

# Climate and Environment

## Global Report

Since the beginning of the Industrial Revolution (1850) and the subsequent burning of fossil fuels global temperatures have been rising. Between 1850-1980 temperatures rose on average 0.13 degrees Fahrenheit every 10 years. Since 1981 however, the rate of increase has more than doubled with temperatures averaging 0.36°F per decade. The last three years have seen the highest recorded temperatures implying possible acceleration.

Global warming is altering weather systems around the world. Intensifying heatwaves and storms, droughts, floods and fires have widespread impacts on ecosystems, human health and well-being, and social justice.

- . Forest fires resulted in 29.6 megahectares of tree loss with resultant release of 3.1 Gt of CO<sub>2</sub> as well as biodiversity loss.
- . Warming oceans and acidification have caused the largest coral reef bleaching event (84%) ever recorded.
- . Ice masses in Greenland and West Antarctica are at record low levels with resultant sea level rise.
- . Wildlife populations studied over the last 50 years are showing a 73% decline. 3500 species are at risk or endangered due to habitat loss and over exploitation. Some populations are showing evidence of collapse.
- . Ocean currents and circulation are showing evidence of possible weakening, signaling increasing climate disruption.
- . Climate events are becoming increasingly more deadly and costly:
  - . Texas flash flood resulted in the death of 135 people.

- . The California Palisades fire resulted in three deaths, \$250 billion in damages and the evacuation of 200,000 people.
- . Europe's heatwave resulted in some 1500 deaths.
- . In Washington State:
  - . The heat-dome of 6/21 caused 125 official deaths with several hundred related deaths. An estimated 1 billion shellfish in the Salish Sea died due to the accompanying low tides. There was significant glacier melt on Mount Rainier and 5% of our forest canopy was scorched.
  - . The bomb cyclone of 11/24 caused two deaths and \$34 million in damages.
  - . The 12/25 flooding caused an estimated \$187 million in infrastructure damage.

Global cost of the last 5 years is estimated to be \$18 trillion.

While extreme weather events occur worldwide, their frequency and human toll is greatest in areas of high environmental exposure and limited adaptive capability. Asia is the most disaster prone area with storms and floods 80% of their hazards. Africa's major climate related disasters are due to heat and drought, resulting in food scarcity. The Caribbean Islands and Central America are vulnerable to cyclones as well as droughts. These less affluent, vulnerable and marginalized countries suffer a disproportionately higher impact from climate events with much higher fatalities, long-term economic damage, water and food scarcity, disease, displacement, and land degradation. They, however, are least responsible for global warming.

All evidence predicts that we are approaching tipping points, that is natural systems are reaching thresholds that once breached will trigger self-reinforcing feedback loops:

- . Collapse of polar ice sheets with sea level rise measured in feet not inches.
- . Thawing of carbon rich permafrost, releasing billions of tons of CO<sub>2</sub>.
- . Widespread forest die back.

While the report of expanding economic growth of 3.5% may sound like progress, environmentally it reports increasing consumption, ecological degradation and increasing greenhouse gas emissions. It is the wealthiest 10% (China, US, India, EU, and Russia) creating 67% of the emissions, causing global warming by their lifestyles and fossil fuel use. The issue is further compounded by failed insight, political inaction, unsustainable economic systems, and misinformation.

We have reached the point of ecological overshoot, ie we are releasing more greenhouse gases than can be absorbed by Earth's ecosystem. This is due to population growth now approximating 1.3 million people per week, increasing ruminant livestock populations growing at a rate of .5 million per week, and increase gross domestic product. This is further compounded by record high levels of fossil fuel extraction with con-commitment environmental degradation. Solar and wind energy is also on the rise but fossil fuel use is 31x's greater.

We have the opportunity to create our future; but, we must align human civilization within the limits of Earth's natural systems. To address overshoot we must:

- . Reduce consumption particularly of the affluent
- . Stabilize human population
- . Ensure safe water and sanitation
- . Establish economic models prioritizing health, well-being, equity and sustainability
- . Recognize our shared humanity and the deep, profound interconnectedness of all life on this planet.