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The  
Politics  
of Climate  
Change

Anthony Giddens

Second Edition, fully revised and updated

# **THE POLITICS OF CLIMATE CHANGE**

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# **THE POLITICS OF CLIMATE CHANGE**

**Second Edition, Revised and Updated**

**Anthony Giddens**

polity

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work to Indie and Matilda, definitely members of the younger generation, in the hope that it might contribute a little to making the world in which they will grow up less daunting.

# INTRODUCTION

This is a book about nightmares, catastrophes - and dreams. It is also about the everyday, the routines that give our lives continuity and substance. It is about the warming of our planet - a phenomenon which, if it proceeds unchecked, constitutes an existential threat to our civilization. The changes we are wreaking on the world's climate will produce increasingly extreme and erratic weather, subject large areas of the globe to drought and eventually make them uninhabitable. Rising ocean levels will have the same effect upon low-lying coastal zones.

The book is a prolonged enquiry into a single question. Why do most people, most of the time, act as though a threat of such magnitude can be ignored? Almost everyone across the world must have heard the phrases 'climate change' and 'global warming' and know at least a bit about what they mean. The two terms can be used interchangeably. They refer to the fact that the greenhouse gas emissions produced by modern industry are causing the earth's climate to warm up, with potentially devastating consequences for the future. Yet the vast majority of people are doing very little, if anything at all, to alter their daily habits, even though those habits are the source of the dangers in store for us.

It is not as if climate change is creeping up on us unawares. On the contrary, large numbers of books have been written about it and its likely consequences. Serious worries about the warming of the earth's climate were expressed for a quarter of a century or more without making much of an impact. Within the past few years the issue has

jumped to the forefront of discussion and debate, not just in this or that country, but across the world. Yet, as collective humanity, we are only just beginning to take the steps needed to respond to the threats that we and succeeding generations are confronting. Global warming is a problem unlike any other, however, both because of its scale and because it is mainly about the future. Many have said that to cope with it we will need to mobilize on a level comparable to fighting a war; but in this case there are no enemies to identify and confront. We are dealing with dangers that seem abstract and elusive, however potentially devastating they may be.

No matter how much we are told about the threats, it is hard to face up to them, because they feel somehow unreal – and, in the meantime, there is a life to be lived, with all its pleasures and pressures. The politics of climate change has to cope with what I call *Giddens's paradox* – a theme that appears throughout this text. It states that, since the dangers posed by global warming aren't tangible, immediate or visible in the course of day-to-day life, many will sit on their hands and do nothing of a concrete nature about them. Yet waiting until such dangers become visible and acute – in the shape of catastrophes that are irrefutably the result of climate change – before being stirred to serious action will be too late. For we know of no way of getting the greenhouse gases out again once they are there and most will be in the atmosphere for centuries.

Giddens's paradox affects almost every aspect of current reactions to climate change. It is the reason why, for most citizens, climate change is a back-of-the-mind issue rather than a front-of-the-mind one. Attitude surveys show that many of the public accept that global warming is a major threat; yet only a few are willing to alter their lives in any significant way as a result. Among elites, climate change lends itself to gestural politics – grandiose-sounding plans largely empty of content.

What social psychologists call 'future discounting' further accentuates Giddens's paradox - more accurately, one could say it is a sub-category of it. People find it hard to give the same level of reality to the future as they do to the present. Thus a small reward offered now will normally be taken in preference to a much larger one offered at some remove. The same principle applies to risks. Why do many young people take up smoking even though they are well aware that, as it now says on cigarette packets, 'smoking kills'? At least part of the reason is that, for a teenager, it is almost impossible to imagine being 40, the age at which the real dangers start to take hold and become life-threatening.

