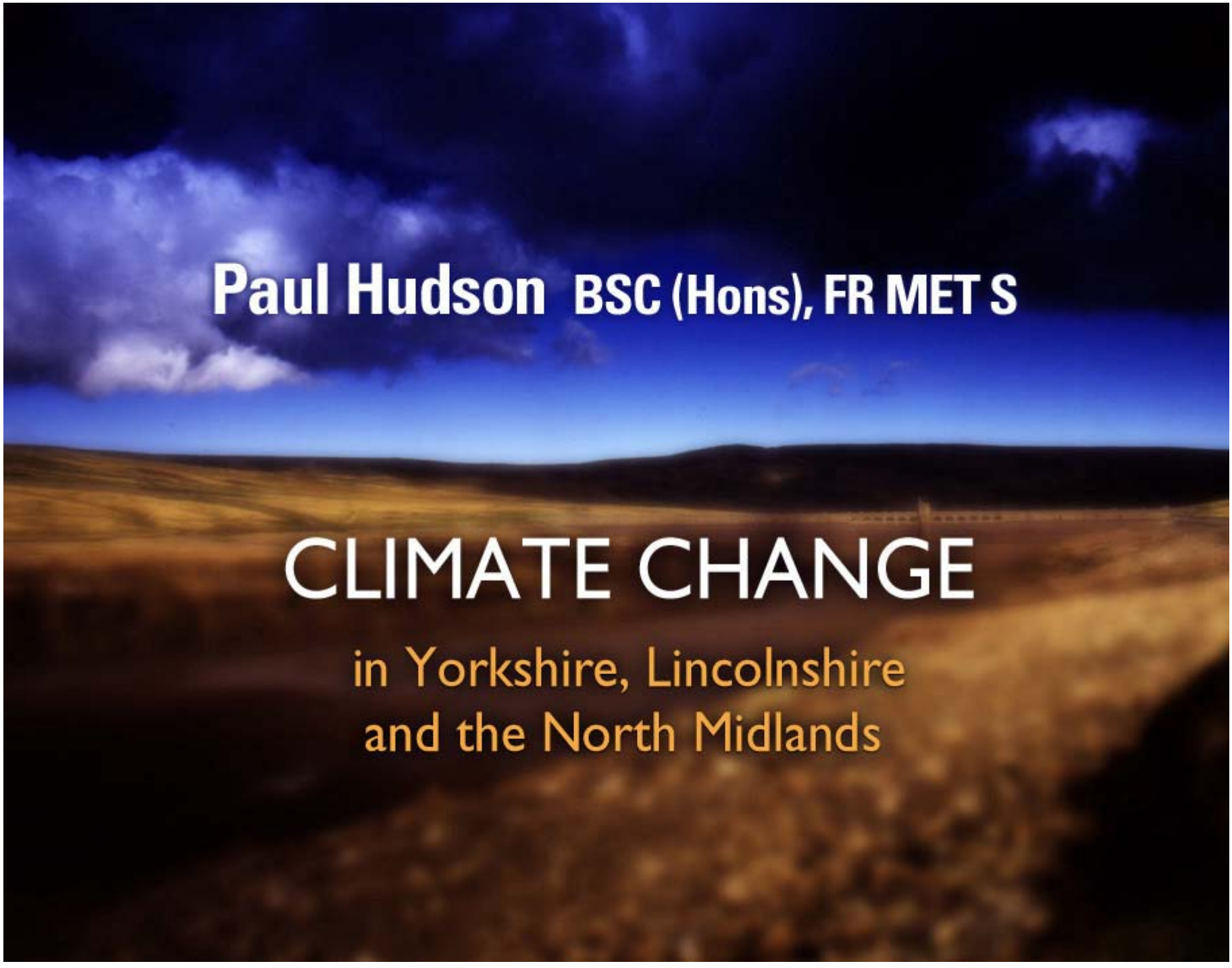

Paul Hudson BSC (Hons), FR MET S


Paul Hudson BSC (Hons), FR MET S
CLIMATE CHANGE
in Yorkshire, Lincolnshire
and the North Midlands

CLIMATE CHANGE

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The Earth is warming sharply

