



## Global Temperatures

Average global temperatures rise as a result of human carbon emissions

## Resources

This causes scarcity in some key resources - especially water and viable agricultural land

## Conflict

Disputes over land, water and other resources lead to armed violence

# Climate change and conflicts

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especially from Europe and, to a lesser extent, from China, to develop and refine their theory. Through that, they concluded that "a drop in average temperature around 1560 was immediately followed by a reduction of bioproductivity, which negatively affected agricultural yields and thus food supply per capita." Over the next thirty years or so, this was followed by cas-

flicts and wars.

Because of strategic salience of change to the climate and consequent disasters the debate about relationship between climate change and conflict rages on. Scientists and strategic thinkers are convinced that even small changes in temperature or rainfall are correlated with rise in conflicts and wars. In 2007, the Norwegian Nobel Committee awarded the Peace Prize to

order to protect their resources and way of life. States will falter as they are unable to meet the demands of their people, face a reduction in revenues, and be unable to contain outbreaks of violence. In summing up their core predictions in a US Department of Defense report, Schwartz & Randall write, "nations with the resources to do so may build virtual fortresses around their countries, preserving resources for themselves. Less fortunate nations ... may initiate struggles for access to food, clean water or energy ... defence priorities will shift and the goal is resources for survival rather than religion, ideology, or national honour."

It is difficult to assess prognostications about the future. However, environmental degradations, resource shortfalls, and natural disasters of the past can inform conjectures about what may transpire down the road. Recently in his seminal work titled *Climate Wars: The Fight for Survival as the World Overheats*, Gwynne Dyer mentions about waves of climate refugees, dozens of failed states and all-out war. From one of such world's great geopolitical analysts comes a terrifying glimpse of the strategic realities of the near future, when climate change drives the world's powers towards the cut-throat politics of survival. His presentations are considered by many reviewers as prescient and unflinching. And really what drives almost all of these scenarios is that the principal impact of warming on human beings is

on the food supply, that the hotter it gets, the less food we can grow.

As a thumb rule, for every one Degree Celsius average global temperature rise, we lose ten percent of the supply of global grain production. And there's no slack in the system. In fact we're eating all that we grow. And so, what they see is a variety of ills arising from an absolute shortage of food. Refugees are coming up against borders that don't want to let them in, but they are starving back home, their farm is dried up or blown away, they are trying to get into a place where there's still some food. Dyer advocated for geo-engineering as a solution to climate wars. This is all about exploiting geo-engineering measures for one's own benefit. But his critics discard this on the ground that it may lead to unhealthy competition between the nations putting Mother Nature and this planet in danger and jeopardy again.

Conflicts occur when different groups of people are competing for scarce resources. As climate change plays out, areas of the world that can now feed themselves will no longer be able to do so, in some cases because of flooding, in others because of low rainfall (southern Europe and much of Africa, China and central America), in some cases because the loss of mountain glaciers mean that rivers will run dry in the summer (Pakistan and California are both dependant on glacial melt water to irrigate their farms.) This will lead to pressure on land (China, for instance, might resurrect land claims in Siberia), and disputes over water. (What would Egypt do if countries upstream were to divert the waters of the Nile? It will also lead to huge migrations across the world in which the still relatively viable countries will either have to seal off their borders, or face an influx of climate refugees. All these are impetus to think about the possible scenarios which may take the toll on the vulnerable countries and nations.

According to the UN's Intergovernmental Panel on Climate Change (IPCC), climate change is advancing rapidly. Fourth Assessment Report (AR4) of the IPCC expects a global rise of 2-7 Degree Celsius to occur by 2100, unless resolute counteractions are taken. This global warming will cause more frequent and more severe extreme weather events such as heavy rains, droughts, heat-waves and storms. There is also a danger of tropical cyclones not only becoming stronger but also occurring with greater frequency in extra-tropical regions. At the same time, sea levels continue to rise. According to the IPCC these direct impacts of climate change will have far-reaching effects upon societies and the lives of people around the world (IPCC, 2007).

Former UN Secretary-General Kofi Annan and the Global Humanitarian Forum in Geneva stated that each year the impacts of climate change are responsible for hundreds of thousands of deaths with hundreds of millions of people severely affected directly. According to Annan, climate change is a serious threat to over half the world's population; half a billion people are at extreme risk (Global Humanitarian Forum, 2009).

cading escalation of social unrest, migration, famine, war, and epidemics and widespread conflict. From 1618, the crisis culminated in Thirty Years War. Subsequent warfare, together with famine and epidemics, led to a considerable shrinking of European population. Furthermore, in their findings it was highly surprising to observe similar macro-patterns for regions as disparate as Europe and China at a time when both areas were largely detached from one another both economically and politically. The authors argue that this synchronicity can hardly be explained unless one assumes social mechanisms triggered by the same kind of climate stresses. They also asked, "Does it also apply to global warming, both in the North and in the South?" And replied that "yes it is applicable in both the cases".

In fact, while Zhang and colleagues have shown that social and political dislocations in temperate regions of the northern hemisphere are mostly associated with climatic cooling, others have demonstrated that the opposite holds true for the tropics where warmer El Nino years have always been, and are still, associated with serious social and political trouble. From all this, it seems fair to conclude that global warming of the scale associated with future climate change would have negative effects comparable to those studied by Zhang and colleagues with regard to climatic cooling. In fact climate change is expected to be more severe than any previous climate shock since the end of the last ice age. Like the previous incidents in history, in the 21st century also humanity is going face miserable climatic stresses; which will portend scenarios of violent con-

Al Gore and the Intergovernmental Panel on Climate Change, citing climate change as a threat to international security. Some, including United Nations Secretary-General Ban Ki Moon, have even claimed that the crisis in the Darfur region of Sudan – which pits farmers against pastoralists – stems, in part, from environmental pressures and the scarcity of water and land. And the Secretary General termed the conflict in Darfur as the first Climate War.

The argument about the connection between climate change and conflict boils down to an argument about resource scarcity and competition over the means to sustain livelihoods. Long-term trends such as desertification, rising sea-levels, and the spread of disease vectors, along with the increased frequency and severity of short-term natural disasters such as flooding and hurricanes, will disrupt economies, reduce the available supply of natural resources, and generate mass migration out of affected areas. Competition between haves and have-nots will intensify, and wars will be fought over dwindling food and water resources. Some areas may well become net beneficiaries of climate shifts, even as the absolute availability of resources declines, but this will only exacerbate global and intrastate inequalities and produce further friction. Environmental refugees fleeing uninhabitable areas will place strains on receiving communities, undermine the ability of those communities to provide basic services, and contribute to ethno-cultural tensions.

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A number of high profile individuals and policy groups have published alarming reports claiming that climate change will have enormous impacts on humanity. According to Robert D. Kaplan, in his influential article *The Coming Anarchy*, the core foreign policy challenge for the twenty first century is the "political and strategic impact of surging populations, spreading disease, deforestation and soil erosion, water depletion, air pollution, and possibly, rising sea levels, developments that will prompt mass migration and, in turn, incite group conflicts." Along the same lines, Thomas Homer Dixon argues that "climate change will help produce insurrections, genocide, guerrilla attacks, gang warfare, and global terrorism."

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