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ICAO: UNITING AVIATION ON CLIMATE CHANGE

ICAO Colloquium on Aviation and Climate Change

Challenges to Growth:

'ATM system & Climate Adaptation'

Montreal 12-14 May 2010

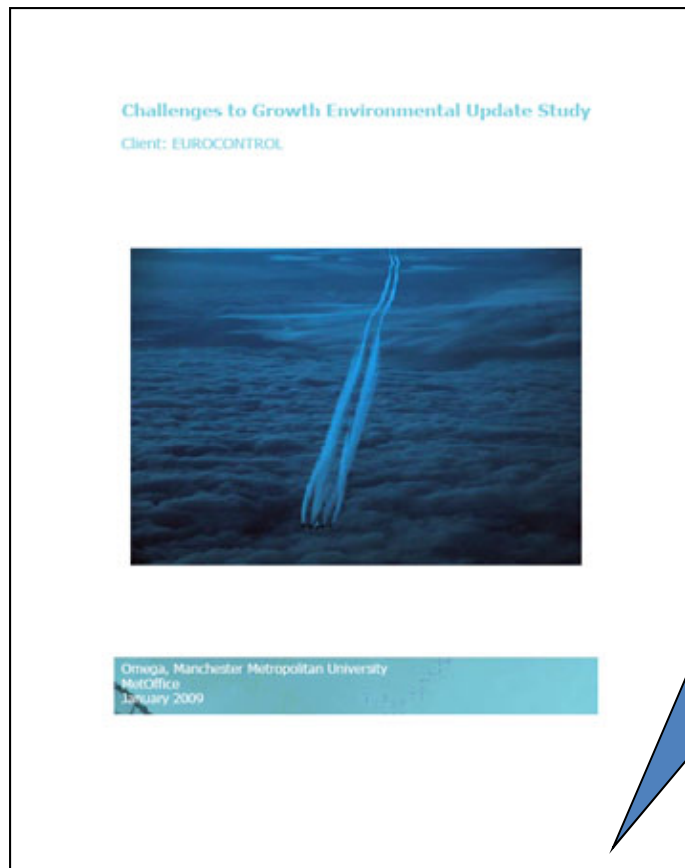


A New Challenge to Growth?

Aviation is very climate and weather sensitive.... and the climate changes

All ATM performance areas may be at risk regardless of man's efforts to control emissions

EUROCONTROL Challenges to Growth (CoG) 2008 work.



Aim:
To **Scope** extent of environmental constraints which **may** impact the industry's ability to meet an increasing demand for traffic (short, medium and longer-term)

