

Terminology Services - Vocabulary Catalog List Detail Report

Term
acid
Definition: Any of a large group of chemicals with a pH less than 7. Examples are battery acid, lemon juice, and vinegar.
acid deposition
Definition: Acidic materials that falls from the atmosphere to the Earth in either wet (rain, sleet, snow, fog) or dry (gases, particles) forms. More commonly referred to as acid rain, acid deposition has two components: wet and dry deposition.
acid neutralizing capacity
Definition: A measure of the ability for water or soil to neutralize added acids. This is done by the reaction of hydrogen ions with inorganic or organic bases such as bicarbonate (HCO_3^-) or organic ions. Acronym: ANC
acid rain
Definition: The result of sulfur dioxide (SO_2) and nitrogen oxides (NO_x) reacting in the atmosphere with water and returning to earth as rain, fog, or snow. Broadly used to include both wet and dry deposition. The acid rain page (http://www.epa.gov/acidrain/index.html) provides a great deal of information about this issue.
acidic
Definition: Describes a substance with a pH less than 7.
acidification

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Term
adsorb
Definition: Refers to reducing something's pH, making it more acidic; also means the loss of ANC.
allowance
Definition: To take up and hold (a gas, liquid, or dissolved substance) in a thin layer of molecules on the surface of a solid substance.
aluminum
Definition: The permission given by the government, to emit a certain amount of sulfur dioxide (SO ₂) or nitrogen oxide (NO _x). For example, under the Acid Rain Program, one allowance permits the emissions of one ton of sulfur dioxide (SO ₂).
aluminum
Definition 1: A metal that is toxic to trees and fish. Definition 2: A silvery-white metal; its the most abundant in the Earth's crust. Acronym: Al
anions
Definition: Negatively charged molecule such as sulfate (SO ₄ (2-)) and nitrate (NO ₃ -). In combination with hydrogen (H ⁺), these molecules act as strong acids.
aquatic
Definition: Relating to water.
atmosphere

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Term
Definition: The air or gases that surround a planetary body such as the Earth.
atmospheric
Definition: Relating to the atmosphere, or the air above the Earth.
base
Definition: Any large group of chemicals with a pH greater than 7. Examples are ammonia and baking soda.
base cations
Definition: Positively charged ions such as magnesium, sodium, potassium, and calcium that increase pH of water (make it less acidic) when released to solution through mineral weathering and exchange reactions.
basic
Definition: Describes a substance with a pH greater than 7. Another word for basic is alkaline.
buffer
Definition: A substance such as soil, bedrock, or water capable of neutralizing either acids or bases.
buffering capacity
Definition: The ability of a substance to resist changes in pH when acid or bases are added.
calcium

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Term
<p>Definition: A base cation that helps to reduce acidification. Acronym: Ca(2+)</p>
<p>cap</p> <p>Definition: A national limit that is placed on the amount of a pollutant that can be emitted. The cap is very important because it makes sure that emissions of a pollutant are reduced.</p>
<p>cap and trade</p> <p>Definition: An environmental policy tool that controls large amounts of emissions from a group of sources. Cap and trade programs set a cap, or limit, on emissions. Then allowances for emissions are traded between sources, so that economic market forces allow large emissions reductions to be cost-effective.</p>
<p>carbon dioxide</p> <p>Definition: A naturally occurring gas made of carbon and oxygen. Sources of carbon dioxide in the atmosphere include animals, which exhale carbon dioxide, and the burning of fossil fuels and biomass. Acronym: CO₂</p>
<p>chronic acidification</p> <p>Definition: Generally refers to surface waters that remain acidified (ANC<0) regardless of variations in hydrologic conditions (precipitation, stream flow, etc.).</p>
<p>condense</p>

