

## FOSS Water and Climate Module

### Glossary

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**absorb** when a liquid soaks into a material (SRB, IG)

**air pressure** the force exerted on a surface by the mass of the air above it (SRB)

**anemometer** a weather instrument that measures wind speed with wind-catching cups (SRB)

**aquifer** water that is underground in layers of rock or sediment (SRB)

**barrier island** a strip of narrow land a short distance from shore (SRB)

**bead** a dome-shaped drop of water (IG)

**bead up** when water drops, or beads, sit on top of a waterproof surface (IG)

**blade** the part of a waterwheel that the water pushes as it moves downward (SRB, IG)

**blizzard** a severe storm with low temperatures, strong winds, and large quantities of snow (IG)

**boiling point (100°C)** the temperature at which water changes to gas (SRB)

**bulb** the round end of a thermometer (IG)

**climate** the average or typical weather conditions in a region of the world (SRB, IG)

**climatologist** scientists who study climate (IG)

**cloud** tiny droplets of water, usually high in the air (SRB)

**cold** having a low temperature; cold water is more dense (IG)

**compass** a magnetic needle in a case. Compass needles on Earth point north. (SRB, IG)

**condensation** the process by which water vapor changes into liquid water, usually on a surface (IG)

**condense** when water vapor touches a cool surface and becomes liquid water (SRB)

**conserve** to use carefully and protect (SRB)

**constraint** the limitations that must be taken into account when working in the classroom, such as the materials available and the amount of time students have to work (IG)

**contract** to get smaller; to take up less space (SRB, IG)

**criterion** (plural **criteria**) a need or requirement (SRB, IG)

**data** information collected during an investigation (IG)

**decomposing organic matter** humus; dead or discarded parts of plants and animals (SRB)

**degree Celsius (°C)** the basic unit of temperature in the metric system. Water freezes at 0°C and boils at 100°C (SRB, IG)

**density** the amount of mass compared to the volume (SRB)

**dew** water that condenses on a surface when the temperature drops at night (SRB)

**direction** the course or line along which something moves, faces, lies or points (IG)

**dome** the shape a drop of water takes when it is on a flat surface. It is like a flattened hemisphere. (IG)

**drainage** the movement of water through soil (IG)

**drought** a less-than-normal amount of rain or snow over a period of time (SRB, IG)

**earth material** any natural material that makes up or comes from Earth (IG)

**electricity** energy that flows through circuits and can produce light, heat, motion, and sound (SRB)

**embankment** a raised bank or wall that is built to carry a roadway or hold back water (IG)

**energy** the ability to make things happen. Energy can take a number of forms, such as heat and light. (SRB, IG)

**energy source** a place where energy comes from, such as coal, petroleum, or natural gas (SRB)

**engineer** a scientist who designs ways to accomplish a goal or solve a problem (SRB)

**evaporate** when liquid water in a material dries up and goes into the air (SRB)

**evaporation** the process by which liquid water changes into water vapor (IG)

**evidence** data used to support claims. Evidence is based on observation and scientific data. (SRB, IG)

**expand** to get bigger; to take up more space (SRB, IG)

**float** to stay on the surface of water as a result of being less dense than water (SRB, IG)

**flood** a large amount of water flowing over land that is usually dry (SRB, IG)

**floodplain** the flat, low land area next to a river that may flood (SRB, IG)

**force** strength or power exerted on an object (SRB)

**forecast** to predict future events or conditions, such as weather (SRB, IG)

**fossil fuel** the preserved remains of plants and animals that lived long ago and changed into oil, coal, and natural gas (SRB)

**freeze** to change from a liquid to a solid state as a result of cooling (SRB, IG)

**freezing point (0°C)** the temperature at which water becomes a solid (ice) (SRB)

**fresh water** water that is in lakes, rivers, groundwater, soil, and the atmosphere (SRB)

**gas** a state of matter with no definite shape or volume; usually invisible (SRB, IG)

**glacier** a large mass of ice moving slowly over land (SRB)

**gravel** rocks that are smaller than pebbles and drain water quickly (IG)

**gravity** the natural force that pulls objects toward each other. On Earth, all objects are pulled toward the center of Earth. (SRB, IG)

**groundwater** water found in the spaces between rock particles (sand, gravel, pebbles), and in cracks in solid rock (SRB)

**hailstorm** precipitation in the form of small balls or pellets of ice; a type of severe weather (IG)

**heat** observable evidence of energy (SRB)

**hot** having a high temperature; hot water is less dense (IG)

**humidity** water vapor in the air (SRB)

**humus** bits of dead plant and animal parts in the soil (SRB, IG)

**hurricane** a severe tropical storm that produces high winds (SRB, IG)

**ice** the solid state of water (SRB)

**iceberg** a large mass of ice that has broken from a glacier and floats in the ocean (SRB)

**less dense** when an object floats in water, it is less dense than water (IG)

**lightning** the flashes of light that are produced in the sky during a storm; a type of severe weather (IG)

**liquid** a state of matter with no definite shape but a definite volume (SRB, IG)

**Liter (L)** the basic unit of liquid volume in the metric system (SRB)

**load** the weight that is carried or supported by something (IG)

**mass** the amount of material in something (SRB, IG)

**matter** anything that has mass and takes up space (SRB)

**measure** to compare the size, capacity, or mass of an object to a known object or known system (SRB)

**melt** to change from a solid to a liquid state as a result of warming (SRB, IG)

**meteorologist** a scientist who studies the weather (SRB, IG)

**meteorology** the scientific study of weather (IG)

**mixture** two or more substances together (SRB)

**monsoon** a wind system in Southeast Asia that brings heavy rains during certain seasons (IG)

**more dense** when an object has more mass for its size than another object. When an object sinks in water, it is more dense than water. (SRB, IG)

