NCTCC Definitions

A

Airborne Allergen Exposure: Due to rising temperatures, it has become easier for human health to be impacted. More intense and frequent heat waves and declining air quality have been shown to increase all - cause mortality, especially among the most vulnerable. Climate warming alters existing ecosystems and favors biological invasions by species that better tolerate heat and drought. Pathogen profiles are changing, and the transmission and spread of vector:borne diseases are increasing. There are more chances for people to get sick than ever before.

Avalanche : rapid flow of snow down a slope such as a hill or mountain, avalanches can be set off spontaneously by factors such as increased precipitation or snowpack weakening

Air Pollution : the presence in or introduction into the air of a substance which has harmful or poisonous effects.

B

C

Coastal Erosion : Coastal Erosion is the process by which local sea level rise, strong wave action, and coastal flooding wear down or carry away rocks, soils, and/or sands along the coast. All coastlines are affected by storms and other natural events that cause erosion; the combination of storm surge at high tide with additional effects from strong waves–conditions commonly associated with land-falling tropical storms–creates the most damaging conditions.

Coastal Flooding : Changing sea levels are affecting human activities in coastal areas. Rising sea level inundated low-lying wetlands and dry land, erodes shorelines, contributes to coastal flooding, and increases the flow of salt water into estuaries and nearby groundwater aquifers. Higher sea level also makes coastal infrastructure more vulnerable to damage from storms.

Cultural Resources : is the vocation and practice of managing heritage assets

Climate Change : refers to long-term shifts in temperatures and weather patterns. The consequences of climate change now include, among others, intense droughts, water scarcity, severe fires, rising sea levels, flooding, melting polar ice, catastrophic storms and declining biodiversity.

D

Desertification: Desertification is attributed to soaring temperatures and/or drop in precipitation; this is likely to result in the modification and replacement of plant communities by species that are adapted to hotter and drier conditions. The most common change induced by desertification is the conversion of native vegetation by woody plants and invasive shrub

species (for example Buffle grass and Onion-weed in southwest America, and the Tamarisk plant in the Sahara).

Deforestation – is the purposeful clearing of forested land. Throughout history and into modern times, forests have been razed to make space for agriculture and animal grazing and to obtain wood for fuel, manufacturing, and construction.

Drought : period of drier-than-normal conditions. Droughts often has large impacts on the ecosystems and agriculture.

Delta Conveyance Tunnels : Project that is proposed by the state to move water from Norcal to Socal

E

Evapotranspiration : process in which water is transferred from the land to the atmosphere by evaporation from the soil and other surfaces.

F

Flooding : the covering or submerging of normally dry land with a large amount of water.

Foodborne Illness : illness caused by food contaminated with bacteria, viruses, parasites or toxins

G

Ground Water Depletion – Through frequent pumping of groundwater, groundwater could be depleted, this means that the water that we rely on for drinking, irrigation, industry, and livestock could be unavailable to use in the future.

Greenhouse Gas Pollution – As greenhouse gas emissions blanket the Earth, they trap the sun's heat. This leads to global warming and climate change. The world in now warming faster than at any point in recorded history. Warmer temperatures over time are changing weather patterns and disrupting the usual balance of nature. This poses many risks to humans and all other forms of life on Earth.

H

Harmful Algae Bloom (HAB): HABs are the rapid growth of algae or cyanobacteria that can cause harm to people, animals, or the local ecology. Harmful algae or cyanobacteria can look like foam, scum, paint, or mats on the surface of water and can be different colors. These blooms can produce toxins that make people and animals sick. Blooms occur in freshwater, such as lakes and rivers, and salt water, such as oceans or bays.

Hightide Event : The state of the tide when it is at its highest level/elevation

I

Infrastructure : the basic physical and organizational structures and facilities (e.g buildings, roads, power supplies) needed for the operation of a society or enterprise.

Intertidal Zone : Is the area where the ocean meets the land between high and low tides.

J

K

L

Landslides : landslides are caused by disturbances in the natural stability of a slope. They can accompany heavy rains or follow droughts, earthquakes or volcanic eruptions.

M

Methane : While carbon dioxide is more abundant and longer-lived, methane, – the main component of natural gas, is far more effective at trapping heat while it lasts. Over the first two decades after its release, methane is more than 80 times more potent than carbon dioxide in terms of warming the climate system.

Methane and Carbon Dioxide: global warming is causing soils in the polar regions that have been frozen for as much as 40,000 years to thaw. As they thaw, carbon trapped within the soils is released into the atmosphere as carbon dioxide and methane. These gasses, released to the atmosphere, cause more warming, which then thaws more the frozen soil.

