

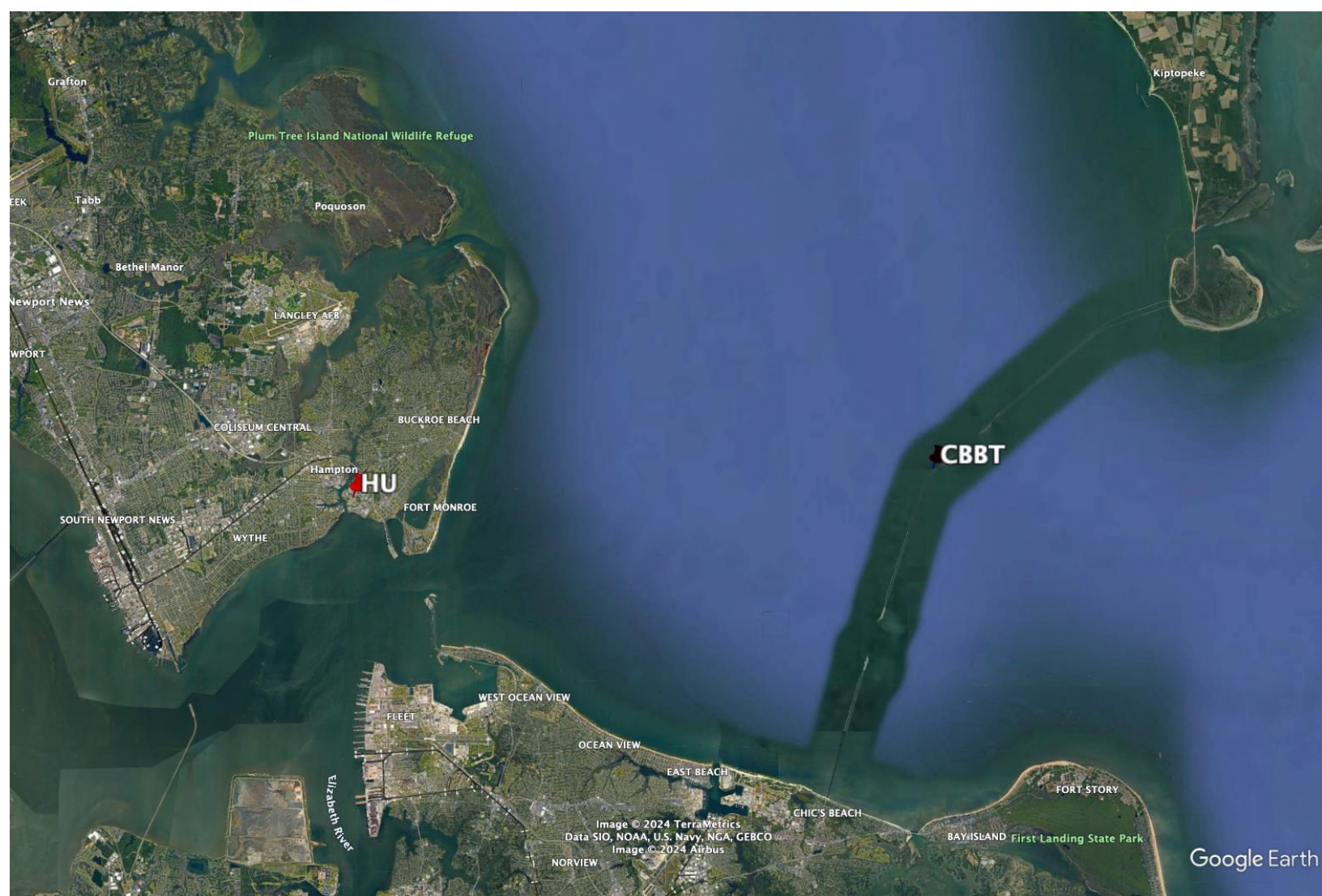
# The AERONET Site at the Chesapeake Bay Bridge Tunnel Island-3