There is a high level of agreement among scientists that climate change is real and dangerous, and that it is caused by human activity. A small minority of scientists, however - the climate change 'sceptics' - dispute these claims, and they get a good deal of attention in the media. Many other, less expert, contributors have taken their side. Someone can always say, 'it's not proven, is it?' if it be suggested that he should change his profligate ways. Another response might be: 'I'm not going to change unless others do.' Yet another reaction could be: 'Nothing that I do, as a single individual, will make any difference.' Or else he could say, 'I'll get round to it sometime', because one shouldn't underestimate the sheer force of habit. I would suggest that even the most sophisticated and determined environmentalist struggles with the fact that, under the shadow of future cataclysm, there is a life to be lived within the constraints of the here-and-now.

Politicians have woken up to the scale and urgency of the problem and many countries have recently introduced ambitious climate change policies. Over the past few years, a threshold has been crossed: most political leaders are now aware of the hazards posed by global warming and the need to respond to them. Yet this is just the first wave - the bringing of the issue onto the political agenda. The second

wave must involve embedding it in our institutions and in the everyday concerns of citizens, and here, for reasons just mentioned, there is a great deal of work to do. The international community is on board, at least in principle. Negotiations aimed at limiting global warming have taken place at meetings organized by the United Nations, in an attempt to get global reductions in greenhouse gas emissions. They are still continuing, but have produced little in the way of concrete results so far. There has been far more talk than there has been tangible action.

Much of this book concentrates on climate change policy in the industrial countries. It is these countries that pumped most of the emissions into the atmosphere in the first place, and they have to take prime responsibility for controlling them in the near future. They must take the lead in reducing emissions, moving towards a low-carbon economy and making the social reforms with which these changes will have to be integrated.

We do not as yet have a developed analysis of the political innovations that have to be made if our aspirations to limit global warming are to become real. It is a strange and indefensible absence, which I have written this work to try to repair. My approach is grounded in realism. Some authors say that coping with climate change is too difficult a problem to be dealt with within the confines of orthodox politics. Up to a point I agree with them, since quite profound changes will be required in our established ways of political thinking. Yet we have to work with the institutions that already exist and in ways that respect democracy.

The state will be an all-important actor, since so many powers remain in its hands, whether one talks of domestic or of international policy. There is no way of forcing states to sign up to international agreements; and even if they choose to do so, implementing whatever is agreed will largely be the responsibility of each individual country. Emissions trading markets can only work if the price of

carbon is capped, and at a demanding level, a decision that has to be made and implemented politically. The one major supra-national entity that exists, the European Union, is heavily dependent on decisions taken by its member nations, since its control over them is quite limited.

Markets have a much bigger role to play in combating climate change than simply in the area of emissions trading. There are many fields where market forces can produce results that no other agency or framework could manage. In principle, where a price can be put on an environmental good without affronting other values, it should be done, since competition will then create increased efficiency whenever that good is exchanged. However, active state intervention is once again called for. The environmental costs entailed by economic processes often form what economists call 'externalities' - they are not paid for by those who incur them. The aim of public policy should be to make sure that, wherever possible, such costs are internalized - that is, brought into the marketplace.

'The state', of course, comprises a diversity of levels, including regional, city and local government. In a global era, it operates within the context of what political scientists call multilayered governance, stretching upwards into the international arena and downwards to regions, cities and localities. To emphasize the importance of the state to climate change policy is not to argue for top-down government. On the contrary, the most dramatic initiatives are likely to bubble up from the actions of far-sighted individuals and from the energy of civil society. States will have to work with a variety of other agencies and bodies, as well as with other countries and international organizations, if they are to be effective.

One can't discuss the politics of climate change without mentioning the green movement, which has been a leading influence on environmental politics for many years. It has had a major impact in forcing the issue of climate change

onto the political agenda. 'Going green' has become more or less synonymous with endeavours to limit climate change. Yet there are big problems. The green movement has its origins in the hostile emotions that industrialism aroused among the early conservationists. Especially in its latter-day development in Germany in the 1970s and 1980s, the greens defined themselves in opposition to orthodox politics. Neither position is especially helpful to the task of integrating environmental concerns into our established political institutions. Most green parties have now joined the mainstream. Yet just what is and what is not valuable in green political philosophies has to be sorted out.

