Test 2 Questions Insolation: Types of Radiation

1. Solar irradiance is defined as?

Is solar radiation measured in Watts per meter squared (W/m2)

1. What instrument is used to measure the irradiance?

A pyranometer is used.

1. What are the two basic types of pyranometers?

Global that measures from all angles and a diffused or directional pyranometer that measures in the direction it is pointed at.

1. Define direct radiation?

Sunshine that comes through without any interference or obstruction.

1. What is reflected radiation?

Radiation that goes away from the earth.

1. What are two causes for reflected radiation?

Clouds or earth surface.

1. What is diffused radiation?

Radiation that passes through clouds or moisture in the atmosphere.

1. What is a result of diffused radiation?

Less radiation measured in the direction of the sun’s position and more radiation coming straight down from the 12 o’clock position.

1. Define cloud burst.

When both direct radiation and reflected radiation comes together to add to the total radiation hitting a surface.

1. What additional amount can be realized by cloud burst?

25 percent more.

1. Draw reflected, direct and diffused radiation.