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Term
Definition: To change from gas or vapor to liquid form.
deposition
Definition: When chemicals like acids or bases fall to the Earth's surface. Deposition can be wet (wet deposition, such as rain or cloud fog), as well as particle and gas deposition (dry deposition).
dose response functions
Definition: The relationship between the effects (response) on an organism or system and the amount (dose) of some material to which the organism/system is exposed.
dry deposition
Definition: The falling of small particles and gases to the Earth without rain or snow. Dry deposition is a component of acid deposition, more commonly referred to as acid rain.
ecology
Definition: The study of ecosystems. Someone who studies ecology is an ecologist.
ecosystem
Definition: All living things and nonliving things in an area, as well as the interactions between them.
emissions

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Term
<p>Definition: The gases that are released when fossil fuels are burned.</p>
<p>energy resources</p> <p>Definition: Natural Resources that can be used to make heat, electricity, or any other form of energy. The most commonly used energy resources are fossil fuels (coal, oil, and gas), but the sun, wind, and anything else that makes energy are also energy resources.</p>
<p>environment</p> <p>Definition: The air, water, soil, minerals, organisms, and all other factors surrounding and affecting an organism.</p>
<p>eutrophication</p> <p>Definition: A reduction in the amount of oxygen dissolved in water. The symptoms of eutrophication include blooms of algae (both toxic and non-toxic), declines in the health of fish and shellfish, loss of seagrass beds and coral reefs, and ecological changes in food webs.</p>
<p>evaporate</p> <p>Definition: To change from liquid into gas.</p>
<p>fossil fuels</p> <p>Definition: Oil, natural gas, and coal. Fossil fuels were made in nature from ancient plants and animals, and today we burn them to</p>

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Term
make energy.
fuel cells
Definition: Similar to batteries, fuel cells store energy that can be used to power all sorts of things. Unlike a battery though, fuel cells do not "run out" and do not need to be recharged or replaced.
greenhouse gases
Definition: Gases that occur naturally in the Earth's atmosphere and trap heat to keep the planet warm. Some examples are carbon dioxide, water vapor, halogenated fluorocarbons, methane, hydrofluorocarbons, nitrous oxide, perfluorinated carbons, and ozone. Some human actions, like the burning of fossil fuels, also produce greenhouse gases.
habitat
Definition: The place where an animal or plant lives and grows such as a forest, lake, or stream.
haze
Definition: When particles of dust, pollen, or pollution make the air less clear, and limit visibility.
hydrological cycle
Definition: The movement of water from that atmosphere to the surface of the land, soil, and plants and back again to the atmosphere.
hydrological power

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Term
<p>Definition: Energy that is generated by dams, which use water to turn turbines and generate electricity.</p>
<p>leaching</p>
<p>Definition: Process by which water removes chemicals from soil through chemical reactions and the downward movement of water.</p>
<p>litmus paper</p>
<p>Definition: Paper coated with a chemical coloring obtained from lichens that turns red in acidic water and blue in basic water. It is used as an acid-base indicator.</p>
<p>magnesium</p>
<p>Definition: A base cation that helps to reduce acidification. Acronym: Mg(2+)</p>
<p>megawatt</p>
<p>Definition: A unit for describing how much electricity a power plant can generate. The Acid Rain Program includes virtually all units in the US that can generate over 25 MW. Acronym: MW</p>
<p>meteorological</p>
<p>Definition: Pertaining to the weather.</p>

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Term
mineral weathering
Definition: The physical and chemical breakdown of rocks that releases ions such as calcium and aluminum.
natural resources
Definition: All the parts of the Earth that are not human-made and which people use, like fish, trees, minerals, lakes, or rivers.
neutral
Definition: A substance that is neither an acid nor a base and has a pH of 7. Neutral substances can be created by combining acids and bases.
neutralize
Definition: To combine acid or bases to make a neutral substance or solution. For example, acidic water can be neutralized by adding a base.
nitric acid
Definition: An acid that can be produced from nitrogen oxide, a pollutant that results from the burning of fossil fuels.
nitrogen fixation
Definition: The process in which bacteria convert biologically unusable nitrogen gas (N ₂) into biologically usable ammonia (NH ₃) and nitrates (NO ₃ ⁻).