It isn't possible - or so I shall argue - to endorse any approach which tries in some sense to 'return to nature'. Conservationism may be a defensible value, but it has nothing intrinsically to do with combating global warming. Indeed, it may even hamper our efforts. As a result of the advance of science and technology, we have long since crossed the boundaries which used to separate us from the natural world. More of the same will be needed, not less, if we are seriously to confront problems of climate change. Partly for this reason, I reject one of the core ideas of the green movement - the precautionary principle: 'Don't interfere with nature.' Moreover, in seeking to stem climate change, no matter what is often said, we are not trying to 'save the planet', which will survive whatever we may do. The point is to preserve, and if possible enhance, a decent way of life for human beings on the earth.

The word 'green' is in such widespread use that I have no hope of dislodging it. But it is now more of a problem rather than any help when it comes to developing policies to cope with climate change. I shall avoid using the term in what follows.

A whole range of questions has to be asked and answered. I list only a few briefly here. Later in the book, I try to

respond to all of them, no doubt with varying degrees of success.

To cope with global warming, a long-term perspective must be introduced into politics, domestically and internationally. There has to be some sort of forward *planning*. 'Planning' is not a word with particularly pleasant connotations, since it conjures up images of authoritarianism on the one hand and ineptness on the other. Planning fell out of favour partly because it was oppressive and partly because it didn't work. If there is to be a return to such an endeavour, what form should it take?

And then there is the issue of coping with *risk* and *uncertainty*. Climate change politics is all about risk and how to manage it, and the notion appears on almost every page of this volume. We can't know the future; the philosopher Karl Popper used to say that if we could, it wouldn't be the future. The long-term thinking needed to counter climate change has to operate against the backdrop of uncertainty. It is often possible to assign probabilities to future events; but there are many contexts where existing knowledge is stretched thin and large areas of uncertainty loom. What political strategies are needed to confront this range of problems?

In democratic countries governments come and go. Moreover, in real-life contexts many issues jostle for attention, including immediate questions of the day, which at the time may seem overwhelmingly important. In such circumstances, how is continuity of climate change policy to be maintained? Climate change, I shall argue, is not a left-right issue. There should be no more talk of 'green being the new red'. A cross-party framework of some kind has to be forged to develop a politics of the long term, but how? Countering climate change will cost money - where will it come from? Countries that are in the vanguard of climate change policy, as the developed countries have to be, could face problems of competitiveness. Their industries could be

hampered by having to compete with goods that can be made more cheaply elsewhere where there are no environmental taxes or regulatory restrictions. How big a problem is this likely to be? Certainly, many business firms and employers' groups have used it as a basis for dragging their heels as far as climate change initiatives are concerned.

Finally, there are many difficult questions surrounding technology. Investment in renewable energy resources is crucial in countering climate change. Yet those resources won't develop in some sort of automatic way, nor will they be stimulated by the operation of market forces alone. The state has to subsidize them, in order for them to be competitive against fossil fuels and to protect investment in the face of the fluctuations to which the prices of oil and natural gas are subject. Technological change can only be predicted to a limited degree. How should governments decide which technologies to back? Like climate change, energy has suddenly come into the limelight as a fundamental problem for many nations and for the world as a whole. The underlying causes are to some degree the same. The energy needs of the industrial countries have created most of the emissions that are causing global warming. The rapid economic growth of developing nations, especially China and India, given their immense population size, is putting further strain on available energy sources, as well as increasing the level of greenhouse gases in the atmosphere. Responding to climate change has to be closely integrated with questions of energy security. It has become conventional to say so these days, but I have been struck by how loosely connected in most writings they actually are.

At what point will the world begin to run out of oil? There is intense discussion about when world oil and gas supplies will peak - in other words, when half or more of them will have been consumed. If the peak in world oil supplies is in

fact approaching, then serious problems loom. Modern society is very heavily based upon oil not only insofar as energy is concerned, but also because oil figures in so many of the manufactured goods which figure in people's lives. Some 90 per cent of the goods in the shops involve the use of oil in one way or another.

