



Workshop on:

Rainfall-Runoff Simulation Supporting with GIS and Satellite Data

Speaker:

Dr. ABOLGHASEM AKBARI

Faculty of Civil Engineering & Earth Resource, University Malaysia Pahang (UMP) akbarinbox@yahoo.com / akbari@ump.edu.my

Date: 18-20 July 2016

Venue: FKASA 5, Level 1, Faculty of Civil Engineering & Earth Resources University of Malaysia Pahang (UMP), 26300 Gambang, Kuantan, Malaysia

---

---

---

---

---

---

---

---

---

---



Workshop schedule

- Day 1
- Morning: 08:30-10 Lecture 1-1, 10:30-12:30 Lecture 1-2
- Afternoon :14:00-15:45 Lecture1-3, 16:00-17:30 Lecture 1-4 and Exercise
- Day 2
- Morning: 08:30-10 Lecture 2-1, 10:30-12:30 Lecture 2-2
- Afternoon :14:00-15:45 Exercise, 16:00-17:30 Exercise
- Day 3
- Morning: 08:30-10 Lecture 3-1, 10:30-12:30 Exercise
- Afternoon :14:30-15:45 Exercise, 16:00-17:30 Exercise /discussion

---

---

---

---

---

---

---

---

---

---



GIS and Hydrology

Hydrology study the motion of the earth's waters through the hydrologic cycle, and the transport of constituents such as sediment and pollutants in the water as it flows.

GIS is focused on representing the landscape by means of positional referenced data describing the character and shape of geographic features. A spatial hydrology model is one which simulates the rainfall-runoff process and transport on a specified region of the earth using GIS data structures.

The boundary of this region is represented by a polygon, such as a river basin boundary or an aquifer boundary.

---

---

---

---

---

---

---

---

---

---



## Type of Hydrological model

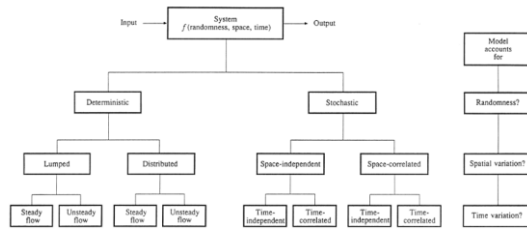
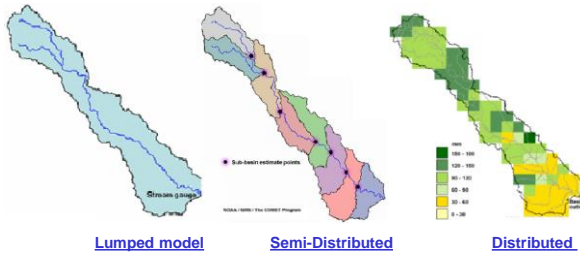


Fig. 2. A taxonomy of hydrological models (after Chow et al., 1988).

3



## Spatial resolution of Hydrological model



Lumped model

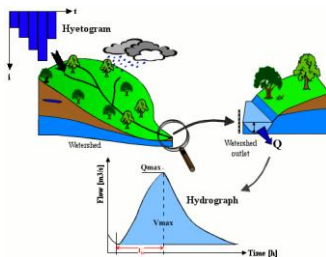
Semi-Distributed

Distributed

4



**River discharge** is the volume of water flowing through a river channel. This is the total volume of water flowing through a channel at any given point and is measured in cubic meters per second (cumecs)



5







**Thank you**  
akbariinbox@yahoo.com  
akbari@ump.edu.my

---

---

---

---

---

---

---

---