

7th meeting of the Challenger Society
Ocean Wind Waves Special Interest Group

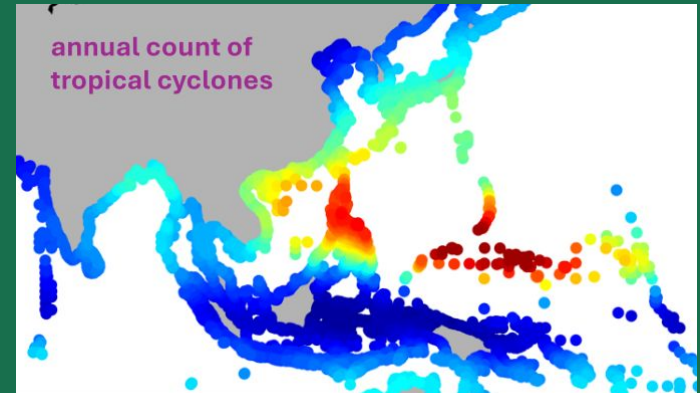
Effect of Sea-Level and Wind-Wave Coupling on Simulations of Tropical Cyclones in Southeast Asia

Pau Luque (p.luque@reading.ac.uk),

Xiangbo Feng, John Methven, Kevin Hodges, Jeff Polton,
Leo Saffin, Shammi Akhter, Marta Marcos, Angel Amores

Tuesday 23rd June 2026
Imperial College, London

Understanding and Prediction of
Compound Ocean-Atmosphere
Storms in the Tropics (SEA-COAST)



National Centre for
Atmospheric Science
NATURAL ENVIRONMENT RESEARCH COUNCIL



THE SEA-COAST PROJECT — INTRODUCTION

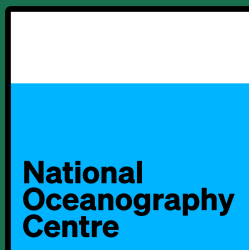
- Improve coastal hazard prediction in Southeast Asia.
- Systematic evaluation of characteristics and predictability of compound air-sea extremes across SEA region.
- Sustainable capability building for coastal hazard prediction.
- Benefitting from the existing expertise and datasets (MOGREPS-G, ECMWF, MOGREPS-SEA).
- Modelling storm surges (coupled with tides and waves) using the SCHISM model.



