

# RISING

## TO THE CHALLENGE

### 10th Anniversary Report



Photo credit: The National Trust

HAVE WE RISEN TO THE CHALLENGE: PERSONAL REFLECTIONS OF 10 YEARS OF CLIMATE CHANGE ACTION IN THE SOUTH EAST



Climate  
South East

# HAVE WE RISEN TO THE CHALLENGE ?

10 years on



Introduction, Peter Midgley, Environment Agency, Chairman of Climate South East Executive Committee

It was with some trepidation that I started to write the preface to this celebration of ten years of Climate South East. How could I sum up the immense achievements of such a wide range of partners and adequately cover the contribution of the dedicated individuals who made it all happen? I soon realised that to list everyone involved and to record their achievements in the space available would be impossible. So, below are just a few of my thoughts about the last ten years and about what needs to happen for the next ten.

Ten years ago the appetite for climate change was very different. There was scepticism about whether it was real, and the need to adapt to a changing climate was virtually unknown amongst policy-makers across the region. Against this background in late 1998, a group of a dozen forward-thinking individuals met to try to understand how the region might adapt to a changing climate. Just one year later, in November 1999, over 180 delegates met at the Royal Geographical Society to see their launch of “Rising to the Challenge,” the South East’s first report detailing impacts and responses to climate change. From this, in March 2001, the then South East Climate Change Partnership was born.

Ten years on much has changed. In June 2008, the South East Climate Change Partnership changed its name to Climate South East as part of a rebranding alongside the launch of its new website. Using the strength of partnership working, Climate South East has achieved a lot. At a regional level it influenced the South East Plan so that adapting to climate change was a clear priority. It helped develop the Regional Economic Strategy

and was key to ensuring that adaptation is one of the regional priorities identified in the Regional Sustainability Framework. More locally, it has helped members and non-members alike. It helps business sectors such as tourism; it supports local authorities in many ways and works with communities and the voluntary sector too. Moreover, nationally Climate South East is recognized as the voice of all the Regional Partnerships; as their representative to national government.

The change in status of the Partnership to a stand alone “Community Interest Company” represents a change in gear for the Partnership; it is growing up. As a company Climate South East can obtain and hold funds in its own right, from membership charges, grants, funding, and even by charging non-members for some of the benefits it produces. But most importantly, the new status gives it greater flexibility to meet the needs of members whilst developing effective adaptation solutions.

Looking ten years ahead what are the challenges, where do we want to be? To me it is clear. By 2019 not only do we need to understand what a well adapting region looks like and what we should be doing to achieve it, but we also will be acting to ensure it happens. I feel sure that Climate South East will be central in paving the way to that strong and secure South East Region; a well adapting region.

# RISEN TO THE CHALLENGE



Sir Crispin Tickell GCMG KCVO, President Climate South East

The last ten years have shown drastic changes in public understanding of climate change and its possible impacts. In the words of the title of a recent book, we confront *Something New Under The Sun*. Nowhere is this more true than in the South East of England. Obviously changes in weather rather than climate can be local and ephemeral, but the world faces a complex set of global changes which we have yet fully to understand. Recent reports on the subject, notably from the Intergovernmental Panel on Climate Change, the Stern review on economic and social impacts, and the Met Office, do not make cheerful reading.

So far there has been more talk than action, but the debate in Britain has been more practical and precise than almost anywhere else. In general terms the predictions for the South East are for warmer and drier summers, and warmer and wetter winters. Obviously there will be ups and downs in this very small part of the earth's surface, but the trends seem pretty clear. The increase of temperature in central England since 1970 has been 1C, and sea surface temperature around Britain has risen by 0.7C. Sea levels are up by 10 cm since 1900, and Britain has had ten of the warmest years on record since 1990. Whether these trends will continue is a matter for argument, but at least we must take good account of them.

