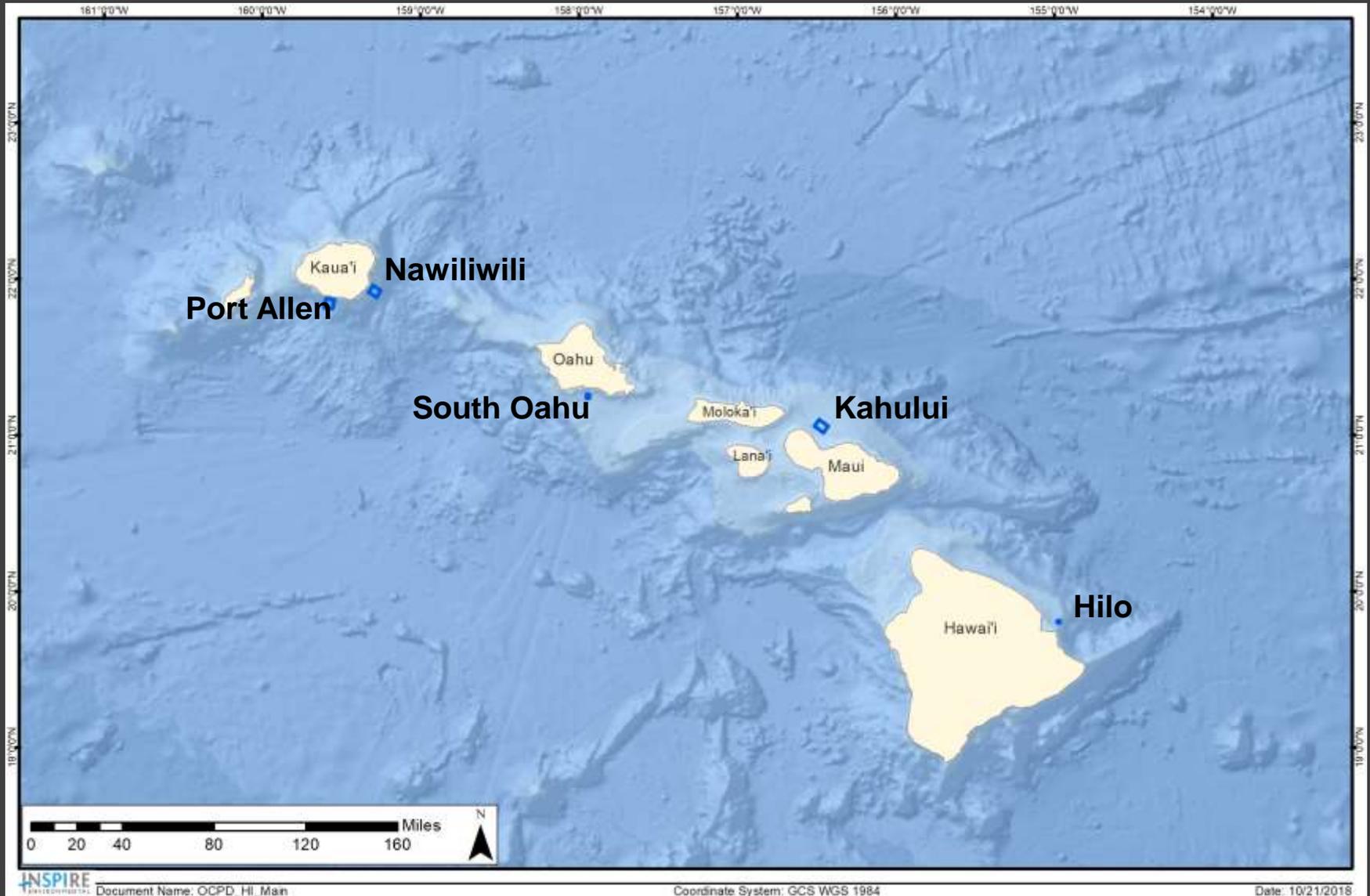


Imagery reveals confounding factors in evaluation of dredged material at the Nawiliwili ODMDS off the coast of Kauai

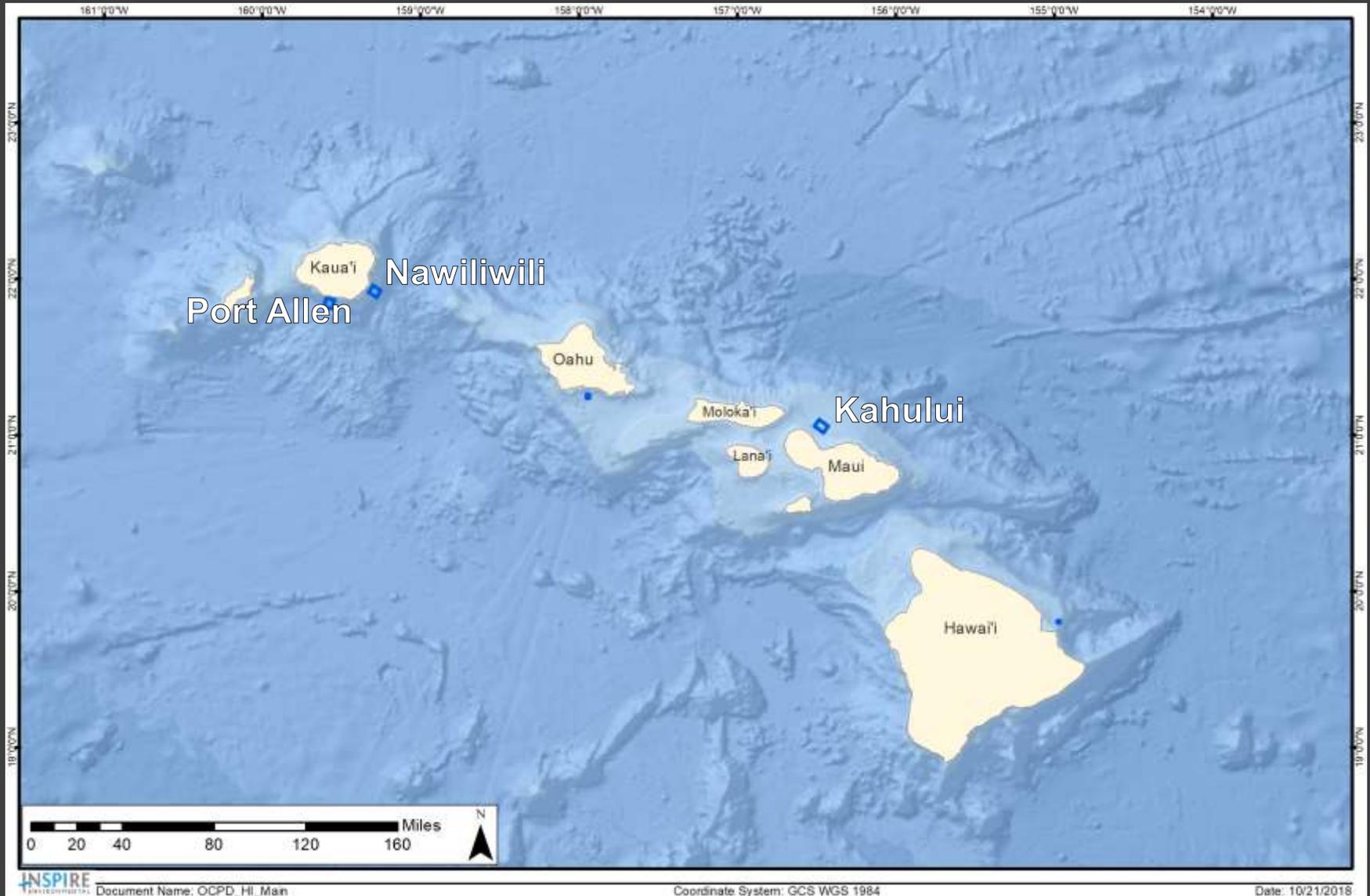
*Marisa Guarinello, Allan Ota, Brian Ross, Scott Libby,
Drew Carey*

