Summer 2008

OFGEM Summer Outlook 30th April 2008

Matt Huddleston, Principal Consultant – Climate Change

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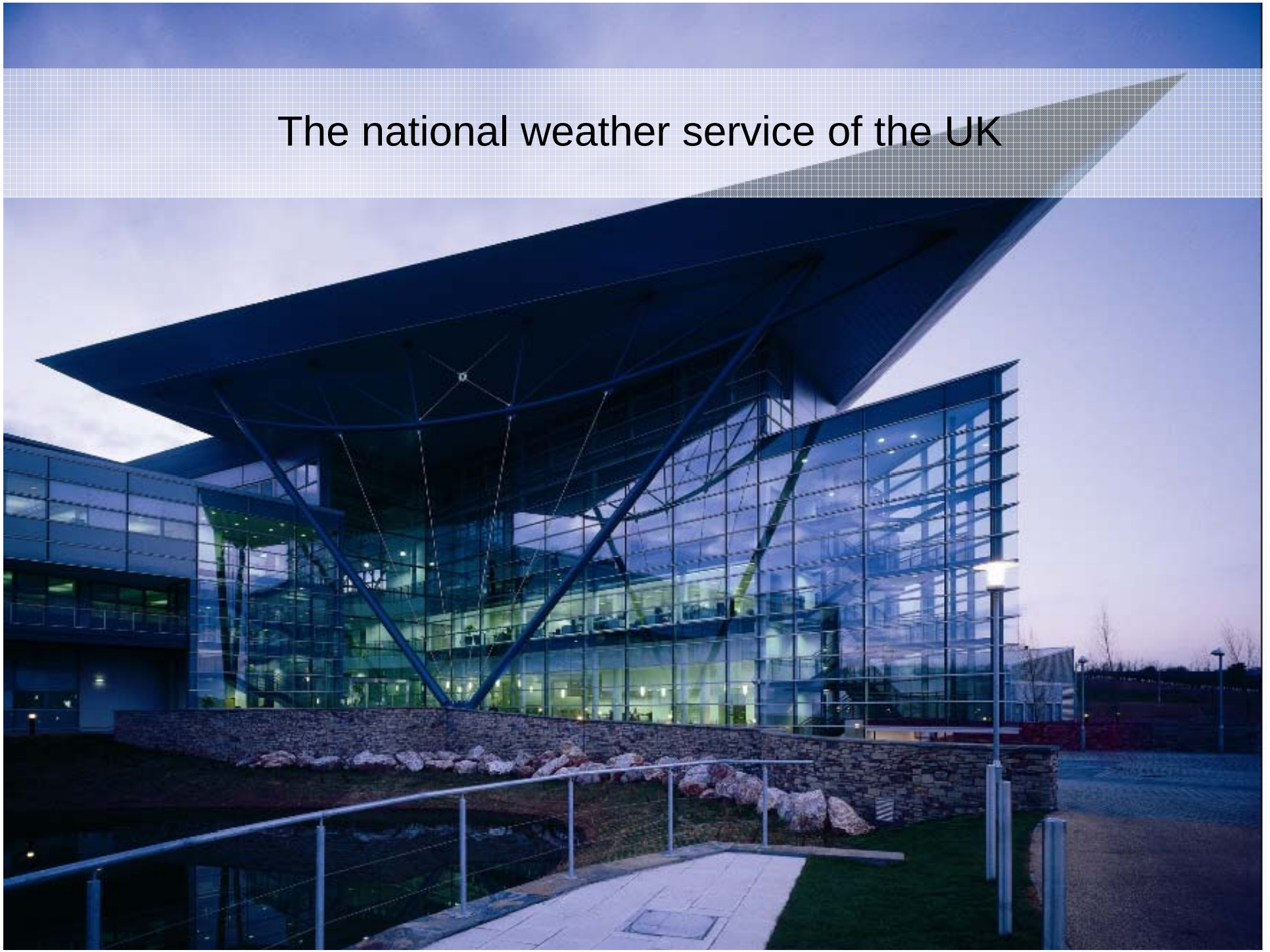
Managing risk in a changing climate

- The Met Office in 2008
- Forecasting all timescales
- The forecast
- Why we do it and who uses it
- Managing risks in a changing climate

The national weather service of the UK



The Government’s climate research centre

Essential forecasts for everyone, every day

Met Office & Met Office Hadley Centre for Climate Change – at the heart of the UK's weather and climate science:

Forecasting **weather impacts for the globe** every day.

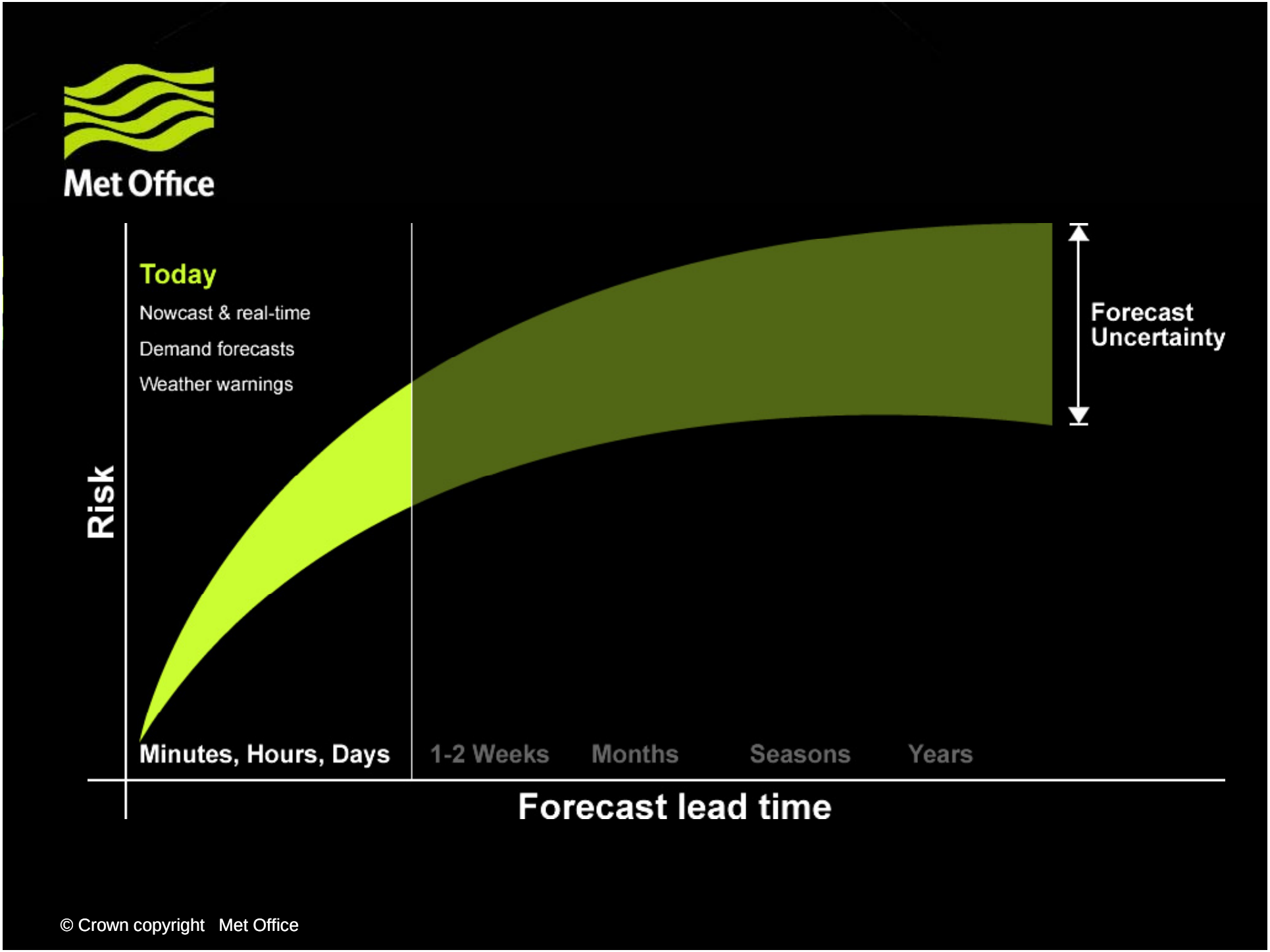
Risk based forecasts for the UK business e.g. energy industry and traders

