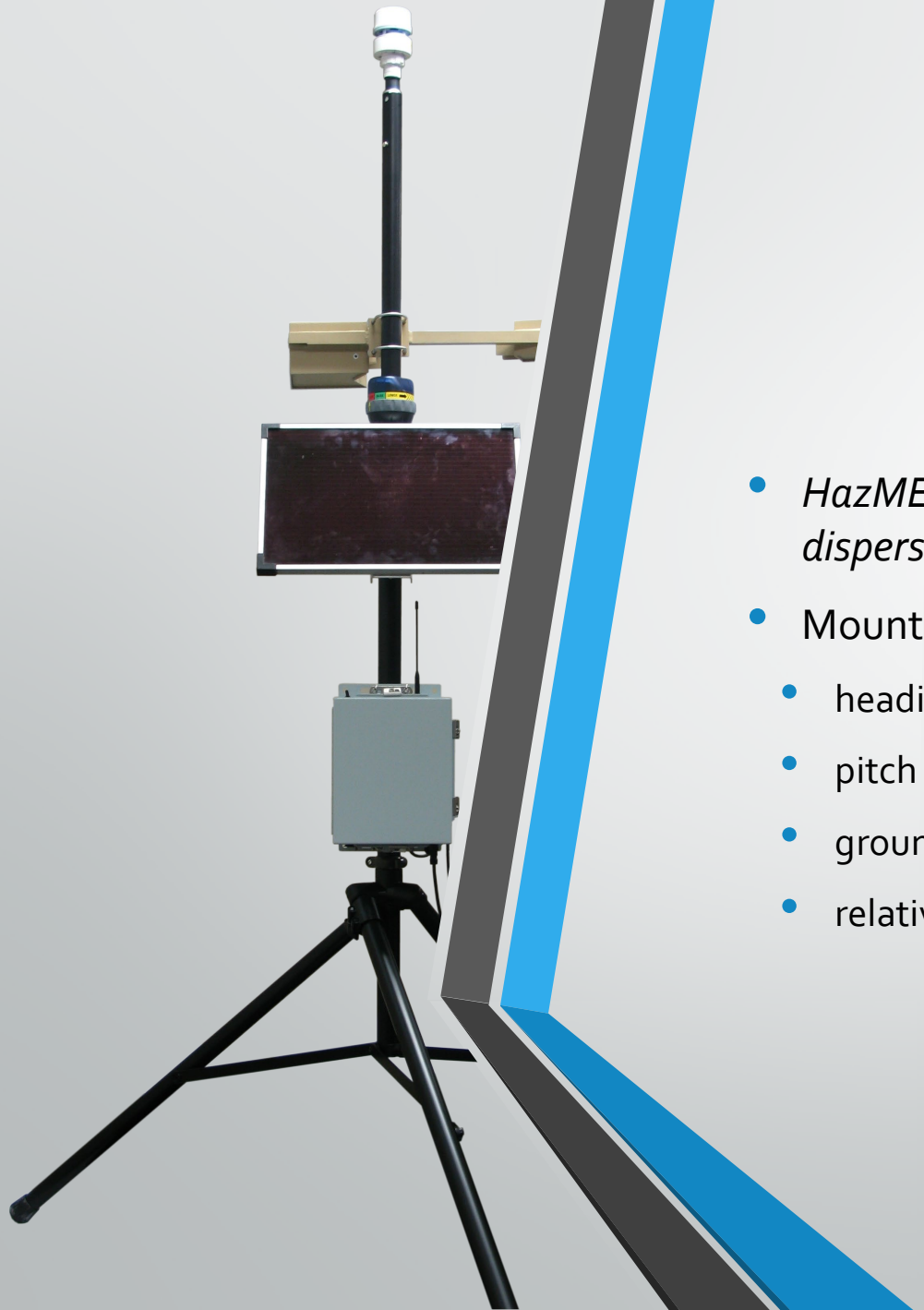
HazMet 100

- A portable **Station for Atmospheric Measurement (SAM),** which was designed for the US army
- Used in the event of a hazardous chemical release, environmental emergency, or gas attack.
- Aloha Compatible



HazMet-100

Rapid Response

- *HazMET 100 can be deployed and transmitting atmospheric data to US EPA's dispersion modeling program **ALOHA** within minutes.*
- Mounted on a moving platform, HazMet will also transmit data showing
  - heading,
  - pitch & roll,
  - ground speed,
  - relative wind speed and direction.