SEA-COAST PROJECT — TEAM

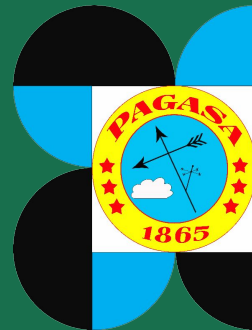


Core project team



Met Office

Coordinator



SEA Project partners



imedea

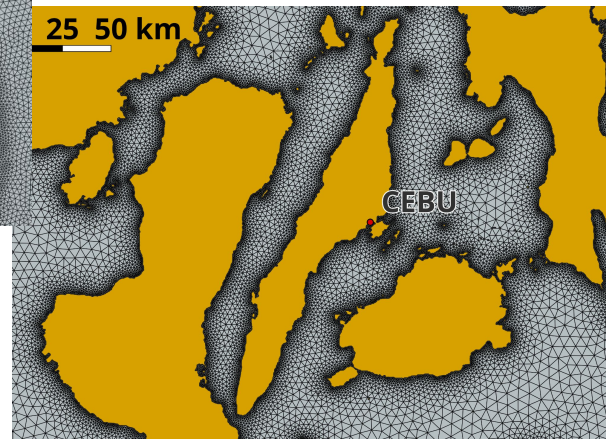
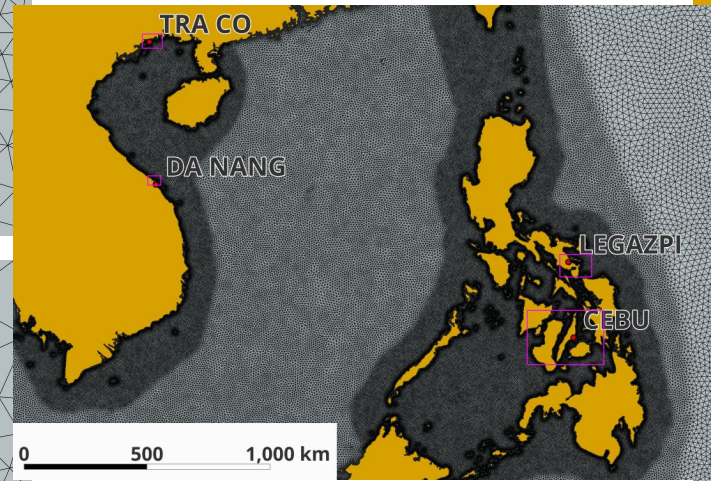
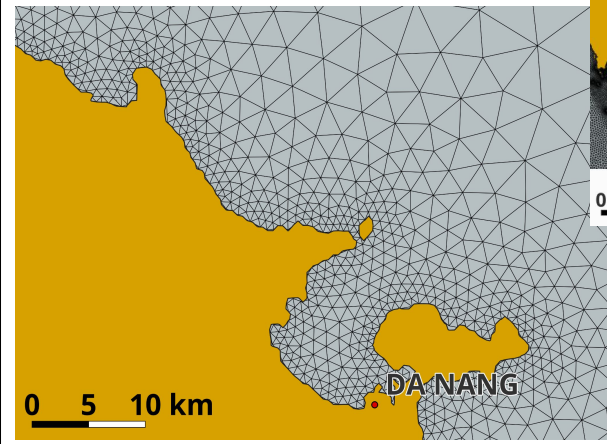
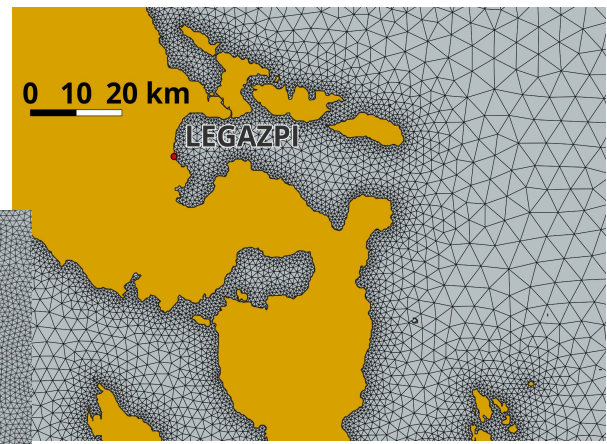
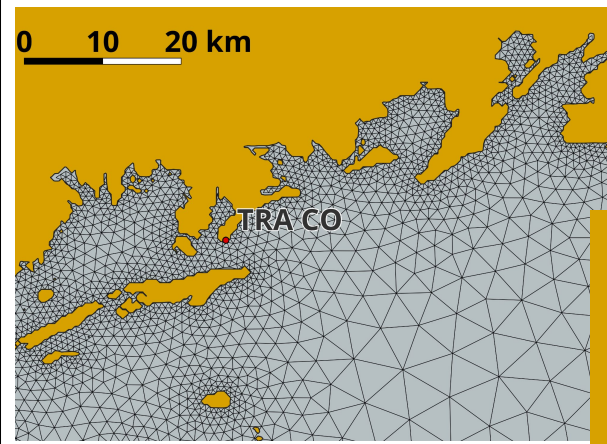