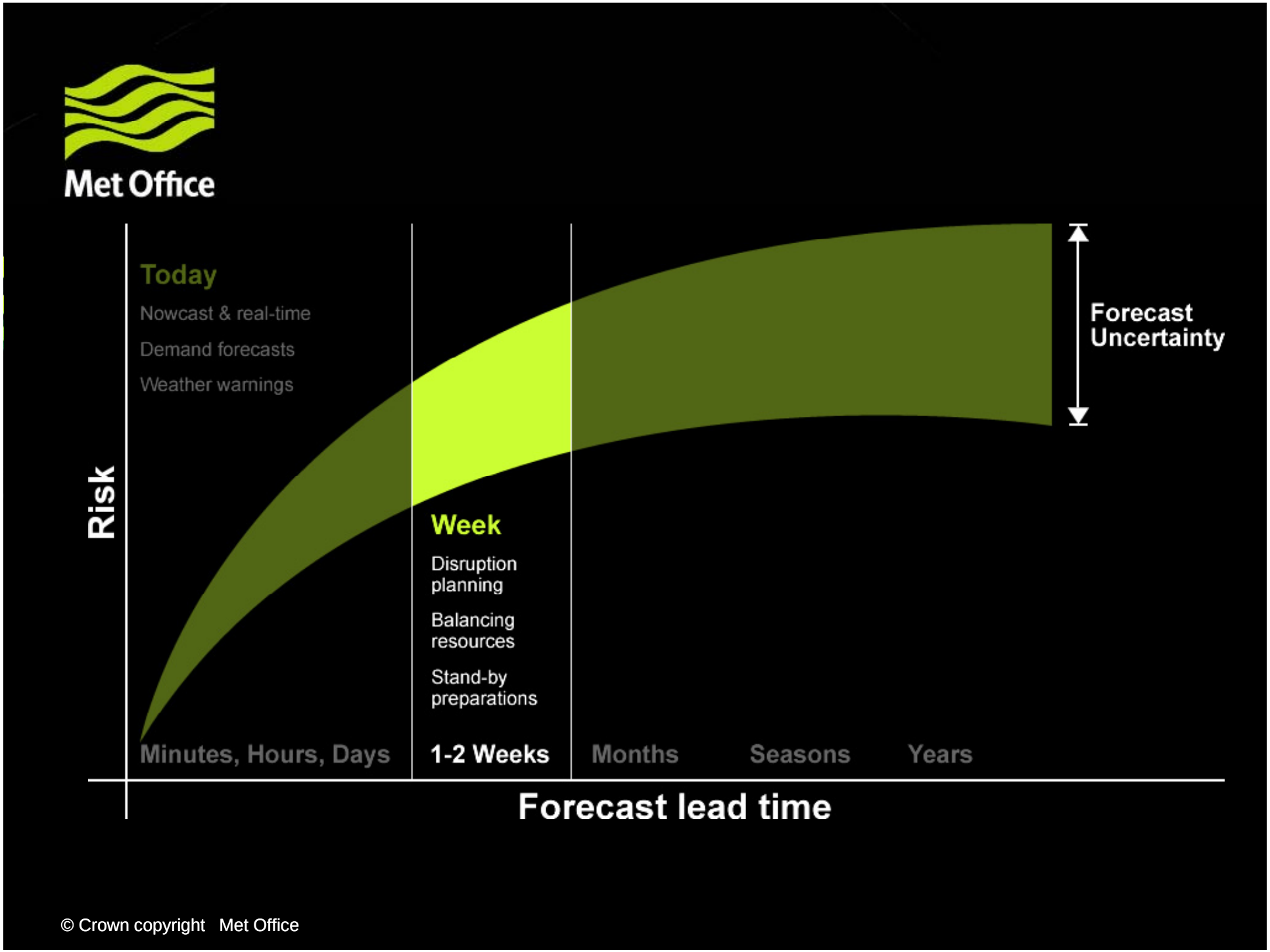
Significant contributor to many parts of the **IPCC 2007**

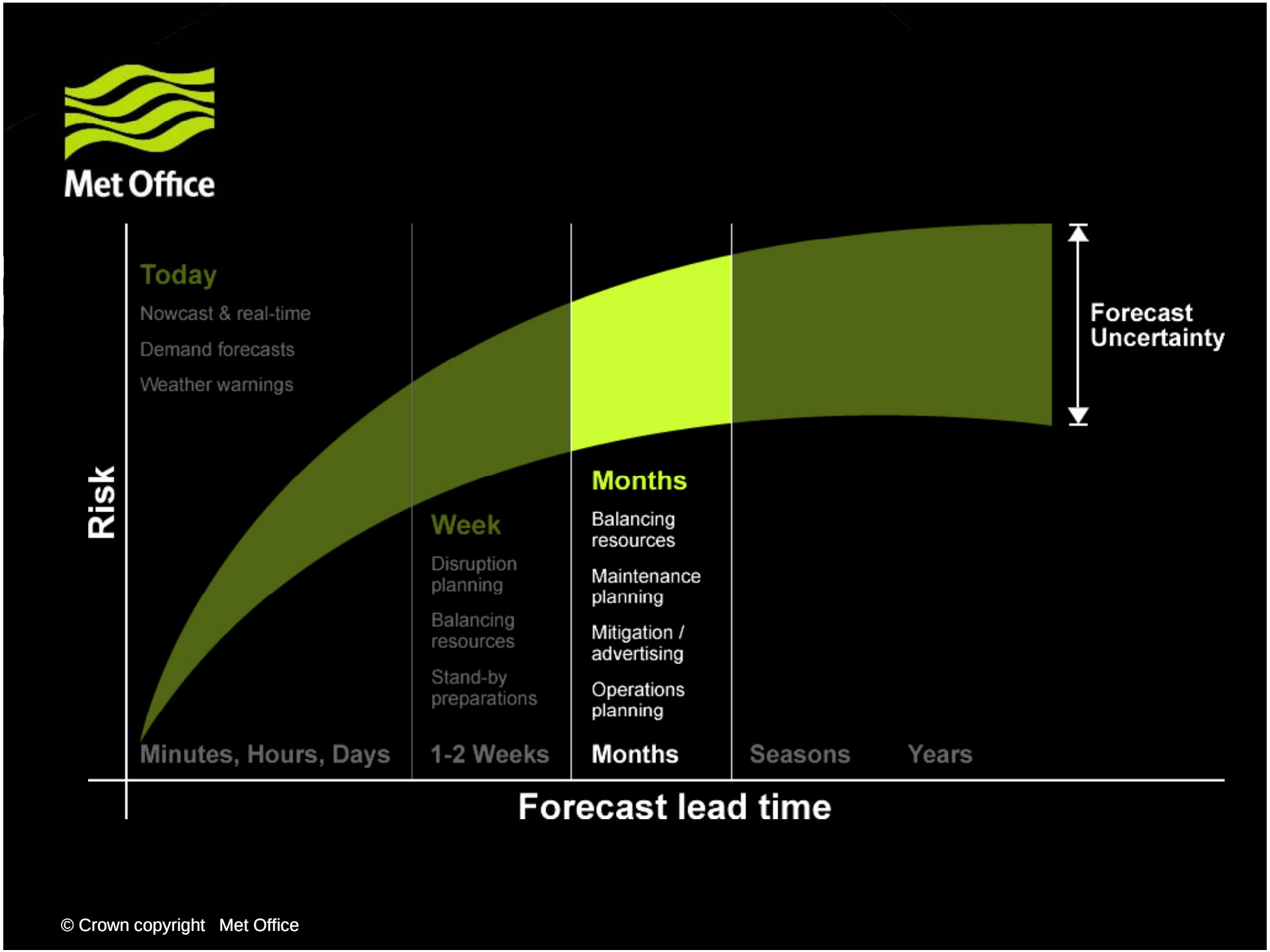
World's most advanced risk based climate projections for **UKCIP08**