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nitrogen oxides
Definition: A group of gases made up of nitrogen and oxygen that cause acid rain and other environmental problems, such as smog and eutrophication of coastal waters. Burning fossil fuels, such as coal and gasoline, releases NOx into the atmosphere. Various programs are reducing NOx emissions, including the Acid Rain Program (http://www.epa.gov/acidrain/index.html) and NOx cap and trade programs (http://www.epa.gov/AIRMARKET/progsregs/noxview.html).
Acronym: NOx
nuclear power
Definition: Energy that comes from breaking apart the center (nucleus) of an atom.
nutrient deficiency
Definition: When a living thing lacks the vitamins and minerals it needs to survive.
ozone
Definition: A chemical that is made of three oxygen atoms joined together, and found in the Earth's atmosphere. There are two kinds of ozone: good ozone, and bad ozone. Good ozone is found high in the Earth's atmosphere, and prevents the sun's harmful rays from reaching the Earth. Bad ozone is found low to the ground, and can be harmful to animals and humans because it damages our lungs, sometimes making it difficult to breathe.
ozone layer
Definition: The layer of ozone that shields the Earth from the sun's harmful rays.

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particulate matter
Definition: Tiny solid particles or liquid droplets suspended in the air.
pH
Definition: A scale that denotes how acidic or basic a substance is. Pure water has a pH of 7.0 and is neither acidic nor basic. For more information, see the pH page (http://www.epa.gov/acidrain/measure/ph.html).
pH paper
Definition: Paper that changes color to show the pH of a substance.
pH scale
Definition: The range of units that indicate whether a substance is acidic, basic, or neutral. The pH scale ranges from 0 to 14.
photosynthesis
Definition: The process that plants use to convert sunlight to energy to live and grow.
pollutants
Definition: Chemicals or other substances that are harmful to or unwanted in the environment. Some examples of pollutants are sulfur dioxide (SO ₂), nitrogen oxides (NO _x), ozone, and particulate matter.
pollution

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Term
Definition: The release of harmful substances into the environment.
precipitation
Definition: Water falling to the Earth. Mist, sleet, rain, hail, fog and snow (wet deposition) are the most common kinds of precipitation.
primary producers
Definition: Organisms that use photosynthesis to produce their own food. All plants are primary producers. Primary producers are the base of the food chain because they feed everything else.
reactive
Definition: Having the tendency to chemically combine with something else and change its form. For example, a strong acid is highly reactive with a strong base.
respiratory illness
Definition: Diseases effecting the organs we use to breathe. Asthma, bronchitis, and pneumonia are examples of respiratory illnesses.
respiratory system
Definition: The organs in our body involved with the process of breathing.
runoff

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Term
Definition: Water that flows off land into lakes and streams.
scrubber
Definition: A device that removes air pollution, mainly sulfur dioxide, from smokestacks.
solar power
Definition: Electricity that is generated by harnessing the energy of the sun. Solar panels are often used to convert sunlight into energy.
sulfur dioxide
Definition: A naturally occurring gas made of sulfur and oxygen that causes acid rain. Burning fossil fuels, such as coal, releases SO ₂ into the atmosphere. Various EPA programs are reducing SO ₂ emissions, including the Acid Rain Program (http://www.epa.gov/acidrain/index.html). Acronym: SO ₂
sulfuric acid
Definition: An acid that can be produced in the atmosphere from sulfur dioxide, a pollutant that results from the burning of fossil fuels.
turbine
Definition: A motor activated by water, steam, or air to produce energy.

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Term
wet deposition
Definition: The process by which chemicals are removed from the atmosphere and deposited on the Earth's surface via rain, sleet, snow, cloudwater, and fog.
wind power
Definition: Energy that is generated when the wind turns the sails of a windmill, which are attached to turbines that generate electricity.