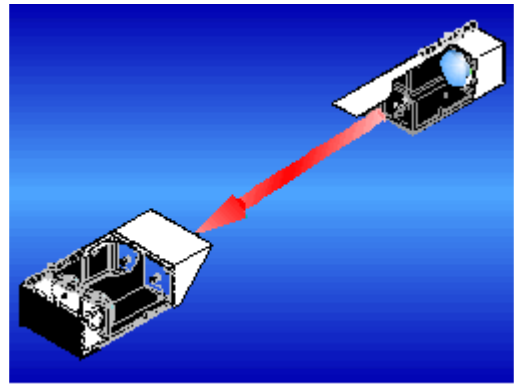


For Homeland Security:

Wind Profiling and Tracking Fallout from Unconventional Weapons

Long Baseline Optical Anemometer (LOA-005-AR)



LOA Advantages

- Path-averaged result (more representative)
- Completely eye safe (can operate in public areas)
- Portable, sets up on special mounts and tripods
- Easy set-up (hooks up to a laptop)
- Long-range measurement (about 200 yards to 6 miles)
- Simple ASCII delimited data format
- Applications: wind profiler and emergency response
- Powered by AC or DC (car battery) supply

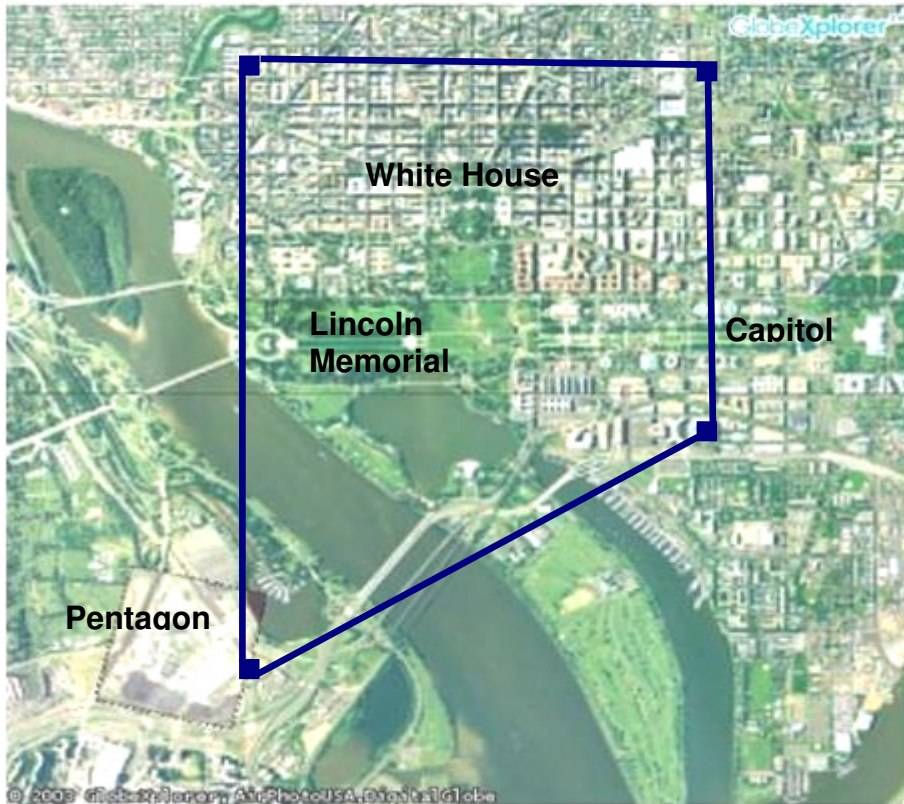
The LOA (or Long Baseline Optical Anemometer and Turbulence Sensor, P/N: LOA-005) is a highly specialized instrument designed to measure the path-averaged crosswind and turbulence along a particular distance. Originally developed by NOAA, the technology has been proved, tested, and operating in the field for almost thirty years. Since 1995, the LOA has been successfully tested for runway crosswind and wake vortex measurements at JFK and DFW Airports. Many government labs and military proving grounds use the LOA for wind profile and turbulence measurements. Set up is quick and easy. The LOA mounts on tripods. The instrument can connect easily to a PC. The sensor is completely eye-safe so it can operate in public areas without intrusion or endangering bystanders. The LOA is ideal for critical homeland security applications such as wind profiling and fallout tracking.

Wind Profiler - Experts agree the use of unconventional weapons (biological, chemical, or radiological) is a real threat. To this end, meteorologists have stressed the need to measure and profile the wind fields of major cities and other possible targets to better understand the movement of fallout from a deployed weapon. Serious challenges exist in accomplishing such an effort. For example in a study for the Washington D.C. area, researchers discovered a large wind-direction difference, or bias, between downtown Washington and Reagan National Airport. Local officials would have used wind data from the airport to figure out the affected areas of Washington, D.C with a high likelihood of error. Unlike other methods, the LOA provides a path-averaged crosswind measurement over path-lengths ranging from about 200 yards to 6 miles. Localized wind patterns do not bias the LOA as much as other point-source instruments. In addition, many more point sensors would be required to acquire the same representative result as the LOA. The instrument's result provides the user with broader view of the flow characteristics of an area. For a specific area of interest, a perimeter or fence-line profile can be created based on the output of several LOA's installed around the boundary of the zone. The LOA is an indispensable tool for wind profiling efforts.



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Emergency Response – When unconventional weapon attack occurs, local officials immediately require real-time measurements of the wind for emergency response. After a dirty-bomb response exercise in Seattle, Homeland Security officials estimated local officials would take more than an hour to learn if 4,000 people were actually affected by the fallout. As an emergency response tool, the LOA provides key crosswind data for perimeter monitoring. In addition, the system is portable. Whether the concern is chemical, nuclear, or biological agents, the LOA can measure the general crosswind to help officials track a dangerous plume. The map below of Washington DC shows four LOA's configured to measure the wind field of the area and track movement of fallout in case of biological, radiological, or chemical attack. This would be much more difficult for any in-situ instruments to accomplish and require too many sensors.



LOA Customers	
•	Sandia Nat'l Lab
•	Aberdeen Proving Ground
•	NRL
•	Dugway Proving Ground
•	NASA
•	FAA
•	NWS
•	Ft. Belvoir
•	Redstone Arsenal
•	White Sands Missile Range

Multiple LOA's can be set up to form a wind-monitoring perimeter for an area of concern. In this case (see above), the target zone is located in the vicinity of the White House, Pentagon, and Capitol in Washington, D.C. As long as a line of sight is available, the size, configuration, and number of paths are flexible.

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Please call OSi for details. We are located in the Washington D.C. area. For a demo of the LOA. just contact us!