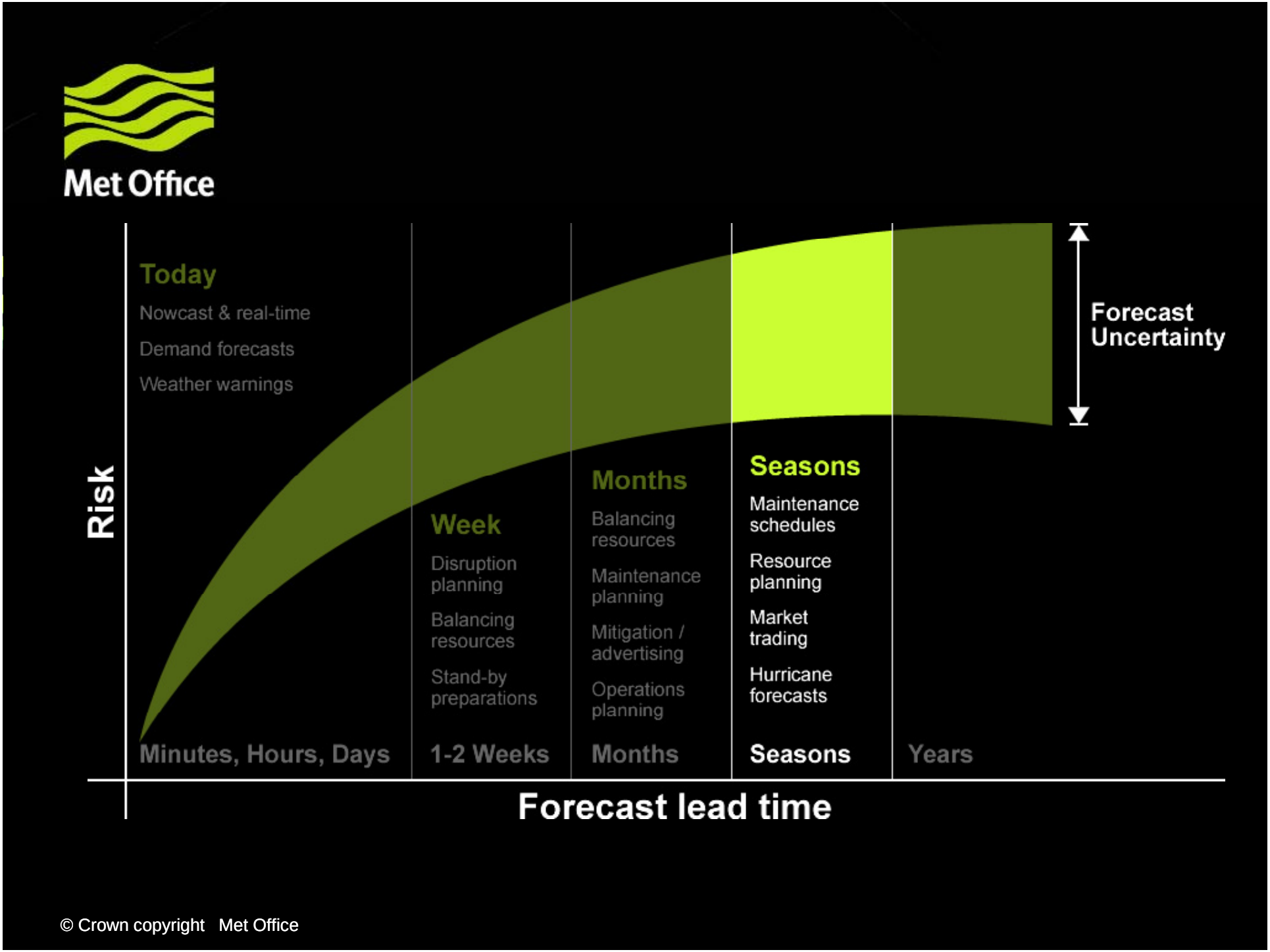
Risk based climate analysis for **Stern Review**

