

INTRODUCTION TO RIVER WATER QUALITY MODELING WITH WASP8



15- 16 APRIL 2025, TUESDAY & WEDNESDAY
8.30 A.M. - 5.00 P.M.



ENSEARCH TRAINING CENTRE, PETALING UTAMA,
SELANGOR



TRAINER :
IR. DR. ZAKI ZAINUDIN



TRAINER :
DR. NUR KHALIESAH



OVERVIEW OF TRAINING

WASP allows the user to investigate 1, 2, and 3 dimensional systems, and a variety of pollutant types. The time varying processes of advection, dispersion, point and diffuse mass loading and boundary exchange are represented in the model. WASP also can be linked with hydrodynamic and sediment transport models that can provide flows, depths velocities, temperature, salinity and sediment fluxes.

OBJECTIVE

1. To introduce fundamentals of river water quality modeling using the WASP modelling package.
2. To give hands-on exposure to participants in developing and applying WASP river model.
3. To conduct river water quality impact assessment using the WASP modeling package.

TARGET AUDIENCE

Consultants, Engineers, Researchers,
Scientists, Students

TRAINING FEE

- Member = RM800
- Non-Member = RM1000
- Individual Membership + Training = RM1050
- HRDC Claimable + Member = RM900
- HRDC Claimable + Non-Member = RM1000
- HRDC Claimable + Individual Membership = RM1150

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TENTATIVE PROGRAMME

DAY I

08.30 – 10.00 INTRODUCTION TO WATER QUALITY MODELING

Covers conceptualization behind water quality models, current existing models, including its theoretical aspects, as well as history, application and limitations.

10.00 – 10.30 BREAK

10.30 – 12.30 INTRODUCTION TO WATER QUALITY MODELING AND THE WATER QUALITY ANALYSIS SIMULATION PROGRAM (WASP8)

Concept of water quality models, steady state, dynamic modeling, existing models, theoretical aspects, data requirements, application and limitations.

Model package installation, introduction to WASP user interface, box model approach, segments, model preparation, assumptions, applications of dynamic water quality modeling, WRDB Graph post-processor.

12.30 – 02.00 LUNCH BREAK

02.00 – 03.30 WASP DATA INPUT

Data input and model development; advanced eutrophication and toxicant modules, state variables, segmentation, transport processes, WASP kinetics and constants, time functions, flows, boundary conditions and pollution loads.

03.00 – 03.30 BREAK

03.30 – 05.00 MODEL CALIBRATION & VALIDATION

Model calibration ; adjustments to model to achieve optimal conditions, i.e., matching real world conditions. Data interpretation and conceptual analysis, impact assessment proceedings, model output analysis and data transfer.

DAY 2

08.30 – 10.00 INDIVIDUAL EXERCISE : SCENARIO DESIGN

Hands-on modeling practice for participants.

10.00 – 10.30 BREAK

10.30 – 12.30 INDIVIDUAL EXERCISE : SCENARIO DESIGN (CONT.)

Hands-on modeling practice for participants.

02.00 – 03.30 LUNCH BREAK

12.30 – 02.00 INDIVIDUAL EXERCISE : DATA EXTRACTION, ANALYSIS, INTERPRETATION AND REPORTING

Output data extraction, scenario analysis (water quality and in-stream loading), impact assessment, river rehabilitation.

03.00 – 03.30 BREAK

03.30 – 05.00 CASE STUDIES

Review and discussion of previous case studies