**1939-1945**:

World War II

**1956**:

Philips produces a somewhat realistic computer model of the global atmosphere.

Plass calculates that a doubling of CO2 would cause the planet to warm 3.6°C.

**1957**:

Revelle finds that CO2 produced by humans will not be readily absorbed by the oceans.

**1960**:

Keeling accurately measures CO2 in the Earth's atmosphere and detects an annual rise. The level is 315 ppm. Mean global temperature (five-year average) is 13.9°C.

Human population reaches three billion.

**1962**:

Cuban Missile Crisis, peak of the Cold War.

**1963**:

Calculations suggest that feedback with water vapor could make the climate acutely sensitive to changes in CO2 level.

**1965**:

Boulder, Colorado meeting on causes of climate change: Lorenz and others point out the chaotic nature of climate system and the possibility of sudden shifts.

A US President's Advisory Committee warns that the greenhouse effect is a matter of „real concern".

**1967**:

International Global Atmospheric Research Program established, mainly to gather data for better or short-range weather prediction, but including climate.

**1968**:

Studies suggest a possibility of collapse of Antarctic ice sheets, which would raise sea levels catastrophically.

**1969**:

Budyko and Sellers present models of catastrophic ice-albedo feedbacks.

Nimbus III satellite begins to provide comprehensive global atmospheric temperature measurements.

**1970**:

Creation of US National Oceanic and Atmospheric Administration, the world's leading funder of climate research.

**1971**:

SMIC conference of leading scientists reports a danger of rapid and serious global change caused by humans, calls for an organized research effort.

**1972**:

Droughts in Africa, Ukraine, India cause world food crisis, spreading fears about climate change.

First UN environment conference, in Stockholm. Climate change hardly registers on agenda.

**1973**:

Oil embargo and price rise bring first „energy crisis“.

**1974**:

Serious droughts since 1972 increase concern about climate, with cooling from aerosols suspected to be as likely as warming; scientists are doubtful as journalists talk of a new ice age.

**1975**:

Warnings about environmental effects of airplanes leads to investigations of trace gases in the stratosphere and discovery of danger to ozone layer.

Human population reaches four billion.

**1976**:

Studies show that CFCs and also methane and ozone can make a serious contribution to the greenhouse effect.

Deforestation and other ecosystem changes are recognized as major factors in the future of climate.

**1977**:

Scientific opinion tends to converge on global warming, not cooling, as the chief climate risk in next century.

**1978**:

Attempts to coordinate climate research in US end with an inadequate National Climate Program Act, accompanied by rapid but temporary growth in funding.

**1979**:

Second oil „energy crisis“.

Strengthened environmental movement encourages renewable energy sources, inhibits nuclear energy growth.

US National Academy of Sciences report finds it highly credible that doubling CO2 will bring 1.5-4.5°C global warming.

The first World Climate Conference takes place. World Climate Research Programme launched to coordinate international research.

**1981**:

Elections of Reagan brings backlash against environmental movement to power. Political conservatism is linked to skepticism about global warming.

Some scientists predict greenhouse warming „signal“ should be visible by about the year 2000.

**1982**:

Strong global warming since mid-1970s is reported, with 1981 the warmest year on record.

**1983**:

Reports from US National Academy of Sciences and Environmental Protection Agency spark conflict, as greenhouse warming becomes prominent in mainstream politics.

**1985**:

Ramanathan and collaborators announce that global warming may come twice as fast as expected, from rise of methane and other trace greenhouse gases.

Villach Conference declares consensus among experts that some global warming seems inevitable, calls on governments to consider international agreements to restrict emissions.

**1986**:

Meltdown of reactor Chernobyl cripples plans to replace fossil fuel with nuclear power.

**1987**:

Montreal Protocol of the Vienna Convention imposes international restrictions on emission of ozone-destroying gases.

Human population reaches five billion.

**1988**:

News media coverage of global warming leaps upward following record heat and droughts.

Toronto conference calls for strict, specific limits on greenhouse gas emissions.

UK Prime Minister Thatcher is first major leader to call for action.

Intergovernmental Panel on Climate Change (IPCC) is established.

**1989**:

Fossil-fuel and other U.S. industries form Global Climate Coalition to tell politicians and the public that climate science is too uncertain to justify action.

Carbon emissions from fossil fuel burning and industry reach six billion tonnes per year.