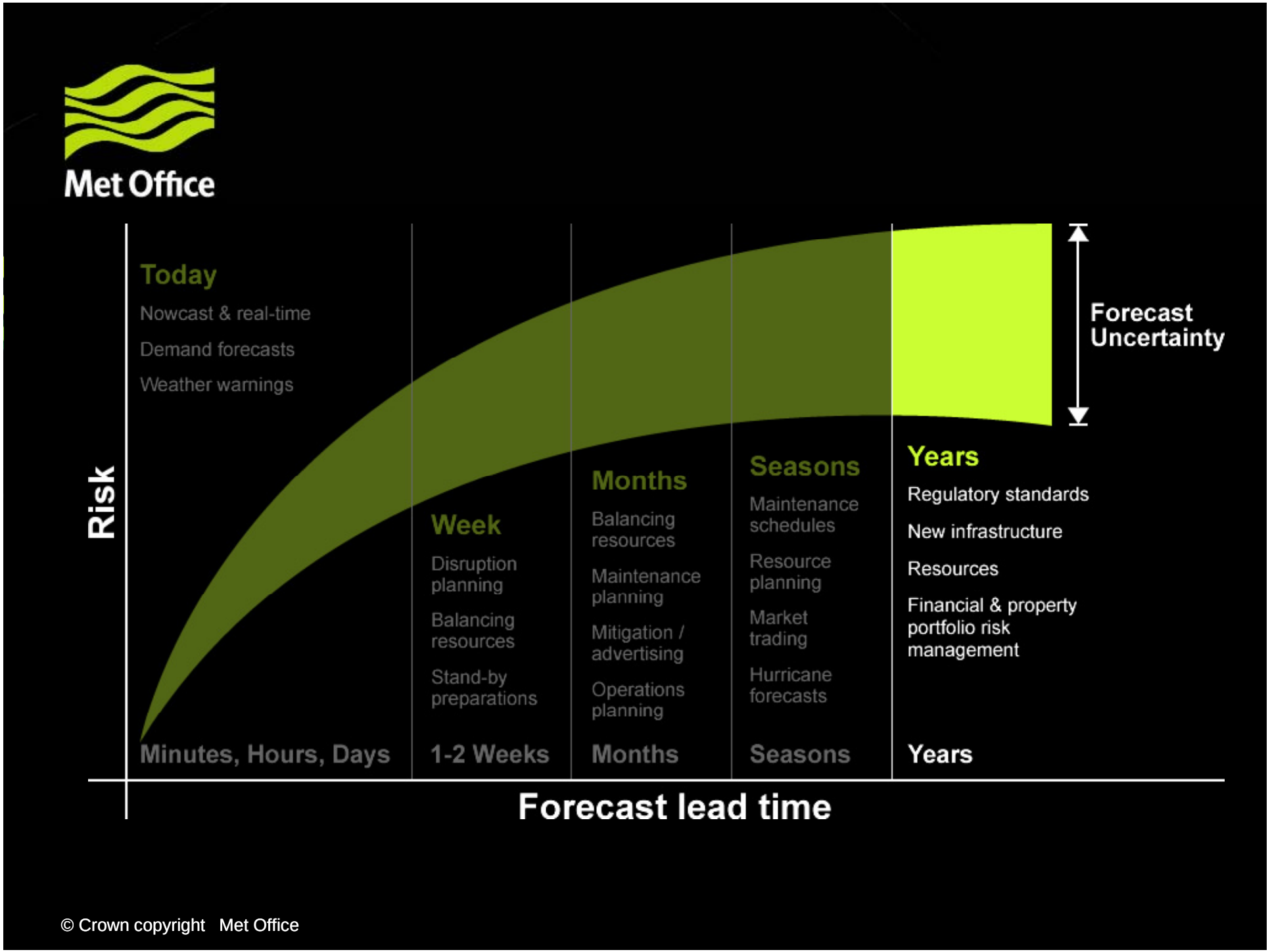
Pioneering **energy industry** & climate change research











Telegraph.co.uk
NO.1 WEBSITE hitwise JAN-JUNE 2007

Global warming forecast predicts rise in 2014

By Roger Highfield, Science Editor
Last Updated: 7:01pm BST 09/08/2007

Have your say | Read comments

Here is the climate forecast for the next decade; although global warming will be held in check for a few years, it will come roaring back to send the mercury rising before 2014.

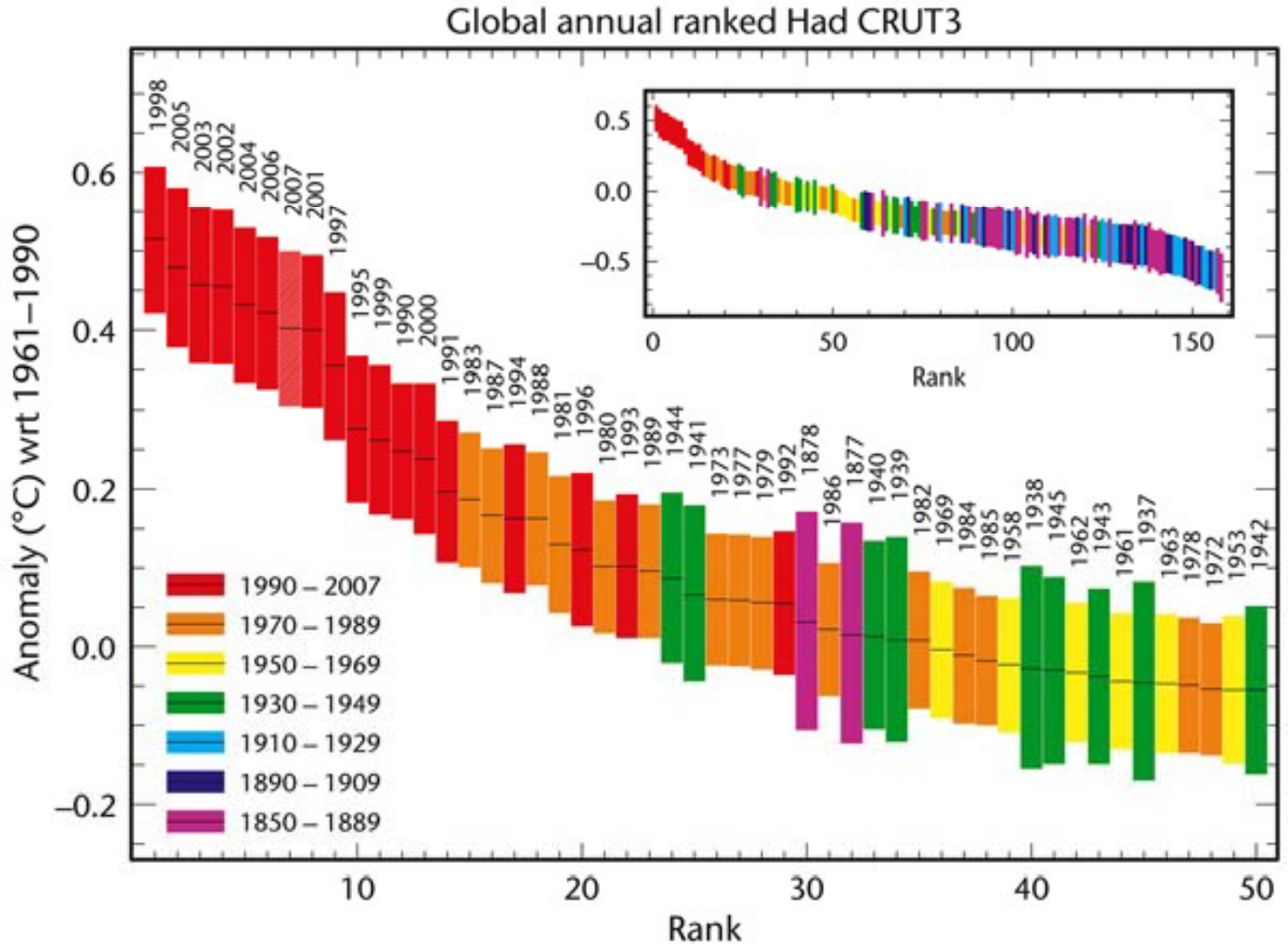
This is the prediction of the first computer model of the global climate designed to make forecasts over a timescale of around a decade, developed by scientists at the Met Office.