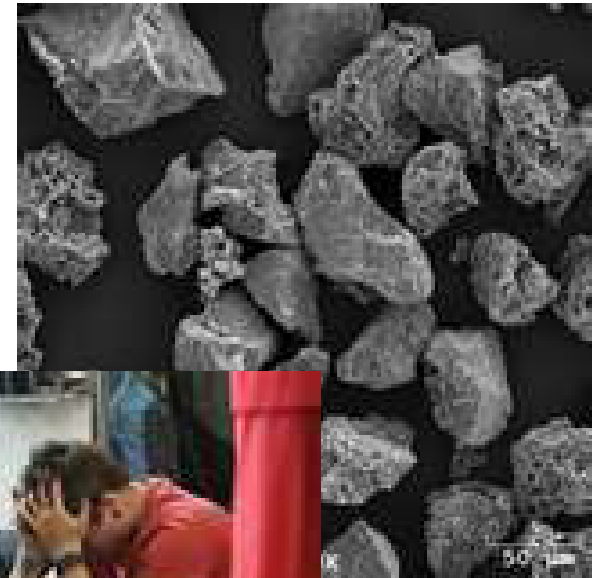
It is a small study

Results of case-studies could feed in to SESAR



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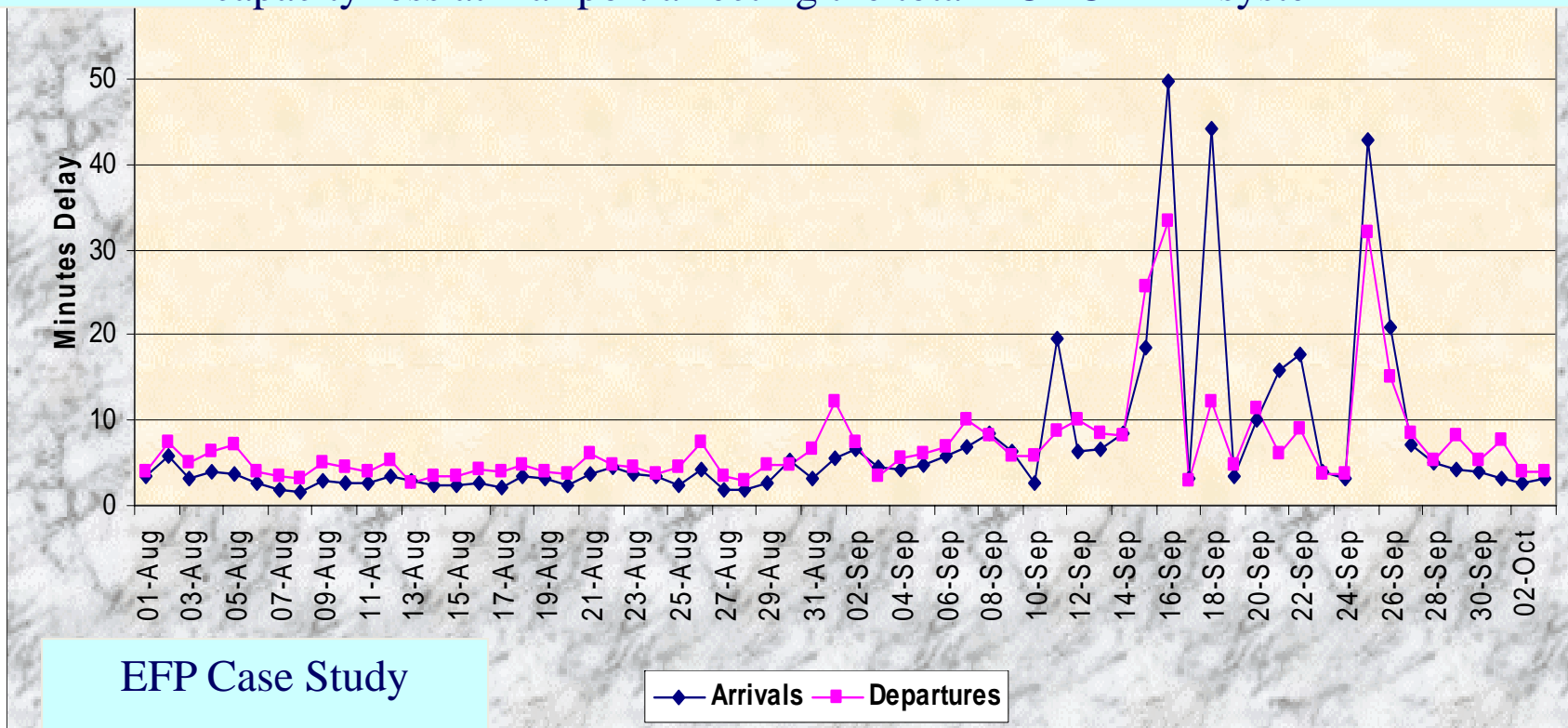
Perturbations hurt.....



.....and hurt more with poor planning

But they are not new.....

During 15/9-2/10 closure runways 24, 19R & 19L for take-off. Resulted in 30-70% runway capacity loss at 1 airport affecting the total ECAC ATM system



EFP Case Study
CODA, 2000



Our Study does **NOT** intend to.....

- **Prove whether Climate Change is real or not**
- **Prove whether Climate Change is man-made**
- **Suggest that reducing aviation emissions stops Climate Change**
- **Increase the certainty on Climate science**
- **Propose specific actions for industry (applies to all CG)**
- **Suggest that the emergence of one challenge means that others of equal significance are 'downgraded'**

- **Climate-driven changes in demand**

- Visitor tolerance of high temperatures? (*seasonal or geographical shift*)
- Winter sports
- Water scarcity