Hazmet carrying case

- WX-200 multi-sensor,
- Control enclosure with microprocessor
- Long-range spread-spectrum radio,
- Rechargeable battery
- Optional Solar Panel
- Optional OWI-650 Present Weather sensor
- The systems feature EPA's ALOHA dispersion modeling program.
- Line-of-sight range is up to 28 miles

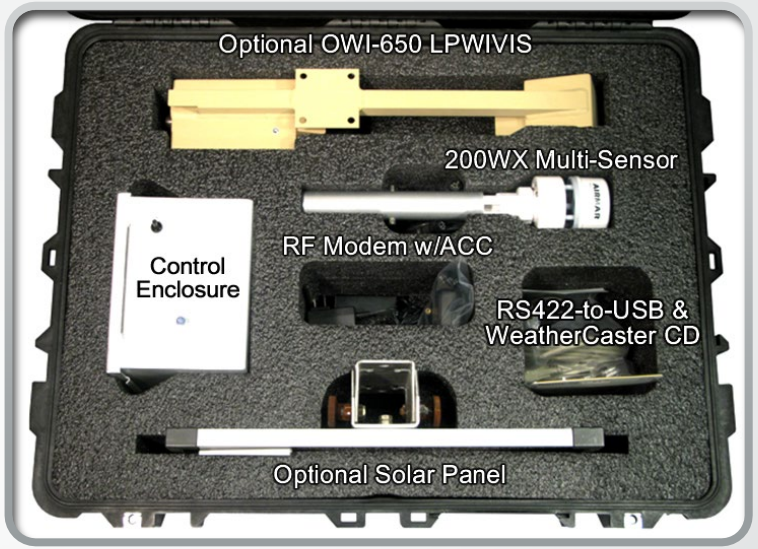



Figure 2-2 TS-99BL Tripod

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Hazmet DCU communications

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Hazmet with ALOHA

- ALOHA will display up to three threat zones overlaid on a single picture.
- The red threat zone represents the worst hazard.
- The Threat at a Point feature displays specific information about hazards at locations of interest (such as a school).

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ALOHA
(Areal Locations of Hazardous Atmospheres)

- ALOHA is a computer program designed to model chemical releases for emergency responders and planners.
- It can estimate how a toxic cloud might disperse after a chemical release as well as several fires and explosions scenarios.
- Threat Zone Estimates and Threat at a Point
- A threat zone is an area where a hazard (such as toxicity or thermal radiation) has exceeded a user-specified Level of Concern (LOC).

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ALOHA is a free software from the US EPA

- ALOHA is designed to produce reasonable results quickly enough to be of use to responders during a real emergency. Therefore, ALOHA's calculations represent a compromise between accuracy and speed.
- Many of ALOHA's features were developed to quickly assist the responder.
- ALOHA Minimizes data entry errors by cross-checking the input values and warning the user if the value is unlikely or not physically possible.
- ALOHA Contains its own chemical library with physical properties for approximately 1,000 common hazardous chemicals so that users do not have to enter that data

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ALOHA Key Program Features

- Generates a variety of scenario-specific output, including threat zone pictures, threats at specific locations, and source strength graphs.
- Calculates how quickly chemicals are escaping from tanks, puddles, and gas pipelines—and predicts how those release rates change over time.
- Models many release scenarios: toxic gas clouds, BLEVEs (Boiling Liquid Expanding Vapor Explosions), jet fires, vapor cloud explosions, and pool fires.
- Evaluates different types of hazard (depending on the release scenario): toxicity, flammability, thermal radiation, and overpressure.
- Models the atmospheric dispersion of chemical spills on water