Overall warming trend is driven by greenhouse gas emissions

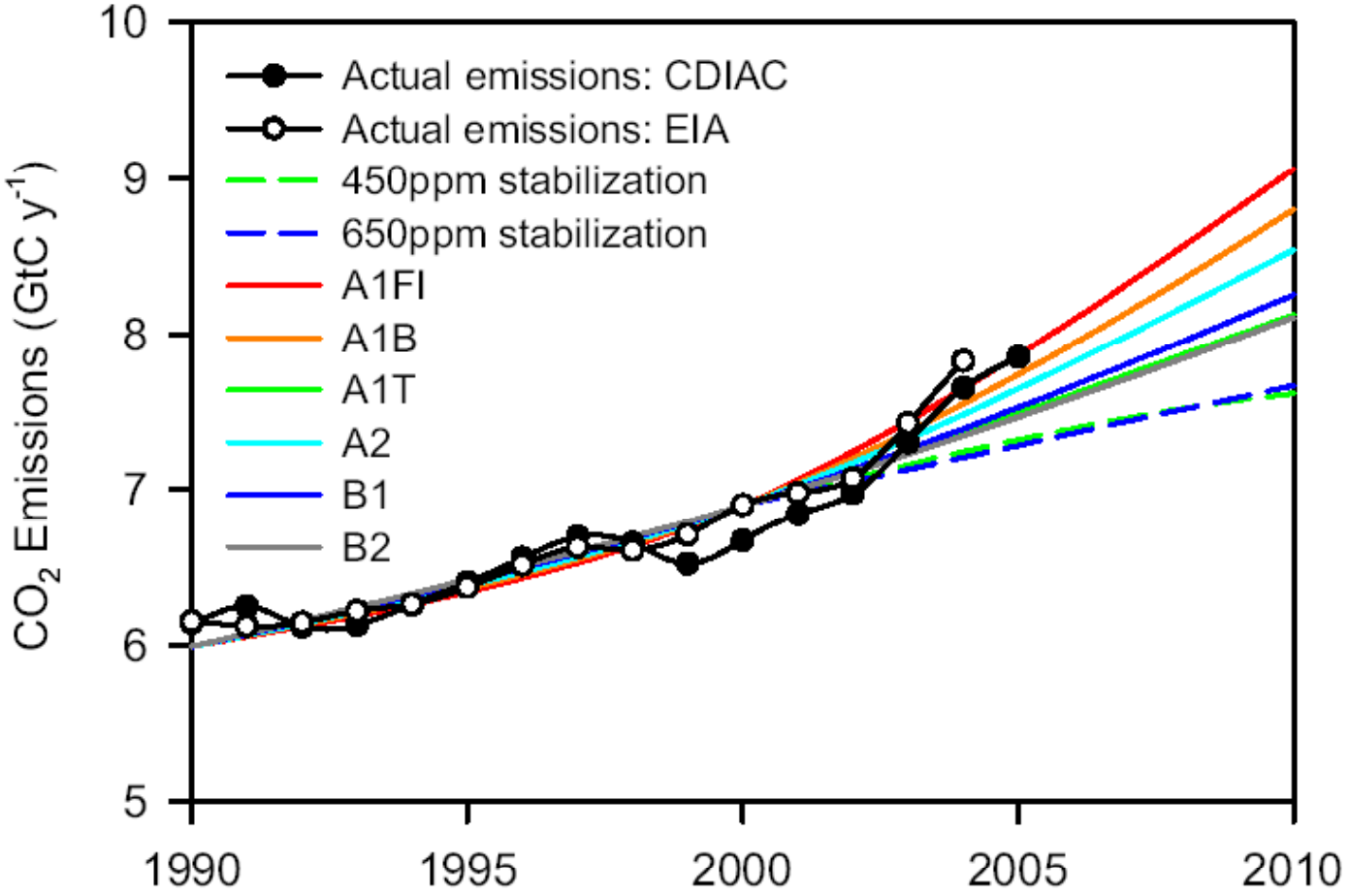
The new model developed at the Met's Hadley Centre in Exeter, and described in the journal Science, predicts that warming will slow during the next few years but then speed up again, and that at least half of the years after 2009 will be warmer than 1998, the warmest year on record.