The implications range far and wide. In terms simply of climate change we face the possibility of more droughts and floods with implications for fresh water supplies. This will affect local infrastructure, ranging from sewage systems to dams and reservoirs. In turn this will affect agriculture, business and industry and urban conglomerations. In turn this will affect human

health and the good functioning of the eco systems, large and small, on which we all depend. We must also take account of rising sea levels and storm surges, particularly in the Thames estuary and the Solent.

What can we do about all this? Can we rely on government for the right policies, not just for the South East, not just for the country, but for the whole world? So far as individuals are concerned, we have to think differently about our environment, reduce our emissions of carbon dioxide and other greenhouse gases, make more efficient use of the energy on which we depend (both in insulating our houses and choosing our means of transport). Perhaps more fundamentally we need to re-examine the role of market economics and how market forces can best fit into a clearer framework of the public interest.

None of this is easy but each part of Britain is vulnerable, not least the South East. As individuals as well as members of society, we have to look forward and adjust the ways in which we live. Have we yet risen to the challenge? Do we know exactly what the challenge is? In spite of all the efforts of those in Climate South East and in local government, the answers so far must be mostly No. But we are getting there, and the sooner we get there the better for us all.

# HAVE WE RISEN TO THE CHALLENGE ?

Personal reflections of 10 years of rising to the challenge



Phil Sivell, Chairman of the Climate South East Community Interest Company

In some ways it seems a lifetime ago since we first got together to discuss the impacts of climate change on the South East. Then, other than research scientists, it seemed that the only people talking about it were those at the fringes of the environmental community – they were not sober suited local government officers or business people.

The science was not clear, at least to non-specialists, and unless you had studied the subject it was very difficult to work out whether or not there was anything to worry about. However, in 1998 the newly-formed UK Climate Impacts Programme released a set of climate scenarios for the UK. Produced by some of the world's leading climate scientists, these provided the sort of evidence that demanded a serious response. It clearly wasn't a question of whether or not man's actions were changing the climate, but rather by how much and how fast it was going to change. The science also made it clear that the inertia in the world's climate would mean that we would still experience some change for the next 30 to 50 years no matter how successful efforts to reduce emissions were. We needed to find out as best as we could what sort of impact this could have on our region, but it felt like an uphill struggle. Lots of voices were raised saying climate change wasn't happening and that what we were trying to do was a waste of time.

Now the situation is much clearer. There is now no reasonable doubt that climate change is happening, and just about every piece of new evidence points to greater, and faster, changes. The policy environment in the UK has changed out of all recognition. The Climate Change Act has introduced targets for emissions reduction, regular reporting and a national risk assessment.

Climate Change has gone from being a purely environmental issue to a socio-economic concern – one with huge equity impacts. Any examination of the impacts, whether flooding or heatwaves, makes it clear that it is the poor, the elderly and the disadvantaged who suffer the worst effects and are least able to cope and recover.

Looking back 10 years, some of us hoped that taking account of the impacts of climate change would become mainstream – just something that organisations automatically took account of. We haven't reached that position yet, but a lot of progress has been made, particularly in the last couple of years.

What will the next 10 years bring? We will know even more about the effects, and we will have better information about sea level rise, but there will still be uncertainty – there always will be. However, we will have learnt to deal with that and we will treat climate change in the way that we treat other risks. Rather than being seen as something unusual, it will just be another factor that we take account of when talking big decisions.

So have we “Risen to the Challenge”? Maybe not. We may well be on the way but we still have a long road ahead of us.

# STRIVING FOR STRAIGHT AS



Dr Keith Colquhoun, Thames Water, Climate Change Strategy Manager

It's encouraging to see that, since the publication of 'Rising to the Challenge' ten years ago, many more organisations and sectors have become positively aware of the need to adapt to the unavoidable impacts of climate change.

We should applaud the progress that has been made in understanding the breadth of impacts of climate change and the way regional climate change partnerships have developed. Collaboration by the Regional Climate Change Partnerships on key research projects, such as 'Your Home in a Changing Climate', have highlighted and promoted the actions organisations and individuals can take and increased the overall power of these messages.

