Professional Certificate in Environmental Journalism

Environmental Science Basics

Acid Deposition: Also known as acid rain, acid deposition is a broad term that refers to the various ways that acidic components, such as sulfuric and nitric acid, can be deposited from the atmosphere to the Earth's surface. This can occur through wet deposition, such as rain, snow, and fog, or through dry deposition, such as dust and gas. Acid deposition can have harmful effects on both natural environments and human health.

Biodiversity: Biodiversity refers to the variety of life on Earth, including the number of different species, the genetic diversity within those species, and the variety of ecosystems in which they live. Biodiversity is important for the stability and resilience of ecosystems, as well as for the provision of ecosystem services such as clean air and water, food, and medicine.

Carbon Footprint: A carbon footprint is the total amount of greenhouse gases, such as carbon dioxide, that are emitted as a result of the activities of an individual, organization, or community. This can include direct emissions from transportation and energy use, as well as indirect emissions from the production and consumption of goods and services. Reducing carbon footprints is an important step in addressing climate change.

Climate Change: Climate change refers to significant long-term changes in the average weather patterns that have come to define Earth's local and regional climates. These changes include increases in temperature, changes in precipitation, and shifts in wind patterns. Climate change is primarily caused by human activities, such as the burning of fossil fuels and deforestation.

Deforestation: Deforestation is the removal or clearing of forests, usually to make way for agriculture, urban development, or logging. This loss of trees and other vegetation can have serious consequences for the environment, including the release of large amounts of carbon dioxide, the destruction of habitat for wildlife, and the disruption of water cycles.

Ecosystem: An ecosystem is a community of living and non-living things that interact with each other in a specific environment. This can include plants, animals, microorganisms, water, air, and soil. Ecosystems can be as small as a pond or as large as a forest, and they can be natural or human-made.

Ecosystem Services: Ecosystem services are the benefits that people obtain from natural ecosystems. These can include provisioning services, such as food, water, and timber; regulating services, such as flood control and climate regulation; cultural services, such as recreation and spiritual fulfillment; and supporting services, such as soil formation and nutrient cycling.

Energy Efficiency: Energy efficiency refers to the use of less energy to perform the same task or function. This can be achieved through the use of more energy-efficient technologies, such as LED light bulbs or hybrid cars, or through changes in behavior, such as turning off lights when leaving a room or using public

transportation instead of driving.

Fossil Fuels: Fossil fuels are hydrocarbons that are formed from the remains of ancient plants and animals. These include coal, oil, and natural gas. Fossil fuels are the primary source of energy for the world, but their combustion releases large amounts of carbon dioxide and other greenhouse gases, contributing to climate change.

Greenhouse Effect: The greenhouse effect is the warming of the Earth's surface caused by the trapping of heat by greenhouse gases, such as carbon dioxide and methane, in the atmosphere. This process is natural and necessary for life on Earth, but human activities, such as the burning of fossil fuels and deforestation, have increased the concentration of greenhouse gases in the atmosphere, leading to a stronger greenhouse effect and global warming.

Habitat Destruction: Habitat destruction is the loss or degradation of natural environments that are necessary for the survival of a species. This can be caused by human activities such as deforestation, urban development, and agriculture. Habitat destruction is one of the leading causes of species extinction and biodiversity loss.

Holocene: The Holocene is the current geological epoch, which began approximately 11,700 years ago at the end of the last ice age. It is characterized by a relatively stable climate and the development of human civilizations.

Indigenous Knowledge: Indigenous knowledge is the knowledge, practices, and beliefs of indigenous peoples, which are often based on their long-term relationship with the land and natural resources. Indigenous knowledge can be an important source of information and insight for environmental science and management.

Landfills: Landfills are sites where waste is disposed of by burying it in the ground. Landfills can have negative impacts on the environment, including the release of greenhouse gases, leaching of pollutants into groundwater, and the attraction of pests and vermin.

Marine Debris: Marine debris is any man-made item that enters the marine environment. This can include plastic, metal, glass, and other materials. Marine debris can have serious consequences for the health of marine ecosystems, including the death of animals that ingest or become entangled in it.

Nitrogen Fixation: Nitrogen fixation is the process by which nitrogen gas from the atmosphere is converted into a form that can be used by living organisms. This process is essential for the growth of plants, as nitrogen is a key component of chlorophyll, the molecule that allows plants to convert sunlight into energy.

Ocean Acidification: Ocean acidification is the decrease in the pH of the ocean caused by the absorption of carbon dioxide from the atmosphere. This can have negative impacts on marine life, including the death of shellfish and corals, and the disruption of food chains.

Overfishing: Overfishing is the removal of fish and other seafood from the ocean at a rate that is faster

than the species can reproduce. This can lead to the decline of fish populations and the collapse of fisheries.

Pollution: Pollution is the presence or introduction into the environment of substances or energy that cause harm or discomfort to living organisms or make water, air, soil or other substances harmful or unacceptable.

Renewable Energy: Renewable energy is energy that comes from resources that are replenished naturally, such as the sun, wind, and water. Renewable energy is an important alternative to fossil fuels, as it produces less carbon dioxide and other greenhouse gases, and it is more sustainable in the long term.

Resilience: Resilience is the ability of an ecosystem or community to withstand and recover from disturbances, such as natural disasters, climate change, or human activities.

Sustainability: Sustainability is the ability to meet the needs of the present without compromising the ability of future generations to meet their own needs. Sustainability can be applied to various fields, such as the environment, economy, and society.

Urban Heat Island: An urban heat island is a phenomenon in which urban areas experience higher temperatures than surrounding rural areas due to the concentration of buildings and human activities.

Water Cycle: The water cycle is the continuous movement of water between the Earth's surface, atmosphere, and interior. This includes processes such as evaporation, condensation, precipitation, and runoff.

Wildlife Corridors: Wildlife corridors are areas of land or water that connect different habitats, allowing animals to move between them. This is important for the conservation of biodiversity, as it allows animals to migrate, forage, and find mates.

Zero Waste: Zero waste is a philosophy and goal that aims to reduce the amount of waste generated by human activities to as close to zero as possible. This can be achieved through the reduction, reuse, recycling, and composting of materials, as well as through the design of products and systems that minimize waste.