WEDA, Oct. 2018

Ocean Dredged Material Disposal Sites in Hawaii



October 2017 Monitoring

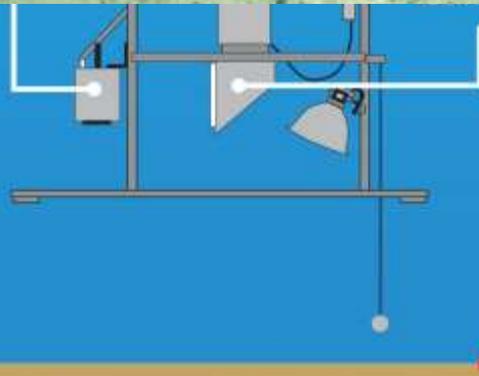


Data Collection

- Acoustic multibeam echo sounder survey to map topography and sediment textures of seafloor
- Sediment Profile and Plan View Imagery to map dredged material footprint and evaluate status of benthic community
- Grab samples for sediment, chemistry, benthic community analyses



SPI/PV Overview

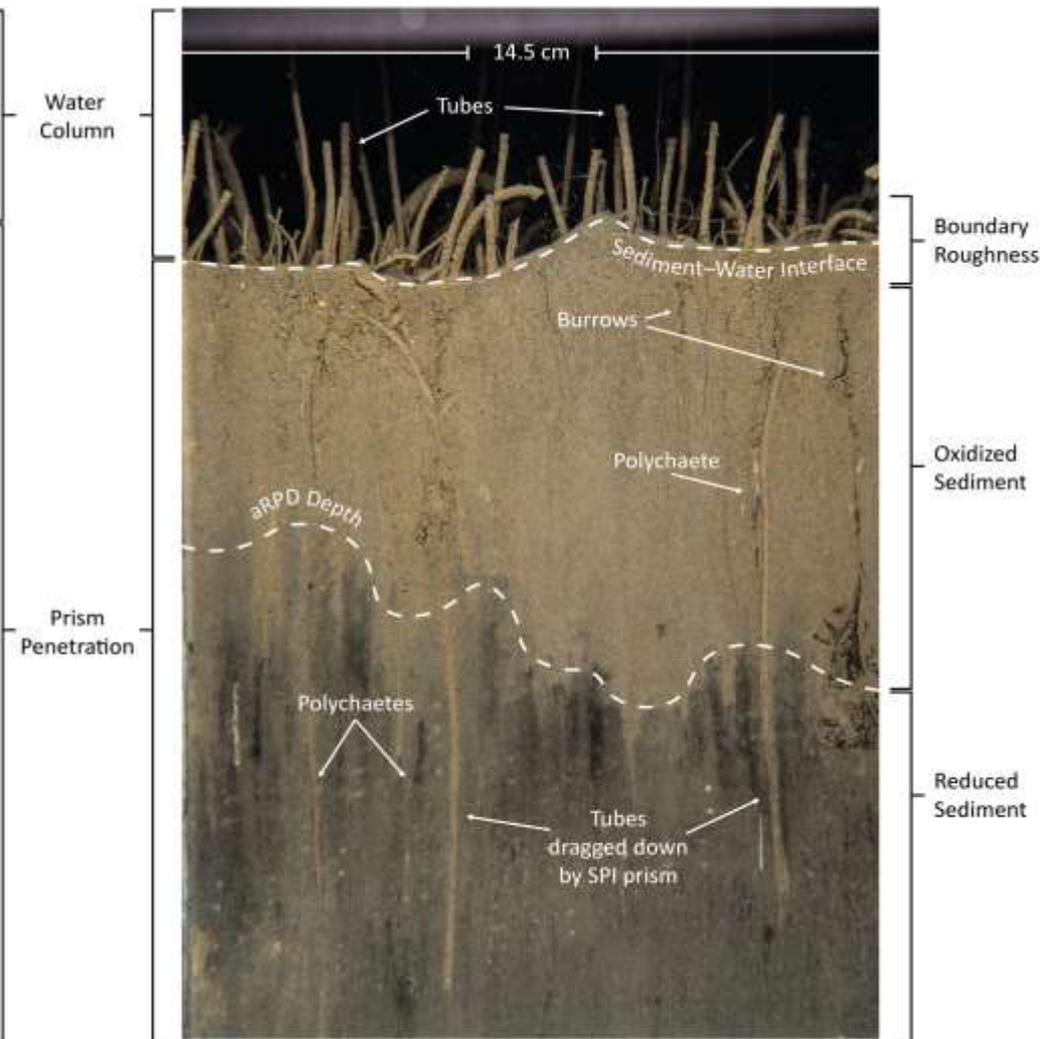
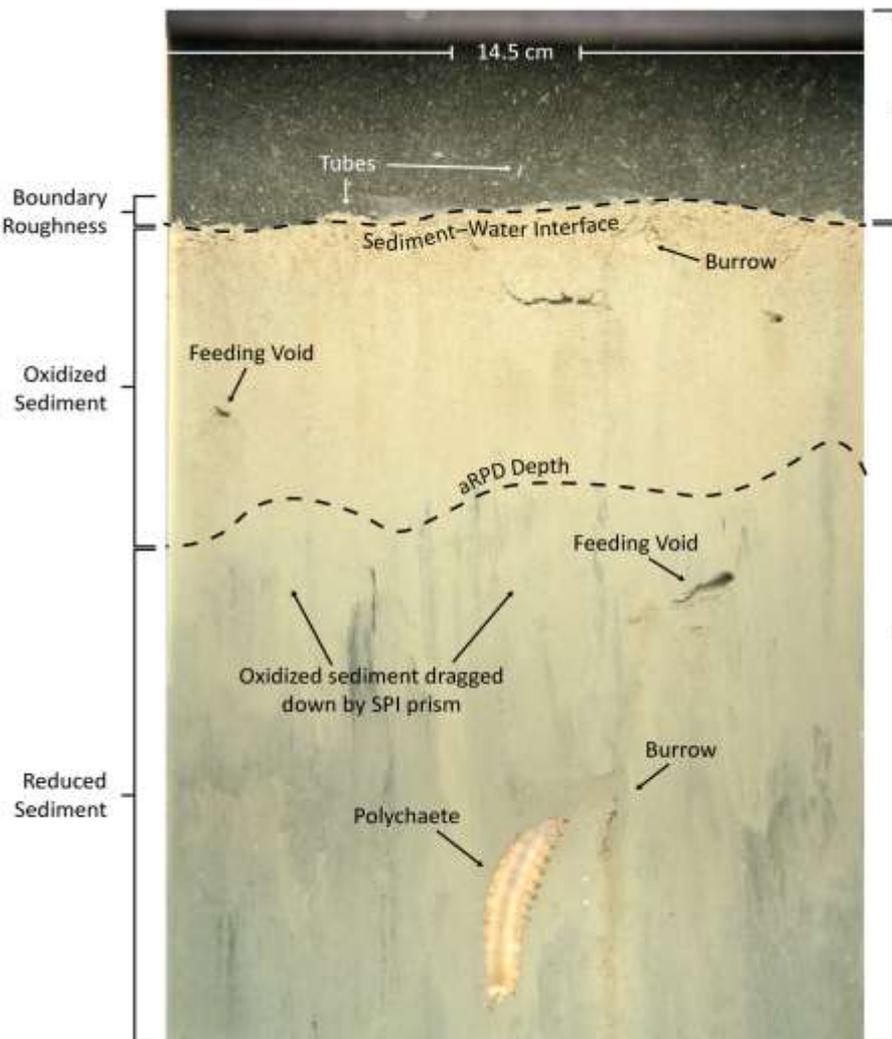


