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## NOAA Partners with OI to Advance Oil Spill Remote Sensing



In the effort to continue building upon remote sensing utilization experiences gained during the Deepwater Horizon oil spill in 2010, NOAA is leading a multi-entity project to enhance future capabilities to map weathered oil and oil emulsions in future spills. The project is being funded by the Bureau of Safety and Environmental Enforcement (BSEE) and includes several novel advancements:

- 1) For the first time, oil emulsions are being made on a relatively large scale at BSEE's Ohmsett Tank facility allowing natural weathering under open sky and agitation using a wave maker;
- 2) Image data acquisitions are coordinated to allow near-simultaneous collection of multisensory imagery from a fixed platform above the tank, an unmanned airborne vehicle (UAV), and aerial system on a helicopter at several different altitudes, and very high resolution Synthetic Aperture Radar and multispectral color imagery from satellites;
- 3) Following an initial phase done at Ohmsett under controlled conditions, the multi-platform data acquisition efforts will also be done over naturally formed oil emulsions in the Gulf of Mexico.



One of the project's main objectives is to provide directly intercomparable data from UAV, aerial and satellite images to better understand what quantifiable information can be confidently gained from each image data source. As part of the project, OI is also evaluating the operational potential of sensors imaging parts of the electromagnetic spectrum presently not included on our existing TRACS aerial system, particularly for characterizing the oil/water composition of floating emulsions.