Universitat de les Illes Balears

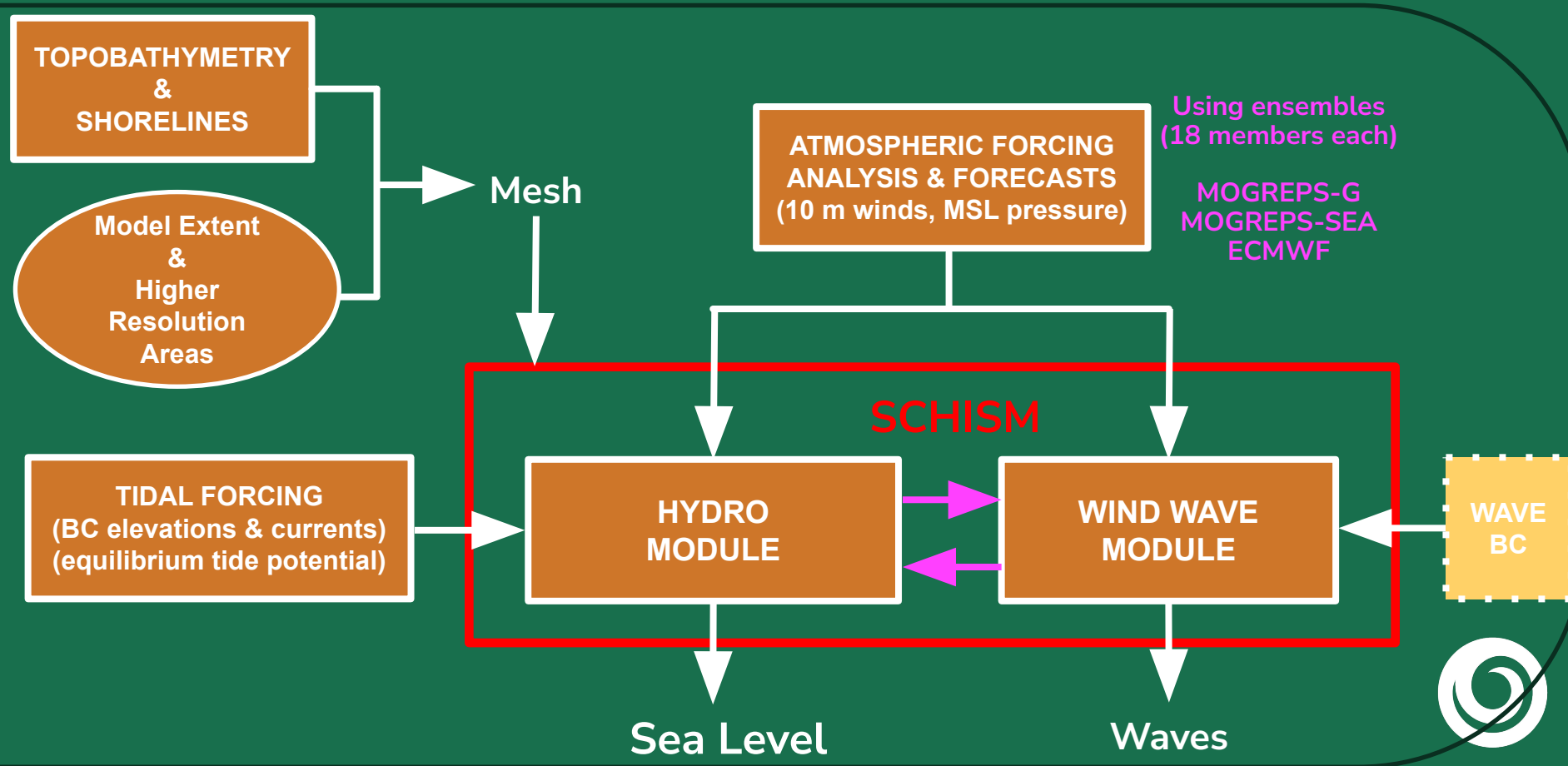
Other project partners