① System is Lowered to Seabed

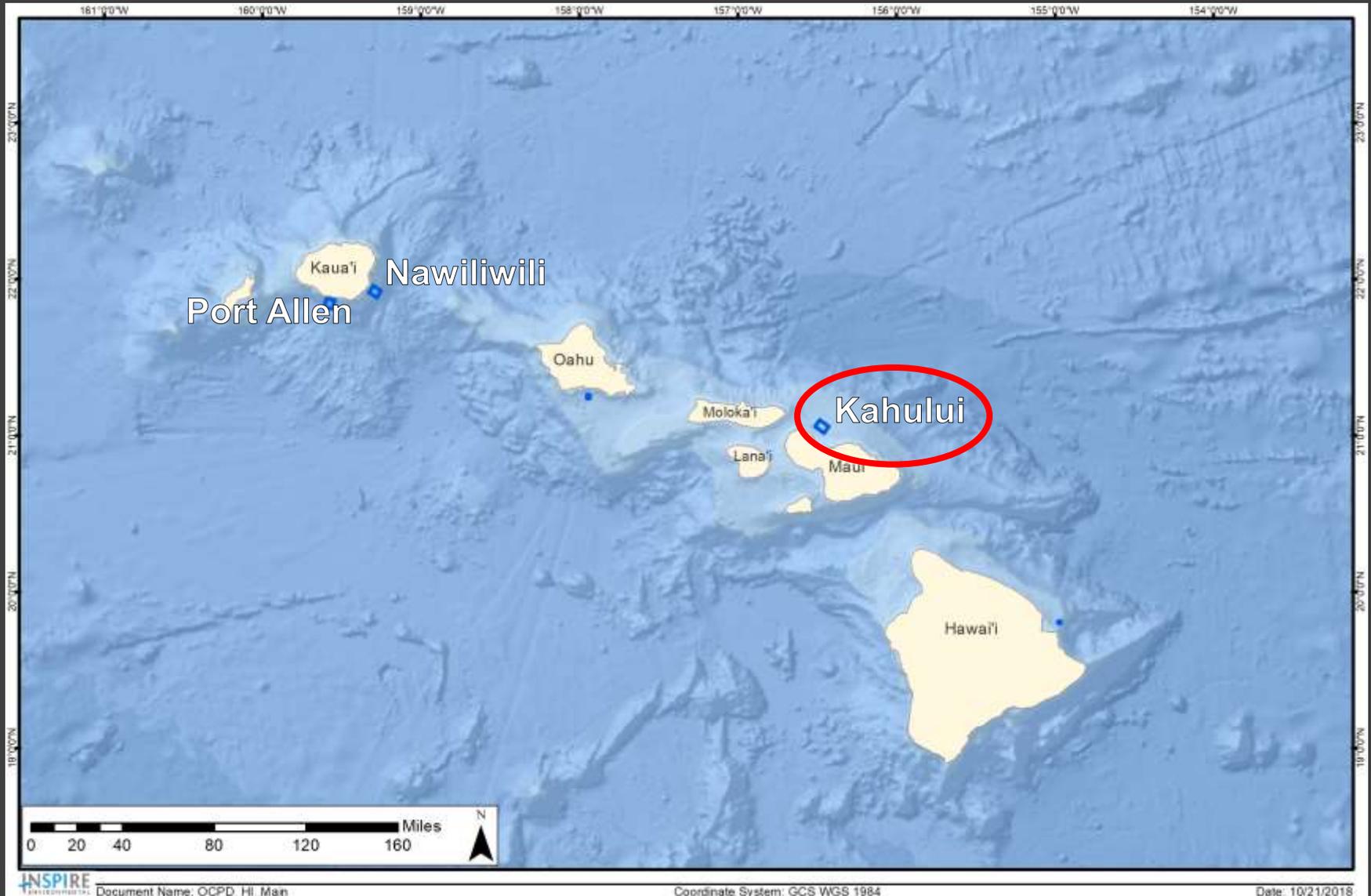
② Plan View Camera is Triggered

③ Profile Camera is Triggered

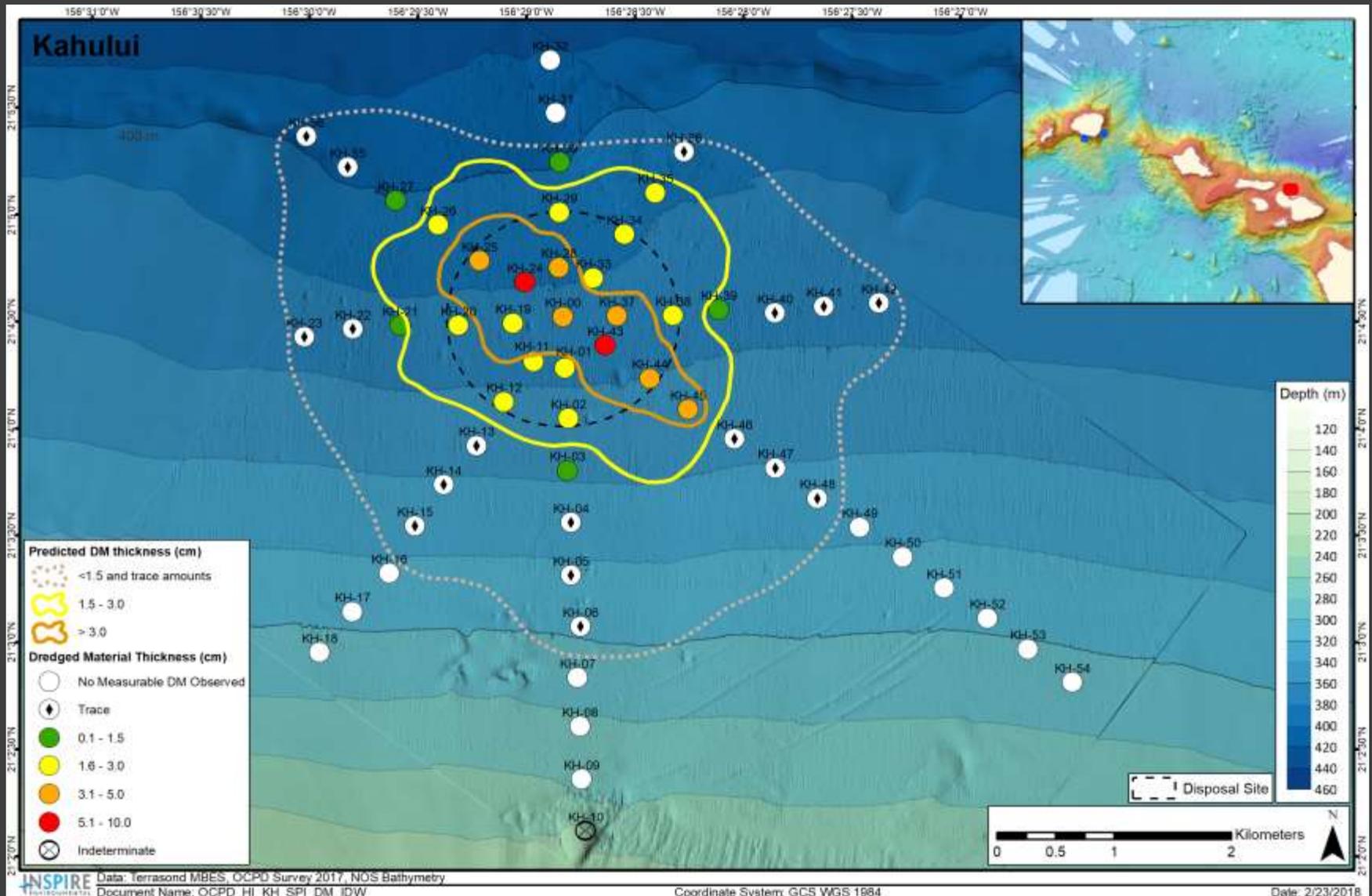