Adaptation was eventually included in the ground-breaking Climate Change Act 2008 which paved the way for establishment of the Climate Change Committee – Adaptation Sub-Committee, to advise government on this issue.

Over the past few years we have seen clear examples of the types of impacts we can expect to see in the future. The drought of 2005-7, the floods in 2007 and most recently, the 2009 floods in Cockermouth, Cumbria have shown us that the impacts are not sector or regionally specific and the consequences for society are far more wide-reaching.

Although much has been achieved over the past ten years in terms of broadening understanding of the wider impacts of climate change, these events have made it clear that we need to turn understanding into action and make some step changes now. How we deliver the adaptive capacity to reduce the impacts of climate change on society, and increase our ability to adapt, has become a matter of urgency.

We have made creditable progress since the publication of 'Rising to the Challenge' and I think we deserve an A for effort though only C- for achievement. But we do have the genuine potential for straight As. It's up to us, as members of Climate South East, to keep up the momentum, rise to the challenge and achieve our goals.

# HAVE WE RISEN TO THE CHALLENGE ?

Personal reflections on 10 years of climate change work in the UK



Megan Gawith, UKCIP Programme Officer

Ten years ago I was part of a team of just five people, tasked with helping UK organisations assess how they might be affected by climate change. It was an exciting time and we felt deeply privileged to be working at the cutting edge of the response to climate change, both in the UK and internationally.

Previous climate impacts work had been characterised as top-down, science-led, disconnected, and with little relevance to decision-making. Our task was to turn that on its head and conduct an integrated, stakeholder-led assessment of the impacts of climate change in which decision-makers steered the research itself to ensure delivery of the information they needed to be able to respond to climate change.

The vision and approach was clear enough, but the realities as to how this goal could actually be achieved were less clear. We were in largely uncharted territory. We had no “sticks” and few “carrots” to offer: there was no requirement for organisations to work with us – or indeed to engage with the climate change issue itself – and no hard cash to put into their studies. But we did have the world’s best set of national climate change scenarios, along with a strong team that was passionate about what we were trying to achieve, and the full support of our funders, Department for Environment, Transport and the Regions (DETR), who gave us the right blend of creative space and guidance needed to get the UK programme off the ground.

Crucially, we were able to join forces with a small but significant number of charismatic and visionary individuals eager to understand what climate change would mean for their locality and responsibilities, to start making an

impact. After our first year, the North West climate impacts scoping study had been completed and a year later, the South East followed suit. The ball was rolling.

Ten years on, studies have been completed in all English regions and the Devolved Administrations of N. Ireland, Scotland and Wales. Impacts have all but been scoped and the focus now is on evaluating climate risks and adaptation options. Project steering groups have developed into regional and sector-specific adaptation partnerships across the UK. A whole library of tools, reports and guidance has been produced by UKCIP, and our team has grown from five people to 20. Internationally, the UKCIP model has been held up as exemplary, and several countries have moved quickly to follow the UK's lead.

Perhaps the most significant change of all is that adaptation is now firmly centre-stage, with the Climate Change Act requiring adaptation action and a national climate change risk assessment underway. UKCIP's initial remit had been carefully crafted to exclude any mention of direct adaptation to climate change. To promote the notion of adaptation was seen as being defeatist; as undermining the mitigation agenda. Now it is mainstream. DETR, and subsequently Defra, had the vision to allow UKCIP to expand its remit, both to understand adaptation as it occurs, and to help actors to adapt.

The Climate South East was part of that early band of climate change champions who helped lay the foundations of the present "adaptation era". While others were saying "What climate change?" they were asking "What are we going to do about it?"

That question remains as pertinent now as it was then, but many more people are asking it, and answers are starting to emerge. The challenge is far from addressed, but we are in a far better place now than we were ten years ago thanks in large part to the efforts of those early champions.

