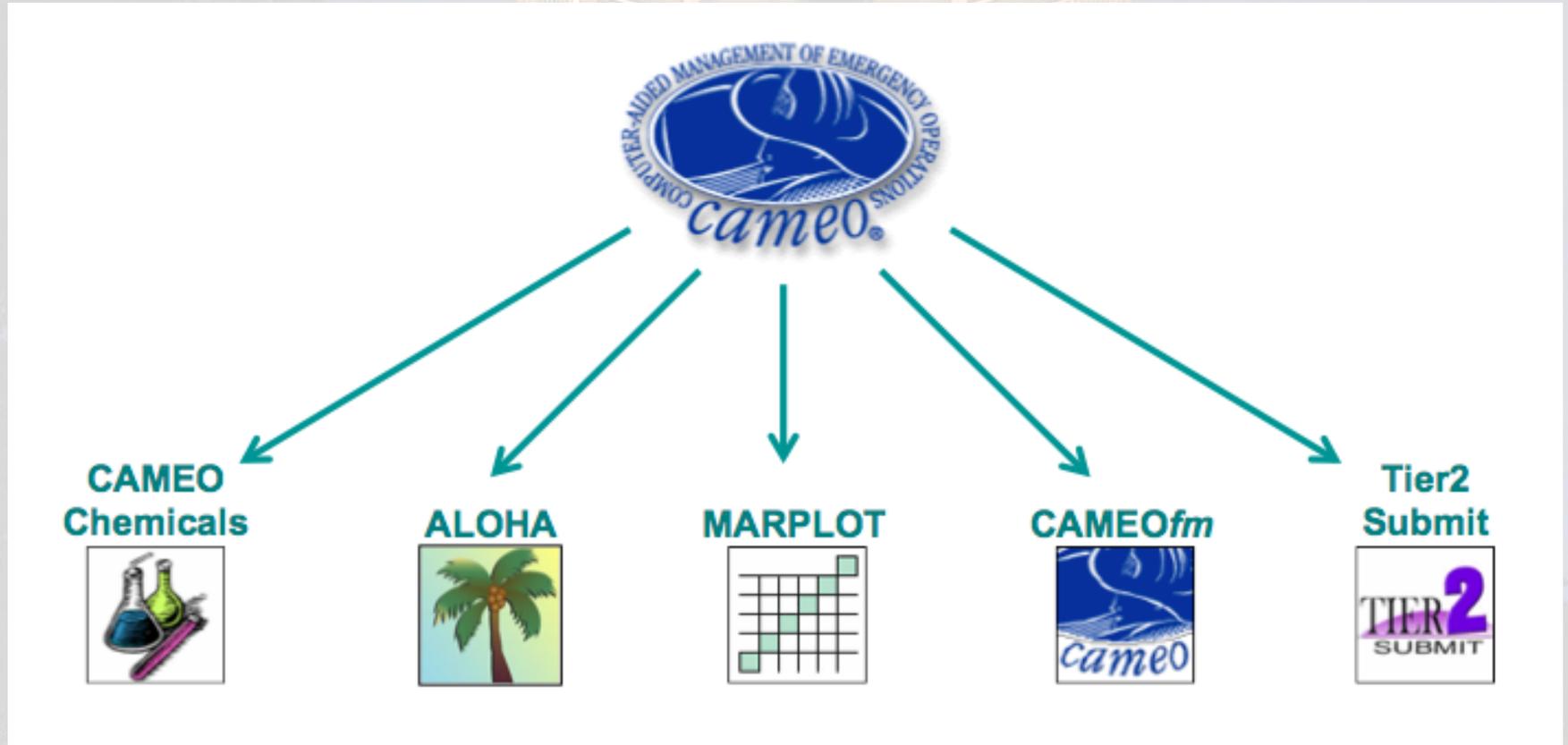


ALOHA! The Future of the CAMEO Software Suite

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CAMEO Software Suite



CAMEO Suite Highlights

- **Chemical** – physical properties, Levels Of Concern, response recommendations, and reactivity predictions
- **Air dispersion** – toxic, flammable, and explosive threats
- **Geospatial** – sensitive locations, facility hazardous inventory, and impacted population estimates

CAMEO Chemicals

- Extensive chemical database provides critical response information, including physical properties, health hazards, air and water hazards, and recommendations for firefighting, first aid, and spill response
- UN/NA datasheets provide Emergency Response Guidebook pages and shipping information from the Hazmat Table (49 CFR 172.101)
- Chemical reactivity tool to predict what hazards could arise if chemicals were to mix together.