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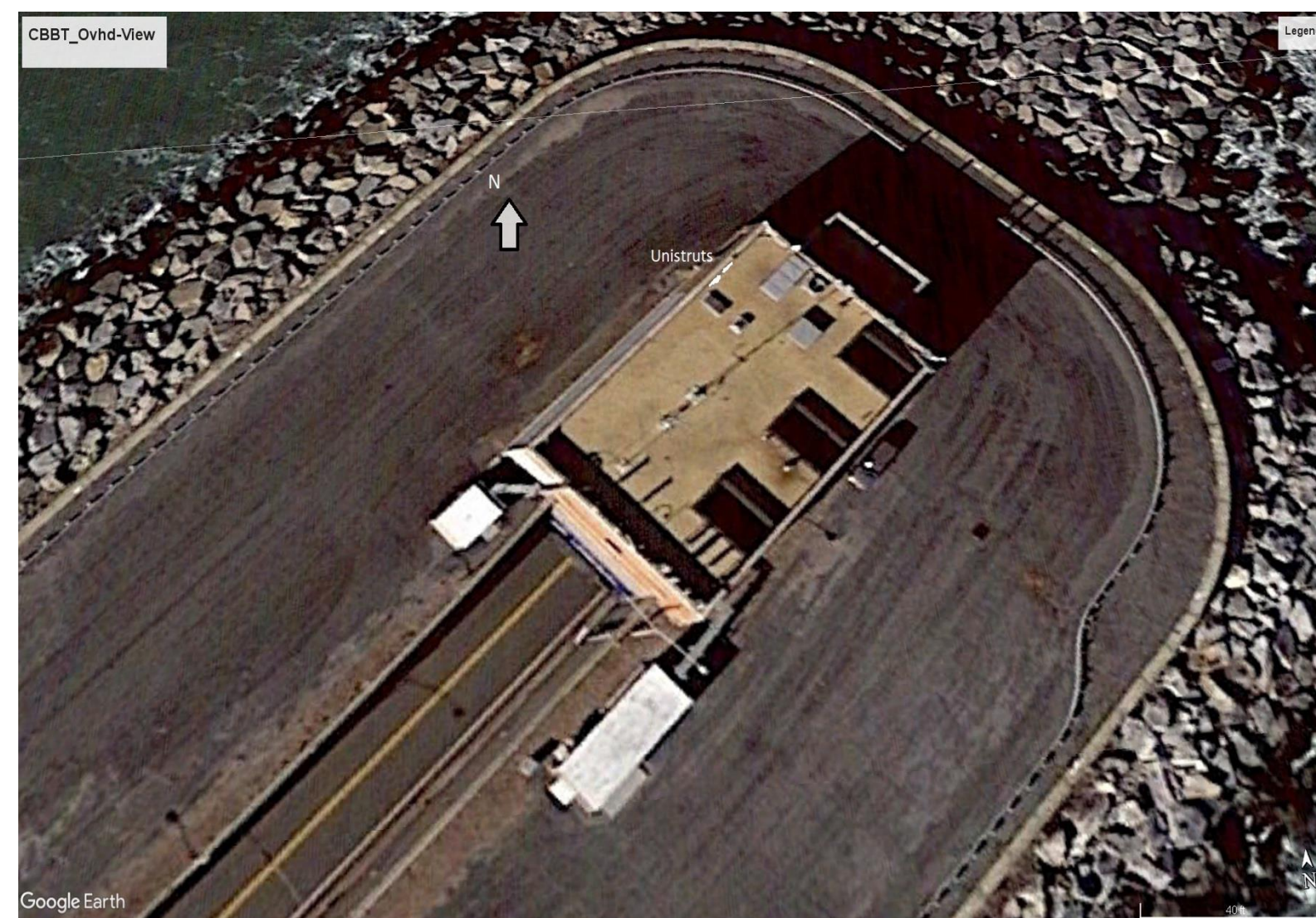
**Abstract:** Hampton University (HU) has been involved in the AERONET network since May 26, 2017. The present HU instrument location on campus is a coastal site to the AERONET network. All HU instruments are on the rooftop of Turner Hall on the HU campus. On September 25, 2023, HU installed a CIMEL instrument on the rooftop of the operations building at the Chesapeake Bay Bridge Tunnel (CBBT) Island-3 through the NASA IPMSI program. This location was chosen because it is safe, secure and has access to electricity and internet. The site is accessible for routine maintenance and emergency procedures in advance of extreme weather events (tropical storms, Nor'easters, etc.). This site was also utilized in the summer of 2017 during the OWLETS 1 campaign. The CBBT Island-3 is near the transition zone between the Chesapeake Bay and the Atlantic Ocean and is adjacent to the channel for ships either heading up (northward) the Chesapeake Bay towards Baltimore or returning from that region of the bay. The AERONET instrument is strategically located to monitor this marine pathway and record potential effluents from ships passing by. This location adds a vital marine site to AERONET network as aerosol information on a variety of time scales will be collected, analyzed and compared to coastal and purely continental sites. It also adds an off-shore TEMPO validation site for gases. We present the unique features of the site, hardware installation, and results of initial comparisons with the HU AERONET instrument.