SPI and Benthic Status



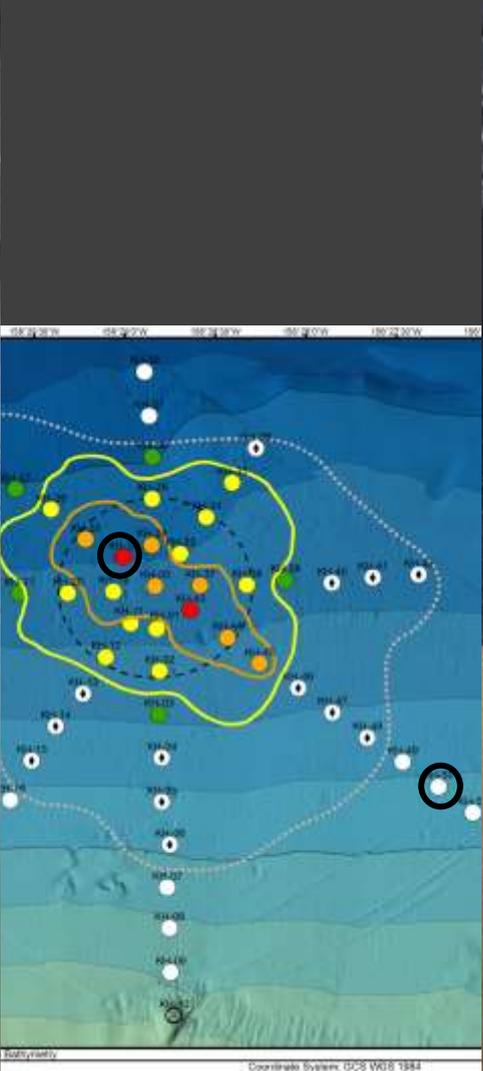
October 2017 Monitoring



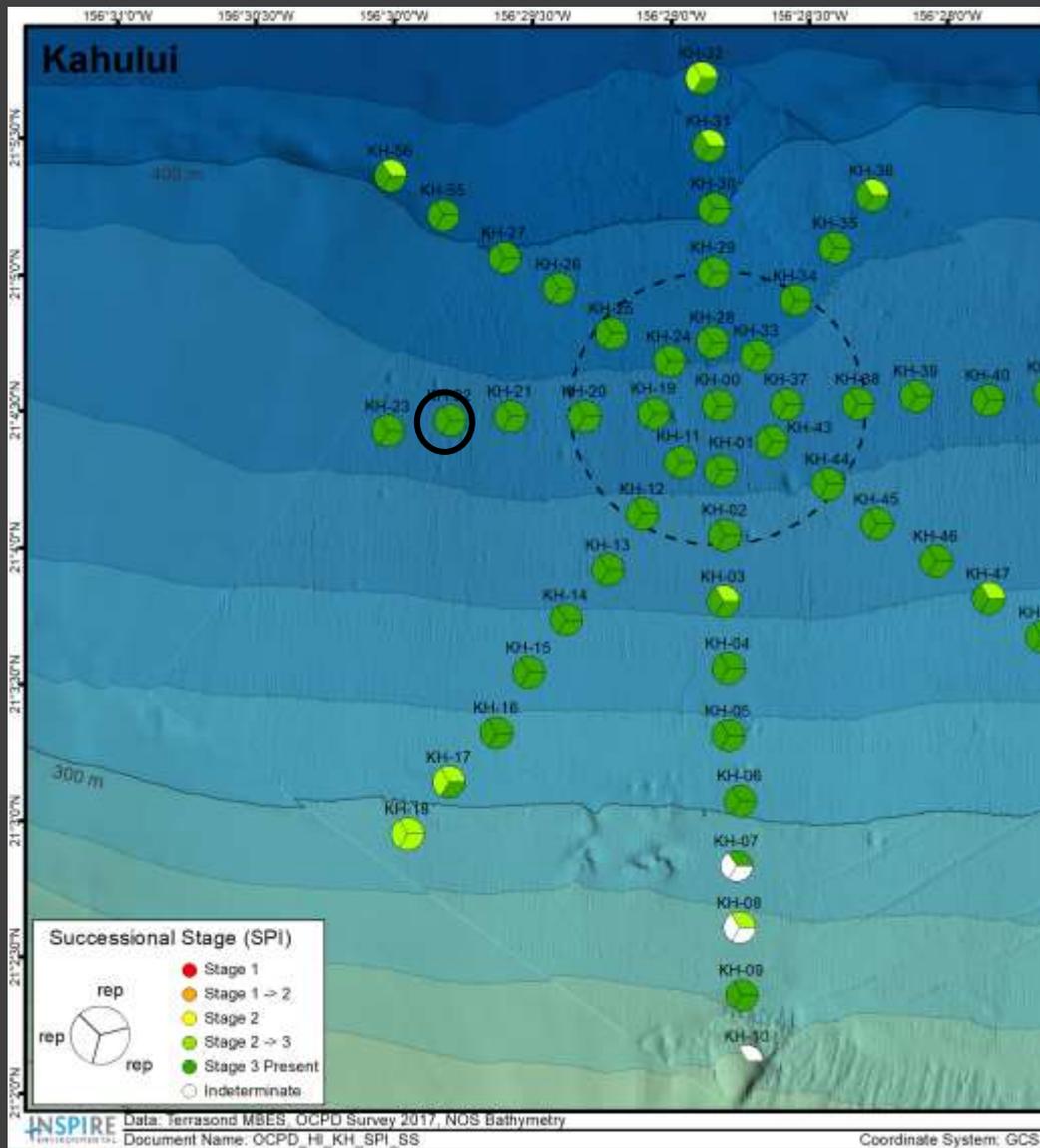