Over the 10-year period as a whole,

Global temperatures

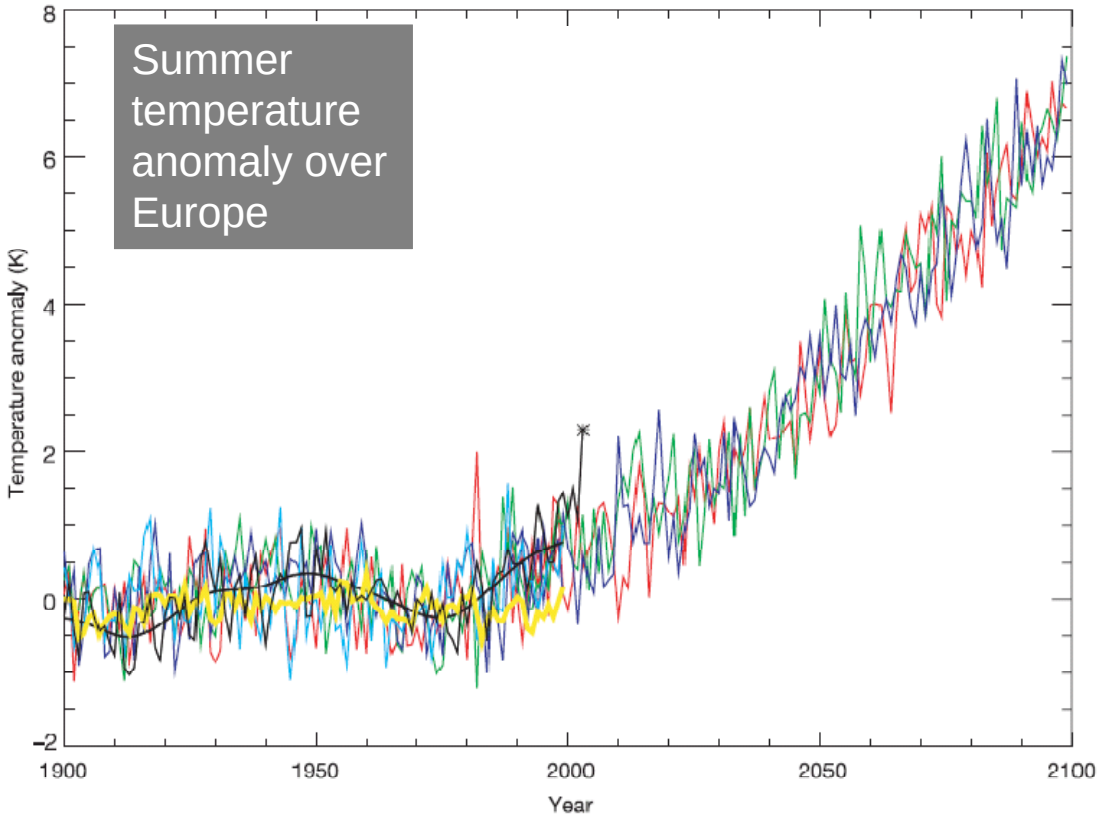


Current emissions



Michael Raupach et al., June 2007

European summers

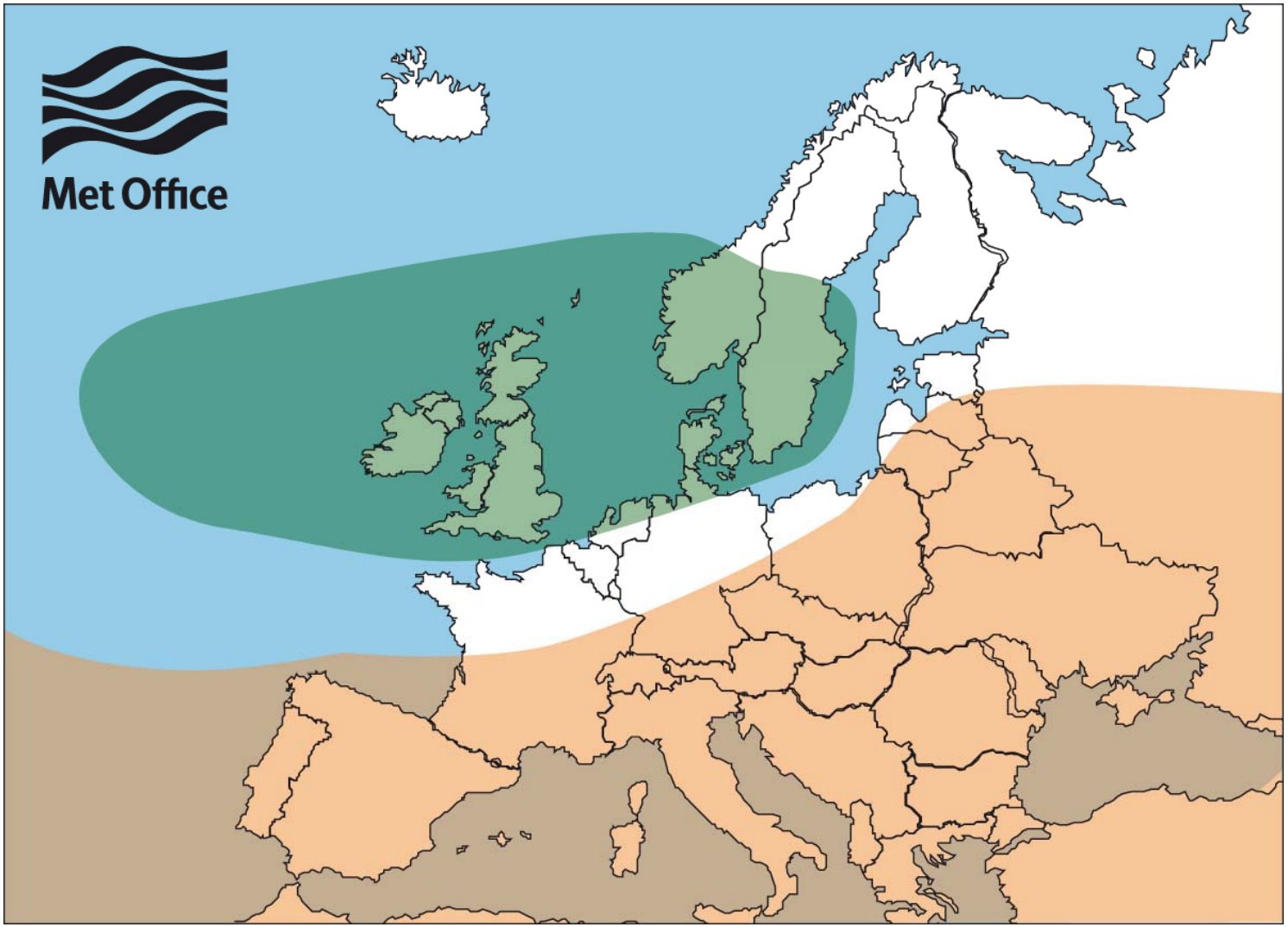


Model run 1
Model run 2
Model run 3
Observations

Realistic simulation of inter-annual variability needed to quantify the risk of an extreme hot summer like 2003

The forecast

Typical British summer



UK forecast for Summer 2008

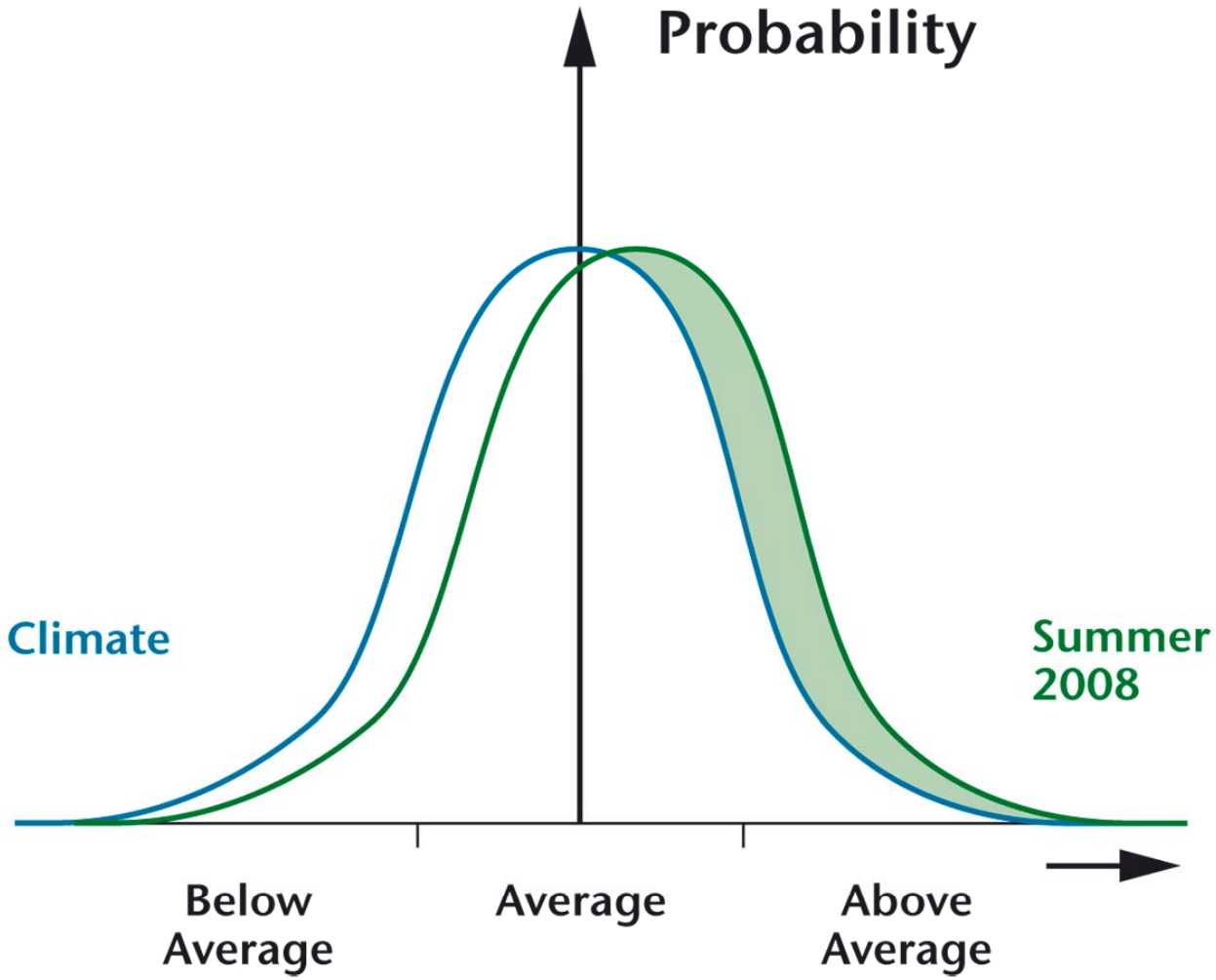
Temperature

Mean temperatures are more likely to be above the 1971-2000 average. However, there is a slightly enhanced chance of cloudier and cooler spells.