<http://cameochemicals.noaa.gov/>

Future of CAMEO Chemicals

- New versions are released on a rolling schedule.
- Recent changes:
 - Improved multi-word search
 - Updated AEGLs, ERPGs, and PACs; interim AEGLs are now included in database
 - Auto-update feature
 - Pending: 2012 ERG

Long-Term Plans

Continue working to improve the data quality and data sources in CAMEO Chemicals. Also, update the reactivity prediction tool.

ALOHA

- Gaussian and Heavy Gas dispersion algorithms
- Designed for short-duration, short-range incidents (scaling model)
- Multiple time-dependent chemical source models (tank, puddle, gas pipeline, and direct)
- Upgraded to include fires and explosions models in addition to toxic gas dispersion models

ALOHA Sources and Scenarios

Source	Toxic Scenarios	Fire Scenarios	Explosion Scenarios
Direct			
Direct Release	Toxic Vapor Cloud	Flammable Area (Flash Fire)	Vapor Cloud Explosion
Puddle			
Evaporating	Toxic Vapor Cloud	Flammable Area (Flash Fire)	Vapor Cloud Explosion
Burning (Pool Fire)		Pool Fire	
Tank			
Not Burning	Toxic Vapor Cloud	Flammable Area (Flash Fire)	Vapor Cloud Explosion
Burning		Jet Fire or Pool Fire	
BLEVE		BLEVE (Fireball and Pool Fire)	
Gas Pipeline			
Not Burning	Toxic Vapor Cloud	Flammable Area (Flash Fire)	Vapor Cloud Explosion
Burning (Jet Fire)		Jet Fire	

Future of ALOHA

- New version of ALOHA will be released this summer (with new LOCs.)
- Recent changes:
 - Updated chemical library (with new LOCs)
 - Added ability to export threat zone to .KML (for Google users) or save the .PAS file (for ESRI users using the NOAA ArcMap Import Tool)
 - Minor updates and bug fixes

Long-Term Plans

Make a web-based ALOHA that can interact with the CAMEO Chemicals site and use the NOAA HYSPLIT dispersion model for large spills.

ALOHA-HYSPLIT: Phase 1



The screenshot shows the 'ALOHA Source' web interface. At the top, there is a logo with a palm tree and the text 'ALOHA Source'. Below the logo, there is a navigation bar with 'Home > Puddle Source'. The main content area is titled 'Puddle Source' and contains a form for entering information about a chemical puddle. The form has three sections: 'Puddle Size', 'Amount of Chemical in Puddle', and 'Ground Type'. Each section has a dropdown menu for the unit and a text input field for the value. There are also 'More info...' links next to each section.

ALOHA Source

[Home](#) > [Puddle Source](#)

Puddle Source

Enter information about the chemical puddle. [More info about the puddle](#)

Puddle Size

Puddle area is square feet [More info...](#)

Amount of Chemical in Puddle

Volume of puddle is gallons [More info...](#)

Ground Type

Ground Type: default soil (select this if unknown) [More info...](#)

Initial integration of web version of HYSPLIT and ALOHA

- Use ALOHA for **chemical selection and source strength** estimates
- Use HYSPLIT for **weather forecasts and dispersion modeling**

ALOHA-HYSPLIT Output



ALOHA Source Strength

[Chemical](#) > [Release Type](#) > [Direct Source](#) > [Summary](#)

ALOHA Source Strength Summary

Source Strength Summary

- Release scenario is a nonflammable chemical that was released directly into the atmosphere using user-specified source strength values.
- Total amount released was 55555 pounds (25199 kilograms).
- Release rate was 1010 pounds/minute (458 kilograms/minute).
- Release duration was 55 minutes.