Vikings colonised Greenland during warm period


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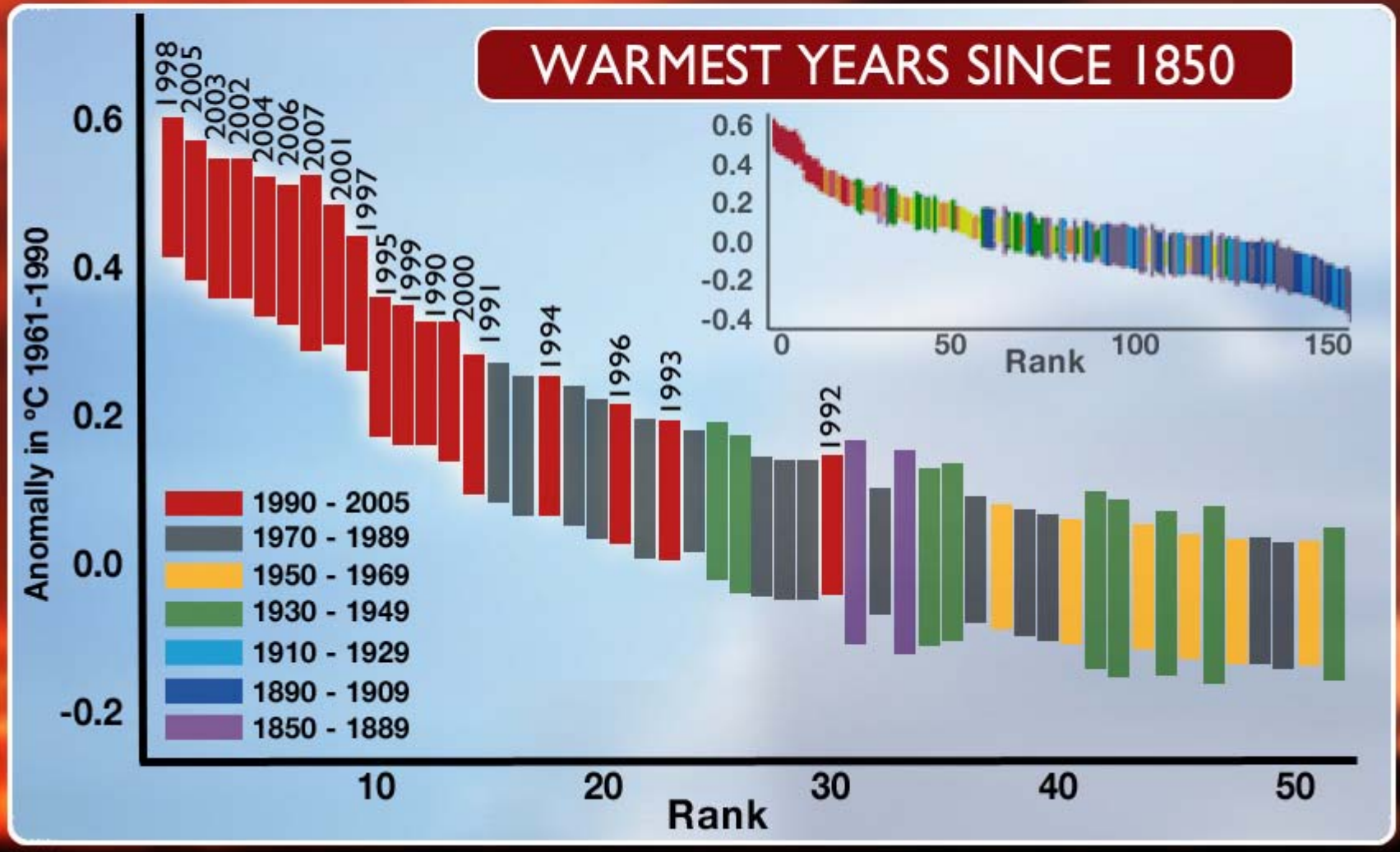
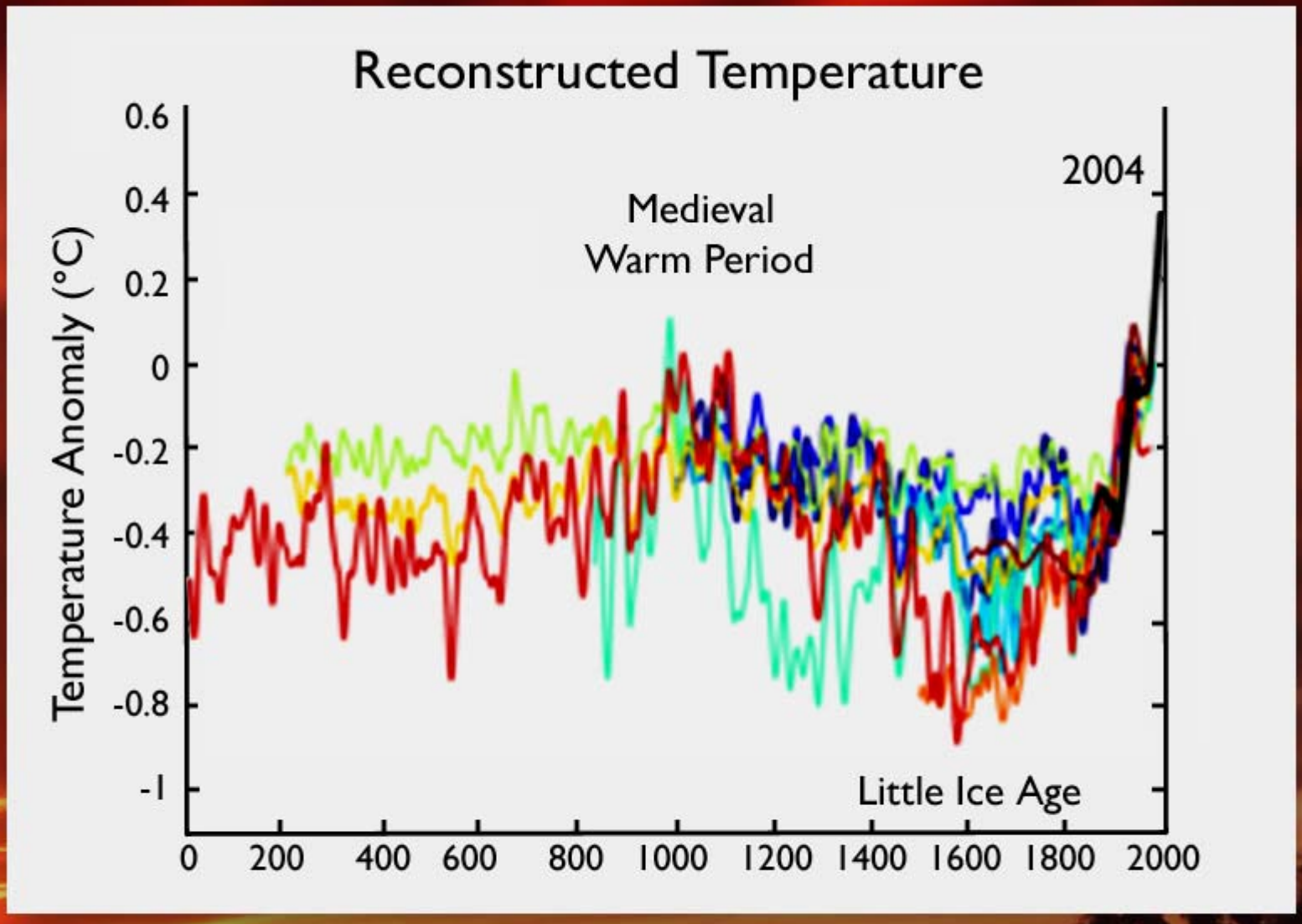
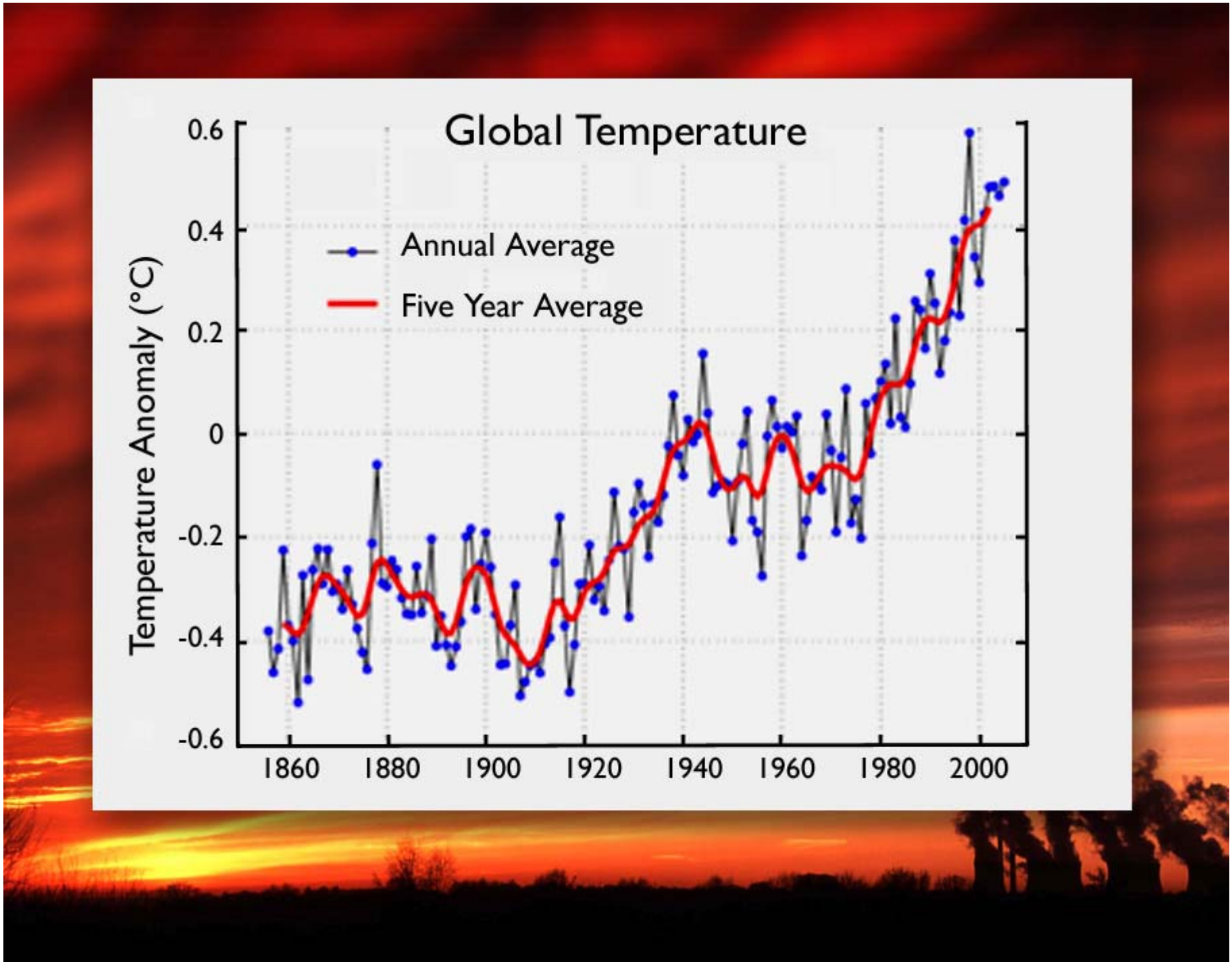
Vikings colonised Greenland during warm period
1400-1850AD - 'Little Ice Age'

CLIMATE CHANGE




Reconstructed Temperature
Temperature Anomaly (°C)
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
-1
2004
Medieval
Warm Period
Little Ice Age
0
200
400
600
800
1000
1200
1400
1600
1800
2000


Global Temperature
Annual Average
Five Year Average
Temperature Anomaly (°C)
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
1860
1880
1900
1920
1940
1960
1980
2000

WHAT IS GLOBAL WARMING ?