- **Sea-level rise**

- Loss of runway
- Loss of ground-

- **Weather-driven**

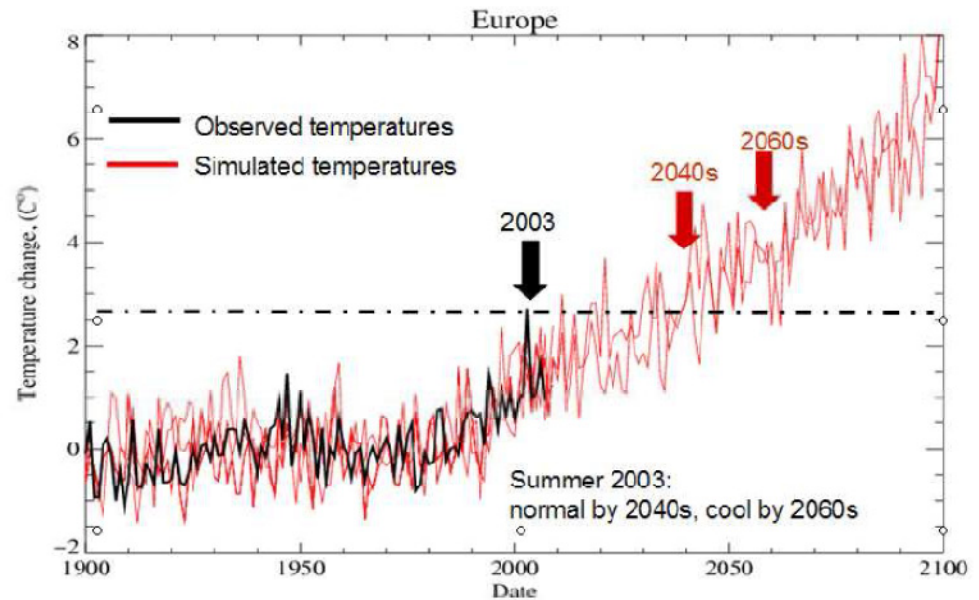
- Potential reducti
- Sea defence da
- with increased t
- Increased storm
- Jet-stream alter

- Possible reducti

- Reduction or increase in de-icing (area dependent)

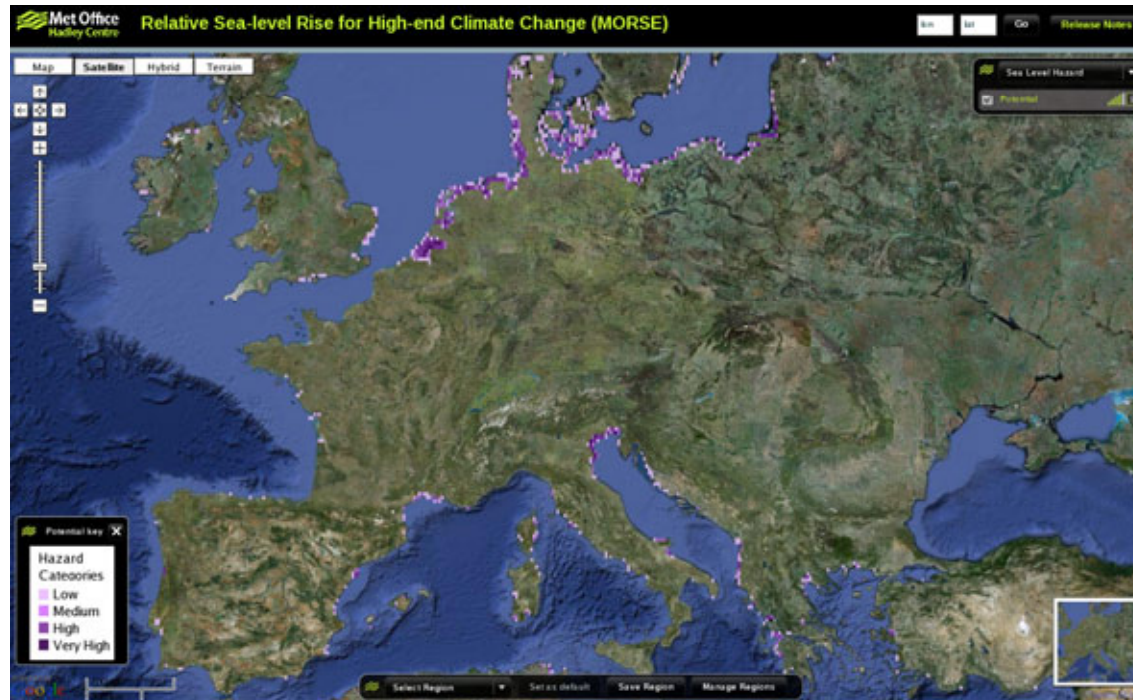


European 2003 summer temperatures



Stott Nature 2004 – updated to 2007 – HadGEM1

Sea-Level Rise/flooding - very long term



- Up to 34 coastal/low-lying airports at risk
- Primarily sea-level rise
- Surface access affected
- Storm surges and flooding