# HAVE WE RISEN TO THE CHALLENGE ?

Personal reflections on 10 years of Rising to the Challenge



Mark Goldthorpe, Former Programme manager of Climate South East, now UKCIP

I was working at the Environment Centre In 1999 when Rising to the Challenge brought home to me the 'local' impacts of climate change. Having spent six years developing the Environment Centre's environmental services for Hampshire businesses, I was committed to reducing emissions to mitigate the causes of climate change. It was a shock then to realise that the next 40 years of changes are already 'in the system' and unavoidable - and what those changes are likely to be. It altered my own imperatives: reinforcing the urgency of mitigation, but adding the challenge of adapting to the consequences.

When the regional partnership was launched, I knew I wanted to be a part of it. I was delighted to become Climate South East's first manager in 2001, helping to build membership and activities. Adaptation clearly required partnership in practice and not just in name, recognising that members don't have equal resources. Major utilities, local councils and small environmental charities have different interests, accountabilities and contributions. But facing up to impacts and responses cuts across sectors and no one organisation has the capacity to identify and manage all the issues.

The last decade has seen many beginning to explore the territory - joining partnerships, collaborative projects or professional bodies or associations to address issues at a larger scale. Work has progressed, confidence grown and notions of 'partnership' have expanded.

I was pleased to be part of work on a “Four As” approach, recognising that: we need a sense of agency for meaningful outcomes; that our associations with others help to develop and reinforce this and identify options; and most importantly that our awareness of the opportunities comes from starting to take action and then reflect on it - rather than by merely generating or receiving ever more information about the problem. Bringing partners together around shared, practical aspects of the adaptation challenge can tap into and sustain agency, association, reflective action and awareness.

The past few years have seen important steps forward in policy at all levels, and this is helping to shape practice. Development and use of projections, tools and research have also been critical. But the initial steps haven't yet brought the breakthrough which signals that society really grasps the scale of the challenge.

We seem to be comfortable talking about transitions to a ‘low carbon economy’ and ‘sustainable growth’, but haven't yet understood that these - and all our other plans and aspirations for the future - will have to be gained in the face of economic, social and environmental systems that are increasingly stressed and tested by an unprecedented magnitude and pace of climate change over the next few decades. Our adaptation responses also need to shift up several gears in just a few years. The public, private and third sectors will have a lot asked of them as hard choices emerge and policy, supply chains and public awareness ramp up the pressure to adapt. Partnerships will be critical to helping them deliver. I am excited at the prospects for Climate South East as it enters its new phase as a Community Interest Company and the renewed opportunity for organisations to use it to step up their response.

# HAVE WE RISEN TO THE CHALLENGE ?



Rob Jarman, National Trust

Science depends on debate – hypotheses proposed, tested, accepted or rejected – based on information and statistics to determine significance. However, debate can appear to a lay person like disagreement – polarisation – bias – scientists’ souls being bought and sold by vested interests.

Climate change debate, in my view, has fallen victim to this. As a result climate change projections have become to a lay public as unworthy as the ‘is red wine good or bad for you’ debate. More so today, it seems to me, than when the Climate South East began. Back then, the prophets who had something useful to say about looking ahead, planning for foreseen events, being adaptable to unforeseen events, were listened to, and progress made. The CSE project was a real catalyst for change. Success with coastal erosion and flooding risk awareness, and building adaptation to incorporate extreme rainfall and thermal efficiency and renewable energy, are good examples.

Today the climate change debate has polarised into ‘warmists –v- coolists’ – and been clouded by the impenetrable language of ‘carbon’ - confusing those who just want to know what’s going on and what to do about it, generating cynicism and apathy.