**1990**:

First IPCC report says world has been warming and future warming seems likely.

**1991**:

Global warming skeptics claim that 20th-century temperature changes followed from solar influences.

**1992**:

Conference in Rio de Janeiro produces UN Framework Convention on Climate Change, but US blocks calls for serious action.

**1993**:

Greenland ice cores suggest that great climate changes can occur in the space of a single decade.

**1995**:

Second IPCC report detects „signature“ of human-caused greenhouse effect warming, declares that serious warming is likely in the coming century.

Reports of the breaking up of Antarctic ice shelves and other signs of actual current warming in polar regions begin affecting public opinion.

The first Conference of the Parties (COP 1) takes place in Berlin.

**1997**:

International conference produces Kyoto Protocol, setting targets for industrialized nations to reduce greenhouse gas emissions. The US, China and India are not part of the treaty.

**1998**:

Publication of the controversial „hockey stick“ graph indicating that modern-day temperature rise in the northern hemisphere is unusual compared with the last 1000 years.

**1999**:

Human population reaches six billion.

**2000**:

Global Climate Coalition dissolves as many corporations grapple with threat of warming, but oil lobby convinces US administration to deny problem.

**2001**:

Third IPCC report states baldly that global warming, unprecedented since the end of the last ice age, is „very likely“, with highly damaging future impacts.

Bonn meeting, with participation of most countries but not US, develops mechanisms for working towards Kyoto targets.

The Marrakesh Accords are adopted at COP7, detailing the rules for implementation of the Kyoto Protocol.

**2002**:

Studies find surprisingly strong „global dimming“ due to pollition has retarded arrival of greenhouse warming, but dimming is now decreasing.

**2003**:

Numerous observations raise concern that collapse of ice sheets can raise sea levels faster than believed.

Deadly summer heat wave in Europe accelerates divergence between European and US public opinion.

**2004**:

President Vladimir Putin signs a bill confirming Russia’s ratification of the Kyoto Protocol.

**2005**:

Kyoto treaty goes into effect, signed by major industrial nations except US. Work to retard emissions accelerates in Japan, Western Europe, US regional governments and corporations.

**2006**:

„An Inconvenient Truth“ documentary persuades many but sharpens political polarization.

China overtakes the United states as the world's biggest emitter of CO2.

The Stern Review concludes that climate change could damage global GDP by up to 20% if left unchecked – but curbing it would cost about 1% of global GDP.

**2007**:

Fourth Assesment Report of IPCC concludes it is more than 90% likely that humanity's emissions of greenhouse gases are responsible for modern-day climate change.

Greenland and Antarctic ice sheets and Arctic Ocean sea-ice cover found to be shrinking faster than expected.

At UN negotiations in Bali, governments agree the two-year „Bali roadmap“ aimed at hammering out a new global treaty by the end of 2009.

**2008**:

Climate scientists recognize that even if all greenhouse gas emissions could be halted immediately, global warming will continue for millennia.

**2009**:

Many experts warn that global warming is arriving at a faster and more dangerous pace than anticipated just a few years earlier.

Copenhagen conference fails to negotiate binding agreements: end of hopes of avoiding dangerous future climate change.

**2010**:

Cancun Agreements drafted and largely accepted by the COP, at COP16. Through the Agreements, countries made their emission reduction pledges official, in what was the largest collective effort the world has ever seen to reduce emissions in a mutually accountable way.

**2011**:

Human population reaches seven billion.

Durban, South Africa - U.N. climate talks produce major breakthrough as countries agree to adopt a universal agreement on climate change in 2015 that would take effect five years later and apply to all of them.

**2012**:

Controversial „attribution“ studies find recent disastrous heat waves, droughts, extremes of precipitation, and floods were made worse by global warming.

**2013**:

The IPCC says it's „extremely likely" that human influence is the dominant reason for warming temperatures recorded since the mid-20th century.

**2014**:

COP20 is held in December in Lima, Peru.

**2015**:

Researchers find collapse of West Antarctic ice sheet irreversible, will bring meters of sea level rise over future centuries.

Paris Agreement: nearly all nations pledge to set targets for their own greenhouse gas cuts and to report their progress.

Mean global temperature is 14.7°C, the warmest in thousands of years. Level of CO2 in the atmosphere reaches 400ppm, the highest in millions of years.