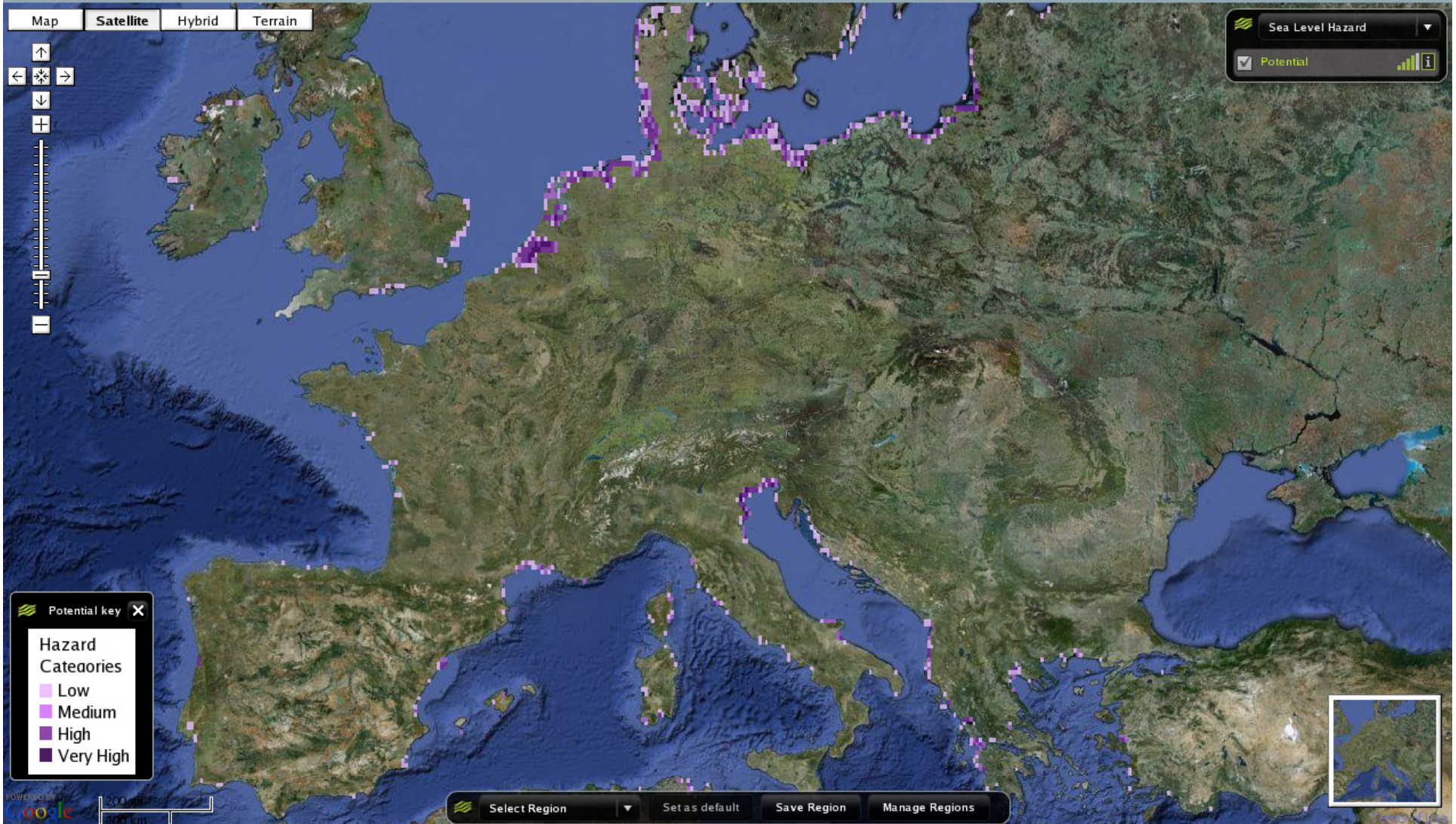
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Relative Sea-level Rise for High-end Climate Change (MORSE)

