

## Unit: 4. EARTH'S WEATHER AND CLIMATE

### VOCABULARY

adiabatic	heating or cooling of gas by contraction or expansion
air mass	large body of air with uniform temperature and humidity
anemometer	measures wind speed
barometer	measures air pressure
climate	long-term average of weather in an area
condensation nuclei	tiny particles in the atmosphere upon which water vapor can condense
continental	type of temperate climate over land
convection	process of heat transfer by the circulation or movement of a liquid or a gas
cyclone	a severe storm
desertification	the spread of desert environments
Doppler effect	a change in the frequency of sound or light waves that can be used to determine the direction of movement of a wave source
Doppler radar	measures the location and strength of precipitation
drought	a long period of unusually dry weather
Earth's energy budget	the balance between the amount of energy coming in from the Sun and going back out into space
eccentricity	the shape of Earth's orbit about the Sun; can change from a more elliptical to a more circular path and back

front	where two different air masses meet
humidity	moisture in the air
hygrometer	measures humidity
jet stream	fast moving stream of wind where cold, polar air meets warm air from the equator
lake effect snow	downpour of snow caused by an arctic air mass flowing over a warm lake
maritime	type of temperate climate near an ocean or sea
Milankovitch cycles	changes in Earth's orbit and tilt that occur every 100,000 years; believed to be responsible for past ice ages
obliquity	Earth's tilt
polar	dry, cold climate zone above 60 degree latitude
precession	movement of Earth's imaginary, rotating, polar axis
psychrometer	measures relative humidity using a pair of dry bulb and wet bulb thermometers
radiosonde	a transmitter sent up in a weather balloon to send measurements of air temperature, humidity, wind speed, and wind direction
rain shadow effect	when wind flow over mountains produces moist conditions on the windward side of the mountains and dry conditions on the leeward side
relative humidity	a percentage of the maximum amount of water vapor the air can hold at its current temperature
source region	area over which an air mass forms
subtropical	hot, often dry, climate zone between 25 and 30 degrees latitude, north or south of the equator
temperate	seasonably variable climate zone between 40 and 60 degrees latitude, north or south of the equator

thermohaline circulation	water that moves because of its temperature and salt content
transpiration	the process of plants releasing moisture from their leaves
tropical	warm, moist climate zone near the equator
upwelling	when wind allows cold dense water to rise from the bottom of the ocean to the surface
urban heat island effect	the tendency of streets and buildings to absorb and retain the Sun's heat
weather	day-to-day changes in atmospheric conditions, including temperature, air pressure, humidity, wind, cloud coverage, or precipitation
wind shear	when winds change direction and speed up into the atmosphere
wind vane	measures wind direction