Whether oil production is close to peaking or not, we are living in a civilization that, as far as we can determine future risk, looks unsustainable. It isn't surprising that the past few years have seen the emergence of a doomsday literature, centred on the likelihood of a cataclysmic breakdown. Other civilizations have come and gone; why should ours be sacrosanct?

Yet risk is risk - the other side of danger is always opportunity. We must create a positive model of a low-carbon future - and, moreover, one that connects with ordinary, everyday life in the present. There is no such model at the moment and we have to edge our way towards it. It won't be a green vision, but one driven by political, social and economic thinking. It can't be a utopia, but utopian strands will be involved, since they supply ideals to be striven for. A mixture of the idealistic and the hard-headed is required. No quick fix is available to deal with the problems we face - it's going to be a slog, even with the breakthroughs we need, and in fact must have. The prize, as I shall argue below, is huge. There is another world waiting for us out there if we can find our way to it. It is one where not only climate change has been held at bay, but where oil has lost its capacity to determine the shape of world politics.

Where do we stand at the moment in terms of the risks posed by global warming? What are our chances of limiting or containing them? A great deal hangs, of course, upon our assessment of just how serious those risks actually are. Here we are dependent on the findings, and the prognostications, of science. Perhaps the risks have been

exaggerated and we haven't got too much to worry about? Could the sceptics be right to say the dangers are much less than the majority of climatologists believe? The possibility does exist, but it is slim. The scientific findings are very robust, and based on many different types of observation. Moreover, as I shall discuss in what follows, it is at least as likely that the dangers of climate change are actually *greater* than the majority of scientists think. Unlike most of the sceptics, disturbingly, those who make such arguments are practising scientists – some of them very eminent ones.

Containing climate change is quintessentially an issue that we cannot put off – and yet at the moment we are doing just that. The volume of greenhouse gases going into the atmosphere continues to mount. Since current trends are out of kilter with what is needed if we are to bring emissions under control, we are essentially looking for breakthroughs. Where might they occur?

They could happen at the *international level*. The role of leaders is to lead, and where necessary to be well ahead of most of the citizens they serve. There are at least some encouraging signs. Until recently, the leaders of the developing countries argued that reducing emissions should be solely a concern of the industrial states, which got rich on the basis of the indiscriminate use of fossil fuels. That attitude has now changed rather dramatically. It is still incumbent on the developed countries to accept the main responsibility. However, the leaders of some of the large emerging economies, most notably China and Brazil, now accept that their countries have a key role to play. It is possible that in some ways they could come to be in the vanguard, as China already is in terms of investment in certain areas of renewable technology.

There might be breakthroughs in the *economic conditions affecting low-carbon technologies*, hence transforming the energy field. The Middle East is the site of about a third of the world's recoverable oil. For a century or so, Western,

and then more specifically American, power maintained a certain stability in the otherwise volatile region - and protected the flow of oil. The price of oil never remotely reflected the true economic cost of keeping that flow going - billions of dollars were spent on sustaining that military and diplomatic presence. That situation is currently unravelling, hopefully as part of a process of the democratization of countries that had become frozen in time. The price of oil could rise, and stay high, whether through protracted instability in the region, or other factors. Such an outcome could possibly give a dramatic new impetus to concerns about energy security, and hence to much greater investment in renewable technologies.

There could be breakthrough innovations in various areas of *technology*. Technological innovation, at least of a far-reaching kind, is not itself always, perhaps not even usually, predictable. The history of technology shows that most transformative innovations came out of the side-field. Their inventors initially had no idea of the impact they came to have - this was true of the cluster of innovations that created the internet, for example. So innovation relevant to climate change policy could come from anywhere, and be of a form that no one has even thought of as yet. Short of that, there are some areas where it is known that advances could make a major impact. For instance, if it became possible to store electricity cheaply and on a large scale, it would make an enormous difference, given the intermittent nature of some low-carbon energy sources. If nuclear fusion suddenly became a reality, it could provide endless cheap, renewable energy. A further possibility is so-called geo-engineering, above all discovering some way of removing greenhouse gases from the atmosphere on a large scale.