lon lat Go Release Notes +





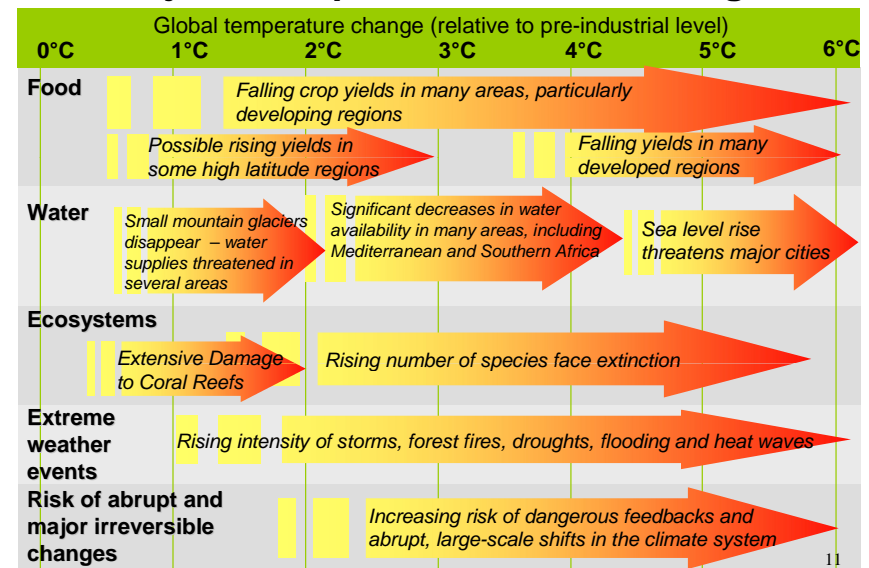
Peer Review / Case Studies

- **Initial study led to peer review and workshop**
 - Broadly agreed that this is a potential risk and more research is needed
 - BUT should not displace funding for more urgent needs
- **3 case studies in progress to complete the scoping study:**
 - Demand pattern change (Greece)
 - Airport flooding (4 airports)
 - Convective activity – disruption

Conclusions

- Science is uncertain about the timing or severity of Climate Change Impacts – but consensus is growing some effects may be with us today
- Sufficient concern to identify this as a ‘sleeping tiger’ business risk
- **Should not be prioritised above other more urgent activities – e.g. emissions reduction**
- Recently on the agenda of ICAO, EC-EASA, ACI, EUROCONTROL and ANSPs, and.....
- Very little aviation specific research exists – **more structured research is needed**

Projected impacts of climate change



Source: Stern Review



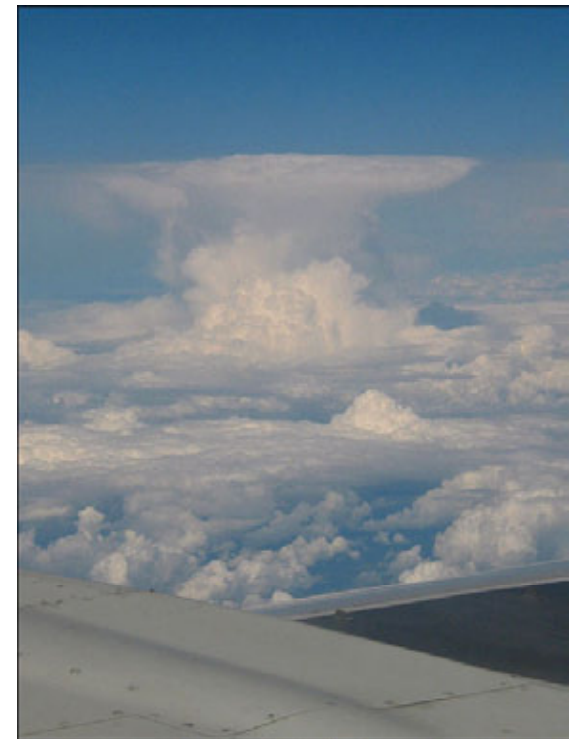
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Personal Prediction?

At a future colloquium
maybe within 5 years.....

‘Climate adaptation will be of
the same importance as
emissions reduction’





However.....

This issue does not mean that we necessarily have to change our planning – it may be already perfectly aligned to meet the challenge.....

At present we just don't know....

.....Maybe we should find out?



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Thank You

[www.eurocontrol.int /environment](http://www.eurocontrol.int/environment)

(soon)