Kahului: DM Patterns



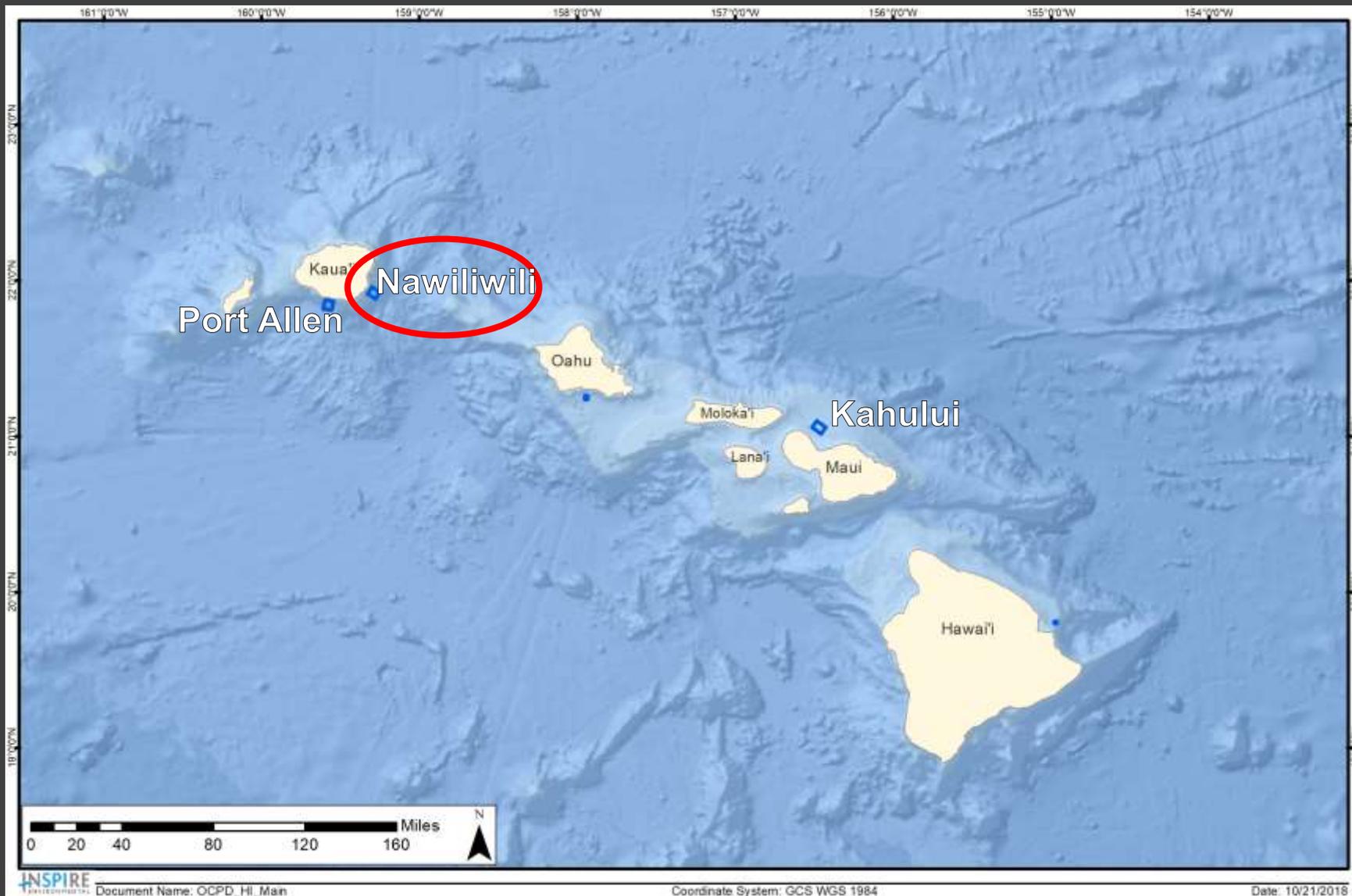
Kahului: DM Patterns



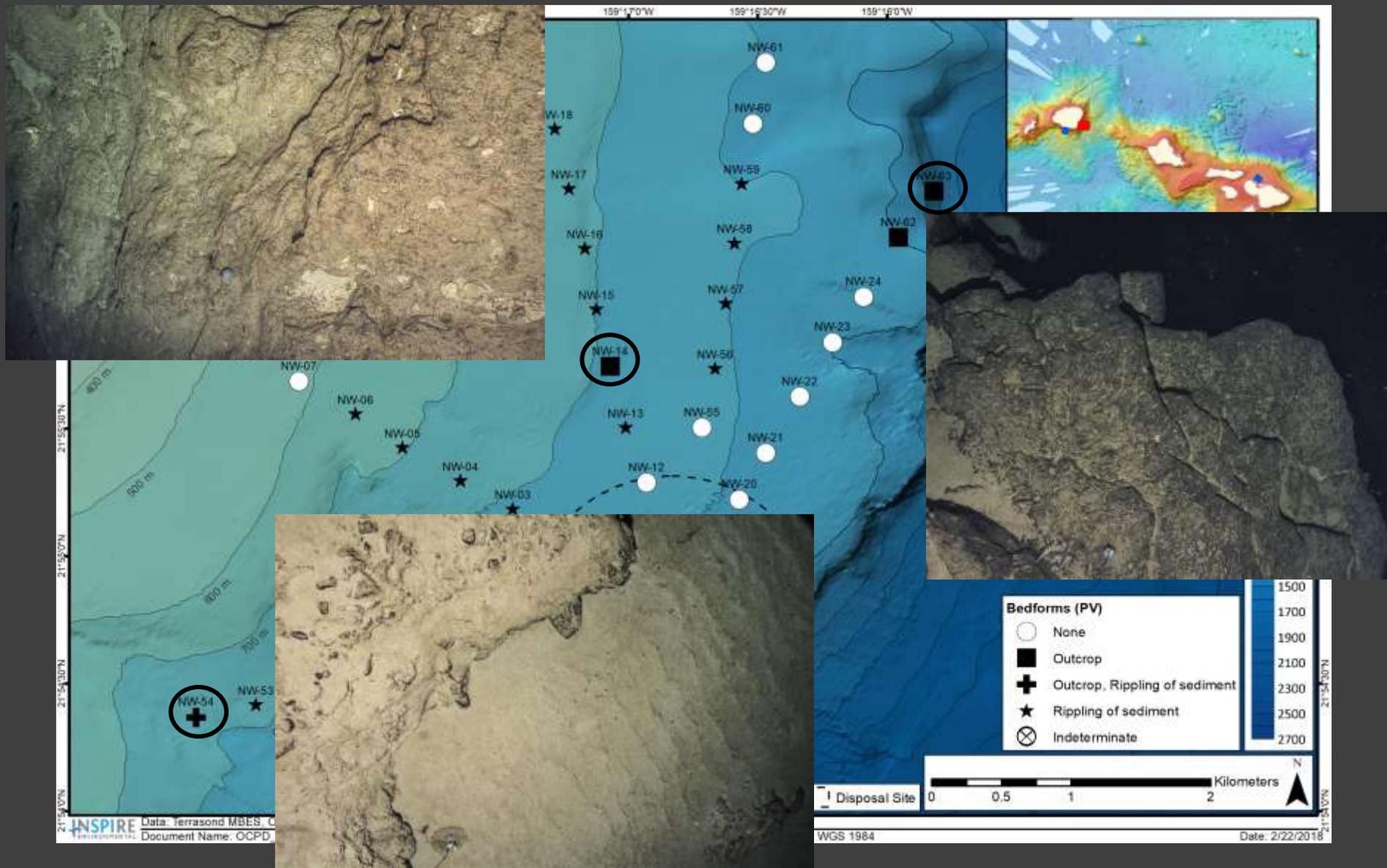
Kahului: Benthic Recovery