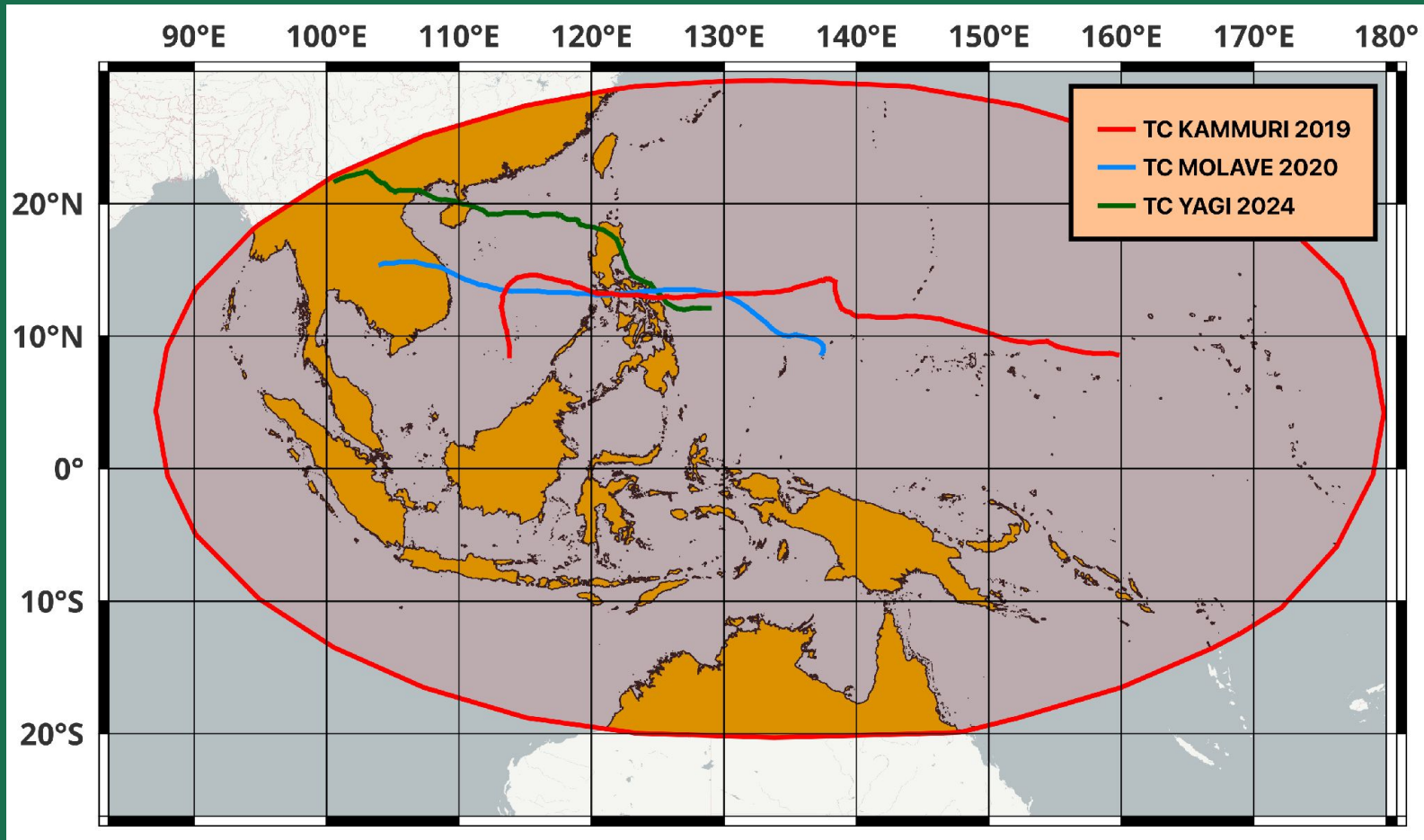
SEA-COAST FRAMEWORK DESCRIPTION — SIMULATION DOMAIN & MESH



SEA-COAST FRAMEWORK DESCRIPTION — SCHISM SIMULATION WORKFLOW

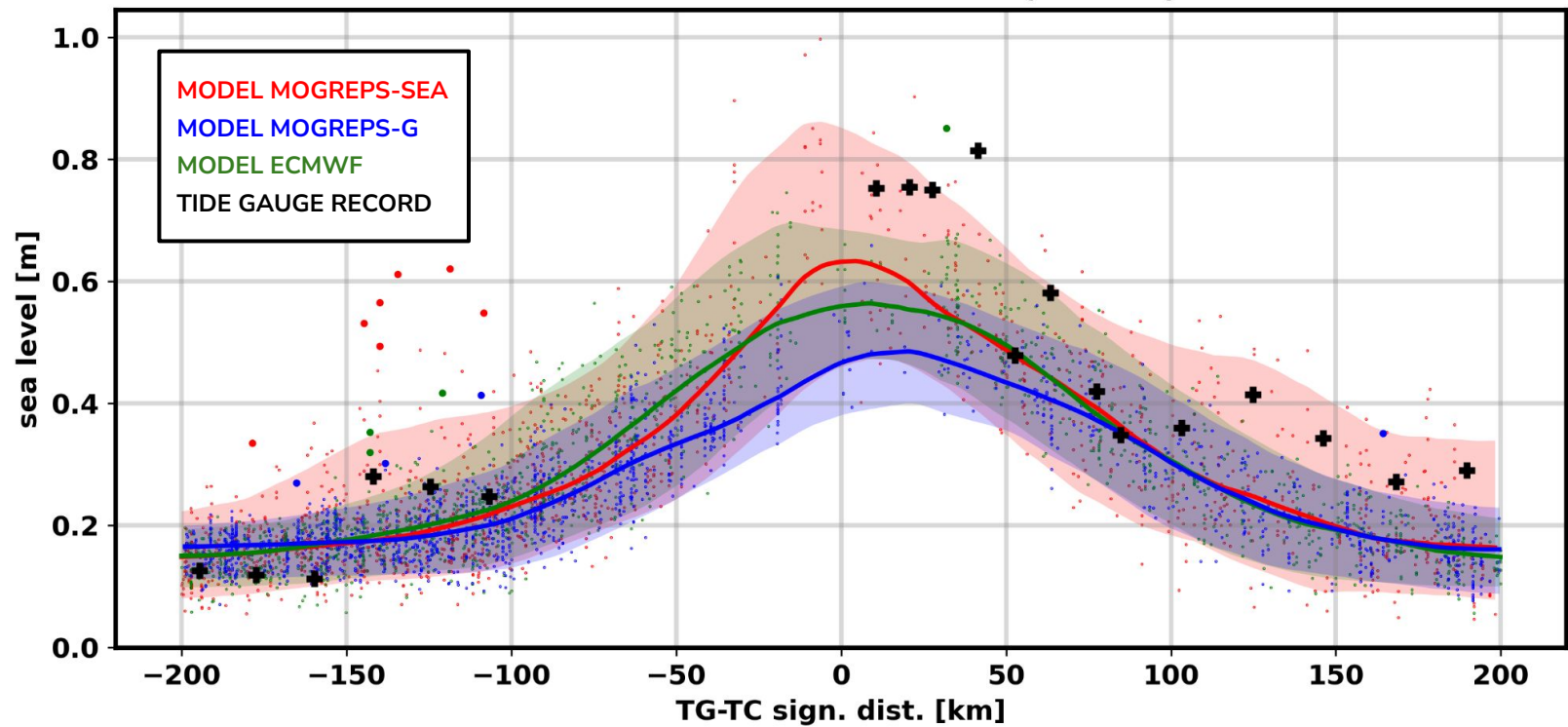


SEA-COAST CASE STUDIES — SUMMARY