My work on climate change tries not to get sucked into ‘warmer or cooler’ – just focussing on the fact that change is happening, that we cannot forecast it and therefore we have to learn to be adaptable and to be resilient to the inevitable, whether flood or drought, heat or cold... The common sense

approach to living on an eroding coast, or in a floodplain or flash flood zone, is surely to find somewhere else to live – and in the meantime to adapt so that when the inevitable happens its impact is minimised.

Perhaps the most surprising thing looking back 10 years is how little progress has been made to use less resources - less energy, less water, less waste - and to generate renewable energy, and water, and food, and wood. Almost regardless of climate change, why wouldn't you want to use less, to save money if not your backyard? And whilst using less, make more of your own – more 'self-reliance' is what the nation and community and the individual now has to achieve. The Transition movement is an optimistic development that hopefully will transcend other schisms in society.

In the next 10 years, governments will have to meet legal targets for emissions reductions and handle political stresses of resource shortages and costs - the political acceptability of tighter land use controls and a range of carrots and sticks will have to be won.

Meanwhile, the victims of ignorance or misinformation need help to adapt, through clearer public information and perhaps a CAB-type approach to helping us all to adjust to climate change. Those ice sheets just seem to keep on melting...

# HAVE WE RISEN TO THE CHALLENGE ?



Tim Reeder, Environment Agency, Regional Climate Change Programme Manager

*“Climate change or more precisely enhanced global warming due to man-made greenhouse gas emissions is the greatest environmental threat that faces the world.*

*These are not the words of this author but those of the current and preceding secretaries of state for the environment, Michael Meacher and John Gummer. It is in some ways encouraging yet in others worrying that these eminent politicians are some of the most effective and knowledgeable speakers on the subject. It is encouraging that they appreciate the scale and sinister nature of the threat but worrying that they have not been able to move matters further forward in terms of action.”*

The above two paragraphs are an extract of an article I wrote in January 2000. Some might say I could almost repeat it with respect to Ed Milliband and before him David Milliband.

But that would not be fair. A lot has been achieved in the last ten years. Nationally we have been in the lead and have passed the Climate Change Act. The government has taken a commendable proactive role despite what some may think. In the South East we have moved adaptation slowly up the agenda and initiated and completed successful projects such as ESPACE.

From a personal perspective it has been a privilege to work on the issue, and in particular to drive the climate change work on the Thames Estuary 2100 project, which is seen as a success in terms of adapting to climate change.

The setting up of what was the Climate South East was very helpful in influencing in London. After a slow initial start the London Climate Change Partnership has been very active on the adaptation agenda in London since 2001. We also now have a national network of partnerships which is essential to keep the momentum going.

However the challenge as reflected in my initial paragraph has if anything got greater. Global emissions have been growing - contrary to what the planet needs. The latest science does not get better. Sea level rise could be as high as two metres by 2100 and it will continue rising after that. Have we really grasped what this means? The level and pace of action is still miniscule in relation to the size of the task. We need to continually be challenging ourselves in the South East and waking up to what we really are facing as a region, country and planet.

# HAVE WE RISEN TO THE CHALLENGE ?



Dr Richard Shaw, Interim Chief Executive, South Downs National Park

The 10th anniversary of Climate Change South East coincides with the 200th anniversary of the birth in 1809 of Charles Darwin, proponent of the theory of evolution and, in particular, of natural selection. Darwin faced bitter criticism in his lifetime from those unwilling to accept scientific evidence, much as today the evidence of climate change has met resistance.

The last ten years have seen a real widening of the consensus that climate change is happening, and at a pace that will make human adaptation difficult and costly. Climate Change is a top news item in Europe, embedded in school textbooks and on the lips of global leaders. This is important – acceptance of the evidence is a necessary prerequisite of action. But action in the last ten years has been limited, the targets set by the Rio Earth Summit and the Kyoto Protocol are largely unmet, and public organisations in the UK are required to dance to much more parochial and short term indicators.

