitude/longitude coordinates and other political boundaries (e.g. Census Block Group, Public Land Survey, etc.) as well as standardize and verify address data.

The purpose of developing this tool is to provide a centralized geocoding service that has high geocode rates and is secure, interoperable, spatially accurate, and available over the web.

CEHTP has found that organizations would benefit from performing ongoing, systematic, and automated GIS functions such as visualization, integration, and analysis (see spatial linkage example in page 3). This is very difficult without high quality, geocoded data. Furthermore, geocoding can often be complex and/or expensive. Programs that work with data do not always have resources or mandates for geocoding or ensuring accurate geospatial data.

- continued on page 3 -

FIGURE 1: Centralized Geocoding Demonstration



CEHTP has used this tool to successfully geocode physician encounter and pharmaceutical purchasing data related to asthma. In addition, this tool has been used on statewide vital statistics, lead exposure, and soil lead surveillance data sets.

The centralized geocoding tool can be explored through this demonstration site*: www.ehib.org/cma/geocoding_tool.jsp.

Traffic Spatial Linkage Tool/Web Service:

FIGURE 2 is a snapshot of the demonstration site of CEHTP's Traffic Spatial Linkage web service tool. This tool enables users to input geo-coordinates (or an address) and acquire various traffic-related measurements (such as the sum of average annual daily vehicle traffic) within a selected buffer (radius).

Currently, the demonstration tool computes traffic-related metrics using Caltrans (the California Department of Transportation) HPMS (Highway Performance Monitoring System) data for Alameda County from the year 2001.

This example demonstrates how spatial overlay and intersect analysis can be done in real-time, securely, over the web without having to download entire data sets. This can be a value-added enhancement for many data owners because it is

a low-cost method of integrating two or more data sets with geographic identifiers (see pesticide linkage example in implications/future plans below).

The traffic linkage tool can be explored through this demonstration site*: www.ehib.org/cma/traffic_tool.jsp.

Implications/Future Plans:

These types of tools and services represent tremendous opportunities for CEHTP, users of data, and owners of data. These tools will help to increase capacity to collect, manage, integrate, analyze, and communicate/share data that can inform and guide public health efforts.

Additionally, the same technologies and methods that were developed for the geocoding and traffic linkage tools can be used to develop other tools for linking and analyzing various data sets with geographic identifiers. It would be possible to link both internal and external data as well as categorically different data (e.g. health data to environmental data, environmental data to administrative data, administrative data to socioeconomic data, etc.).

For example CEHTP is also developing an Agricultural Pesticide Linkage tool/service. This would enable users to specify geo-coordinates (along with a time range and buffer radius) and calculate agricultural pesticide quantities close to that location. It would also allow users to select pesticide use data by individual pesticides, groups of pesticides based on toxicological categories, or all pesticides.

