

# Ireland at Risk

# Ireland at Risk

- Impact on climate change on the water environment.

*“Water, water, everywhere  
Nor any drops to drink”*

***Samuel Taylor Coleridge***

- The evidence of global warming over the last century is now overwhelming.
- Ireland is experiencing now the impact on climate change.  
Expect to change to accelerate over coming decades.

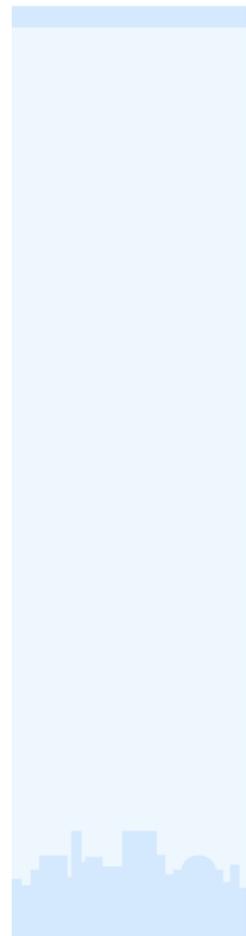


- Effects following
  - Changing rainfall patterns.
  - Rising sea levels
- These will effect
  - Our water supply.
  - Eco systems & Agriculture.
  - Also put us at risk of flooding & coastal erosion.

- We should worry -  
A recent climate change report reveals our climate is now warmer on average than a century ago.



- Our climate is now warmer on average than a century ago.
- Less frost, more rain in West & North and drier in South & East.

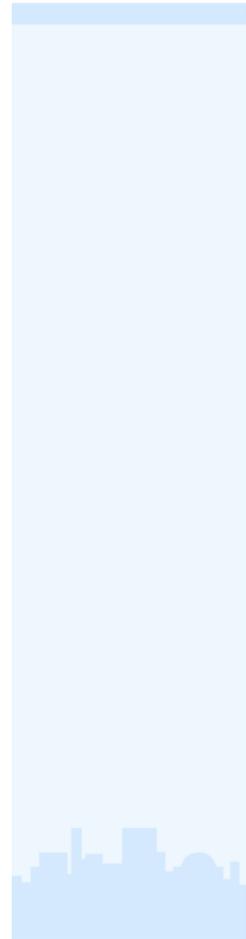


- Global warming and climate change due likely to human activities i.e.
  - Greenhouse gas & the burning of fossil fuels.
- Rising population, ongoing economic developments compound these changes.

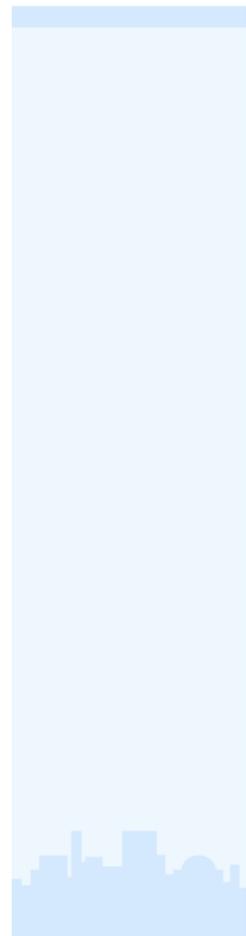
## Report Conclusions:

- Ireland now on average 0.7 degree Celsius warmer than 100 years ago.
- Our climate is warming at a rate of 0.42 degree Celsius per decade since 1980.

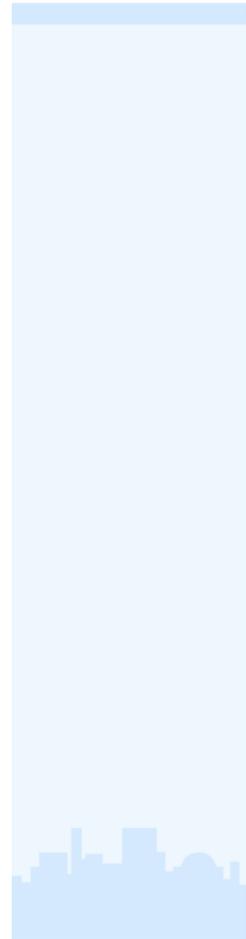
- Six of the ten warmest years occurred since 1995.
- Now fewer frost days, shorter frost season.
- Rain in North & West now heavier and more consistent.



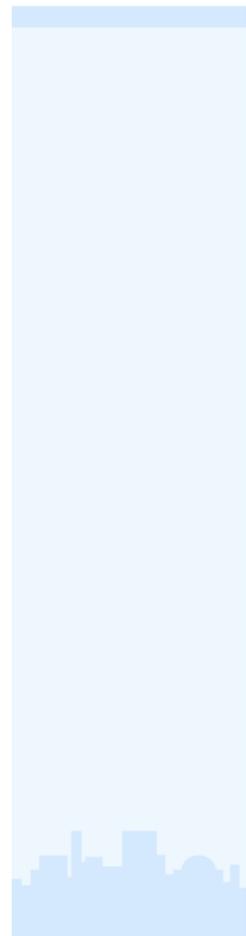
- Rainfall of over 10mm now more common.
- South & East now drier.
- Wetter winters and drier summers.