Darwin showed that the human species sits at the top of the evolutionary tree by virtue of its intelligence and ability to adapt, but that humans have evolutionary flaws. As a species, we are not good at responding to change unless it is in our self-interest or a threat is immediate and urgent. We lack skills of collaboration and partnership.

Nowhere are these weaknesses more apparent than in the ineffectiveness of the United Nations. The 200 years since Darwin's birth have been marked by a rise of nationalism and nation states. Our systems of

accountability are based on the nation state, and the United Nations was founded in 1945 by sovereign states seeking to protect themselves against external aggression. But today's global challenges – population growth, poverty, pandemics, terrorism and climate change – are what Kofi Annan used to call “problems without passports”. They transcend national boundaries and challenge our ability to subject short-term national interests to international responsibility and a sense of global citizenship.

What will the next decade bring? Will the urgency, initiative and concerted international action that helped resolve the recent global financial crisis mark the start of similar action on climate change? Will emerging economies, such as China, seize the opportunities of renewable energy generation? In the western world, will public organisations be encouraged to rise above the pressures of day-to-day management to become champions of sustainability, and will local communities be helped to adopt 21st century sustainable living practices?

If we can address climate change, we can also address the other global issues that climate change is in danger of overshadowing, notably population growth and biodiversity loss. And then, perhaps, we will show that the human race really can adapt and evolve by acting collaboratively.

# HAVE WE RISEN TO THE CHALLENGE ?

10 years on



Graham Tubb OBE, SEEDA

I write at a time of some considerable turbulence on the climate change scene. When I first began to reflect on progress since Rising to the Challenge, my first thought – given that the science and the evidence base are sound and widely accepted - was that it wasn't that easy to rewind to 1999 and the significant scepticism surrounding the notion of anthropogenic climate change. How wrong I was. Climate change scepticism, not to say complete denial, is coming over loud and strong, fuelled by hype about researchers distorting climate evidence and not helped by a legal decision which confers upon acceptance of man-made climate change the status of religious belief. All of this puts a severe strain on any residual optimism I might have about concerted global action to avoid dangerous climate change, and makes James Lovelock's somewhat fatalistic approach in his Gaia theory seem a good deal more plausible. Still, like Al Gore and Jim Hansen, I have not entirely abandoned optimism that we will come to our senses.

The need to adapt to a changing climate didn't figure on most people's radar in 1999, as humankind has always adapted to change and will continue to do so. Since then, Climate South East has done a great deal to raise awareness and engage a wide range of organisations in improving capacity to adapt. Rising to the Challenge showed that the South East would be affected perhaps more than any other UK region and highlighted the need for climate change to be factored in to all forward planning, public and private, in the South East. A few years on, the SECTORS report revisited, updated and refined Rising to the Challenge to focus on the sectors of greatest relevance to the region.

Reviewing activity over the past ten years, I was first inclined to think that, in one sense, our job is done, in that climate change is firmly on the agenda, Climate South East is widely recognised as the key regional voice on climate change, Government appears to have got the basic message about the need for adaptation planning, and local authorities are now required to address adaptation as a National Indicator.

Clearly, however, our job is not done. We have the highest level of atmospheric CO<sub>2</sub> ever recorded, and, according to the UN, we are firmly on a trajectory which will deliver a global mean temperature rise of 3 to 6 °C by the end of the century. Furthermore, unproven and potentially dangerous extreme solutions like geoengineering loom to distract us from necessary immediate action to reduce CO<sub>2</sub>.

We are challenging global limits and the ability of global systems to perform and deliver ecosystem services. But overwhelming our global systems is surely a different ballgame – and that’s why we need reminding of Jim Lovelock’s chilling conclusions – whatever we do, the Earth will cope in some way; it will inevitably re-establish a new equilibrium, but any such equilibrium may not be capable of supporting human life.

So yes, there is still work to be done, more than we ever realised in 1999. Then we thought we had more time to mitigate and plan for adaptation – but we reckoned without feedback effects – the acceleration and collapse of the West Antarctic ice shelf, release of methane through warming of permafrost/tundra, release of CO<sub>2</sub> from warming oceans, greater heat absorption due to reduced albedo from accelerated snow melt.