This information summarizes key scenario details and ALOHA source strength calculations. Additional details about your scenario are displayed below.

[Continue to HySPLIT Output](#)

Chemical Data

Chemical Name: **CHLORINE**

Molecular Weight: 70.9 g/mol

AEGL-1: 0.5 ppm	AEGL-2: 2 ppm	AEGL-3: 20 ppm
ERPG-1: 1 ppm	ERPG-2: 3 ppm	ERPG-3: 20 ppm
PAC-1: 0.5 ppm	PAC-2: 2 ppm	PAC-3: 20 ppm
IDLH: 10 ppm	LEL: <i>data unavailable</i>	UEL: <i>data unavailable</i>

Ambient Boiling Point: -28.9 °F (-33.8 °C)

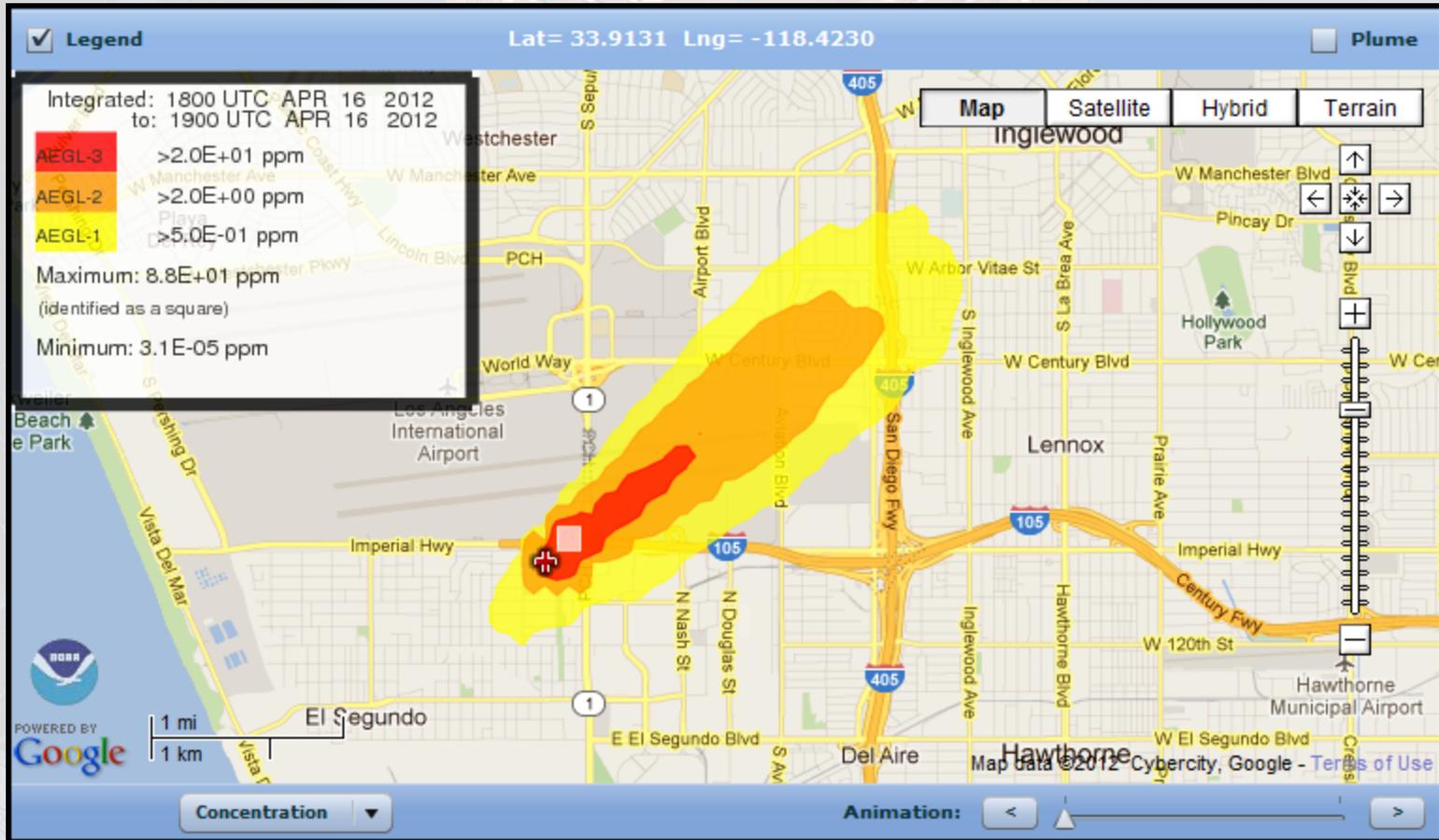
Freezing Point: -149.9 °F (-101.0 °C)