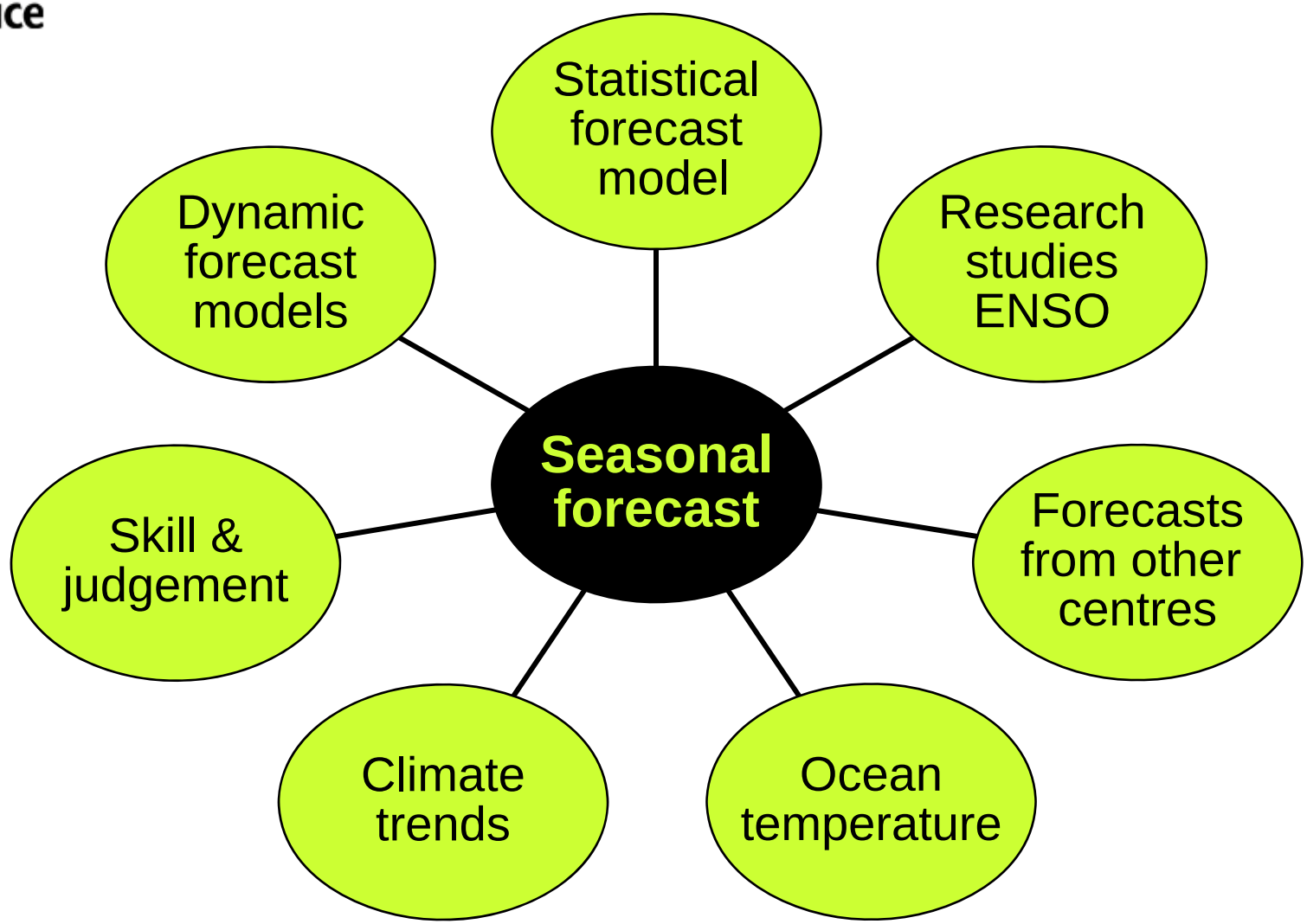
Rainfall

Rainfall is more likely to be either near average or above average. The risk of exceptional rainfall, as seen last summer, is assessed as low at this stage.

Typical British summer



How do they do that?



Why we do it and who uses it…

Is it any good?

- There are limitations
- Developing science
- Extremes are not well defined
- Some seasons are more reliable

BUT…

- It gives useful advice to our customers & helps them plan ahead

Who finds it useful?

✓	✗
Utilities companies	You & me
Infrastructure companies	Planning for a specific day
Contingency community	Identifying extremes
It moves the markets	