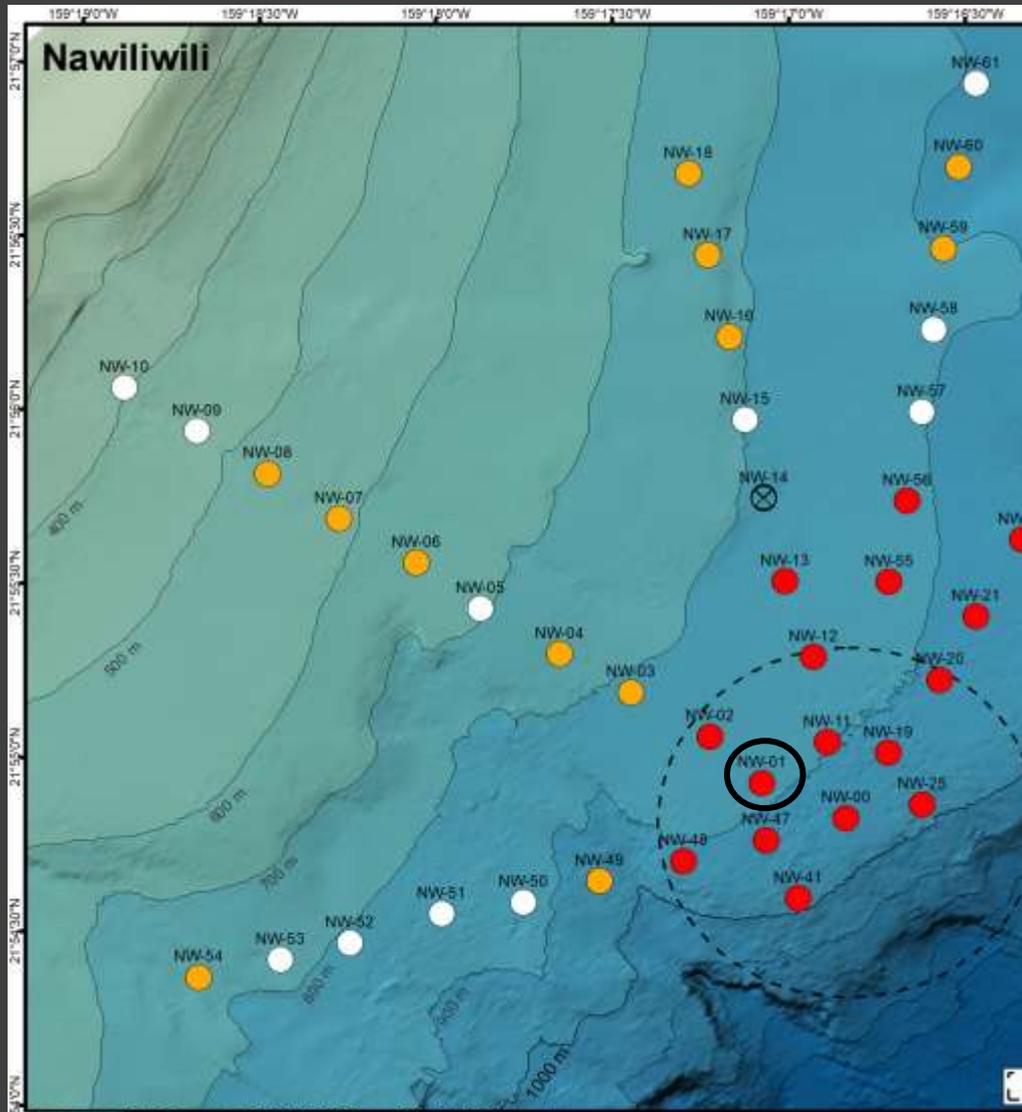
October 2017 Monitoring



Nawiliwili: Seafloor

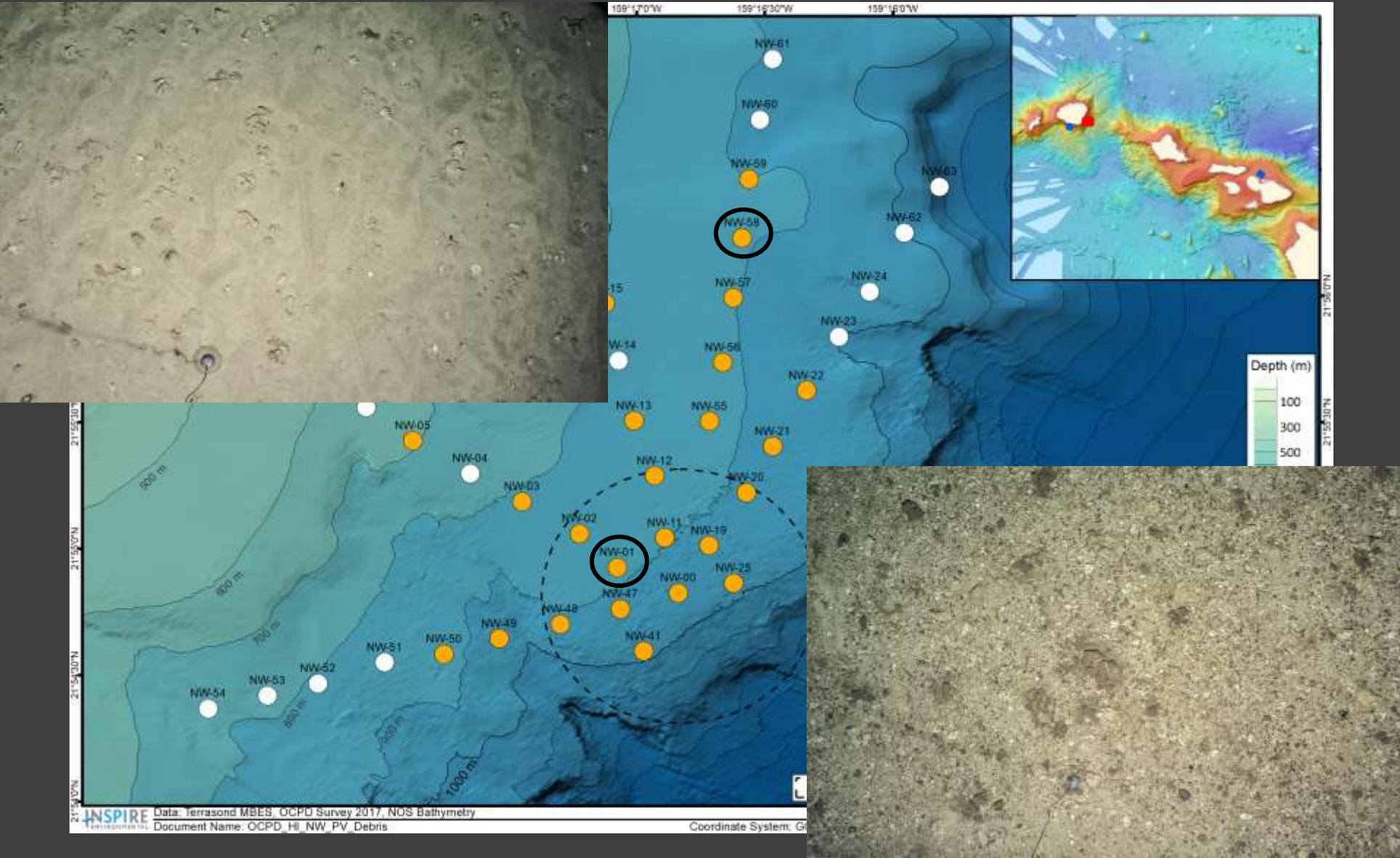


Nawiliwili: DM Patterns