Vapor Pressure at Ambient Temperature: greater than 1 atm



[Go to CAMEO
Chemicals
Datasheet](#)

ALOHA-HYSPLIT Output

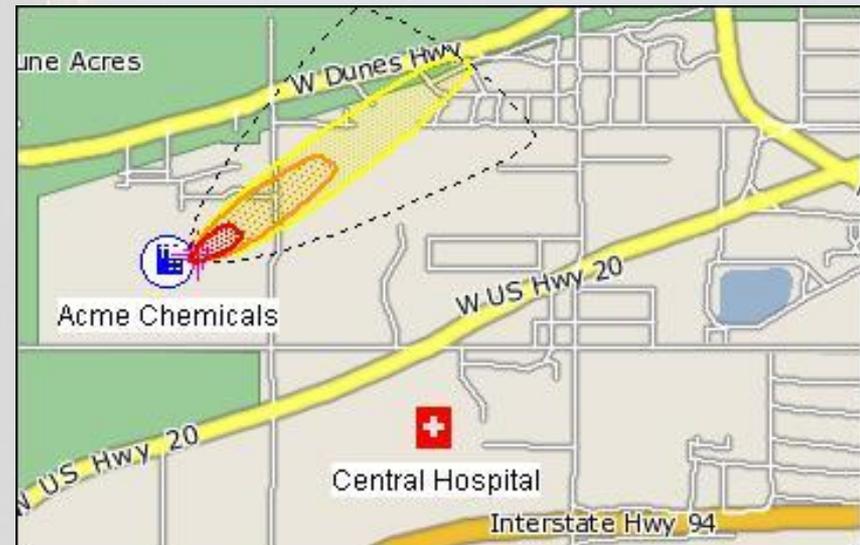


ALOHA-HYSPLIT: Phase 2

- Incorporate ALOHA dispersion models (including Heavy Gas) into web version for smaller-scale releases
- Add fires and explosions capabilities
- Integrate with CAMEO Chemicals for more seamless access to chemical datasheets and response recommendations

MARPLOT

- Free and easy-to-use Geographic Information System (GIS).
- Draw map data stored locally on your computer or streamed from online sources (like aerial photos and topographical maps.)
- Draw your own objects on the map.
- Link objects to custom data in database.
- Obtain population estimates.



Future of MARPLOT

- Minor updates planned while significant rewrite is under development.
- Recent changes:
 - Updated to 2010 TIGER files (county roads etc.)
 - Removed QuickTime requirement
 - Added unlock button to Object Settings box

Long-Term Plans

Revise MARPLOT to capitalize on web-based mapping capabilities and services. Working on a complete, browser-based revision of MARPLOT.

CAMEO*fm* & Tier2 Submit

CAMEO*fm*

- Create and place custom objects on a MARPLOT map and link those objects to user data stored in the CAMEO*fm* database.
- Like: a hospital's emergency contact information; a facility's chemical inventory, site map or MSDS sheets.

Tier2 Submit

- Used to generate an electronic chemical inventory Tier II facility report.
- Can be used to automatically update the facility information in CAMEO*fm*.

Future of CAMEOfm and Tier2 Submit

- New versions of CAMEOfm and Tier2 Submit are released annually every fall.
- Recent changes:
 - State field updates
 - KML exports
 - Minor feature improvements, bug fixes

