

特定研究集会

2023TM-01



京都大学 防災研究所

Disaster Prevention Research Institute

Kyoto University

東アジア沿岸における気候変動影響評価と適応策

Climate Change Impact Assessment and Adaptation

in East Asian Coastal Areas

令和 5 年 10 月 26 日～27

日 Oct. 26th to 27th, 2023

研究代表者 森 信人

Coordinator Nobuhito MORI

【報告書】

令和 6 年 4 月 30 日

特定 研究集会（ 課題番号 : 2023TM-01 ）

京都大学防災研究所長 殿

[申請者（研究代表者）]

氏 名 : 森 信人

職 名 : 教授

所属機関名 : 京都大学防災研究所

下記のとおり、研究集会の実施結果について報告します。

記

集会名 : 東アジア沿岸における気候変動影響評価と適応策

主催者名 : National Cheng Kung University, Kyoto University, Seoul National University

研究代表者 : 森 信人

所属機関名 : 京都大学防災研究所

所内担当者名（一般研究集会のみ） :

開催日 : 令和5年10月26－27日

開催場所 : Department of Hydraulic and Ocean Engineering, National Cheng Kung University, 台湾

参加者数 : 35名（所外19名、所内16名）

研究集会報告

(1) 目的

2021年度に発表された IPCC 第6次報告書では、海面上昇に加えて台風関連災害の増加についての将来予測がまとめられている。これを踏まえ、共通の気候システムと関連した沿岸災害をもつ日韓台の主要研究機関間でワークショップを開催し、知見のシェアを行った。特に予測シナリオ等の不確定性を考慮し、東アジアを対象とした沿岸部における海面上昇、高潮等の沿岸外力の将来変化についての研究結果を日本、台湾、韓国の研究者で共有し、今後の研究展開について議論を行った。

(2) 成果のまとめ

本研究集会は、台湾 National Cheng Kung University（国立成功大学）で実施した。実施に当たり、日本と台湾だけでなく、韓国 National Seoul University（国立ソウル大学）とも協賛で開催し、3カ国の若手研究者が議論できる場とした。プログラムは、以下の項目(3)および巻末のとおりである。

本研究集会開催により、東アジアにおける海面上昇、波浪、高潮の沿岸外力の将来変化について、日本、台湾、韓国の研究成果をもとに、予測結果を共有し、東アジアにおける沿岸外力の統一的な予測結果をまとめる方向性が示された。さらに、東アジアにおける気候変動に伴う海浜変形、海岸構造物等への影響と適応策についての議論を行うことができた。日本、台湾、韓国の沿岸災害は、台風及び冬冬季節風等の気象外力が共通しており、共通の予測、研究手法について議論を行うことは重要であった。

(3) プログラム

October 26, 2023

Time	Schedule
08:40 – 09:00	Registration
09:00 – 09:10	Opening
09:10 – 09:30	Professor Jin Hwan Hwang (Seoul National University) Application of a Tesla valve to bidirectional open-channel flows
09:30 – 09:50	Dr. Yulin Tsai (Kyoto University) Wave attenuation by mangroves using the fully-nonlinear Boussinesq-type model
09:50 – 10:10	Dr. Yu Hsiao (NCKU) Wave attenuation of interaction between regular waves and submerged vegetation
10:10 – 10:30	Coffee break
10:30 – 10:50	Professor Yong Sung Park (Seoul National University) Coastal processes monitoring with UAV
10:50 – 11:10	Dr. Taiga Kanehira (Kyoto University) Integrating DualSPHysics and OceanWave3D for predicting wave-induced forces on coastal structures
11:10 – 11:30	Dr. Wei-Shun Lu (THL, NCKU) Impact of climate change on the medium-term morphodynamic evolution of barrier islands
11:30 – 11:50	Mr. Gota Yamasaki (Kyoto University) Typhoon-generated extreme wave reanalysis with data assimilation of drifting buoy observations
11:50 – 12:10	Dr. Dong Hyeon Kim (Seoul National University) Comprehensive modeling from watersheds to a bay and its validation with radar, drifters, and MVP methods
12:10 – 13:10	Lunch
13:10 – 13:30	Mr. Xinyu Chen (Kyoto University) An approach to predict shoreline change at a long scale with wave climate calibrated model
13:30 – 13:50	Mr. Hyoseob Noh (Seoul National University) Suspended sediment concentration monitoring in coastal construction field using UAV-based RGB imagery
13:50 – 14:10	Mr. Francisco Molteni Pérez (Kyoto University) Extreme coastal water level along the south American pacific coast interacting with vertical land motions
14:10 – 14:30	Mr. Daniel Bara Padang (NCKU) Experimental study of tsunami bores interaction with rigid emerged plate
14:30 – 14:50	Mr. Minjae Lee (Seoul National University)

	Estimation of friction factor from the field measured data
14:50 – 15:10	Mr. Kenta Fujimoto (Kyoto University) Sensitivity analysis of tsunami heights along the western Japan coast to fault depth and rake
15:10 – 15:30	Coffee break
15:30 – 15:50	Mr. Wei-Cheng Chen (NCKU) Use of AI methods for forecasting of coastal freak waves
15:50 – 16:10	Mr. Shun Ito (Kyoto University) Long-term analysis of tropical cyclone intensity using MPI Theory based on HighResMIP projections
16:10 – 16:30	Mr. Shohei Ohata (Kyoto University) Long-term hindcasts of global extreme sea levels using unstructured grid models
16:30 – 16:50	Ms. Bo-Kyung Kim (Seoul National University) Transport of microplastics discharged from the Antarctic research station
16:50 – 17:10	Ms. Yu-Hsiu Su (NCKU) Design and analysis of configurations for dynamic array cable in floating offshore windfarm
18:00 –	Welcome Banquet