There could be an event, or set of events, clearly attributable to climate change, that cause a surge in *activism* around the world. These might be weather episodes which, while falling short of the cataclysmic,

stimulate a breakthrough in consciousness. It is hard to think how such a scenario could avoid Giddens's paradox; but it is possible that unusual and extreme weather in a particular region could become a driving force of activism there, which could then spread elsewhere.

Finally, these possibilities could combine in various ways. Could, could, could - the 'coulds' indicate the open nature of the future, but no amount of 'could happens' necessarily add up to a 'will happen'. In the meantime, humanity lives in the shadow of risks that are real, unprecedented and all the more dangerous because the changes they signal appear irrevocable. [Chapter 1](#) looks at these risks in more detail.

# 1

## **CLIMATE CHANGE, RISK AND DANGER**

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Our understanding of the origins of global warming in current times dates back to the work of the French scientist Jean-Baptiste Joseph Fourier in the early part of the nineteenth century. Energy reaches the earth from the sun in the shape of sunlight; it is absorbed and is radiated back into space as infrared glow. When Fourier calculated the differential between the energy coming in and that going out as infrared radiation, he found that the planet should, in theory, be frozen. He concluded that the atmosphere acts like a mantle, keeping a proportion of the heat in – and thus making the planet liveable for humans, animals and plant life. Fourier speculated that carbon dioxide (CO<sub>2</sub>) could act as a blanket in the atmosphere, trapping heat and causing surface temperatures to increase.

Later observers, most notably John Tyndall, a scientist working at the Royal Institution in London, worked out just which atmospheric elements trap infrared. The gases that make up most of the atmosphere, nitrogen and oxygen, offer no barrier to heat loss. Those producing what came to be called the greenhouse effect, such as water vapour, CO<sub>2</sub> or methane, are only present in relatively small amounts. Scientists use the calculation of ‘parts per million’ (ppm) to measure the level of greenhouse gases in the air, since the percentage figures are so small. One ppm is equivalent to

0.0001 per cent. It is because a tiny proportion makes such a large impact that greenhouse gases created by human industry can have profound effects on the climate (CO<sub>2</sub> makes up less than 0.04 per cent of the composition of the air, and the other greenhouse gases even less). Since CO<sub>2</sub> is the most important greenhouse gas in terms of volume, it is sometimes used as a standard of measurement when assessing emissions. The notion of 'CO<sub>2</sub> equivalent' is also often employed. It is the amount of CO<sub>2</sub> emission that would be involved to produce the same output as all the greenhouse gases combined. It is usually written as CO<sub>2</sub>e.

Over the past 150 years or so, greenhouse gases in the atmosphere have progressively increased with the expansion of industrial production. The average world temperature has grown by about 0.8 degrees since 1901. The temperature of the earth is not only rising, it is doing so at an accelerating rate. From 1880 to 1970, global average temperature increased by about 0.03°C every decade. Over the period since 1970, the increase has averaged 0.13 degrees per decade. Data released by the National Oceanic and Atmospheric Administration of the US (NOAA) showed that 2010 tied with 2005 as the warmest year since reliable records began in 1880. Every decade since 1950 has been warmer on average than the one before.

We know from geological studies that world temperatures have fluctuated in the past, and that such fluctuations correlate with CO<sub>2</sub> content in the air. The evidence shows, however, that at no time during the past 650,000 years has the CO<sub>2</sub> content of the air been as high as it is today. It has always been below 290ppm. By 2010, it had reached 389ppm and is currently rising by some 2ppm each year.

The growth rate for 2010 was 2.14ppm, as measured by scientists at the Mauna Loa observatory in Hawaii. It was the seventh year out of the previous nine to see a rise of more

than 2ppm. This increase was considerably higher than scientists at the observatory had expected. It could indicate that the natural sinks of the earth are losing their capacity to absorb greenhouse gases. Most climate change models assume that some half of future emissions will be soaked up by forests and oceans, but this assumption therefore may be too optimistic. Warming is greater over land areas than over the oceans, and is higher at northern latitudes than elsewhere. Very recent studies show that the temperatures of the oceans are rising several times faster than was thought likely a few years ago. Higher temperatures produce more acidity in the water, which could seriously threaten marine life. Warmer seas release more CO<sub>2</sub>, accelerating the global warming effect.