UK forecast for Summer 2008

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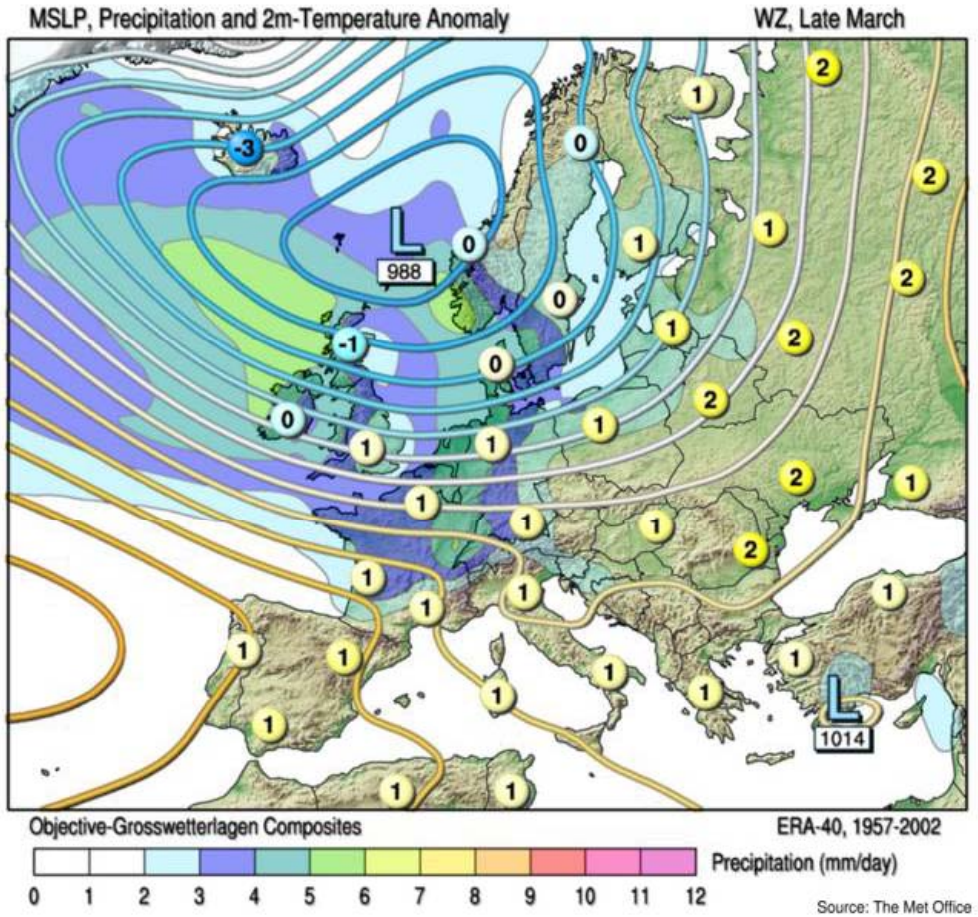
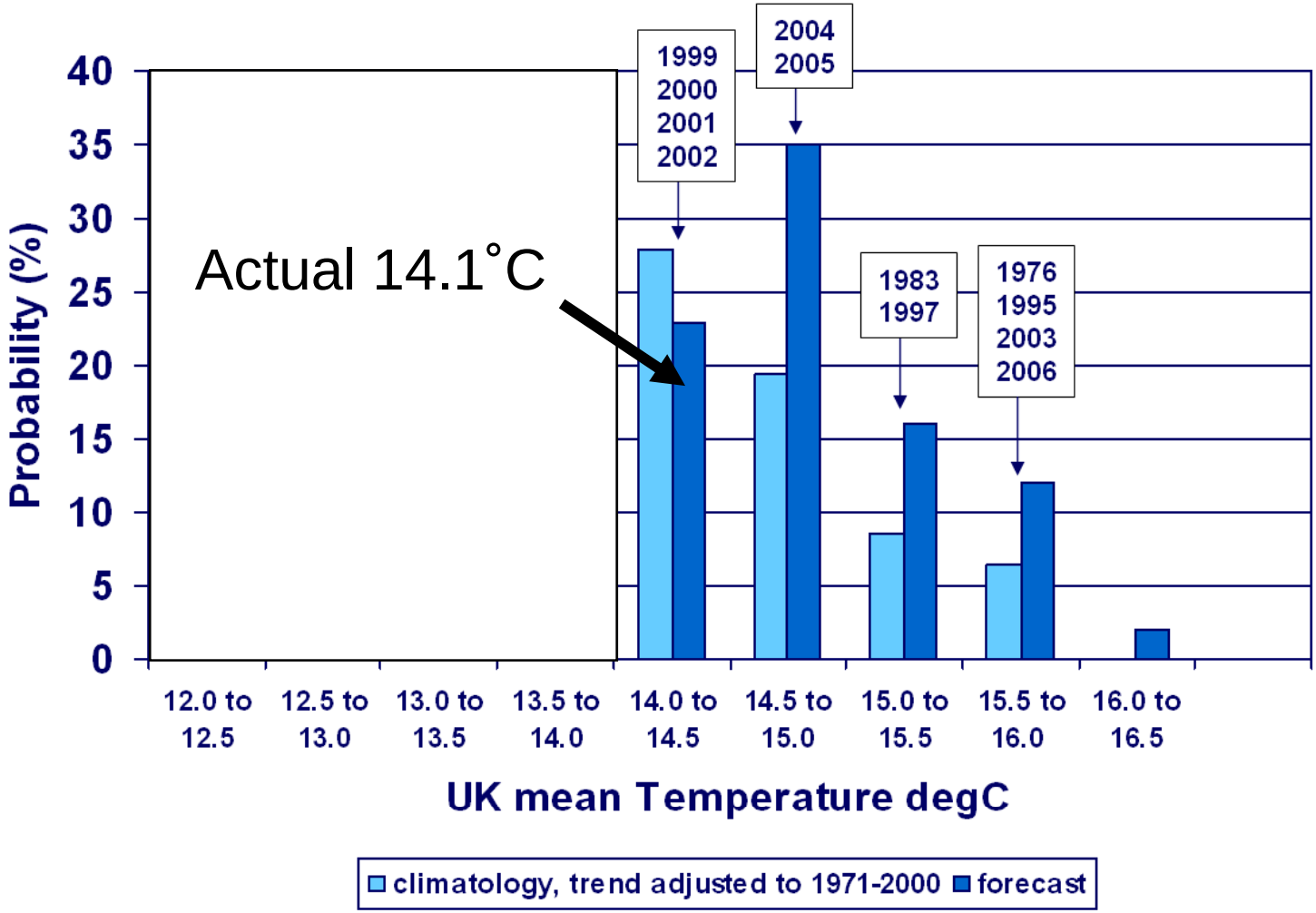
Managing changing risks in the energy industry

Decider

	3 Mar-9 Mar	10 Mar-16 Mar	17 Mar-30 Mar	Model Climate	Obs. Climate	
WA	2.0	4.8	3.9	4.7	7.8	Anticyclonic Westerly
WZ	5.9	7.6	3.8	9.9	7.2	Cyclonic Westerly
WS	1.4	2.5	4.6	5.3	3.4	South-Shifted Cyclonic Westerly
WW	2.0	3.1	2.5	4.2	7.2	Maritime Westerly (Block E.Europe)
SWA	2.0	1.1	3.4	2.5	5.4	Anticyclonic South-Westerly
SWZ	0.8	2.0	4.6	5.3	4.6	Cyclonic South-Westerly
NWA	1.1	8.1	6.7	4.5	4.7	Anticyclonic North-Westerly
NWZ	57.1	19.9	15.5	8.7	7.5	Cyclonic North-Westerly
HM	0.3	0.8	2.9	2.9	4.2	High over Central Europe
BM	1.4	7.0	1.3	2.2	4.4	Zonal Ridge across Central Europe
TM	0.0	2.0	3.1	2.1	2.4	Low over Central Europe
NA	1.7	2.0	1.7	4.1	0.5	Anticyclonic Northerly
NZ	16.8	5.0	10.2	8.9	2.3	Cyclonic Northerly
HNA	0.6	0.3	2.5	2.3	1.1	Icelandic High, Ridge C.Europe
HNZ	0.8	2.8	2.7	1.5	3.9	Icelandic High, Trough C.Europe
HB	0.3	5.3	4.2	4.9	2.8	High over the British Isles
TRM	0.8	3.4	3.8	3.4	3.6	Trough over Central Europe
NEA	0.6	4.8	1.1	2.4	1.7	Anticyclonic North-Easterly
NEZ	1.1	3.4	2.4	3.6	1.9	Cyclonic North-Easterly
HFA	0.0	0.0	1.3	1.4	3.5	Scandinavian High, Ridge C.Europe
HFZ	0.0	1.4	1.3	0.5	1.9	Scandinavian High, Trough C.Europe
HNFA	0.0	0.8	1.4	0.6	1.6	High Norway-Iceland, Ridge C.Eur.
HNFZ	0.6	1.1	0.3	2.1	2.4	High Norway-Iceland, Trough C.Eur.
SEA	0.3	0.6	1.0	0.5	3.4	Anticyclonic South-Easterly
SEZ	0.0	1.7	1.0	2.6	3.4	Cyclonic South-Easterly
SA	0.0	0.8	2.2	0.6	1.3	Anticyclonic Southerly
SZ	0.0	2.8	2.7	1.4	1.8	Cyclonic Southerly
TB	0.0	0.6	6.9	4.0	2.5	Low over the British Isles
TRW	2.5	4.5	1.1	3.0	1.8	Trough over Western Europe



More details for decision makers – 2007 summer risks



Energy industry leading on climate change adaptation

EP2: The Impact of Climate Change on the UK Energy Industry

Exploring risks –
Reducing exposure
Increasing resilience

Met Office is working with:

EDF Energy, EON, C.E. Electric, Centrica, National Grid, Northern Ireland Electricity, npower, Scottish Power, Scottish and Southern Energy, United Utilities, Western Power Distribution

Understanding impacts: What's normal?

Predicting the expected normal climate for each year 2007-2011 hour by hour

(EDF Energy, 2007)

With ever warmer seasons in the UK – historical records and return periods become are misguiding.

EDF energy knew they needed a better estimate of what to expect for the coming years to make operational and strategic business critical decisions.

Questions & answers


Met Office
Essential forecasts
for everyone, every day
Met Office Consulting
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More information?

Please contact:

Consulting@metoffice.gov.uk

Met Office Consulting