**NORTH AMERICA**

Statistical information (as of 2021)

Area: 24.71 million square kilometers

Population: 579 million

Total Countries: 23

Natural Resources:

Forests Minerals Energy Resources

Agricultural Resources

**WATER**

Increased water demand in North America as depicted in the graph are the result industrial and municipal growth fueled by urbanization and economic growth. Municipal water demand for sanitation and drinking water purposes has increased water uses across all the countries on the continent. The agriculture demand for water to support increased crop production because of increased foreign and domestic populations.

This map depicts water use in North America during the last three decades ending 2021.

A few of the extreme water events occurring during the 30 years analyzed were:

* Hurricane Katrina, while not directly caused by climate change, made it to this list because the intensity of the hurricane was the result of warmer ocean waters. These warmer waters caused by a rise in global temperatures. Climate change also affected how much rain fell and the widespread flooding that occurred in the Mississippi and Louisiana regions.
* Alberta, Canada flooding of 2013 was caused by heavy rainfall and snowmelt, and the subsequent overflowing of the Bow and Elbow Rivers.
* For the Caribbean, climate change has significantly impacted islands. Small by comparison to the countries in North America, the Caribbean islands are considerably more vulnerable to the effects climate change. The frequency and intensity of hurricanes during the past 30 years has not only damaged infrastructure, communities, agriculture, tourism, but biodiversity and the ecosystem as well. Coral bleaching is another outcome of climate change. It occurs when sea temperatures are too warm for the coral reefs. When coral bleaching occurs it devastates the economy and the livelihoods of the communities that rely upon them.

**LAND**

Land use in North America increased during the 30 years between 1992-2021 because of urbanization and infrastructure development in response to population increases, agricultural expansion into forested areas, land degradation for agriculture, livestock grazing and waste management.

This map depicts land use in North America during the last three decades ending 2021.

Examples of extreme land occurrences caused because of climate change were:

* Coastal erosion caused by the rise in sea-levels and permafrost thawing in Alaska and Canada.
* As the temperatures rise, polar ice and permafrost thaw and melt. The once frozen water melts and flows into rivers and oceans. The increased water levels caused floods, saltwater intrusion, and loss of land due to the excess water.
* In Alaska and Canada, permafrost thawing beneath roads, buildings and other infrastructure caused shifting and instability in the earth and in some instances sinking.

**FORESTRY**

The impact of climate change can be observed by the changes in the North American forestry data and analysis. Deforestation caused by wildfires, pest infestations, urbanization and land development occurred during the periods between 1992 and 2021.

This map depicts forestry use in North America during the last three decades ending 2021.

Two examples of extreme forestry events occurring during the 30 years analyzed were:

* One climate related event that occurred in the late 1990’s and mid 2000s was the infestation of pine forests in the western parts of North America by the Mountain Pine Beetle. Although the mountain pine beetle is the size of a grain of sand, this tiny insect killed thousands of trees and disrupted the ecosystem in the forest. With the accumulation of dead trees, the forest was susceptible to wildfires.
* Another negative effect of climate change on the forestry industry in North America were wildfires. As rising temperatures and decreased rainfall dried out the forest floor, the dry brush created by fallen trees, branches, and other forest debris increased the chances for wildfires. When wildfires occurred, the availability and demand for timber and lumber increased which directly impacted urban expansion and land development.