Hydraulics Modelling Lab

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About the Lab: A hydraulics modelling lab uses physical models, scaled-down versions of hydraulic structures or machines, to study and optimize their performance. These models are used to investigate design issues, ensure safe functioning, and aid decision-making in hydraulic engineering. They can be used to simulate various hydraulic phenomena like flow in rivers, sediment transport, and the behavior of hydraulic structures like dams and bridges.

About 20 desktop computers are available in the laboratory

List of Software

ArcGIS

Arc SWAT

Flow-3D

ANSYS-FLUENT

MATLAB

List of Experiments

- Introduction to ArcGIS and Arc SWAT .
- Land use land cover classification using ArcGIS and ERDAS.
- Hydrological modeling using ArcGIS and Arc SWAT.
- Introduction to Flow-3D.
- Modelling of Flow over a broad crested weir using Flow-3D (geometry, meshing, boundary condition and result analysis).
- Introduction to ANSYS-FLUENT.
- Introduction to MATLAB.
- Real-Time Georeferencing and Digitization of surface Water Sources and water treatment Units near DTU Campus using ARC - GIS.

- Flow Over the Stepped spillway for Downstream angle of 15° 30° and 45° (Meshing, Geometry, Modelling & Result) and Turbulent flow Analysis's flow over Stepped Spillway using Configurations
- Laminar and turbulent flow analysis in pipe flow.
- Flow over stepped spillway using various step geometry configurations.
- Computational study of hydraulic dump on triangular roughness.
- Modelling of flow over a prismatic silt below a sluice gate in irrigation channel.