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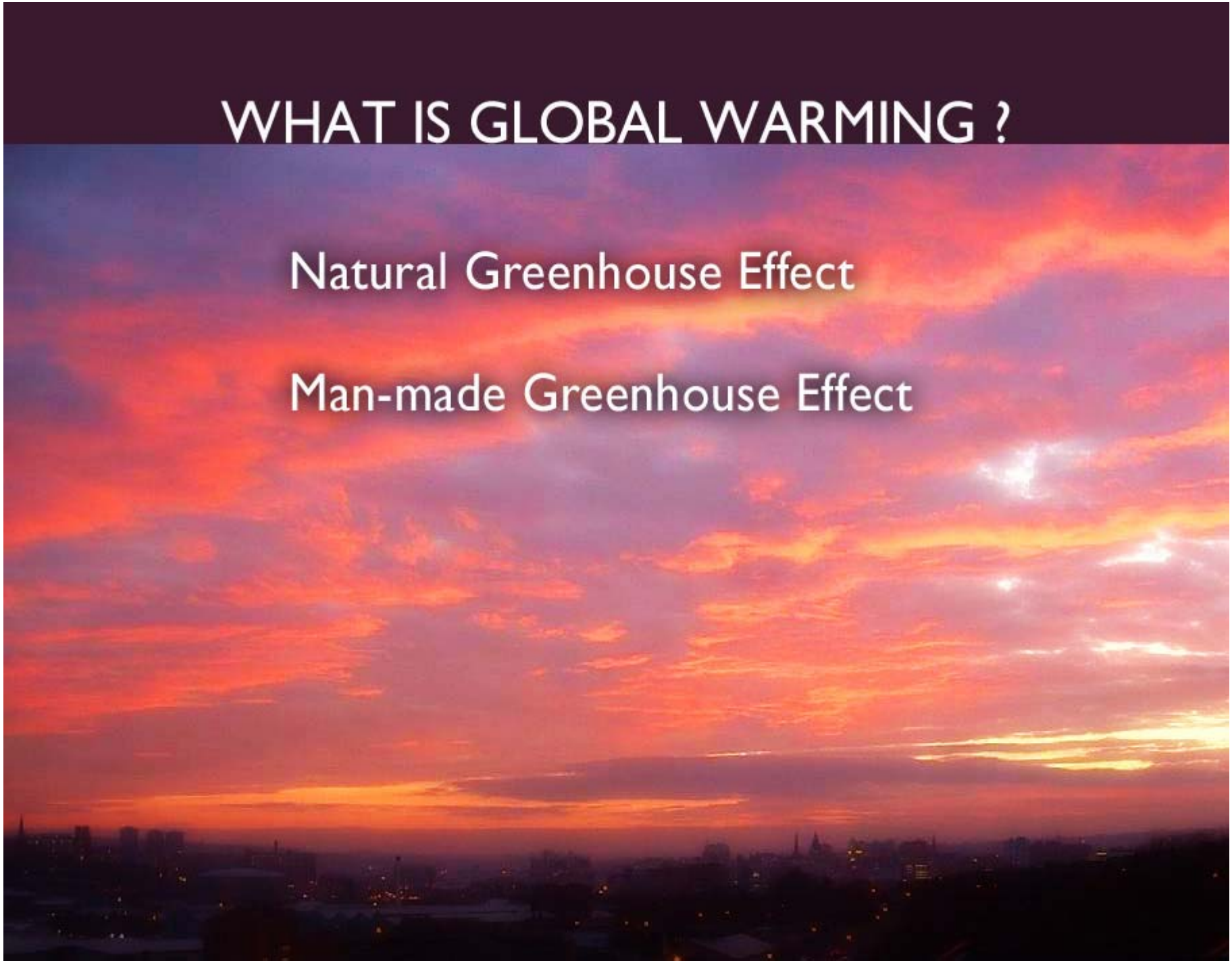
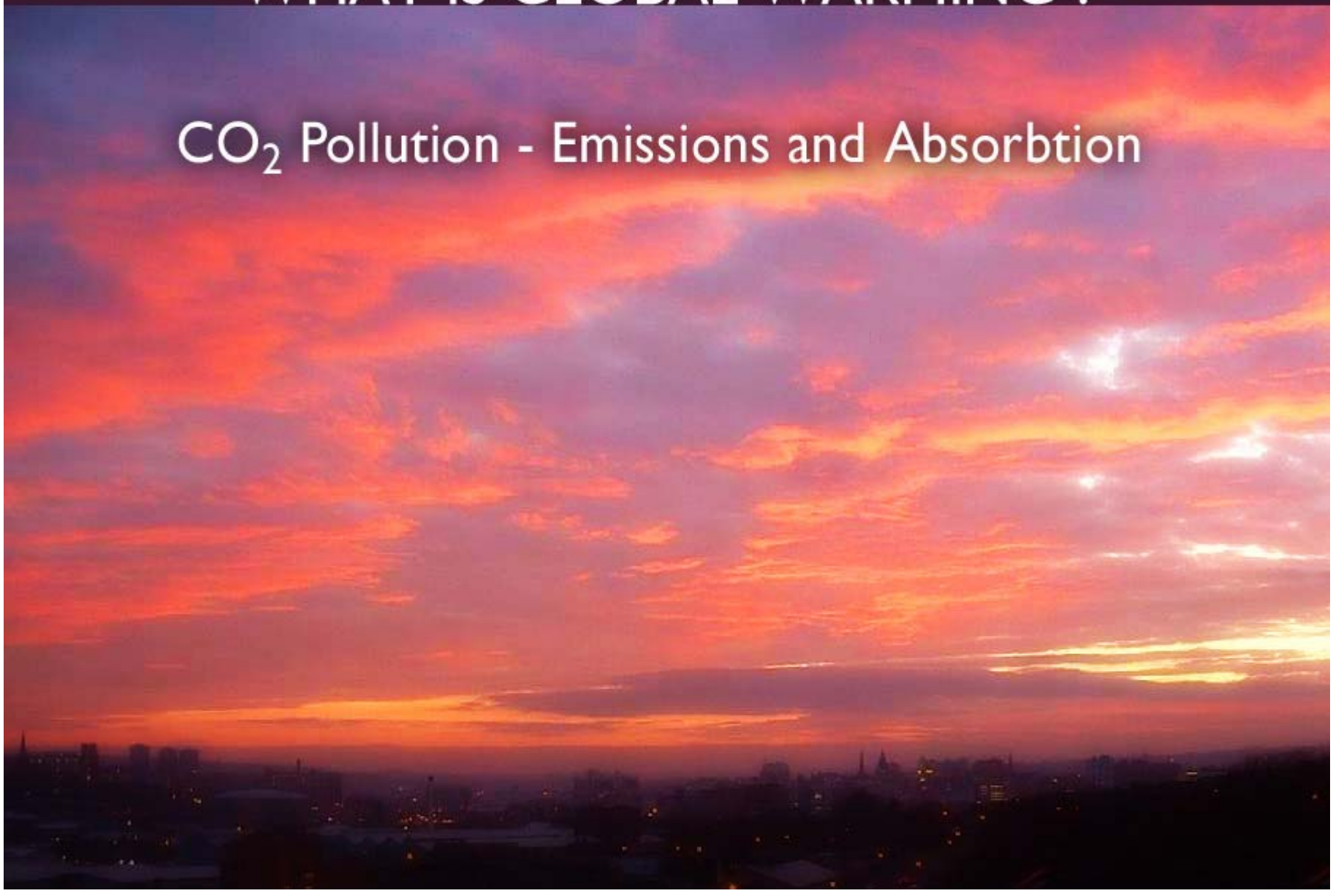


Natural Greenhouse Effect

Man-made Greenhouse Effect

WHAT IS GLOBAL WARMING ?



CO_2 Pollution - Emissions and Absorbtion

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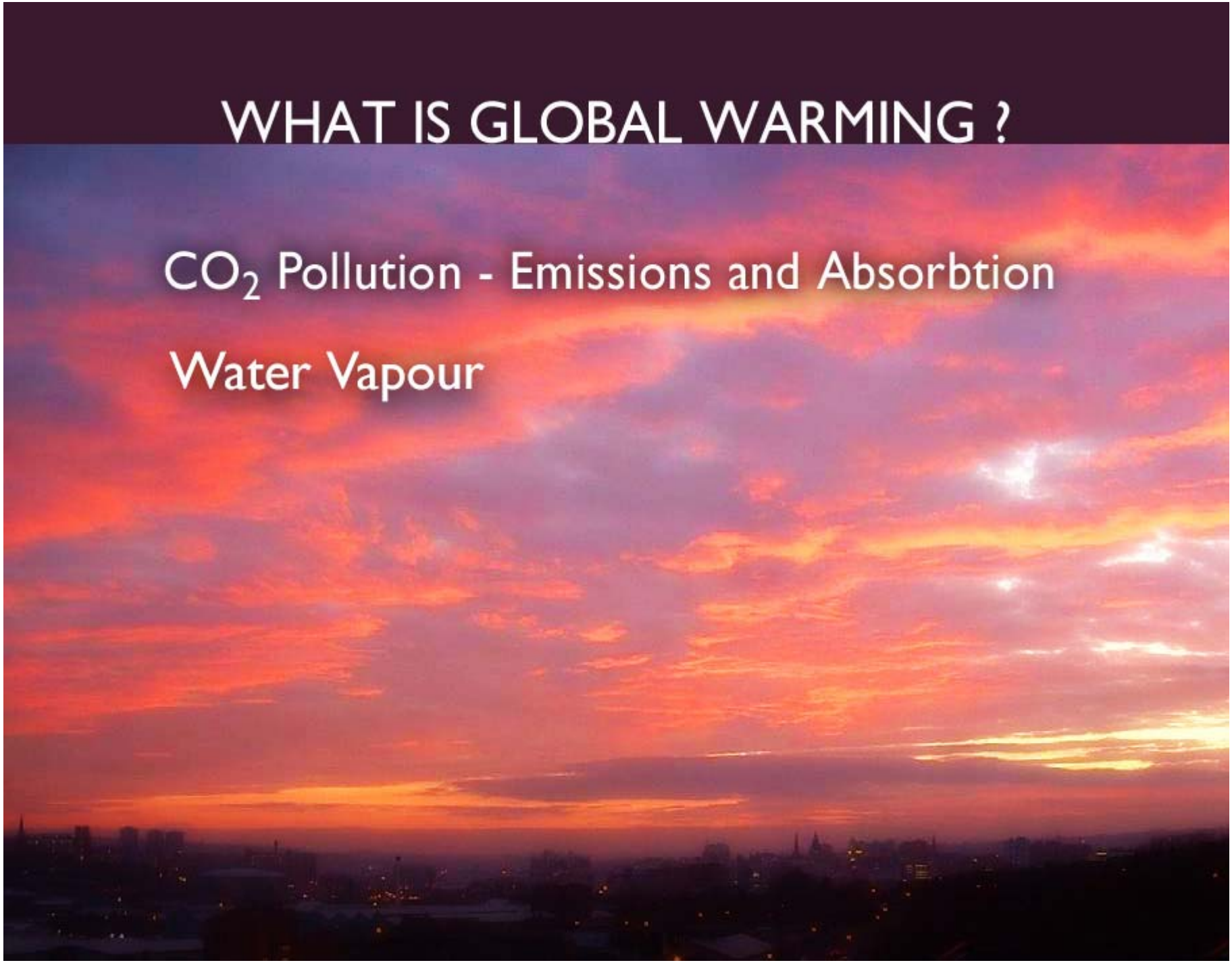


CO_2 Pollution - Emissions and Absorbtion

Water Vapour

WHAT IS GLOBAL WARMING ?

CO_2 Pollution - Emissions and Absorbtion

Water Vapour

Methane

WHAT IS GLOBAL WARMING ?

