

GIS AND REMOTE SENSING APPLICATIONS FOR FLOOD HAZARD MAPPING

Author: Getnet Feyissa, Gildas Assogba, Hannah kinuthia, Philip Mzava and Thaileng Thol

Venue: JICA Room, Department of Water Engineering and Management, Asian Institute of Technology, Bangkok Thailand

Training Dates: 15th-19th October, 2018

	Topic name	Learning outcomes	Learning activities / Assignments	Basic learning materials
Day 1 15 th Oct 2018	<ul style="list-style-type: none"> ▪ Course overview ▪ Review of hydrological and hydraulic concepts ▪ Introduction to GIS and remote sensing ▪ Introduction to Case study area 	<ul style="list-style-type: none"> ▪ Familiarize with the course contents and learning environment ▪ Explain basic concepts in hydrology and hydraulic processes ▪ Explain basic concepts in GIS and Remote sensing ▪ Identify the characteristic of the study area 	<ul style="list-style-type: none"> ▪ Questions and Answers ▪ Think, pair and share 	<ul style="list-style-type: none"> ▪ Slide presentation ▪ Handouts ▪ Websites ▪ Flip charts
Day 2 16 th Oct 2018	<ul style="list-style-type: none"> ▪ Introduction to flood modelling ▪ Time-series data and frequency analysis ▪ Model development 	<ul style="list-style-type: none"> ▪ Classify different types of flood modelling ▪ Understand the basics of hydrologic and hydro-dynamic modelling ▪ Understand the model input parameters ▪ Calculate return periods of extreme flood events ▪ Explore modelling software 	<ul style="list-style-type: none"> ▪ Downloading data ▪ Computer hands-on activities ▪ Questions and Answers ▪ Think, pair and share 	<ul style="list-style-type: none"> ▪ Video ▪ Slide Presentation ▪ Handouts ▪ Computers ▪ Software (MIKE MODEL, Arc-GIS)
Day 3 17 th Oct 2018	<ul style="list-style-type: none"> ▪ Model simulation ▪ Model calibration and validation ▪ Converting model outputs data for mapping in GIS 	<ul style="list-style-type: none"> ▪ Interpret the model output ▪ Testing and verifying the model output ▪ Compare observed and simulated data ▪ Produce plot and graph of the model results ▪ Evaluate flood model 	<ul style="list-style-type: none"> ▪ Hands-on activity on model development ▪ Group discussion ▪ Think, pair and share 	<ul style="list-style-type: none"> ▪ Video ▪ Slide Presentation ▪ Handouts ▪ Computers ▪ Flip charts ▪ Software (MIKE MODEL, Arc-GIS)
Day 4 18 th Oct 2018	<ul style="list-style-type: none"> ▪ Flood map generation ▪ Overlay and risk analysis ▪ Introduction to project work 	<ul style="list-style-type: none"> ▪ Generate flood maps ▪ Analyze flood risk ▪ Develop the project 	<ul style="list-style-type: none"> ▪ Question and answers ▪ Computer hands-on activities 	<ul style="list-style-type: none"> ▪ Power point Presentation ▪ Computers ▪ Software (MIKE MODEL, Arc-GIS)
Day 5 19 th Oct 2018	<ul style="list-style-type: none"> ▪ Project group work ▪ Project work presentation 	<ul style="list-style-type: none"> ▪ Develop team working and communication skills ▪ Recommend flood management ideas 	<ul style="list-style-type: none"> ▪ Group discussion ▪ Brainstorming ▪ Power point presentation 	<ul style="list-style-type: none"> ▪ Power point Presentation ▪ Computers ▪ Software (MIKE MODEL, Arc-GIS)