# New model forecasts for communities in Guam, Palau

With the aim of helping forecast of seawater overflowing roadways and potentially flooding houses and businesses in low lying communities, a team of physical oceanographers working with the Pacific Islands Ocean Observing System (PacIOOS) has developed new tools to forecast potential inundation events so that affected communities can better prepare and respond to such threats days in advance.

The forecast models are called the PacIOOS Six-Day High Sea Level Forecasts, and the most recent developments include Apra Harbor in Guam and Malakal in Palau. This can help in giving out forecasts that threatens public health and safety.

"Along with a more accurate analysis of the tides, the PacIOOS Six-Day High Sea Level Forecast tool utilizes analyses of several kinds of non-tidal sea level variability that can add to the height of the tide to produce unexpected flooding in coastal areas in the absence of storms or tsunamis. The predictions include the influences of currents and eddies that evolve over days, as well as shorter period motions not included in tide-only forecasts," explains Dr. Martin Guiles, PacIOOS Senior Physical Oceanographic Research Specialist and project lead.

Dr. Guiles reiterates that the forecasts do not include predictions of tsunamis or storm surge flooding. In case of those events, the public is advised to seek advice from the National Weather Service.

Dr. Guiles and Dr. Doug Luther, PacIOOS co-investigator and Professor of Oceanography at the University of Hawaii at Manoa, developed these forecasts in response to requests from ocean stakeholders in the PacIOOS region. Fishermen, divers, surfers, boaters, businesses, government agencies, and emergency responders all benefit from the increased prediction accuracy of sea level in areas where there may be an inundation and flooding threat.

"More informed citizens and agencies lead to better decisions and preparation," Dr. Guiles stressed.