CO_2 Pollution - Emissions and Absorbtion

Water Vapour

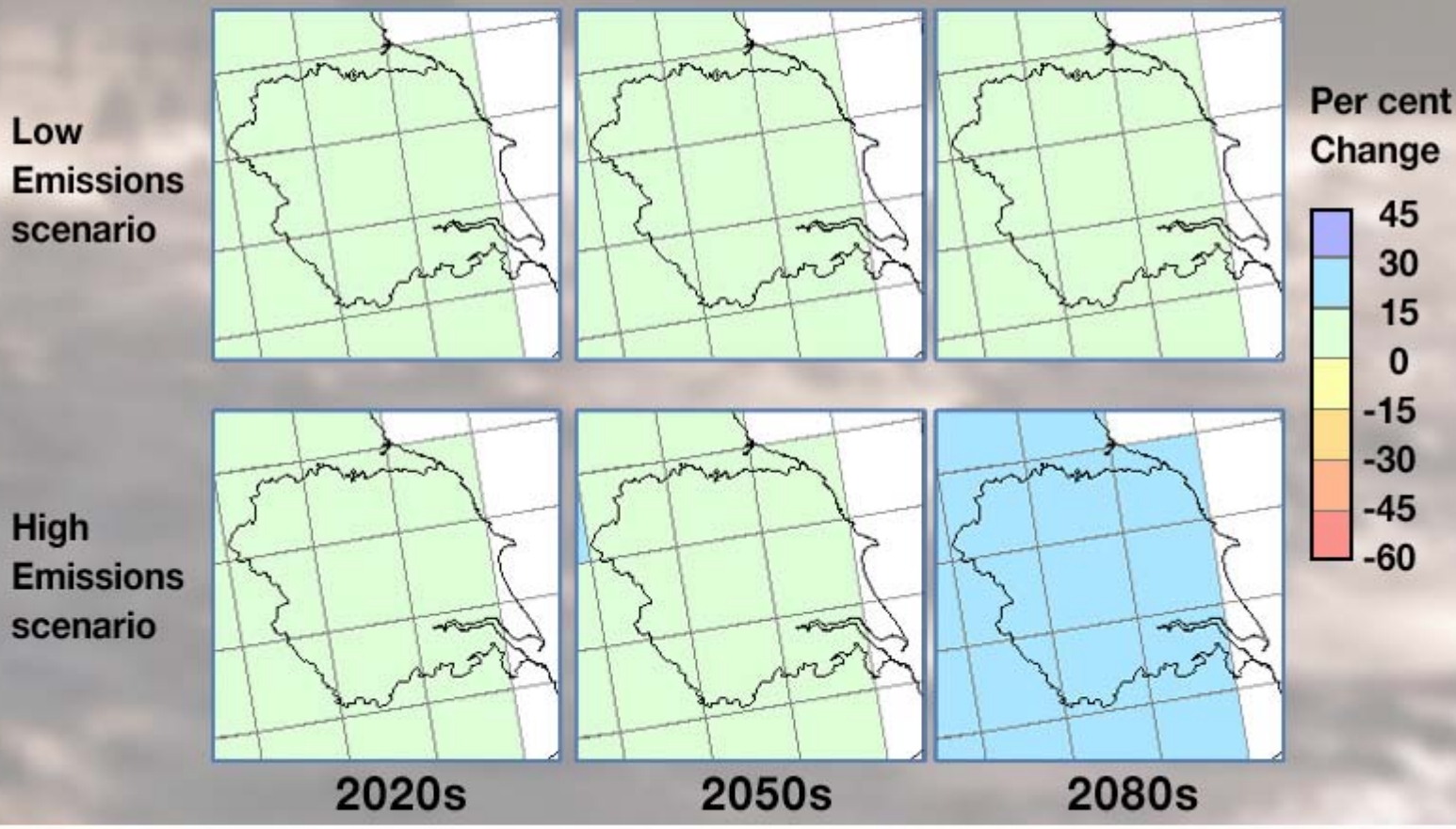
Methane

Ice cover

MORE EXTREMES

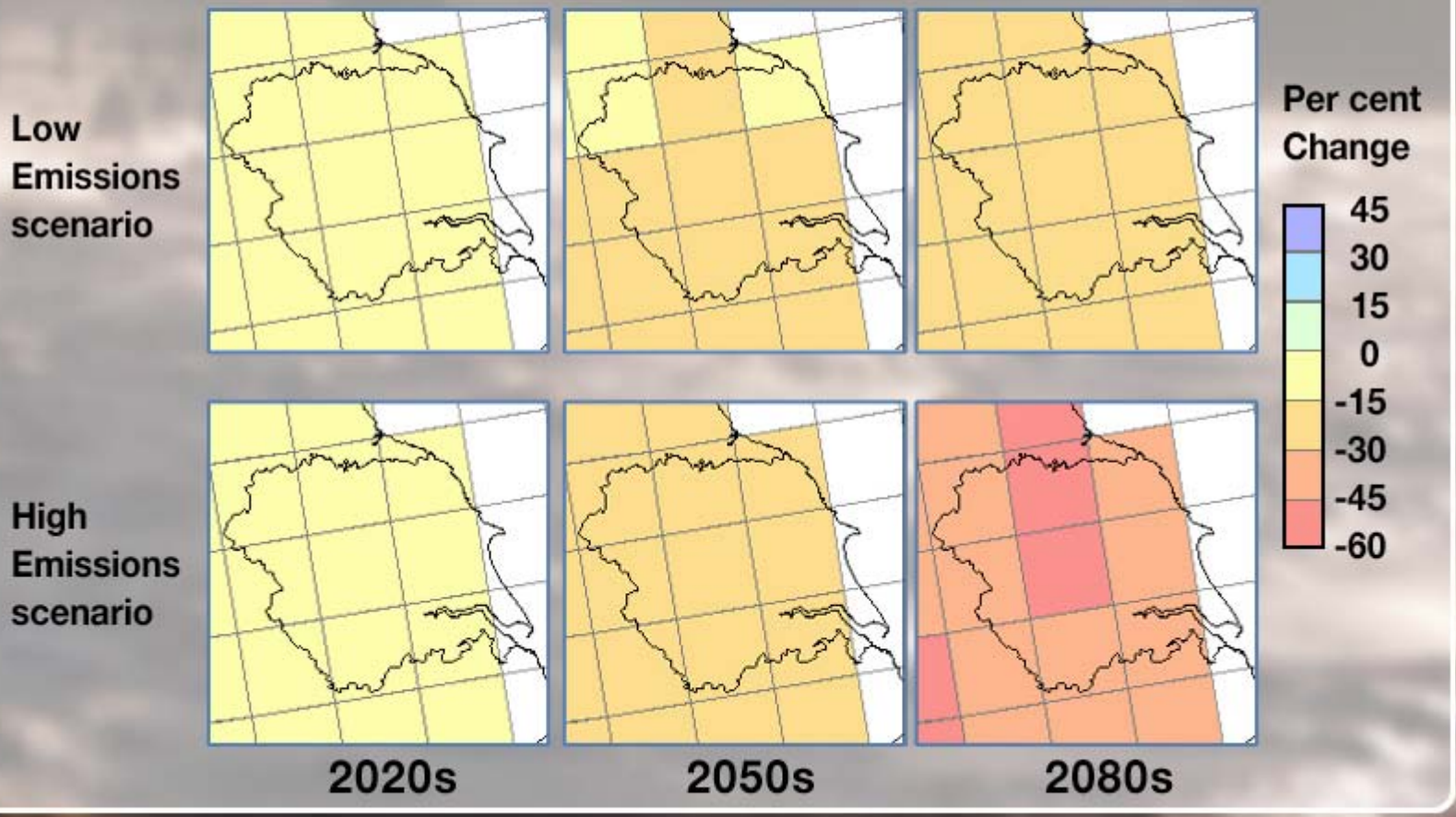
MORE EXTREMES

WINTER RAINFALL



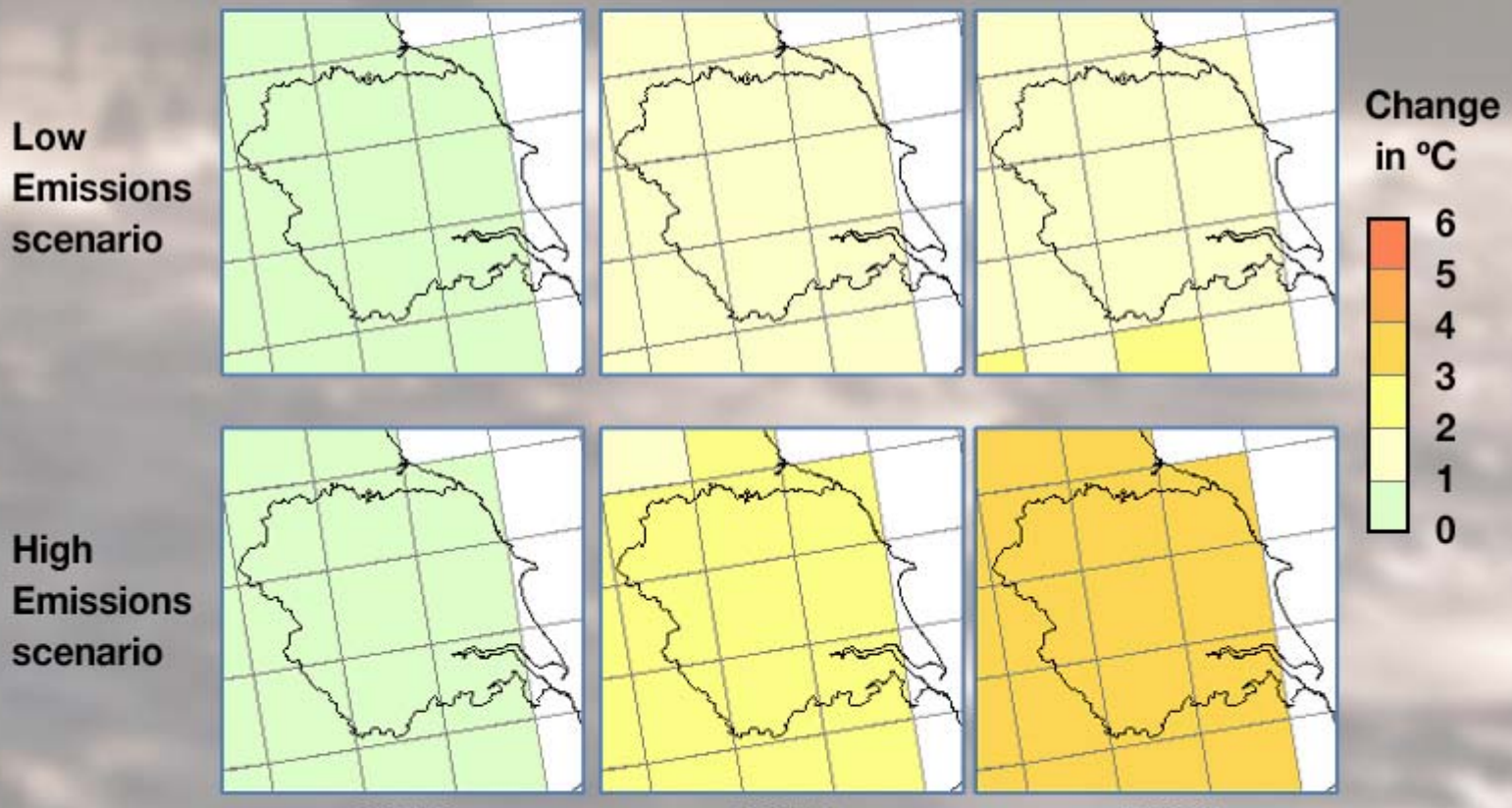
MORE EXTREMES

SUMMER RAINFALL



MORE EXTREMES