The Copenhagen Conference happened. But Lovelock’s expectation of the inability of nations to take meaningful concerted global action to tackle climate change has come to pass. His nightmare scenario could be that much closer. Fiddle on, friends...but it’s not just Rome this time.

# HAVE WE RISEN TO THE CHALLENGE?

## 10 years of climate change in the south east

### Key Milestones

The understanding of the greenhouse effect and of the ability of man's behaviour to influence the climate is much older than many realise. The following is a very brief summary of some of the key milestones in the history of our understanding of climate change; and some events that that have influenced the development of Climate South East.

Date	Event/Publication
1824	French physicist Joseph Fourier describes the Earth's natural "greenhouse effect".
1861	Irish physicist John Tyndall shows that water vapour and certain other gases create the greenhouse effect. More than a hundred years later, he is honoured by having a prominent UK climate research organisation - the Tyndall Centre for Climate Change Research - named after him.
1896	Swedish chemist Svante Arrhenius concludes that industrial-age coal burning will enhance the natural greenhouse effect. He concluded that doubling CO <sub>2</sub> would result in an increase of a few degrees Celsius – the same as modern-day climate models.
1938	Guy Callendar, a British engineer, used records from weather stations around the world to show that temperatures had risen over the previous century. He also shows that CO <sub>2</sub> concentrations had increased over the same period, and suggests this caused the warming. The "Callendar effect" is widely dismissed by meteorologists of the time.

Date	Event/Publication
1957	Charles Keeling starts to monitor atmospheric CO <sub>2</sub> levels at the Mauna Loa Observatory. It has been continuously monitoring and collecting data relating to atmospheric change. The record of atmospheric CO <sub>2</sub> levels that has been produced is sometimes referred to as the Keeling Curve.
1965	President Lyndon Johnson's Science Advisory Committee warns that the greenhouse effect is a matter of "real concern".
1975	Wallace Broecker, a US scientist, puts the term "global warming" into the public domain with his paper Climatic Change: Are We on the Brink of a Pronounced Global Warming?
1977	Climate Change and World Affairs by (Sir) Crispin Tickell published.
1988	Intergovernmental Panel on Climate Change (IPCC) formed to collate and assess evidence on climate change.
1989	Margaret Thatcher warns in a speech to the UN that "We are seeing a vast increase in the amount of carbon dioxide reaching the atmosphere. The result is that change in future is likely to be more fundamental and more widespread than anything we have known hitherto."
1990	IPCC 1st Assessment Report released. Its Summary for Policy Makers said that the IPCC was "certain that emissions resulting from human activities are substantially increasing the atmospheric concentrations of the greenhouse gases, resulting on average in an additional warming of the Earth's surface."

Date	Event/Publication
1992	Rio Earth Summit at which the UN Framework Convention on Climate Change agreed. Its key objective is “stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system”. Developed countries agree to return their emissions to 1990 levels.
1995	IPPC 2nd Assessment Report released.
1995, Apr	1st Conference of the Parties (COP) held in Berlin.
1996, Mar	Expert workshop held by the Department of the Environment and National Rivers Authority (precursor to the Environment Agency) to discuss framework for an integrated climate impacts assessment for the UK.
1997, Apr	UK Climate Impacts Programme established to facilitate an integrated, stakeholder-led assessment of climate change impacts in the UK. It is based at the University of Oxford.
1997, Dec	Kyoto Protocol agreed at COP 3.
1998, Oct	UKCIP98 Climate Change scenarios launched.
1998, Dec	North West climate change impacts scoping study released.
1999, Jan	Workshop to examine climate change in SE England held at Surrey County Hall.
1999, Nov	Launch of the first study into the impacts of climate change in south east England - Rising to the Challenge: Impacts of climate change in the south east in the 21st century at the Royal Geographic Society.
2000, Sep	UKCIP Users Forum.