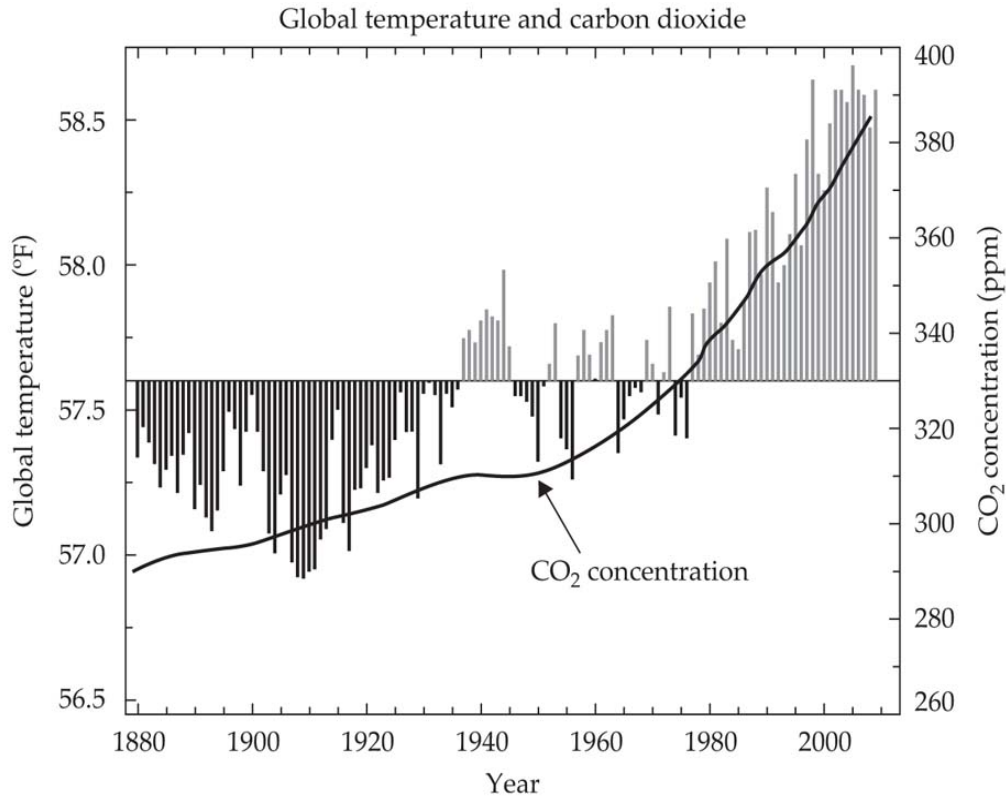


Figure 1.1 The global surface temperature is rising Global annual average temperature measured over land and oceans. Grey bars indicate temperatures above and black bars indicate temperatures below the 1901–2000 average temperature. The black line shows atmospheric carbon dioxide concentration in parts per million.

*Source:* NCDC/NOAA

Satellite data, available since 1978, show that the annual average Arctic sea ice coverage is shrinking by nearly 3 per cent per decade, with larger decreases in the summer of over 7 per cent. The Arctic ice-cap is less than half the size it was 50 years ago. Over that time, average temperatures in the Arctic region have increased by about seven degrees, a result of a specific feedback cycle that exists there. The sun's rays strike the Arctic at a sharper angle than elsewhere over the summer, at a time when the ice is giving way to open water, which absorbs more solar radiation. Until recently it was thought that ice-free Arctic summers would occur at some point near the end of the century. However,

the actual melting has been faster than was anticipated and appears to be accelerating. Hence summers free of ice might occur much sooner.