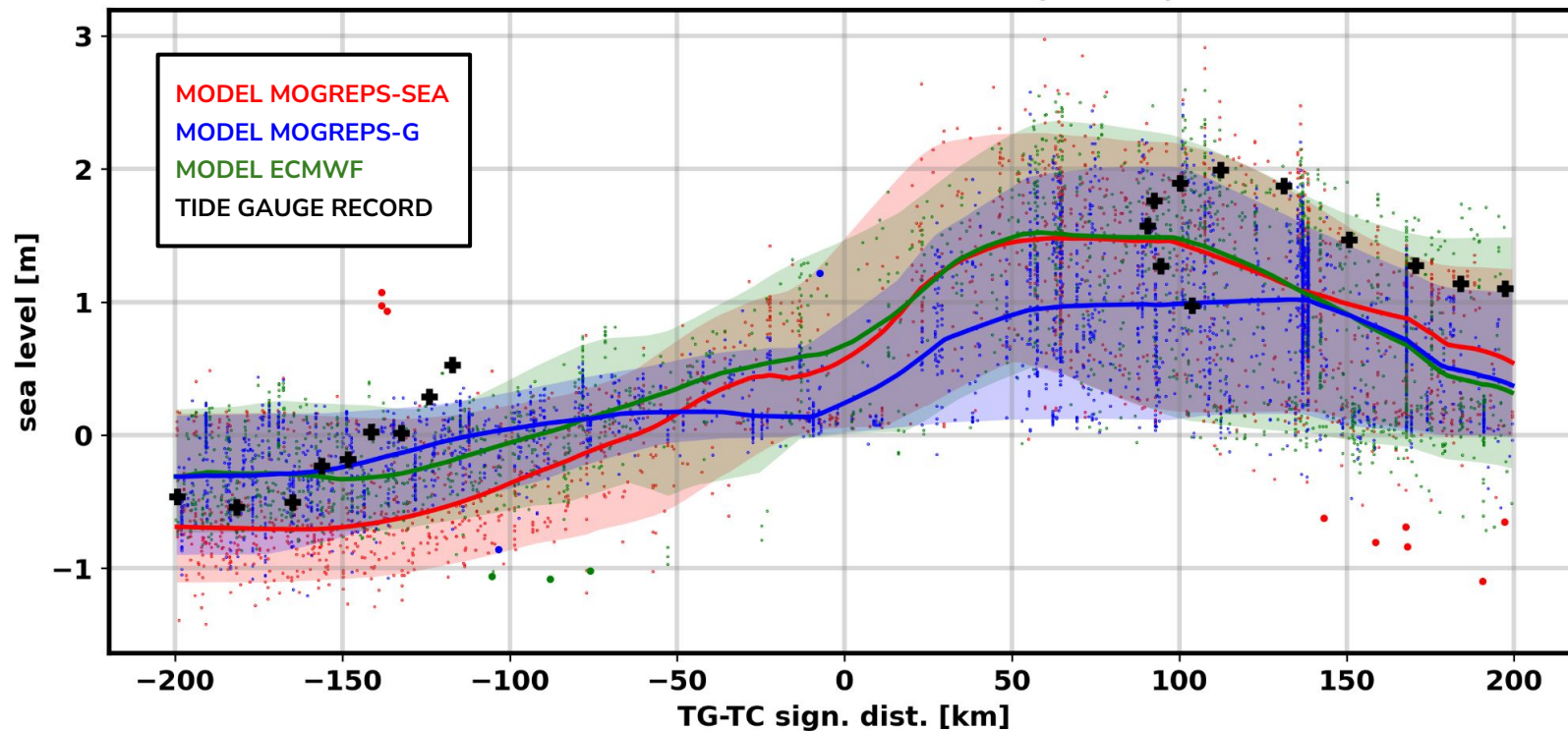
SEA-COAST CASE STUDIES — TC KAMMURI

SEA LEVEL VS. SIGNED DISTANCE (LEGAZPI)