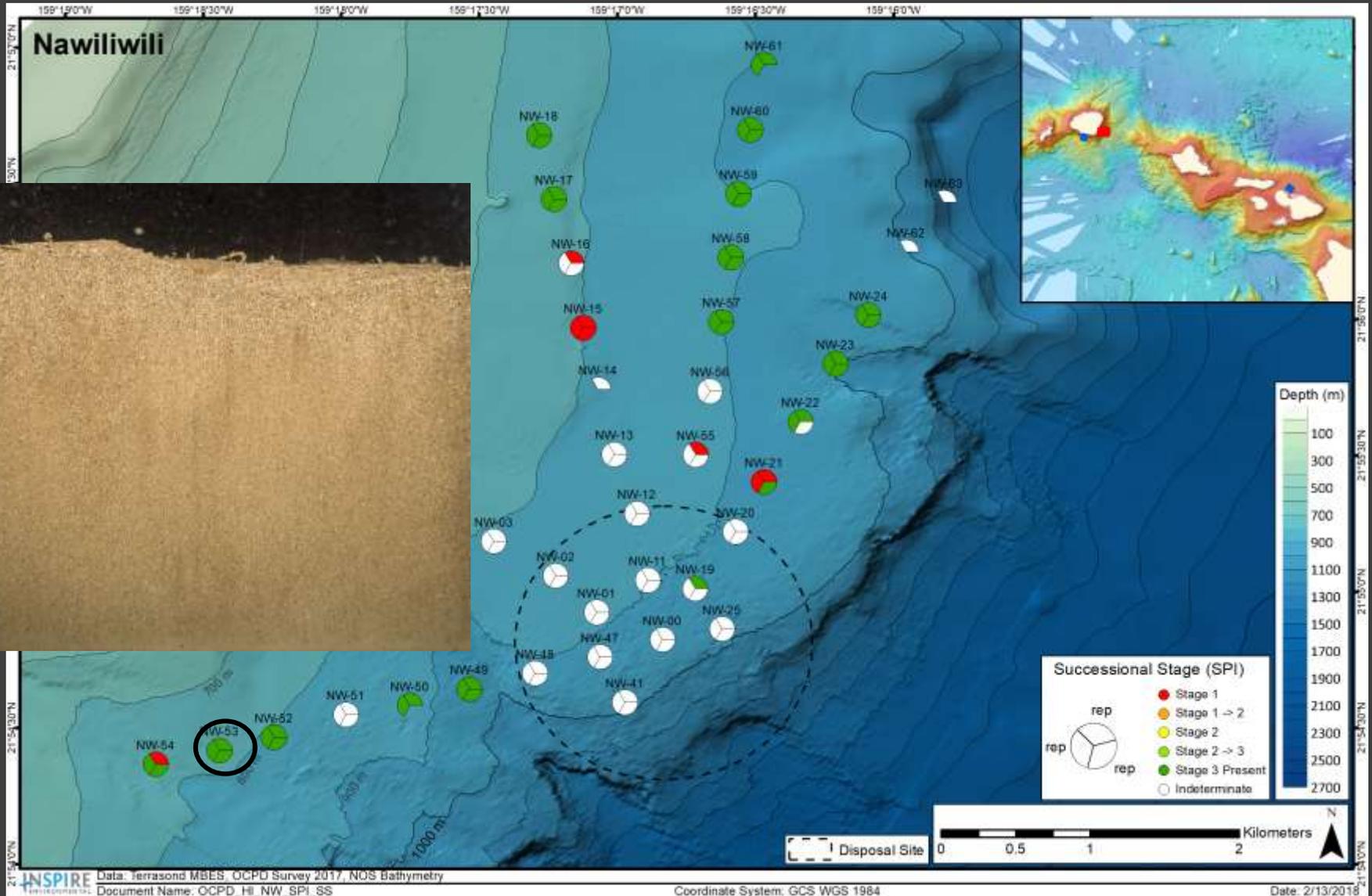


INSPIRE Data: Terrasound MBES, OCPD Survey 2017, NCS Bathymetry
Document Name: OCPD_HI_NW_SPI_DM Coordinate System: GCS