ANNUAL TEMPERATURE



MORE EXTREMES


MORE EXTREMES
FLOOD
DROUGHT


MORE EXTREMES
FLOOD
DROUGHT
RISING SEA LEVELS


MORE EXTREMES
The coastal floods of
1953

RISING SEA LEVELS

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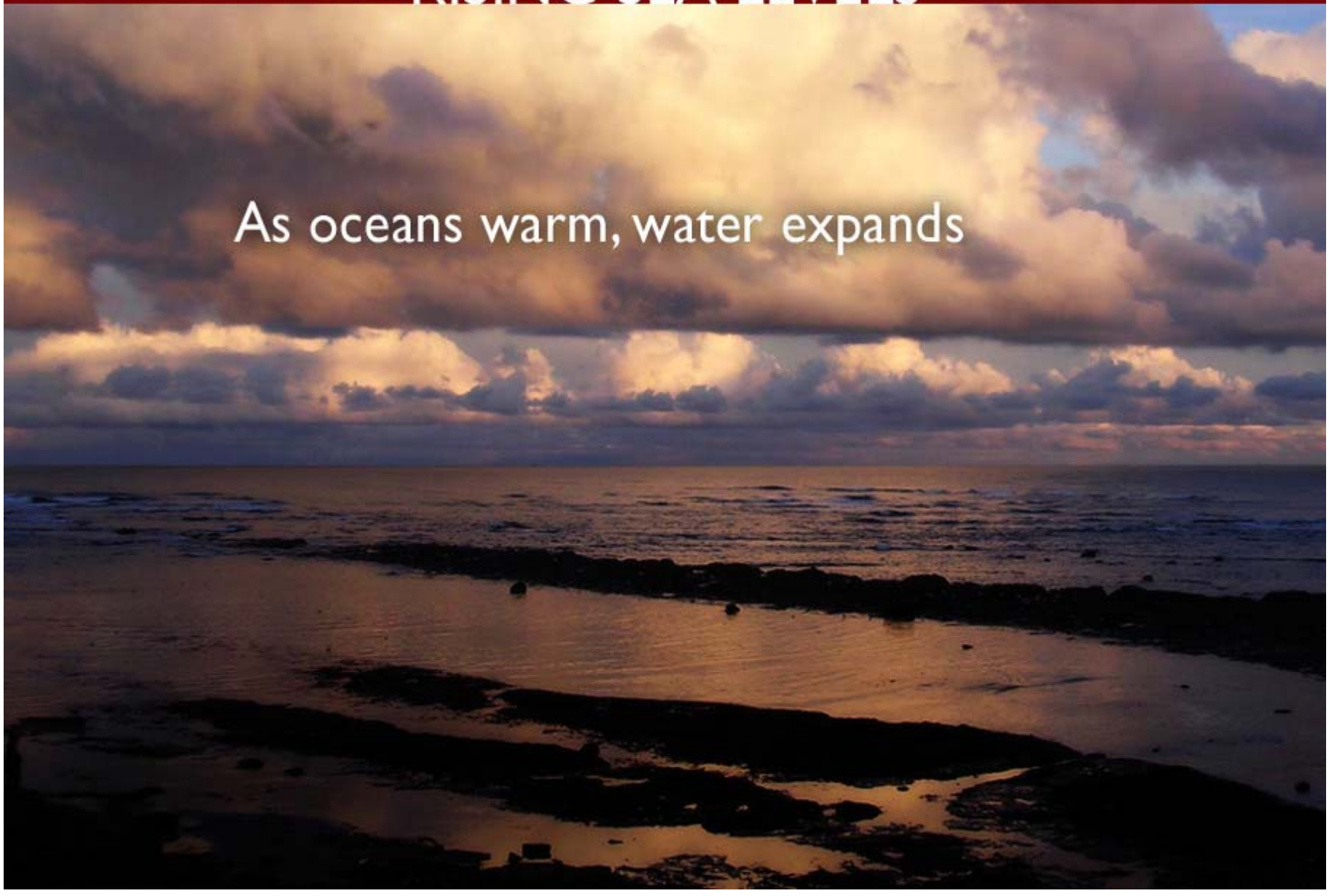
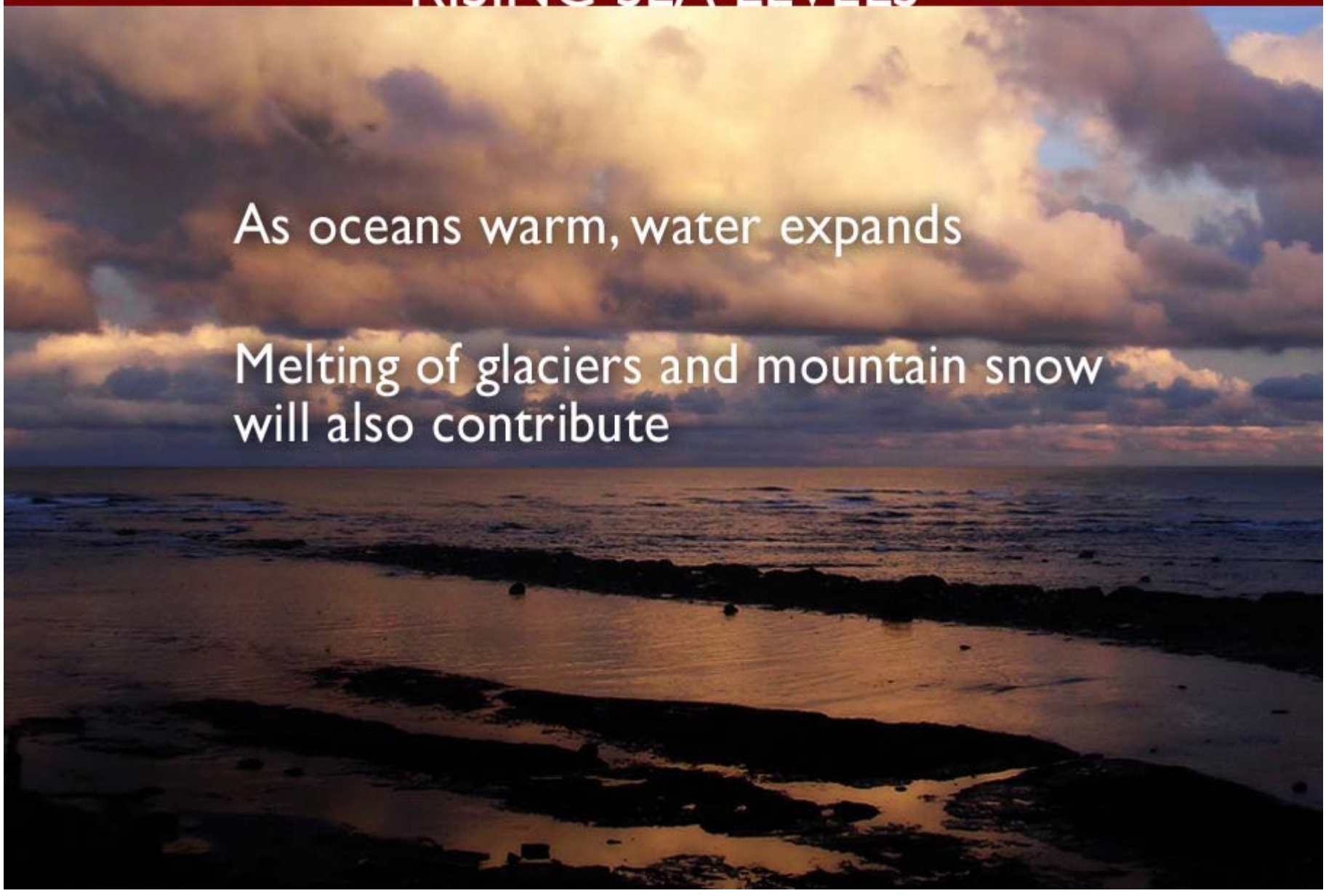