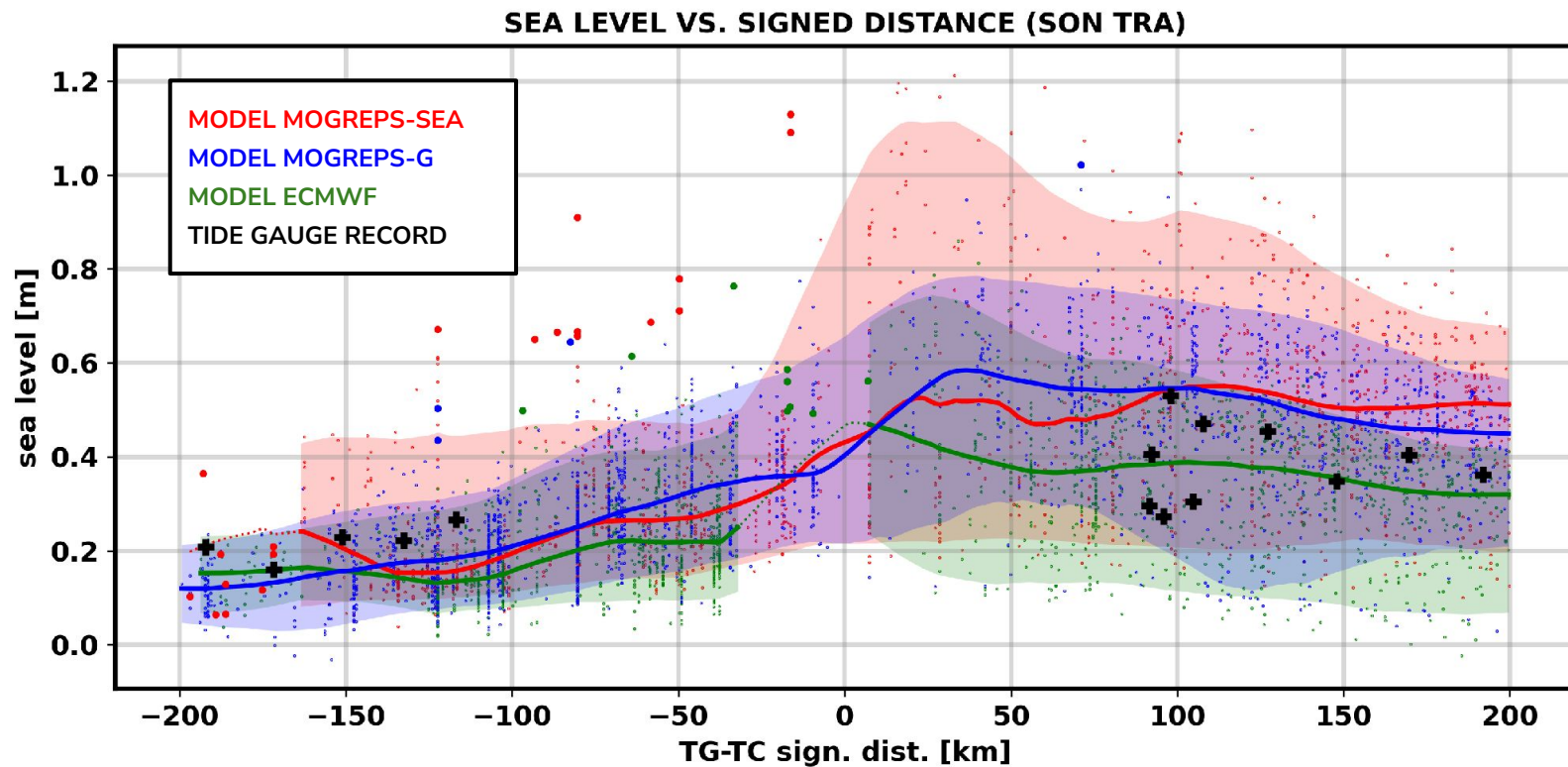


SEA-COAST CASE STUDIES — TC YAGI

SEA LEVEL VS. SIGNED DISTANCE (TRA-CO)

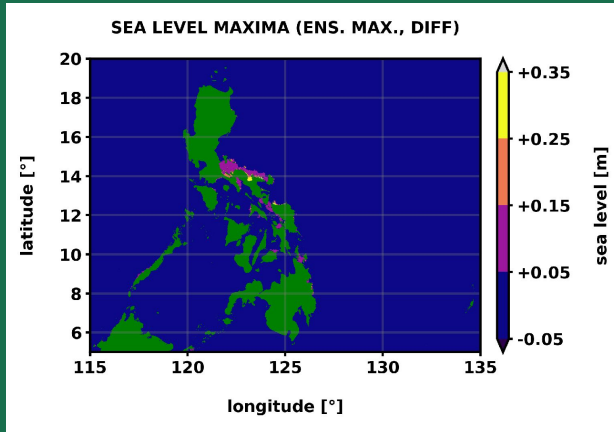


SEA-COAST CASE STUDIES — TC MOLAVE

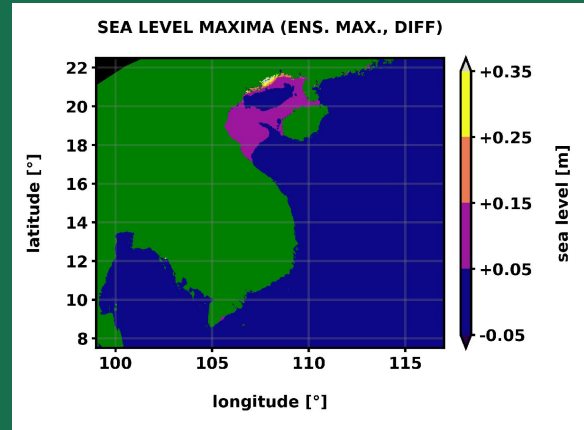


SEA-COAST CASE STUDIES — WAVE COUPLING

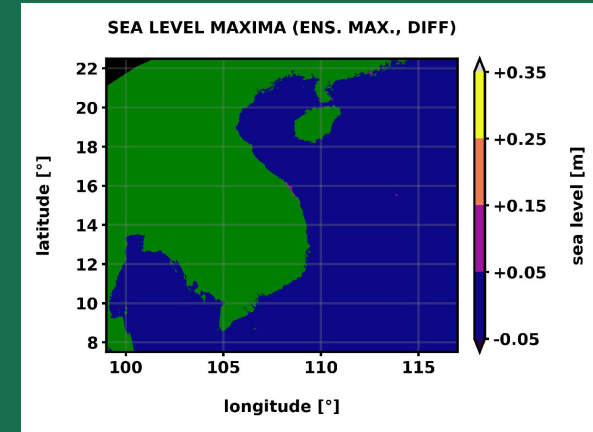
KAMMURI 2019



YAGI 2024



MOLAVE 2020



NEXT STEPS AND POTENTIAL FOR THE SEA-COAST FRAMEWORK