**Keywords:** aerosols, Chesapeake Bay, marine environment

## The CBBT Island-3 Instrument Site



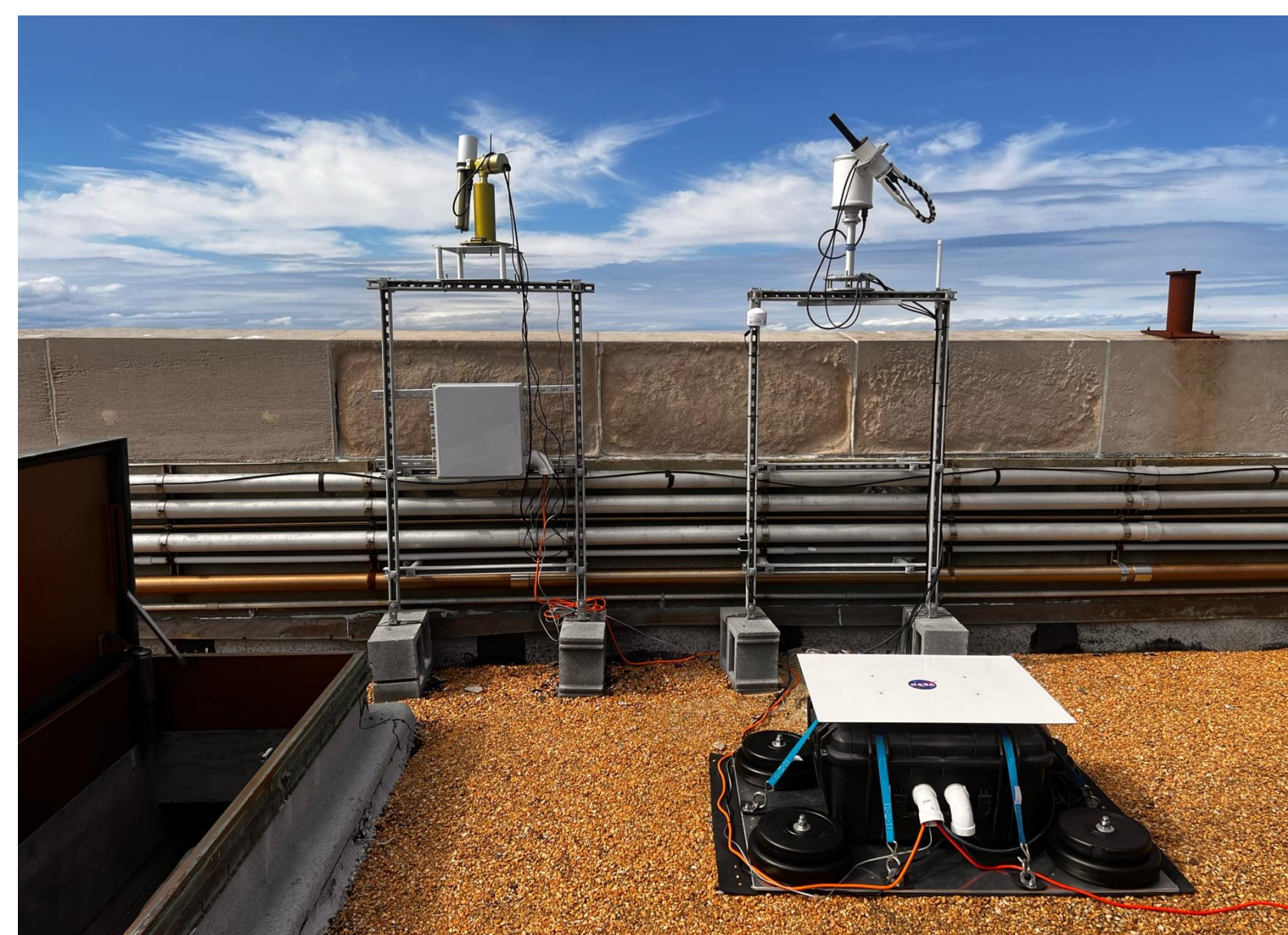
Google Earth view of the Hampton University and CBBT Island-3 AERONET and Pandora sites. Source: Google Earth.



Overhead view of the operations building at the CBBT Island-3 where the instrument are located. Source: Google Earth.



Day of installation of the AERONET and Pandora instruments.