October 27, 2023

Time	Schedule
09:20 – 09:30	Meet at the Venue (HOE of NCKU) and walk to COMC (Coastal Ocean Monitoring Center)
09:30 – 11:00	Visit COMC
11:00 – 12:00	On the way to THL (Tainan Hydraulics Laboratory)
12:00 – 13:00	Lunch
13:00 – 17:00	Visit THL and Taijiang National Park
17:00 – 18:00	On the way back NCKU

Program

Taiwan-Japan-Korea Joint Workshop

TAIWAN
JAPAN
KOREA

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October 26 to 27

Auditorium Hall, New Department Building
of HOE, NCKU, Tainan City 70101, Taiwan

Hosted by

Department of Hydraulic and
Ocean Engineering (HOE)
National Cheng Kung University (NCKU)

Co-Hosted by

Disaster Prevention Research Institute, Kyoto University
Department of Civil and Environmental Engineering, Seoul National University
Tainan Hydraulics Laboratory (THL), NCKU
Coastal Ocean Monitoring Center (COMC), NCKU

Program

Taiwan-Japan-Korea Joint Workshop

2023

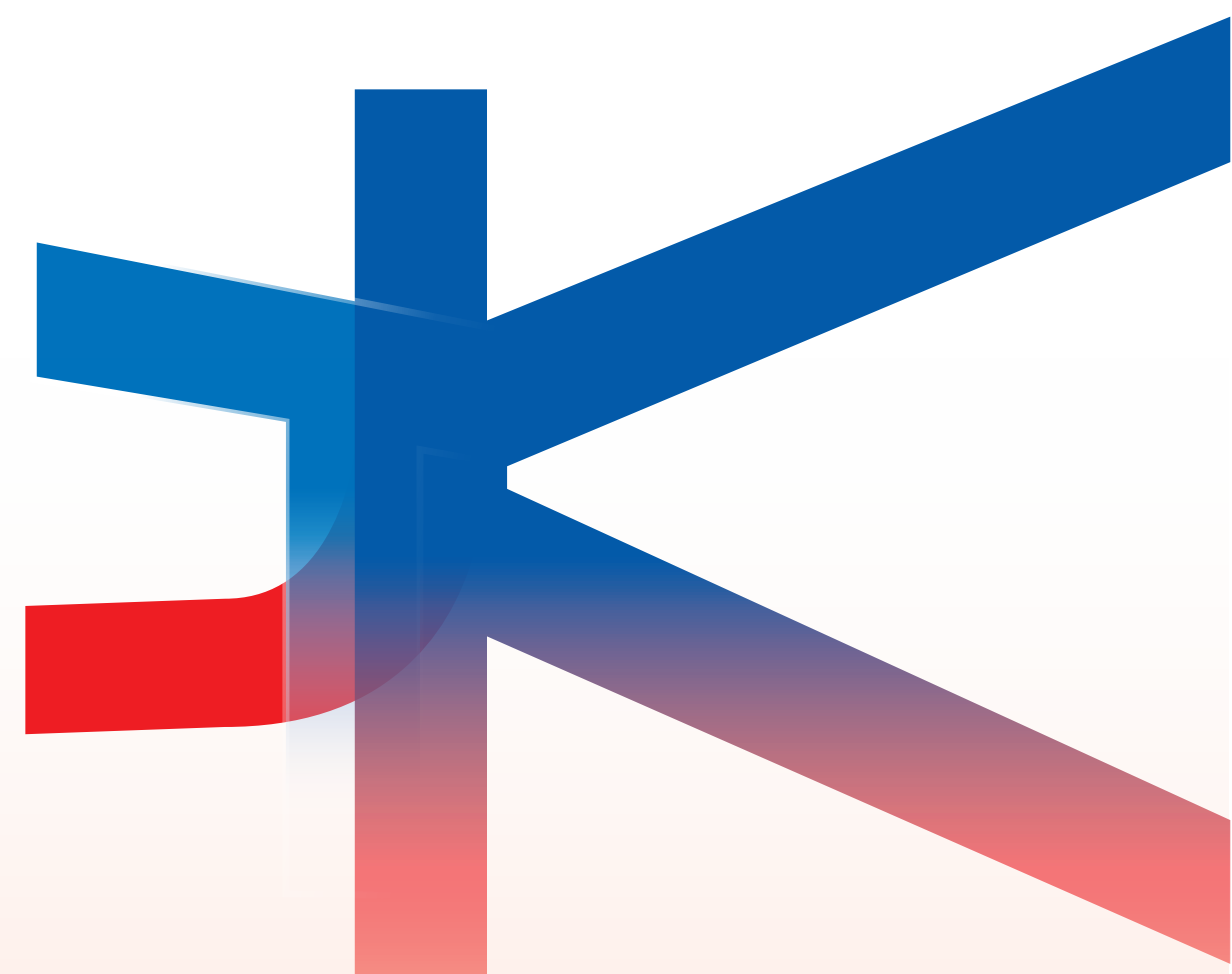
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