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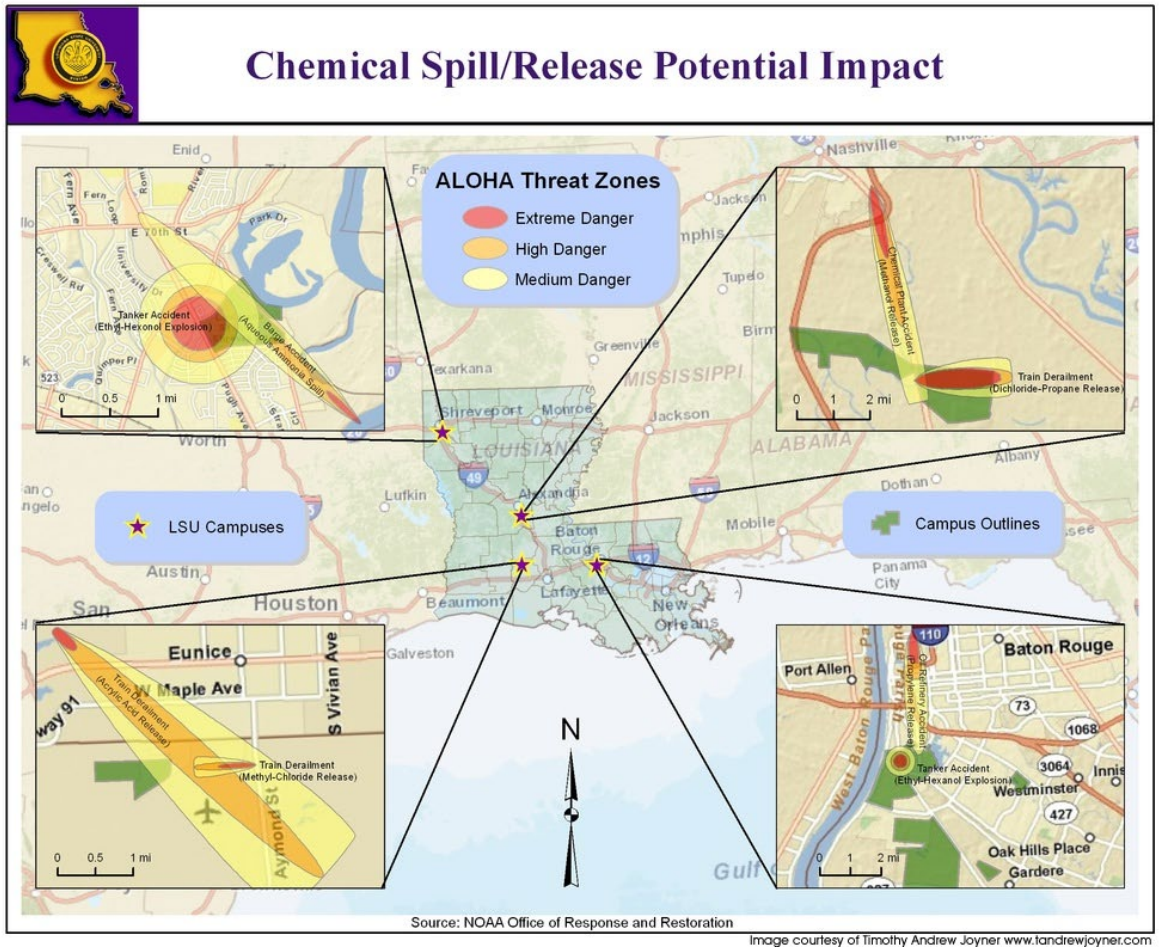
ALOHA
US EPA's dispersion modeling program

- HazMET has been configured to work with EPA's ALOHA dispersion modeling program.
- ALOHA was developed to aid in disaster management and generates a plot, which is easily over laid on maps in MARPLOT, Esrl's Arcmap, Google Earth and Google Maps



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References - The ALOHA program was developed by EPA and you can learn more about that in this link.

- For more information on emergency preparedness, planning, and prevention programs, contact EPA's EPCRA, RMP & Oil Information Center, a toll-free service that can answer technical policy questions on federal EPA regulations. The Call Center can be reached during regular business hours at:
- 800-424-9346
- 703-348-5070 in the Washington, DC area
- For answers to functional software questions or solutions to installation problems, contact the Risk Management Plan (RMP) Reporting Center: (703) 227-7650 (8am-4:30pm M-F) or via e-mail at: RMPRC@epacdx.net

https://www.epa.gov/cameo/aloha-software

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References

1. *US National Library of Medicine NIH, Rapid Assessment of Exposure to Chlorine Released from a Train Derailment and Resulting Health Impact, Public Health Report. 2007 Nov-Dec, 122(5): 784–792.*

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Hazmet-100

Station for Atmospheric Measurement (SAM)

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