**move** to change place or direction; to put in motion (IG)

**natural hazard** a threat of a naturally occurring event that will have a negative effect on people or the environment (IG)

**natural material** any material that makes up or comes from the earth; earth material (IG)

**natural resource** a material such as soil or water that comes from the natural environment (SRB, IG)

**nonrenewable resource** a natural resource that cannot be replaced if it is used up (SRB, IG)

**observation** information obtained through your senses (sight, hearing, smell, touch, and taste) (IG)

**opinion** a claim based on belief, not on scientific data or observations (SRB, IG)

**perpetual renewable resource** a renewable resource that lasts forever (SRB)

**polar zone** a very cold climate with long winters (North and South Poles) (SRB)

**precipitation** rain, snow, sleet, or hail that falls to the ground (SRB, IG)

**predict** to estimate a future event based on data or experience (SRB)

**property** something that you can observe about an object or a material (SRB)

**rain** liquid water that is condensed from water vapor in the atmosphere and falls to Earth in drops (SRB)

**rain gauge** an instrument that measures how much rain has fallen in a given amount of time (IG)

**recycle** to use again (SRB)

**relationship** a connection or association (IG)

**renewable resource** a natural resource that can replace or replenish itself naturally over time (SRB, IG)

**repel** when a liquid does not soak into a material (IG)

**reservoir** a place where water is collected and stored (SRB)

**retain** to hold or continue to hold (SRB, IG)

**runoff** rain that does not evaporate or soak into the ground (SRB)

**salt water** ocean water (SRB)

**scale** something divided into regular spaces to use as a tool for measuring. Rulers and thermometers are both scales. (SRB)

**season** a time of year that brings predictable weather conditions to a region on Earth (IG)

**shaft** a rod or bar that rotates (SRB, IG)

**sink** to go under water as a result of being more dense than water (SRB, IG)

**slope** a slanted or tilted surface (IG)

**sluice gate** a wood or metal barrier sliding in grooves that are set in the sides of a waterway. Sluice gates can control water levels and flow rates in rivers and canals. (IG)

**soak** to be absorbed or move into another material (SRB)

**soil** a mixture of humus, sand, silt, clay, gravel, or pebbles (SRB, IG)

**solar** radiation light from the Sun (SRB)

**solid** a state of matter that has a definite shape and volume (SRB, IG)

**speed** the measure of an object's change in position over time (SRB)

**state** a kind or form of matter. The three common states of matter are solid, liquid, and gas. (IG)

**storm surge** when water piles up along a coast, rushing toward land faster than it can return to sea (SRB)

**surface** the outside of an object (IG)

**surface area** the area of liquid exposed to or touching the air (SRB, IG)

**surface tension** the skinlike surface on water (and other liquids) that pulls it together into the smallest possible volume (SRB)

**system** a collection of interacting parts that work together to produce a function (IG)

**temperate zone** the climate for the majority of Earth, which includes a wide range of temperatures (SRB)

**temperature** a measure of how hot or cold the air is (SRB, IG)

**texture** the feel or general appearance of an object or a material (SRB)

**thermometer** a tool used to measure temperature (SRB, IG)

**tornado** a rapidly rotating column of air that extends from a thunderstorm to the ground. Wind speeds can reach 400 kilometers (km) per hour or more in a tornado. (IG)

**tropical zone** a hot climate with no winter (SRB)

**typical** the average weather that is expected in a given area (IG)

**volume** three-dimensional space (SRB, IG)

**water** a liquid earth material made of hydrogen and oxygen (SRB)

**water cycle** the repeating sequence of condensation and evaporation of water on Earth, causing clouds and rain and other forms of precipitation (SRB, IG)

**water quality** a term used to describe the purity of water (SRB)

**water retention** the ability to soak up and hold water (IG)

**water turbine** a modern waterwheel (SRB)

**water vapor** the gaseous state of water (SRB, IG)

**waterproof** a nonporous or nonabsorbent surface on which water will bead up and flow off (IG)

**waterwheel** a wheel turned by the force of moving water (SRB, IG)

**weather** the condition of the air around us (SRB, IG)

**weather balloon** a balloon that carries weather instruments into the sky (SRB)

**weigh** to find the mass of. An object is weighed to find its mass. (SRB)

**wetland** an area of land close to a large body of water (SRB, IG)

**wind meter** a weather instrument that measures wind speed with a small ball in a tube (SRB)

**wind vane** a weather instrument that measures wind direction (SRB, IG)