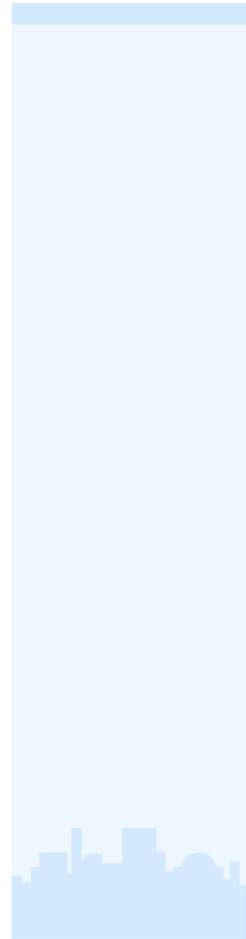
- Extreme events likely
  - Such as floods.
  - While rising sea levels, more frequent storms will increase coastal erosion and flooding.



- Changes will have implications for:
  - Our water supply
  - Drinking & domestic
  - Industry
  - Farming
  - Crop Irrigation
  - Industrial Development
  - Ecology of rivers and lakes
  - Pollution
  - Spread of water born disease
  - Hydro Electric generation



- Major social, economic and ecological consequences from:
  - Flooding
  - Droughts
  - Coastal erosion
  - Landslides & soil erosion will occur.



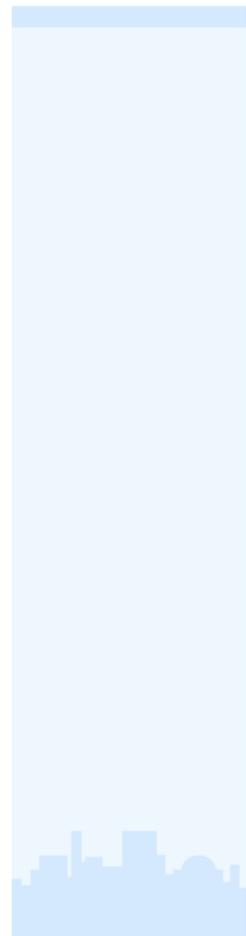
- Even if G.H.G could be stabilised at current levels:
- Earth would continue to warm.
- Climate change would continue over centuries.
- Fuelled by G.H.G's already emitted which have yet to impact on the atmosphere.



- Best case –  
scenario a **CHALLENGE**

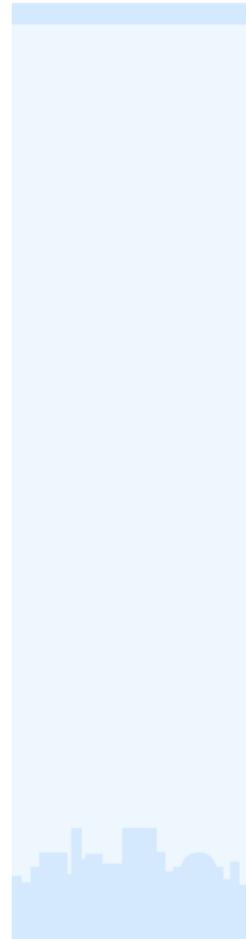


- Rapid growth
- Rising population  
(Now a 4m project to 8m by 2100)
  - Means stabilisation unlikely
  - Reduction of G.H.G's unlikely
  - Greater demand for water  
when it is likely to be scarce.



- **Planning**

- Long term planning 50 years
- Must adopt to warmer world
- Past not the key to the future
- Future is uncertain hence planning is difficult / urgent.

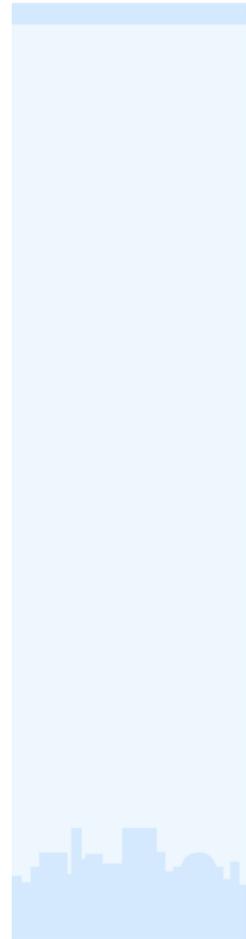


- **2007 UK Flooding**

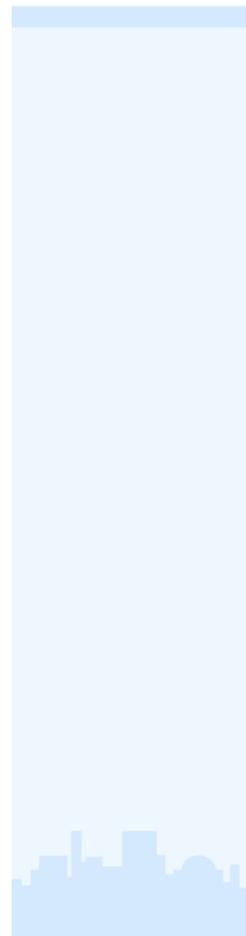
- Highlights
- Vulnerability of key infrastructure & flood defences.



- **Planning for Ireland:**
  - Must plan for
  - Coastal erosion
  - Inland flooding
  - Management of water resources
  - Water demand
  - Water supply
  - Water quality
  - Water quantity
  - Surface water
  - Ground water



- **Planning for infrastructure & development**
  - Needs to be climate proofed and flexible to accommodate uncertainty.



- Past not key to future
  - Adoption to climate change presents new challenge for water environment.

Requires innovative approaches to complex environmental & social problems.

- Uncertainty in many areas therefore research required to give confidence to policy makers to confront uncertainty.
  - Identify adaption options which are:
    - Robust
    - Equitable
    - Cost effective

- Anticipatory action now.
- Successful management of future water resources and the capacity i.e. adopt to changing climate.
  - Depends on our ability to incorporate technology and scientific advances into decision making process.

- Therefore decisions today must ensure we are on the right ***Adoption, Technological, and Policy Development*** pathways.