RISING SEA LEVELS



As oceans warm, water expands

Melting of glaciers and mountain snow will also contribute

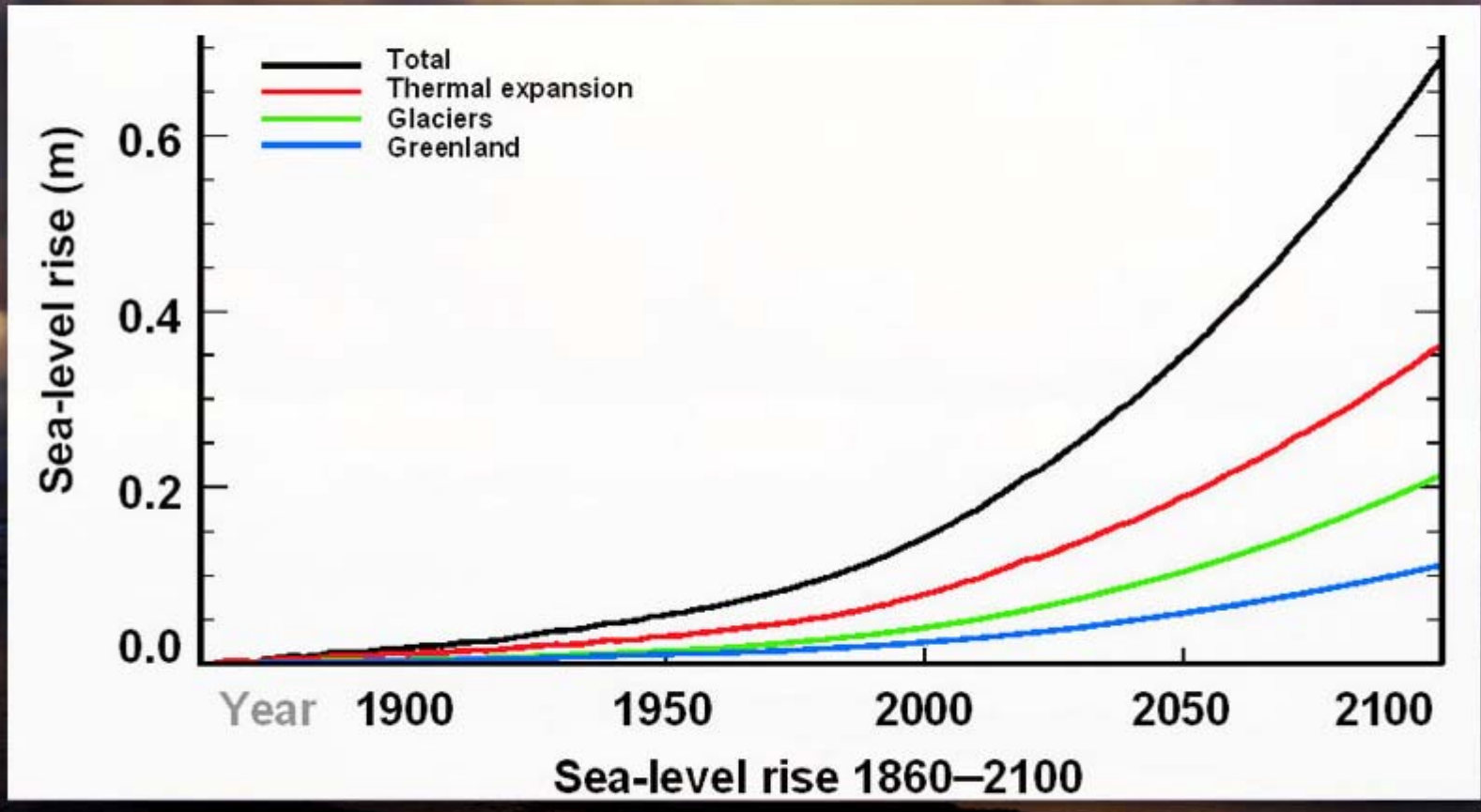
RISING SEA LEVELS

As oceans warm, water expands

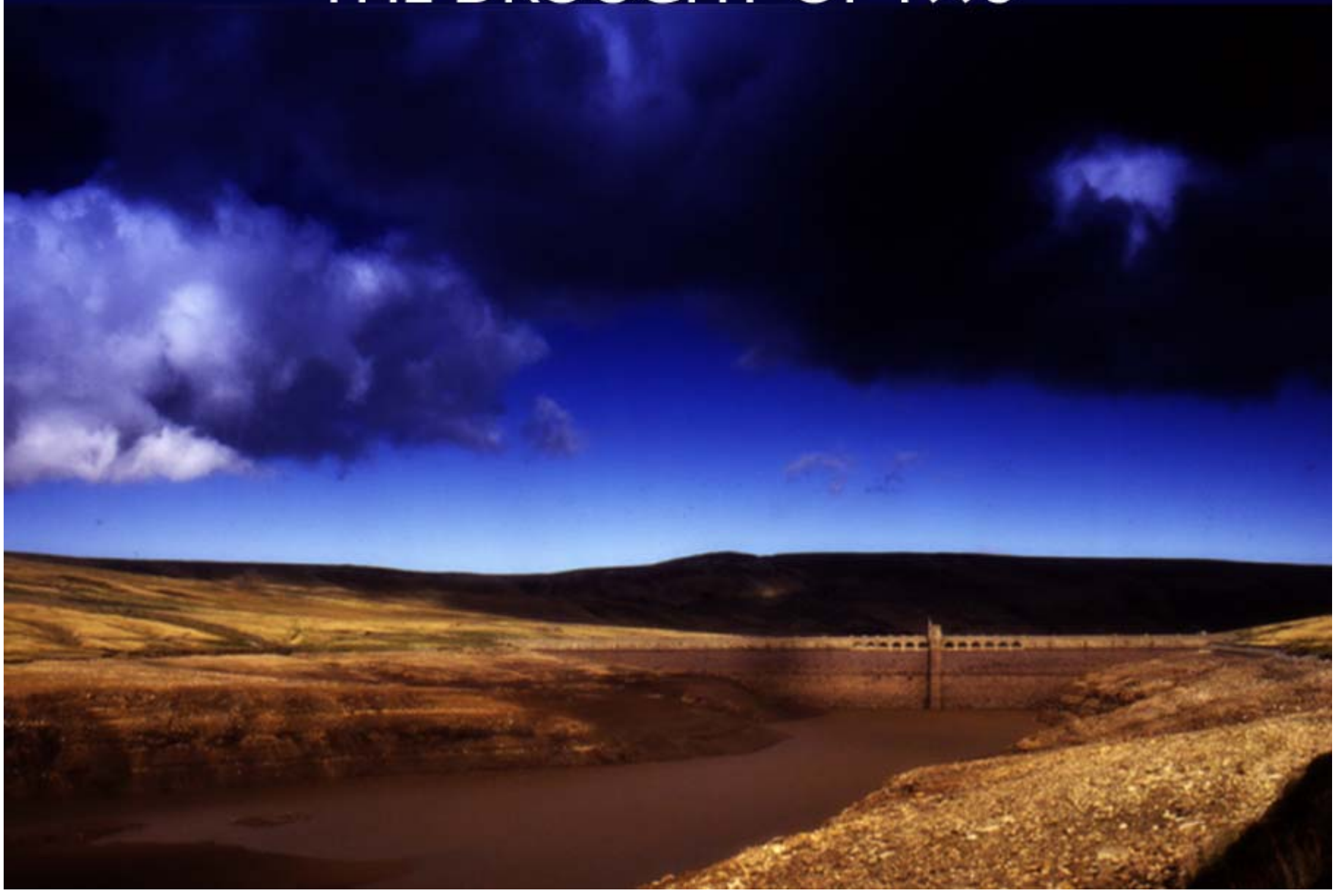
Melting of glaciers and mountain snow will also contribute

Estimate is for a 50cm rise by 2100 with a range of 15-95cm

SEA LEVEL RISE and its COMPONENTS



THE DROUGHT OF 1995



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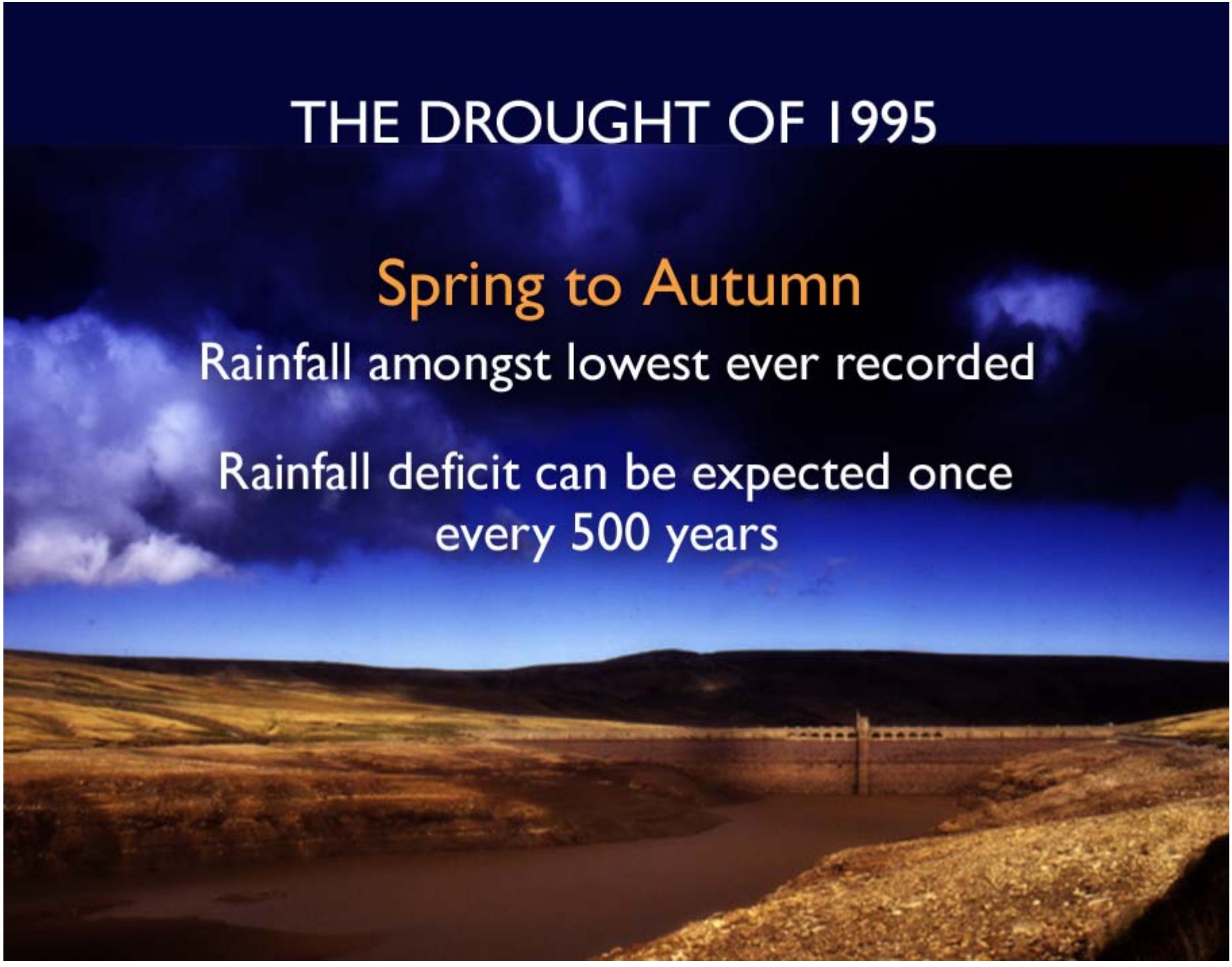