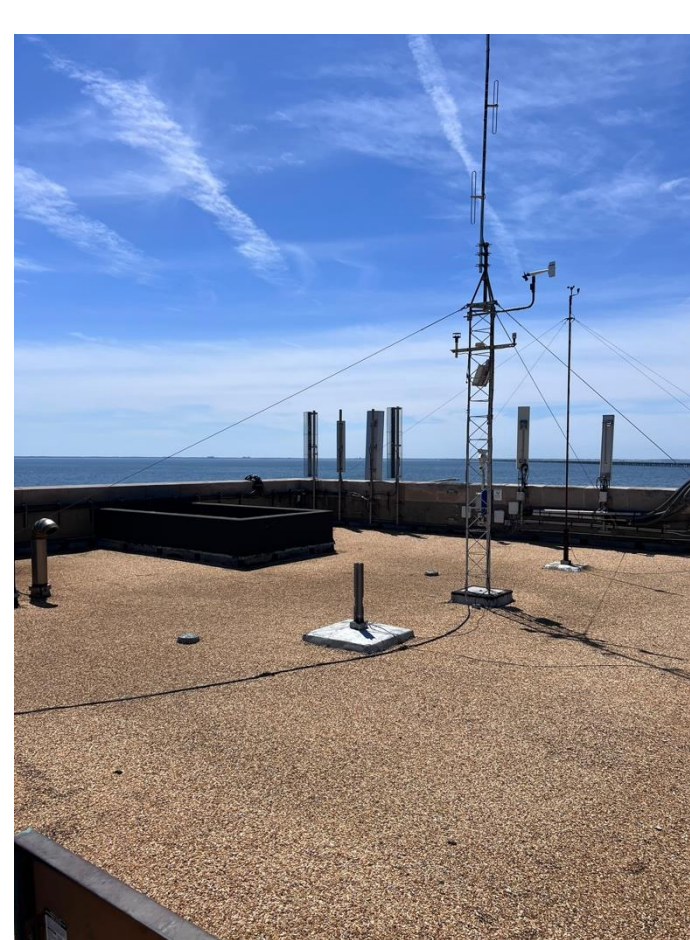
Installed instruments. The Pandora case had to be strapped to a ~200 lb marine-grade aluminum plate system to be able to withstand winds of 120 mph.



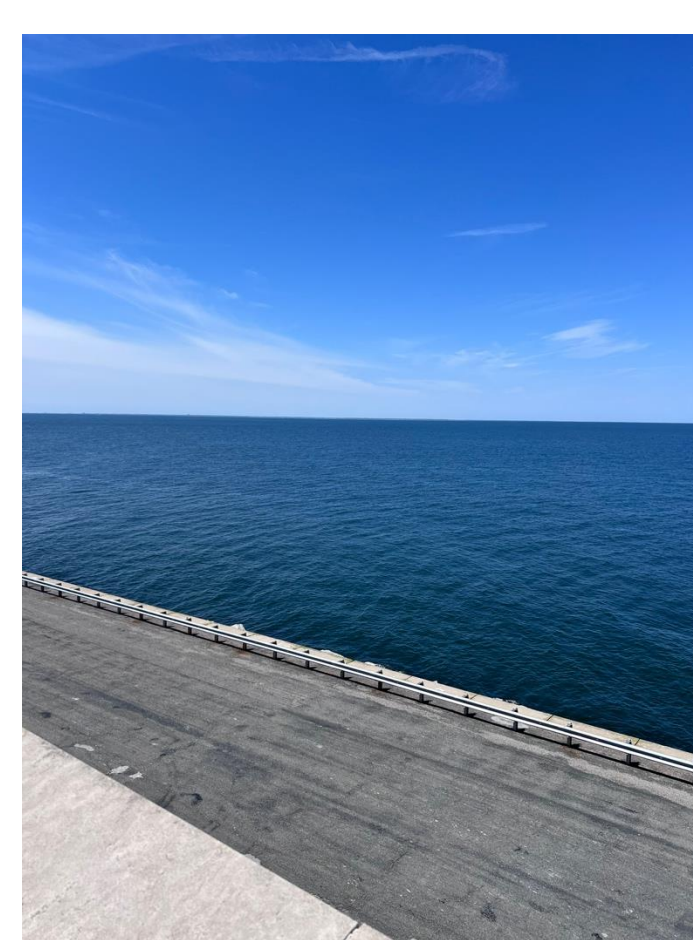
Instrument view towards the North.



Instrument view towards the East.



Instrument view towards the South.



Instrument view towards the West.

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## Time Series of CBBT and Hampton University AERONET Measurements