Mudslides : Mudslides develop when water rapidly accumulates in the ground and results in a surge of water-saturated rock, earth and debris. Mudslides usually start on steep slopes and can be activated by natural disasters

N

O

Ocean Acidification : Waters with lower pH levels have more carbonic acid, which is a compound that neutralizes calcium carbonate and bicarbonate, which is the compound corals, clams, and other invertebrates use to build their hard shells and skeletons. As a result of ocean acidification, slow-growing organisms like oysters and corals have more trouble building and maintaining their shells or skeletons. In some cases, acidic ocean water can even dissolve these important biological structures. With much greater concentrations of CO_2 in our atmosphere and our ocean, acidification occurs at a much faster rate than ecosystems and organisms can adapt to.

Ocean Deoxygenation : is the overall decline in oxygen content of oceanic and coastal waters.

Ocean Warming: Oceans absorb the greatest amount of solar radiation on Earth. Ocean warming can lead to glaciers melting and ocean acidification.

P

Q

R

Red Tide: Red Tides are caused by algae, which are tiny, microscopic organisms that grow in the water. Almost all bodies of water have some algae, but in a red tide, there is a lot more algae in the water than usual. In fact, the water changes color in a red tide because the population of algae living in the water becomes so dense. Red tides have been around since long before humans. However, certain human activities are making them more frequent. Chemicals from farming, factories, sewage treatment plants and other sources can become dissolved in water on the land. This water, called **runoff**, eventually flows into the ocean and can cause algae to grow faster, leading to red tides.

Rising temperatures in streams and rivers : Water temperature is an important physical property of every river and stream. Many plants, animals, and other organisms living in streams can flourish only in a specific range of water temperatures. Temperature can affect certain aspects of water quality. For example, higher temperatures reduce levels of dissolved oxygen in the water, which can negatively affect the growth and productivity of aquatic life. Persistently warmer temperatures in streams can accelerate natural chemical reactions and release excess nutrients into the water. A stream's water temperature can also influence the circulation or mixing patterns in the water it flows into, like bays and estuaries, potentially affecting nutrient levels and salinity

Rural :geographic area that is located outside of towns and cities

S

Salt (salinity) intrusion : is the movement of saline water into freshwater aquifers resulting in contamination of drinking water resources. Salinity intrusion can occur during the events of reduced streamflow caused by severe drought or, potentially, due to climate change-related sea level rise. However, other significant factors such as increased ground-water pumping can increase the rate of intrusion of saline water into ground-water sources resulting in a high water treatment cost in places that rely on ground-water for a source of drinking water. Salt intrusion also renders ground-water wells unusable due to elevated chlorine concentration. In case of surface waters, as the sea levels rise, a hydrodynamic phenomenon occurs, where the 'salt-fronts' progress further upstream (for example, Delaware Bay). This phenomenon is happening at an alarming rate in various regions and may diminish the quality and availability of water sources for drinking water utilities.

Soil erosion : Occurs primarily when dirt is left exposed to strong winds, hard rains, and flowing water. In some cases, human activities, especially farming and land clearing, leave soil vulnerable to erosion. For example, when farmers till (plow) the soil before or after growing a season of crops, they may leave it exposed to the elements for weeks or months. The overgrazing of farm animals like cattle and sheep can also leave large areas of land devoid of ground-covering plants that would otherwise hold the soil in place. Another practice that has devastating consequences for soil health is deforestation, particularly clearcutting, a widespread practice of the industrial logging industry. When trees are cleared away, the land is left exposed to wind and rain without the security of roots to prevent the soil from being swept away. Climate is also a major driver of erosion. Changes in rainfall and water levels can shift soil, extreme fluctuations in temperature can make topsoil more vulnerable to erosion, and prolonged droughts can prevent plants from growing, leaving soil further exposed.

Storm Surge vs Storm Tide: Storm surge is an abnormal rise of water generated by a storm, over and above the predicted astronomical tides. Storm surge should not be confused with storm tide, which is defined as the water level rise due to the combination of storm surge and the astronomical tide. This rise in water level can cause extreme flooding in coastal areas particularly when storm surge coincides with normal high tide, resulting in storm tides reaching up to 20 feet or more in some cases.

Snowpacks : Layers of snow that are packed together.

Soil Pollution : Refers to the contamination of soil with anomalous concentrations of toxic substances. It is a serious environmental concern, since it harbors many health hazards.

T

Triangulate : Method of study or observation to compare evidence by using multiple methods or sources that each support or point to a similar outcome

Toxic Chemicals in Fire Suppression : Chemicals that are found in fire suppressants do not have a huge effect on terrestrials but do have a huge effect on water quality and aquatic ecosystems due to the nature of the chemicals.

Toxic Pollutants : Toxic, hazardous air pollutants cause or are suspected of causing cancer, birth defects, or other serious harms.

U

Urbanization : population shift from rural to urban areas.

V

W

Water Supply Infrastructure : all the systems that are used to move, store, treat, distribute or dispose of water. This includes everything from pipes, dams, reservoirs, treatment plans, and wastewater treatment facilities to roads, bridges, tunnels and pipelines

X

Y

Z

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