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Ireland at Risk

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Ireland at Risk

- Impact on climate change on the water environment.

"Water, water, everywhere

Nor any drops to drink"

Samuel Taylor Coleridge

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- 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.

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- 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.

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- We should worry -

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

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

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- 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.

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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.

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- 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.

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

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

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- 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

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- Major social, economic and ecological consequences from:

  - Flooding
  - Droughts
  - Coastal erosion
  - Landslides & soil erosion

  will occur.

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- 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.

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- Best case –

scenario a **CHALLENGE**

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- 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.

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- 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.

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- 2007 UK Flooding
  - Highlights
  - Vulnerability of key infrastructure & flood defences.

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- 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

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- Planning for infrastructure & development

  - Needs to be climate proofed and

    flexible to accommodate uncertainty.

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

    Requires innovative approaches to complex environmental & social problems.

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- 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

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- 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.

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