



Applied Remote Sensing Training (ARSET) Program

Satellite Observations for Analyzing Natural Hazards on Small Island Nations

Homework Questions

Question 1

What is the atmospheric CO₂ level measured in parts per million (ppm) for the year 2020?

Answers: (bold correct)

- a. 40 ppm
- b. 312 ppm
- c. 4,000 ppm
- d. **412 ppm**

Question 2

All of the following are advantages of radar remote sensing except:

Answers: (bold correct)

- a. Nearly all-weather capability
- b. Day or night capability
- c. **Speckle effects**
- d. Sensitivity to dielectric properties

Question 3

What is the wavelength in centimeters for Sentinel-1 C-band Synthetic Aperture Radar?

Answers: (bold correct)

- a. 1.1 to 1.7 cm
- b. 2.4 to 3.8 cm
- c. 3.8 to 7.5 cm**
- d. 15.0 to 30.0 cm

Question 4

When using Sentinel-1 C-band data, which mode is recommended for flood mapping?

Answers: (bold correct)

- a. Interferometric Wide Swath**
- b. Wave Mode
- c. Strip Mode
- d. None of the above

Question 5

Radar antennas measure which of the following?

Answers: (bold correct)

- a. Amplitude
- b. Reflectance in the visible and near-infrared portions of the electromagnetic spectrum
- c. Phase
- d. Both a & c**

Question 6

Why is sea level rising on a global scale?

Answers: (bold correct)

- a. The ocean is cooling
- b. The ocean is warming
- c. Ice on land is melting
- d. Both b & c**

Question 7

How do we measure sea surface height from space?

Answers: (bold correct)

- a. **Satellite altimetry**
- b. Gravimetric changes on the Earth
- c. Profiling floats
- d. None of the above

Question 8

What tool was shown allowing for quick-look comparisons and analysis of NASA datasets of sea level change?

Answers: (bold correct)

- a. Giovanni
- b. **Sea Level Change Data Analysis Tool (DAT)**
- c. LHASA
- d. Google Earth Engine

Question 9

What is one of the datasets used in the Landslide Hazard Assessment for Situational Awareness (LHASA) Model?

Answers: (bold correct)

- a. Wind speed
- b. Sentinel-1 C-band Synthetic Aperture Radar
- c. LiDAR
- d. **Integrated Multi-satellite Retrievals for GPM (IMERG)**

Question 10

What are some of the stages of the disaster management life cycle?

Answers: (bold correct)

- a. Preparedness
- b. Response
- c. Mitigation
- d. All of the above**