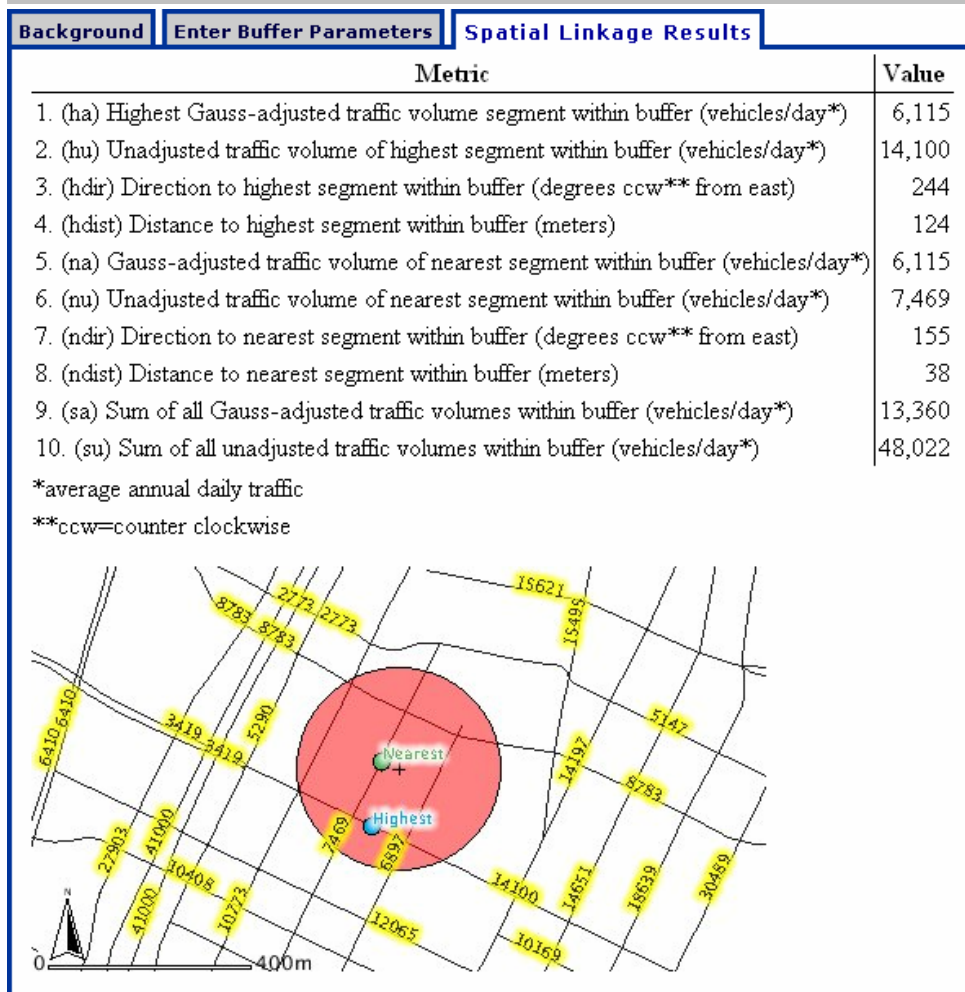
CEHTP will continue to develop methods and standards to support data users and providers in a framework that allows spatiotemporal integration.

Questions and Comments:

We welcome readers to visit the demonstration sites, test out the real-time functions, and evaluate and comment on their utility. Please direct feedback or inquiries about the demonstration tools to Craig Wolff at cwolff@dhs.ca.gov or 510-620-3655.

* Please note: the sites are for demonstration purposes only. While they perform many of the real-time functions as envisioned, they lack full features such as data import/export, batch computations, and encryption (SSL). Those and other features will be available in future BETA releases.

FIGURE 2: Traffic Spatial Linkage Demonstration



Announcements

Cal/EPA Environmental Justice Small Grants

Application Deadline: 3:00 p.m., October 14, 2005

The California Environmental Protection Agency (Cal/EPA) has established an Environmental Justice Small Grants Program to assist eligible community-based, grassroots, non-profit entities, and federally recognized tribal governments to address environmental justice issues. Two hundred fifty thousand dollars (\$250,000) in grant funds are available for this grant cycle. Projects may be funded with a maximum amount of \$20,000 per project. For more information or to obtain an application package, please visit www.calepa.ca.gov/EnvJustice/Funding/SmallGrants.htm.

National Report on Human Exposure to Environmental Chemicals

The Centers for Disease Control and Prevention (CDC) has released the third report of the *National Report on Human Exposure to Environmental Chemicals*. This *Third Report* contains the most extensive assessment ever made of the exposure of the U.S. population to chemicals in the environment. It also contains first-time exposure information for 38 of the 148 chemicals included in the *Third Report*. The *Third Report* also includes the data from the *Second Report*; that is, data for 1999-2000. The *Third Report* can be found here: www.cdc.gov/exposurereport.

Disclaimer: Links to non-CEHTP resources are provided solely as a service. These links do not constitute an endorsement of these resources and none should be inferred. CEHTP is not responsible for the content of the individual organization web pages or documents found therein.

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