Date	Event/Publication
2001, Jan	IPCC 3rd Assessment Report released. The Summary for Policy makers stated that “There is new and stronger evidence that most of the warming observed over the past 50 years is attributable to human activities.”
2001, Feb	UK Socio-economic scenarios report launched.
2001, Mar	2nd South East Climate Change Conference held at the School of Oriental and African Studies.
2001, Aug	First Climate South East (CSE) Programme Manager appointed (a UK first). The well known broadcaster, John Craven, is appointed as the partnership’s first President.
2002, Apr	UKCIP02 Climate Change scenarios launched. First CSE Annual Conference held in Reading.
2002, May	2nd UKCIP User Forum held in London.
2002, Oct	Coordinators of the UK regional climate change groups first meet to discuss progress and common issues.
2003, May	Climate Adaptation: risk, uncertainty and decision making report released by UKCIP.
2003, Jul	Local Authorities and Climate Change: How prepared are you? – report launched by the LGA, I&DeA and UKCIP. CSE Conference: Climate Change Impacts on Planning and Property, Saïd Business School, Oxford.
2003, Sep	ESPACE project launched. European Spatial Planning: Adapting to Climate Events was a 4 year project funded by the European Union that aimed to influence the philosophy and practice of spatial planning by recommending how adaptation to climate change can be incorporated into it. The project was led by Hampshire County Council and CSE were project partners.

Date	Event/Publication
2004, Feb	3rd UKCIP User Forum held in Newcastle.
2004, Spring	Regional Climate Change coordinators appointed in the West Midlands and Yorkshire & the Humber regions.
2004, Jun	Costing the Impacts of Climate Change published by UKCIP.
	CSE Conference on Climate Change and Business, held in Falmer, East Sussex.
2004, Jul	CSE publishes the SECTORS report evaluating sector-based climate change impacts and adaptation strategies for the south east.
2004, Dec	The UK Inter-Regional Climate Change Group established, (chaired by Climate South East).
2005, Feb	Kyoto Protocol comes into force.
2005, Jun	EU Green Week focuses on Climate Change 'Get to grips with climate change' involved some 200 speakers and over 4000 participants from Europe and around the world invited to 20 conferences, workshops and talks exploring different aspects of climate change.
2005, Jul	CSE Conference: Planning your response to climate change, Hayling Island, Hampshire.
2005, Nov	4th UKCIP User Forum held in Birmingham.
2006, Feb	Kyoto Protocol comes into force.
2006, Oct	Stern review on the Economics of Climate Change published.

Date	Event/Publication
2007, Feb	IPCC 4th Assessment Report released. The Summary for Policy Makers stated that “Warming of the climate system is unequivocal” and that “Most of the observed increase in globally averaged temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic (human) greenhouse gas concentrations”.
2007, Mar	5th UKCIP User Forum held in Oxford.
2007, Jun	Final report of the ESPACE project is launched. The strategy, ‘Planning in a Changing Climate’ contains a set of 14 recommendations that are complemented by a series of case studies, tools and examples of policy advice developed by the ESPACE Partnership.
2007, Dec	COP 13 adopts the “Bali roadmap” for a future international agreement on climate change.
2008, Jun	South East Climate Change Partnership rebranded Climate South East (CSE) and new website launched.  Climate South East Conference I Will, Will You? Acting Together to Meet the Climate Challenge, Woking.
2008, Nov	UK Climate Change Act becomes law.
2009, Jun	UK Climate Projections 09 released.
2009, Aug	Climate South East becomes a Community Interest Company.
2009, Dec	COP15 – the Copenhagen Climate Conference takes place.

*Climate South East publications can be found at the web address below under the title ‘**Climate South East Publications.**’*

<http://www.climatesoutheast.org.uk/index.php/publication>