Climate Change

Introduction:

Climate is the long tong term shifts in temperature and weather patterns due high rise in global greenhouse gas and natural phenomena such as the solar cycle. However, since the discovery of the fossil fuel and its uses since the 1800s, the greenhouse gas emission have accelerated the climate change.

Intergovernmental Panel on Climate Change (IPCC) report:

* Global surface temperature will continue to increase until at least mid-century under all emissions scenarios considered. Global warming of 1.5°C and 2°C will be exceeded during the 21st century unless deep reductions in CO2 and other greenhouse gas emissions occur in the coming decades.
* Many changes in the climate system become larger in direct relation to increasing global warming. They include increases in the frequency and intensity of hot extremes, marine heatwaves, heavy precipitation, and, in some regions, agricultural and ecological droughts; an increase in the proportion of intense tropical cyclones; and reductions in Arctic Sea ice, snow cover and permafrost.
* Continued global warming is projected to further intensify the global water cycle, including its variability, global monsoon precipitation and the severity of wet and dry events
* Under scenarios with increasing CO2 emissions, the ocean and land carbon sinks are projected to be less effective at slowing the accumulation of CO2 in the atmosphere
* Many changes due to past and future greenhouse gas emissions are irreversible for centuries to millennia, especially changes in the ocean, ice sheets and global sea level.

Focus:

California:

California is very susceptible to climate change and the impact is highly widespread in the ‘Golden State’. According to the Legislative Analyst’s Office report which states that there are five climate hazards affecting the state of California:

1. Extreme heat events
2. More Severe wildfires
3. More frequent and intense drought
4. Inland flooding due to extreme precipitation
5. Coastal flooding and erosion from sea-level rise

The report states, “the years from 2014 through 2020 experienced the six highest average annual temperatures ever recorded in the state. Moreover, average summer temperatures in California were the hottest on record in 2021, breaking the previous June‑through‑August record set in 2017.” The projected map of the temperature spike shown is the figure suggest the California would experience extreme and prolonged heatwaves and droughts, etc.

Californians Affected by Climate Change:

According to the California Department of Food and Agriculture. “Over a third of the country’s vegetables and three-quarters of the country’s fruits and nuts are grown in California. California agriculture exported totaled $20.8 billion in 2020, a decrease of 4.1 percent from 2019. ” And the University of California assessment found that by 2050, the crops yield is projected to decline by 40 percent.

Extreme Drought would highly affect the agricultural industry and affect the food safety of the country. Los Angeles Times reports that the extreme weather pattern has started depleting most of the water reservoirs such as Lake Mead which is a largest reservoir had historical average of 61 percent is down to 28 percent as of November, etc.

Farmers Like Joe Doel Bosque own 2000 acres of his California farm surveys his land knowing that he couldn’t farm those land because of drought. Bosque states, “I got the land, I got the people. I have everything but no water. I can’t do it,” said Del Bosque, a 73-year-old farmer in Firebaugh, California.” The drought has led him to stopped growing asparagus and sweet corn and focus on the melons and almonds for the survival. He could not hire people that worked him for years.

Focus:

Florida:

Like California, Florida is also extremely susceptible to climate change and extreme weather pattens could affect Floridians. According to the Resources for the Future report which assessed the physical and economic impact through 2040 focused on the following topics:

1. Effects of Sea Level Rise
2. Effects of Climate Change on Storms in Florida
3. Effects of Climate Change on Human Mortality in Florida
4. Effects of Climate Change on Agriculture in Florida
5. Impacts of National Climate Policies on Florida Households

Storm:

The report states that more than any other US state, Florida is susceptible to damages from tropical storms, and climate change is projected to increase these risks. The climate change intensifies the storm and during the hurricane season it is projected that more intense and frequent hurricane.

The most severe property damage from tropical storms is typically caused by storm surges. Damages from a single hurricane can total tens of billions of dollars from storm surge alone, putting unprotected areas at particularly high risk. For instance, the report states “Miami is one of the most at-risk cities in the world from the damages caused by coastal flooding and storms. By one measure, it faces the largest risk of any major coastal city in the world, with more than $400 billion in assets at risk as of 2005.”

Floridians Affected by Climate Change:

According to NBC report, the insurance policy in Florida is unique since typical insurance policy does not cover flood damage and depending on the location the insurance premium fluctuates. The higher insurance cost result in families neglecting the taking insurance.

Susan Cavanaugh a single mom and her two kids are living through that ordeal after the first floor of their home on Sanibel Island, where all three live and work, was engulfed by the storm surge. Cavanaugh did not have flood insurance coverage.

Focus:

Climate Security:

The climate change will affect the entire globe, but there is pocket of places where it could be more resilient to adverse weather. In the US, Midwest and the places near the great lakes are more resilient to climate change.

According to Climate Alpha, an AI-powered analytics platform that project the future proof real estate strategies, CEO Parag Khanna states that their model shows areas around the Great lakes can withstand the climate risk.

Climate Security would be one of the major factors in coming days to move to resilient state. For instance, Andrew and Shauna Parrish moved to Houghton in Michigan's western Upper Peninsula in late 2021 after enduring a month of 100-degree days last summer in Boise under the constant haze of forest fire smoke choking out the skies of Idaho.

Rodney Puttock picked up and left his hometown of Las Vegas in mid-2021 for the literal green pastures of Holly, Mich., where, unlike in Sin City, water is plentiful.

For Rodney Puttock, water—a shortage of it—was the prime motivation to leave Las Vegas where he grew up and relocate to Holly, a village between Detroit and Flint that is still rooted in its agricultural history.

"It's a big issue in Las Vegas, the place of my childhood," said the 44-year-old Puttock, who makes voiceovers for television and radio commercials and does veteran coordinator work for the American Legion and Veterans of Foreign Wars.

At the time Puttock and his wife moved to Michigan in mid-2021, the two reservoirs that supply Las Vegas were abnormally low. Lake Mead, the largest reservoir in the U.S., was filled to only 35% of capacity. It's since dropped to a record low 31% in March of this year, while Lake Powell is at less than one-fourth of its capacity.

But in Michigan, "there's water everywhere," Puttock said.

Puttock was amazed when he could purchase fresh produce along rural Michigan roadways.

"You can't find that where I'm from," he said.

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