Spring to Autumn

Rainfall amongst lowest ever recorded

Rainfall deficit can be expected once every 500 years


MORE EXTREMES
The floods of
2000

THE WEATHER WEEK Philip Eden

You'll have to wait 500 years for so much rain

More than 4ft fell in 12 months to March

REGULAR readers will be well aware of the records broken by the excessive rainfall which many parts of Britain have endured during the last 12 months.

We had, averaged over England and Wales, the wettest April since 1756, the wettest May since 1983, the wettest September since 1981, the wettest October since 1903, the wettest November since 1970, and the wettest March since 1988.

More rain fell during the autumn quarter than in any similar period since national rainfall records began in 1727 and 2000 was the wettest year since 1872.

Total rainfall during Sep- … hand. Taking a geographical average over England and Wales, the aggregate rainfall was 52·61in, compared with a long-term normal of 36·2in. Put another way, 45 per cent more rain than normal fell during that period.

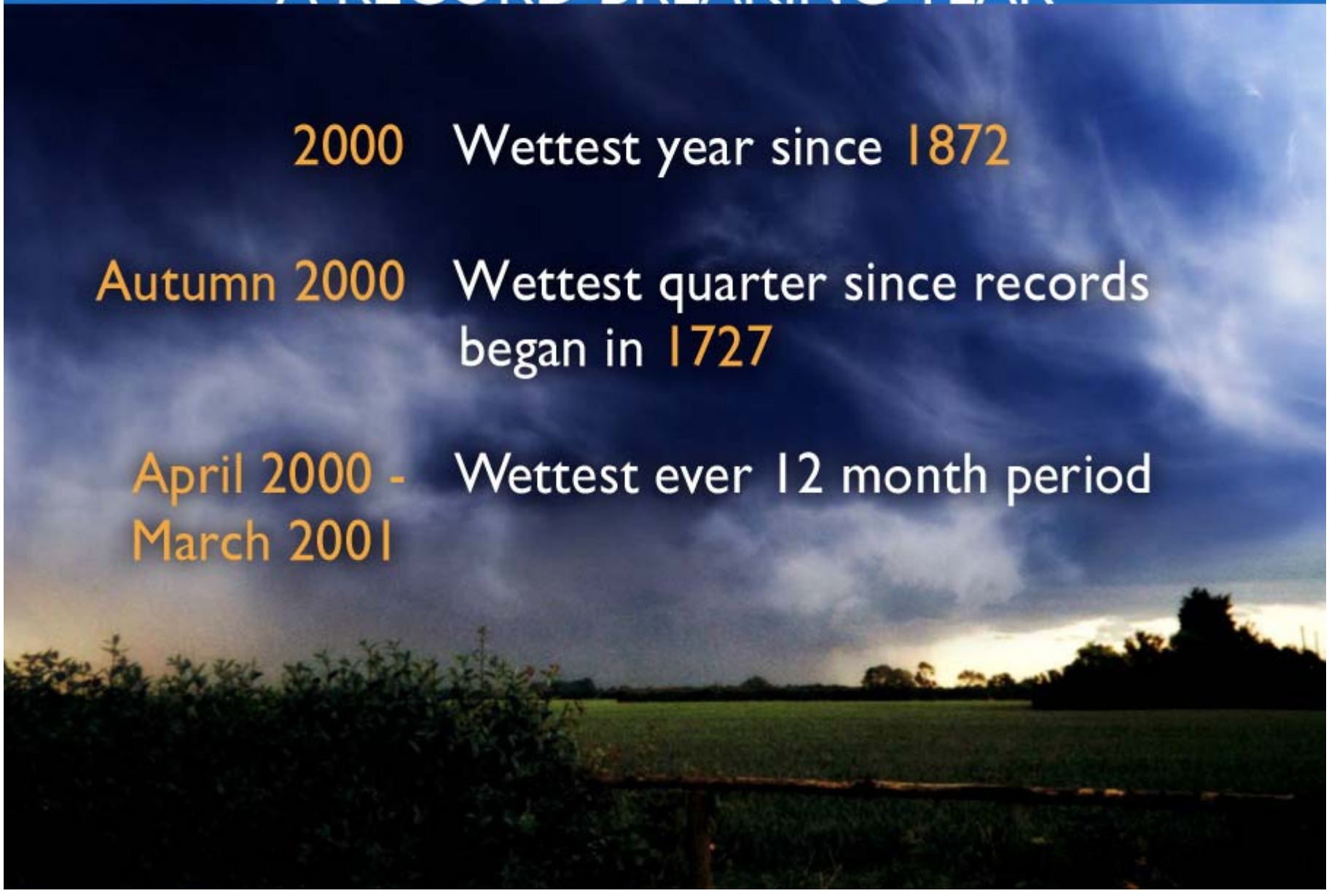
A statistical analysis of all available records indicates that such a large excess can be expected once every 500 to 750 years on average, assuming that the rainfall climate of Britain is static.

There is no statistical evidence yet to support the view that Britain is becoming wetter or drier, nor, contrary to popular belief, is there yet any indication that the year-on-year variability in rainfall is changing or has changed … April last year have repeatedly occurred in southern counties of England, while some parts of Britain have recorded a deficit.

In London, a total of 39·19in was collected during the 12 months beginning April 1, 2000, compared with the normal of 24·02in, an excess of 63 per cent.

Rainfall was first systematically recorded in the capital in 1697 and this figure has never been approached before. At Herstmonceux, in East Sussex, 58·91in fell during the same period, more than double the normal amount. The statistical technique used to calculate the return period of such an aggregate goes off the scale.

A RECORD BREAKING YEAR

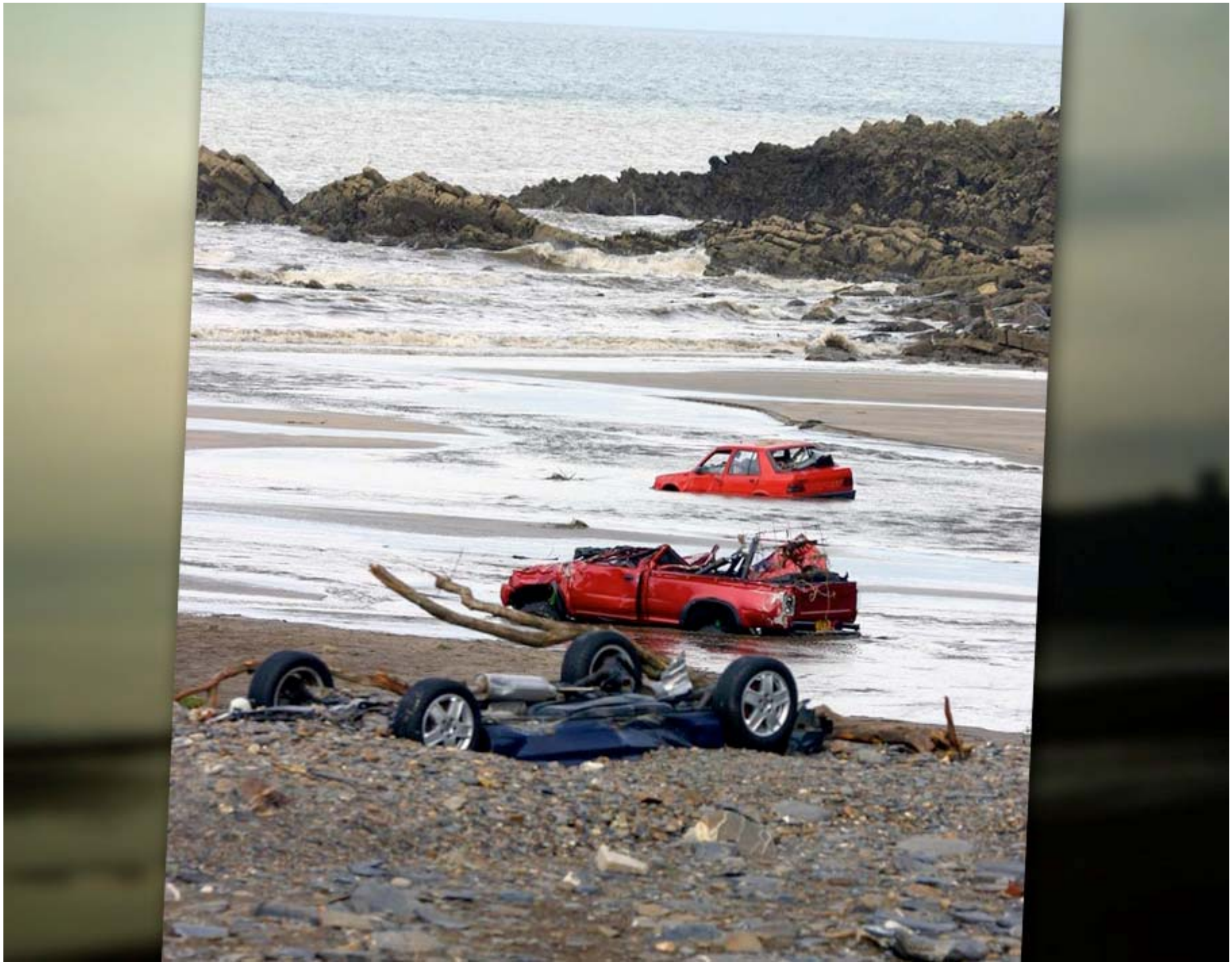


2000	Wettest year since 1872
Autumn 2000	Wettest quarter since records began in 1727
April 2000 - March 2001	Wettest ever 12 month period