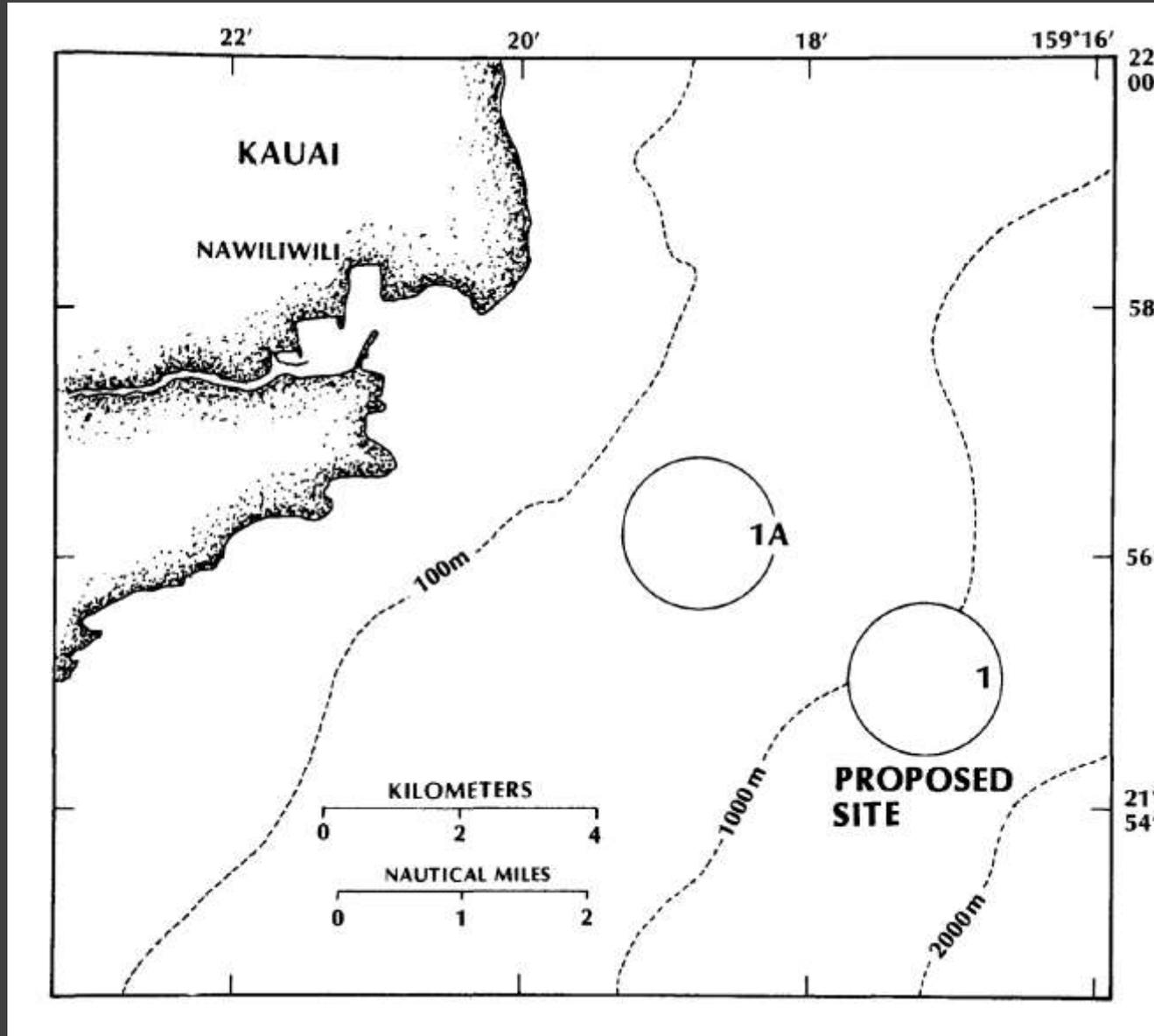
Nawiliwili: Confounding Variable



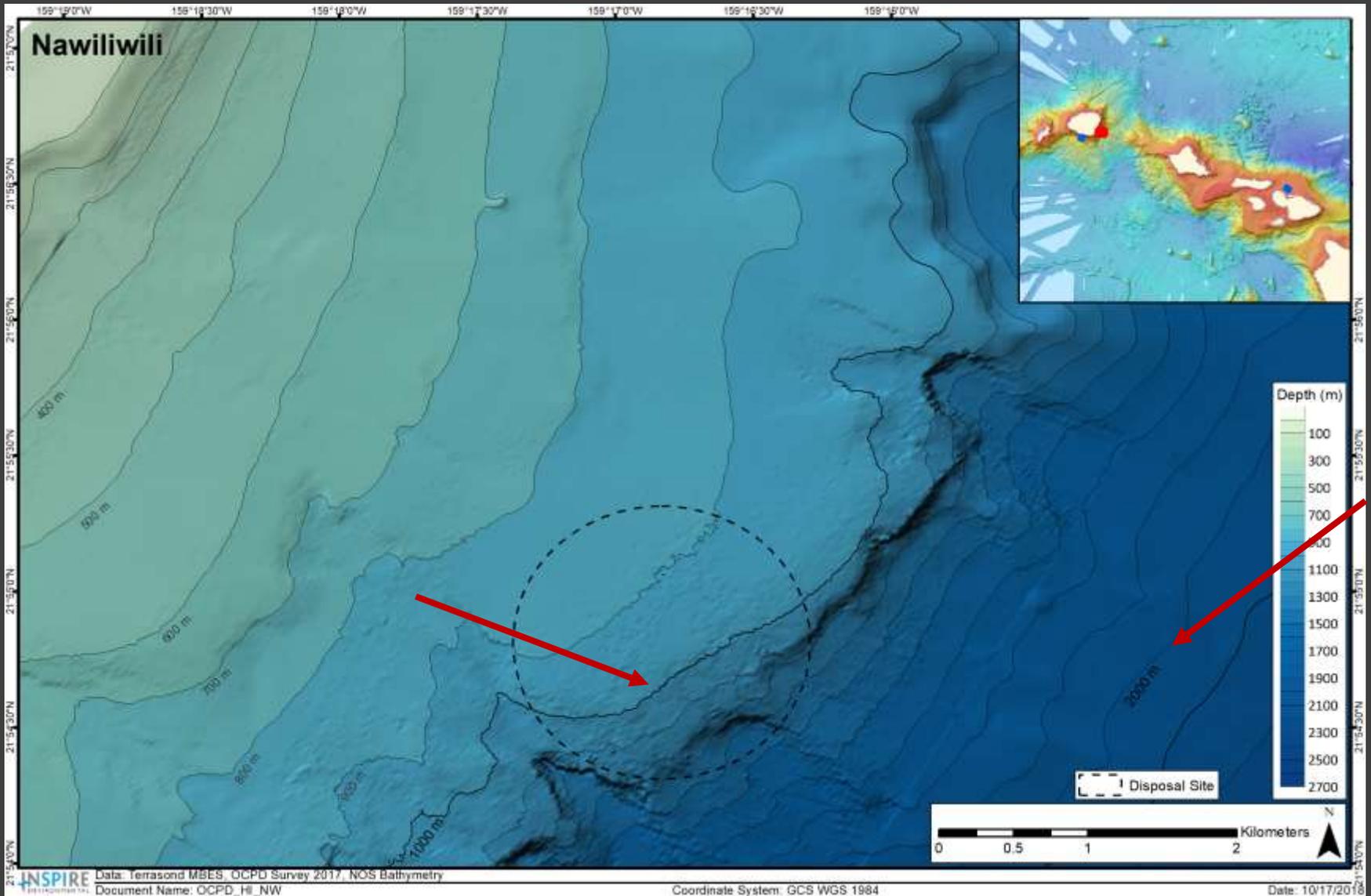
Nawiliwili: Benthic Recovery



Bathymetry Then



Bathymetry Now



SPI/PV are useful for mapping DM footprint and assessing effects to benthic community

High resolution seafloor mapping is highly valuable in assessing disposal site and in directing SPI/PV and grab sampling

Results from Nawiliwili are being used by EPA to plan what is next for this site – e.g., changing disposal target, designating an alternate site, sending all Kauai DM to the Port Allen site

Acknowledgements

Thank you to U.S. EPA for funding this project

Thank you to our field collection team— Eli Perrone, Ezra Beaver, Alex Mansfield, Caitlyn Farragher, Patrick Curran, and the crew of the R/V Norseman II

Thank you to our data management, analysis, and visualization team— Jill Johnen, Alex Rhoads, Ben Taylor, Steve Sabo, and Ellen Bellagamba Fucile