UH Sea Level Center

Phil Thompson
Associate Professor
Department of Oceanography
University of Hawai‘i at Mānoa
Project Overview

- U.S. partner in the WMO/IOC Global Sea Level Observing System (GLOSS)
  - Operate global network of >75 tide gauges (including ≈20% of the GLOSS Core Network)
  - Curate global tide-gauge data sets cited 50–100 times per year in peer-reviewed literature
  - Capacity development
Project Overview

- U.S. partner in the WMO/IOC Global Sea Level Observing System (GLOSS)
  - Operate global network of >75 tide gauges (including ≈20% of the GLOSS Core Network)
  - Curate global tide-gauge data sets cited 50–100 times per year in peer-reviewed literature
  - Capacity development
GOMO Link

- NOAA/GOMO have funded the UHSLC for almost three decades.
- GOMO leadership provides crucial leadership and advocacy at national (NOAA) and international (IOC/JCOMM/GLOSS) levels.
- GOMO connects the UHSLC to partners.
  - Additional programs to leverage data and fund research (e.g., Tsunami program, NOS).
  - Resources and expertise for data management (e.g., Kevin O’Brien → ERDDAP).
Achievements and Impacts

- Maintained network viability during:
  - Global GPS glitch (2019); COVID-19 (2019–2022)

- Datasets supported hundreds of peer-reviewed (and societally relevant) research articles
  - Topics include earthquakes, tsunamis, fisheries, coral health, storm surge, tides, atmospheric rivers, coastal oceanography, and climate change

- Developed multiple products to support resilient coastal communities

- Modernized our data processing and QC software; modernized data acquisition platform (ERDDAP)
Future plans and opportunities

- Increase online data interactivity and value-added calculations
  - 10– and 100–year flood levels; sea-level trends; etc.

- Transition the UHSLC tide-gauge network to Iridium communications
  - Minimize data loss
  - Improve efficiency of maintenance operations

- Expand sea-level observing network in American Samoa
  - Main island (Tutuila) and other populated islands (Aunu’u, Ofu-Olosega, and Ta’ū)