A RECORD BREAKING YEAR

MORE RECENT EXTREMES


ROCKY ROAD



MORE RECENT EXTREMES

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EUROPEAN EXTREMES

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2006
July - Hottest month in UK since records began in 1659


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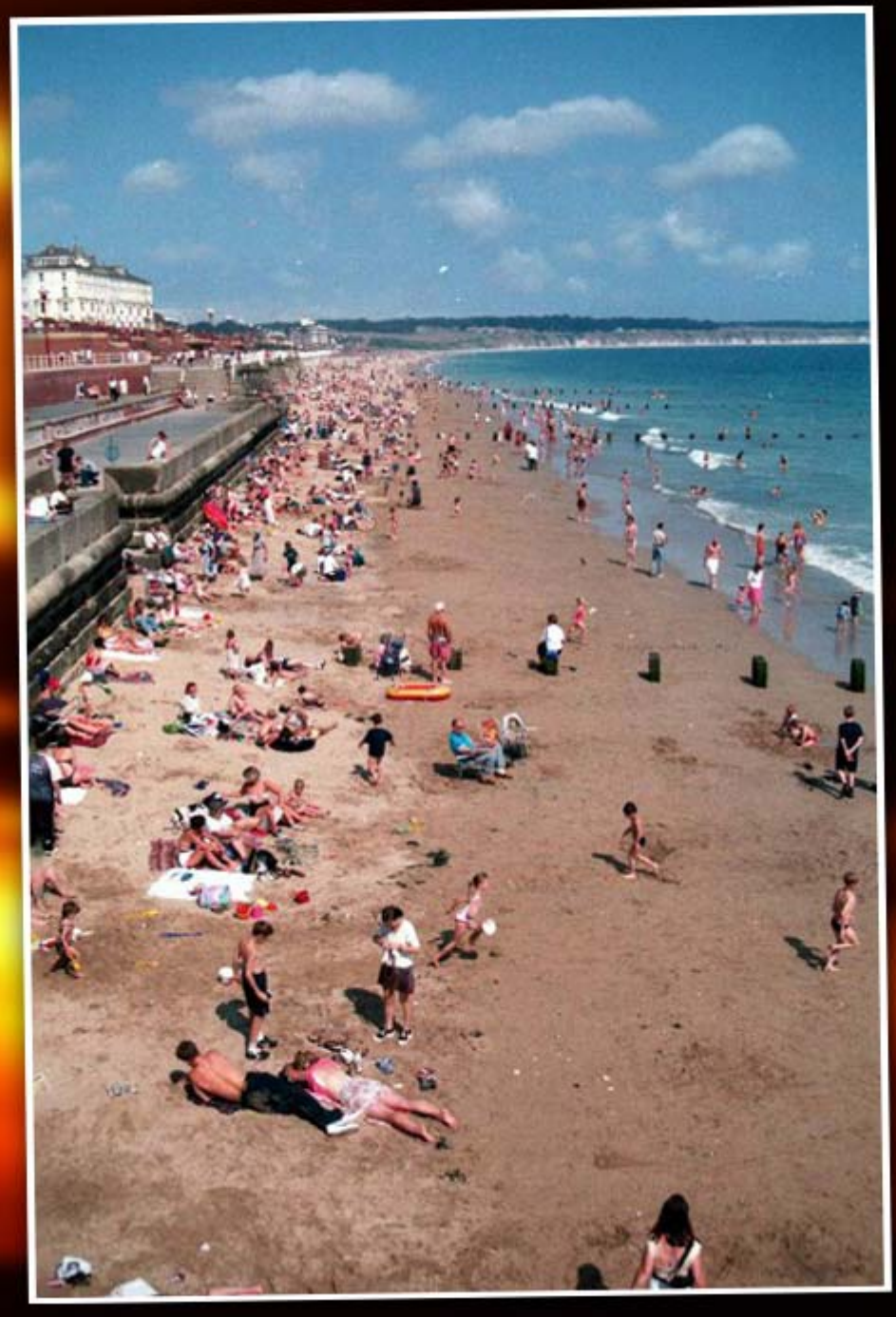
July - Hottest month in UK since records began in 1659
Warmest Autumn on record
Warmest Year in the UK on record



MORE RECENT EXTREMES

2007

April - warmest across the UK since records began in 1659

MORE RECENT EXTREMES

2007

June - wettest month in Sheffield since records began in 1882

MORE RECENT EXTREMES

2007

June - wettest month in Sheffield since records began in 1882

225mm in twelve days, the wettest summer period ever in Yorkshire

MORE RECENT EXTREMES

2007

May to July - wettest period across the UK since records began in 1766

MORE RECENT EXTREMES

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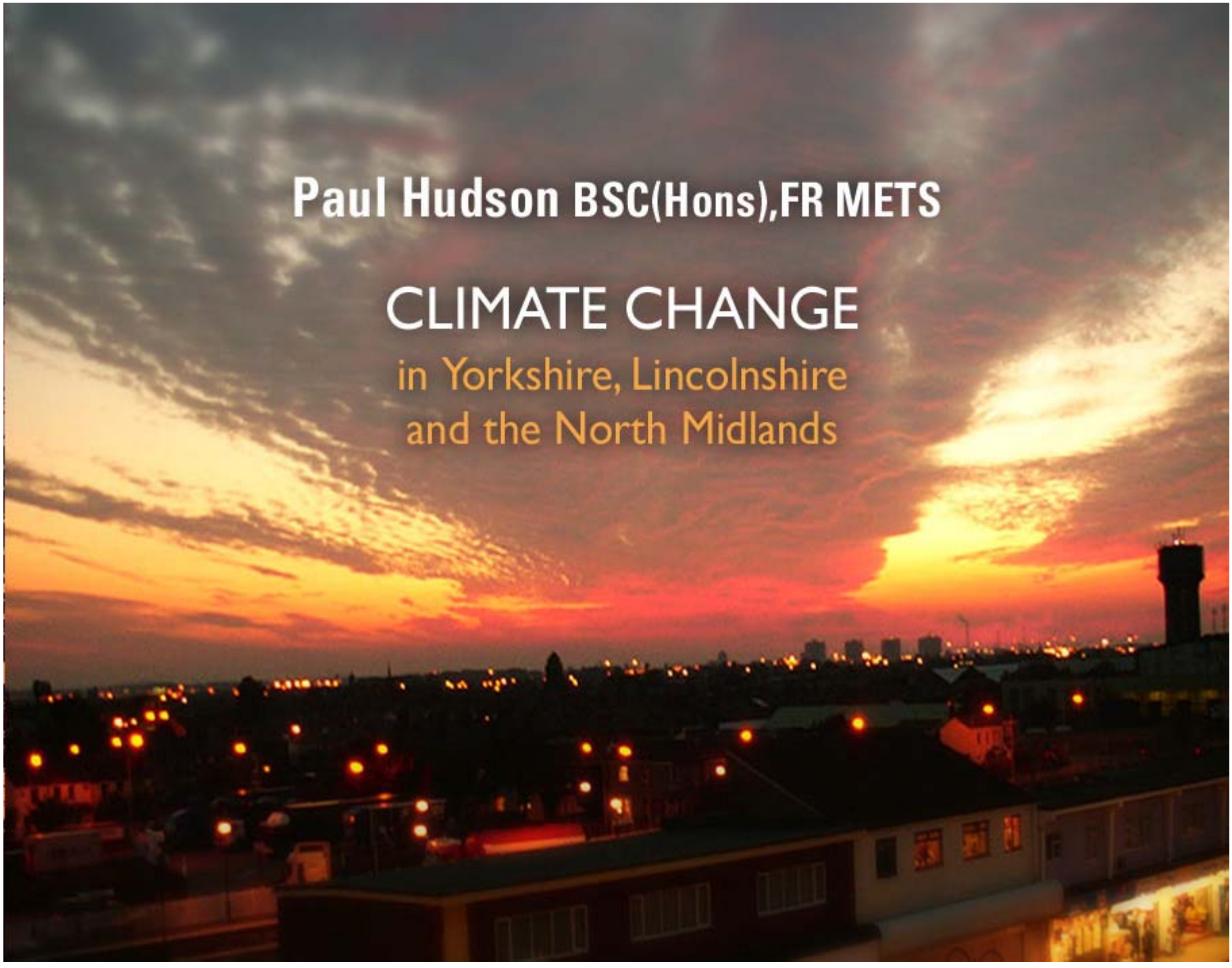
MORE RECENT EXTREMES
2008
January - Wettest since records began
in 1947 at Church Fenton


MORE RECENT EXTREMES
2008
January - Wettest since records began in 1947 at Church Fenton
February - Warmest early February since records began in 1935 at Bingley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