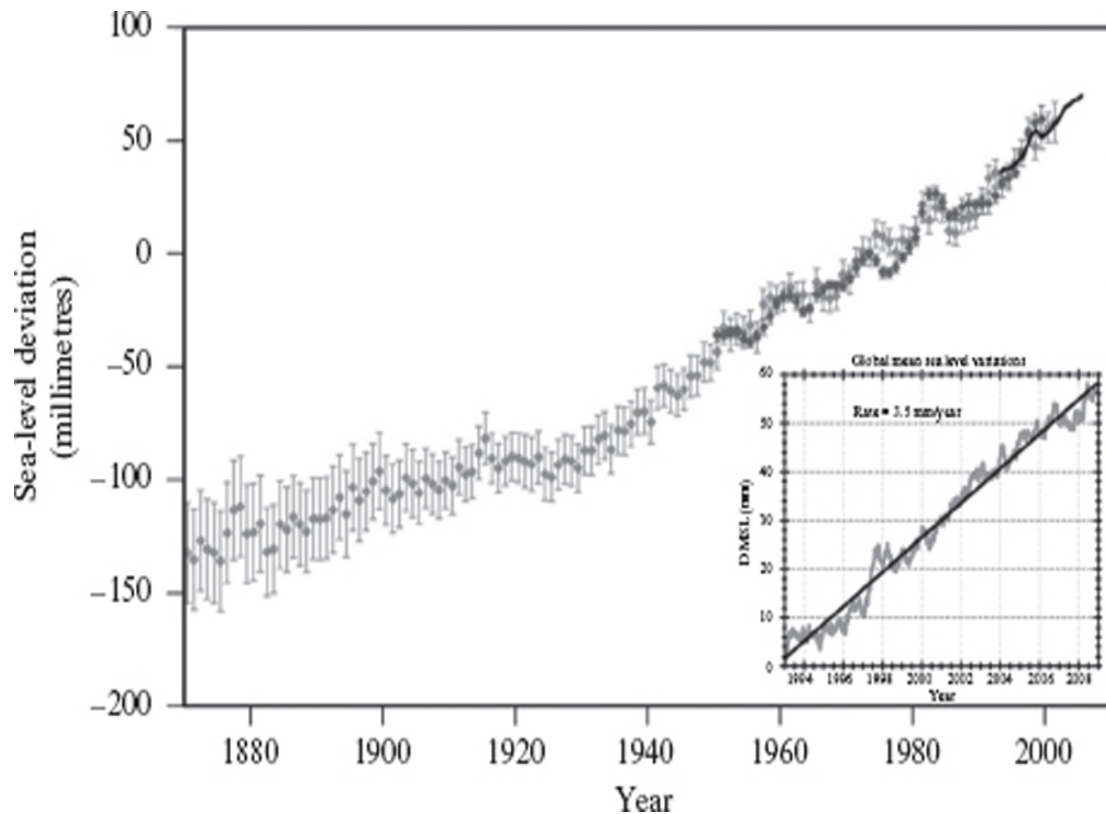


Figure 1.2 The sea level is rising Annual averages of global sea level. Light grey: sea level since 1870. Dark grey: tide gauge data. Black: based on satellite observations. The inset shows global mean sea-level rise since 1993 - a period over which sea-level rise has accelerated.

*Source:* NCDC/NOAA

Commercial trans-Arctic voyages could then be initiated. It would be possible to go from Northern Europe to East Asia or the north-west coast of the US avoiding the Suez and Panama Canals.

Mountain glaciers are retreating in both hemispheres and snow cover is less, on average, than it once was. Sea levels rose over the course of the twentieth century, although there is considerable controversy among scientists about just how much. Warming is likely to intensify the risk of drought in some parts of the world and lead to increased rainfall in others. Evidence indicates that the atmosphere holds more water vapour than used to be the case even a

few decades ago - a major influence over unstable weather patterns, including tropical storms and floods. Over the past 40 years, westerly winds have become stronger. Tropical cyclones in the Atlantic have become more frequent and more intense over that period, probably as a result of warming.