

HAPPY BIRTHDAY, CAMEO!

A NOAA Software Product Celebrates 20 Years of Supporting Emergency Responders and Planners Around the World



Photo by Royal Netherlands Navy

May 19, 2006 — Accidents involving hazardous materials (HAZMAT) are dangerous because they can produce toxic vapor clouds, explosions, fires and other hazards to people and our environment. HAZMAT accidents are frequent in industrialized countries. In the United States, the National Response Center handles about 30,000 reported emergency releases of hazardous materials, ranging from small- to large-scale, each year.

Responding to HAZMAT accidents is a dangerous, but essential job. In the United States, this job is usually handled by firefighters. To handle a hazardous chemical safely, responders have to find answers to many questions: Is it explosive or toxic? What kinds of clothing or equipment can protect responders from it? What should responders do if it's on fire? How big an area could be affected? No responder could answer those questions for each of the thousands of different hazardous chemicals that are manufactured, stored and transported in the United States.

Computer-Aided Management of Emergency Operations

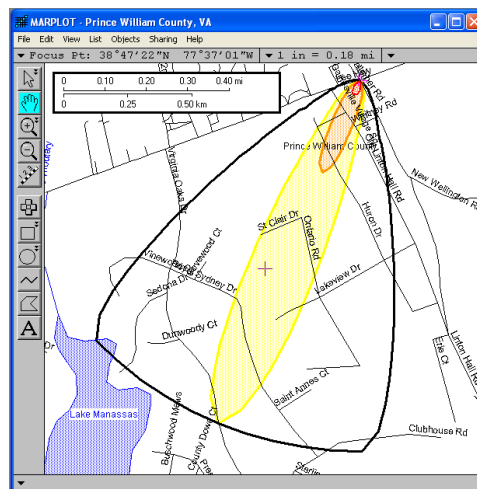
To help responders get information quickly when there's been an accident, NOAA scientists (and their EPA colleagues) developed the CAMEO (Computer-Aided Management of Emergency Operations) software system (including ALOHA and MARPLOT). Emergency responders can use CAMEO to quickly learn about the chemicals involved in an accident. Responders can also keep track of the locations of dangerous chemicals, as well as sensitive places like schools, hospitals and nursing homes. Using CAMEO, they can quickly predict the possible effects of toxic gas releases, fires and explosions.

CAMEO is 20 years old this year. It began in 1986 as a collaborative development effort by the NOAA Office of Response and Restoration and Seattle-area firefighters. OR&R scientists provide scientific support when the U.S. Coast Guard responds to oil spills and chemical accidents, and they have developed



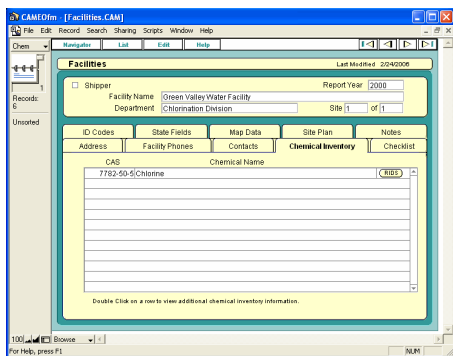
A firefighter in the Bellevue Fire Department, Washington State, working with the CAMEO system on a laptop in the department's hazmat response vehicle.

many computer tools that they themselves use during HAZMAT responses. The tools created by OR&R are shared with other responders at no cost. CAMEO is by far their most popular product. Over the past two decades, CAMEO has become the most widely used chemical emergency response and planning tool in the United States. These days, if you live in the United States, chances are that your city's fire department uses CAMEO. Since 9/11, CAMEO has experienced a ten-fold increase in use. There have been more than 200,000 downloads of CAMEO in the past three years. Each year, thousands of first responders and emergency planners are trained to use CAMEO in classes led by more than 100 CAMEO-certified instructors.



A snapshot of CAMEO that illustrates an area that could be affected by a toxic gas release.





An example record from CAMEO's facility database.

The earliest versions of CAMEO were designed to support emergency responders, and then it became clear that it can also be used as an emergency preparedness tool. Additional features were incorporated specifically for planners, whose work includes the difficult task of assessing the hazards to communities from chemicals stored at industrial facilities. NOAA and EPA collaborated to develop a database in which users can store information about industrial facilities in their communities, and the chemical inventories maintained at those facilities.

Over the years, CAMEO has gained international stature. The United Nations Environment Programme has adopted CAMEO and has provided training in 50 countries. CAMEO has been translated into French and Spanish.

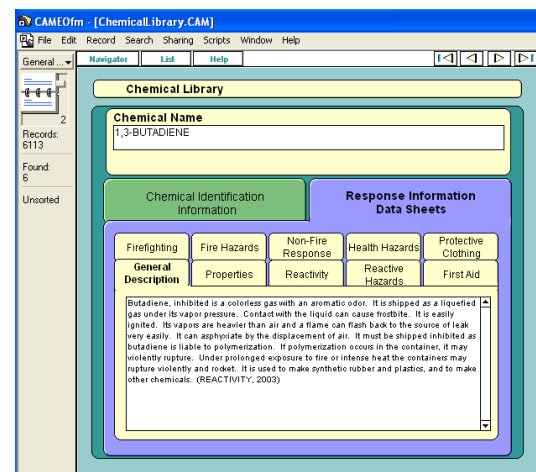


Recently, two experienced CAMEO users reminisced about their experiences using the system over the 20 years since its inception.

An initial challenge for both was learning how to work with their computers and keep them running in the harsh environment of an emergency response. Emergency manager, Tim Wixom, remembers his first introduction to CAMEO while he was serving on the Rochester, N.Y. Fire Department's HAZMAT response team in the mid-1980's, "We installed computers and monitors on the HAZMAT truck. The monitor was held down with bungee cords so it would survive the trip down the city streets to the scene of the spill. The only problem we had with the computers was the disk drive would gum up from the diesel fumes."

Twenty years after firefighter Bob Bradley first used CAMEO, he observes that the system is now "being used by people across the country to manage all types of planning and emergency functions, including natural disasters such as tornado, hurricane and flood response, as well as planning for major events like the Democratic National Convention. It is used as the primary GIS system in many Emergency Operations Centers. When have we seen a computer software program draw together such a collection of people from such diverse groups, such as emergency responders, emergency planners, industry representatives, computer programmers, public officials and emergency managers? For a free, simple-to-use program, there is nothing better."

While flexibility, ease of use, and low cost are important to emergency workers, safety is the ultimate bottom line, and NOAA's first priority in developing CAMEO is to support safer emergency response and planning. Looking back on his years as a CAMEO user, Tim Wixom observes, "one thing that CAMEO gave us was a safer environment to work in. I am happy to say that we have never lost a firefighter at a hazmat incident while we have been using CAMEO."



An example record from CAMEO's "chemical library."

Relevant Web Sites

CAMEO Web site: www.epa.gov/ceppol/cameo

NOAA's CAMEO information online: archive.orr.noaa.gov/cameo/cameo.html

NOAA Office of Response and Restoration: response.restoration.noaa.gov

NOAA Ocean Service: oceanservice.noaa.gov

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