



Applied Remote Sensing Training (ARSET) Program

Monitoring and Modeling Floods using Earth Observations

Homework Questions

Question 1

Select the flood monitoring tool that provides near-real time flood map:

Answers: (bold correct)

- a. The Flood Observatory River Watch
- b. NASA Worldview – MODIS Flood**
- c. SWAT
- d. ARIA

Question 2

Once you have a remote sensing-based flood model, you do not need any in situ Observations.

Answers: (bold correct)

- a. True
- b. False**

Question 3

The following flood monitoring tools use Synthetic Aperture Radar Data:

Answers: (bold correct)

- a. ARIA**

- b. NASA Worldview MODIS – Flood
- c. HYDRAFloods**
- d. HEC-RAS

Question 4

Which type of flood model uses water cycle components to get runoff in a watershed?

Answers: (bold correct)

- a. Hydrologic**
- b. Hydraulic
- c. Sediment
- d. SAR

Question 5

The following is an example of hydraulic flood model:

Answers: (bold correct)

- a. SWAT
- b. HYDRAfloods
- c. HEC-RAS**
- d. ARIA

Question 6

HYDRAFloods uses observations from which of these sensors?

Answers: (bold correct)

- a. MODIS and VIIRS
- b. OLI and SAR
- c. All of the above**
- d. None of the above

Question 7

This type of flood model provides water flow speed in a channel.

Answers: (bold correct)

- a. **Hydraulic**
- b. Hydrologic

Question 8

Which flood monitoring tool can be adapted for your own region using Google Earth Engine?

Answers: (bold correct)

- a. The Flood Observatory
- b. ARIA
- c. **HYDRAFloods**
- d. HyMAP

Question 9

Which of the following parameters cannot be obtained directly from LIS without HyMAP?

Answers: (bold correct)

- a. Runoff
- b. Evapotranspiration
- c. **Flow velocity and depth**

Question 10

HyMAP can provide floodplain extent.

Answers: (bold correct)

- a. **True**
- b. False

Question 11

HyMAP is a:

Answers: (bold correct)

- a. Statistical flood model
- b. Grid-based flood routing model**
- c. Uses SAR observations for modeling

Question 12

HyMAP has been used for urban flood modeling for which of the following cities?

Answers: (bold correct)

- a. Bangkok
- b. Rio De Janeiro**
- c. Rio Grande City