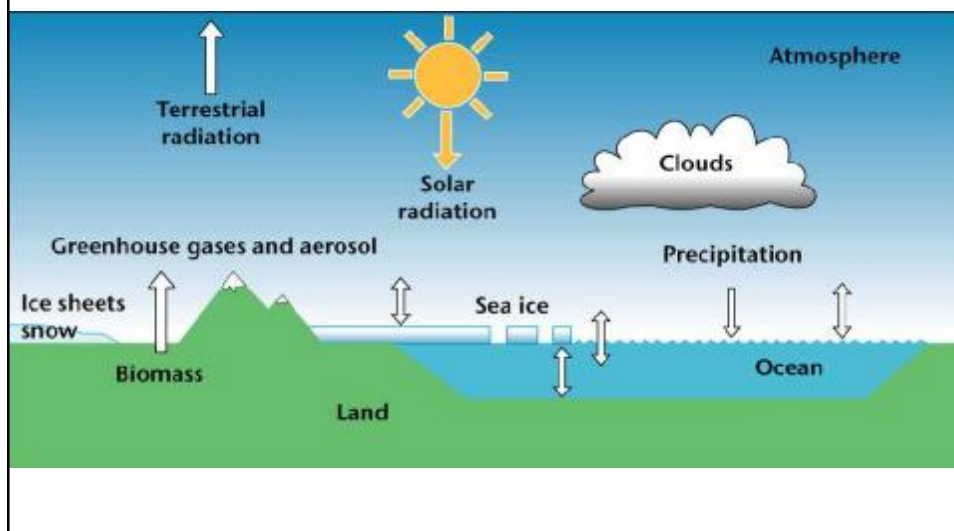


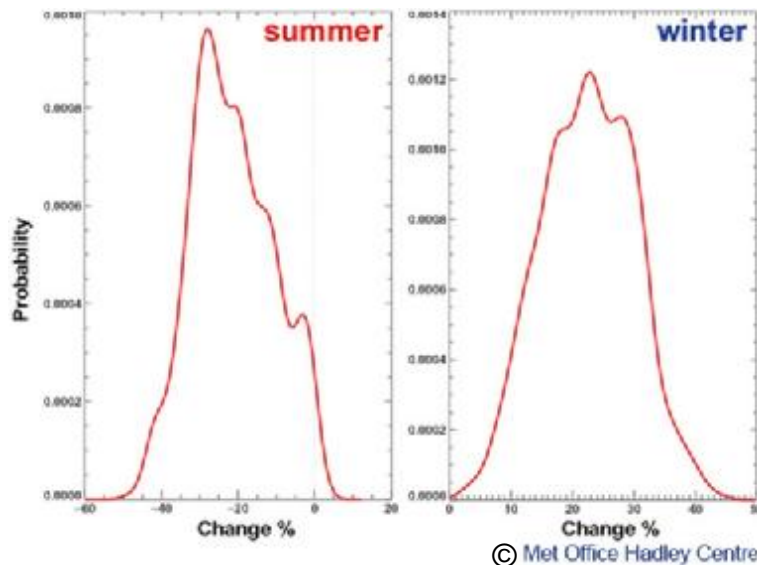
Design and Purpose in Climate Change

John Lockwood

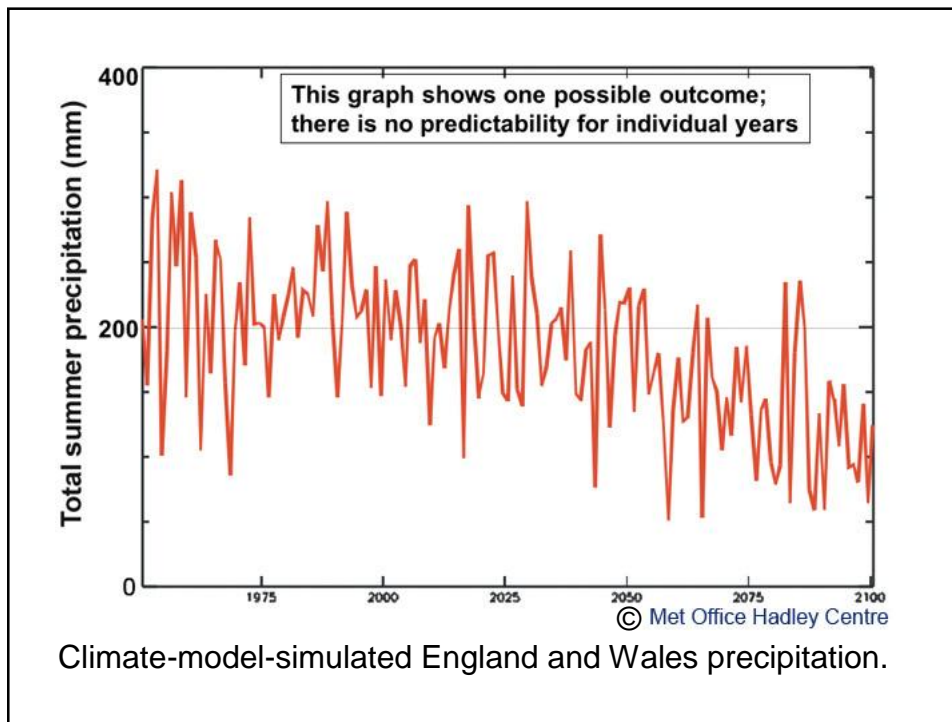
The Climate System



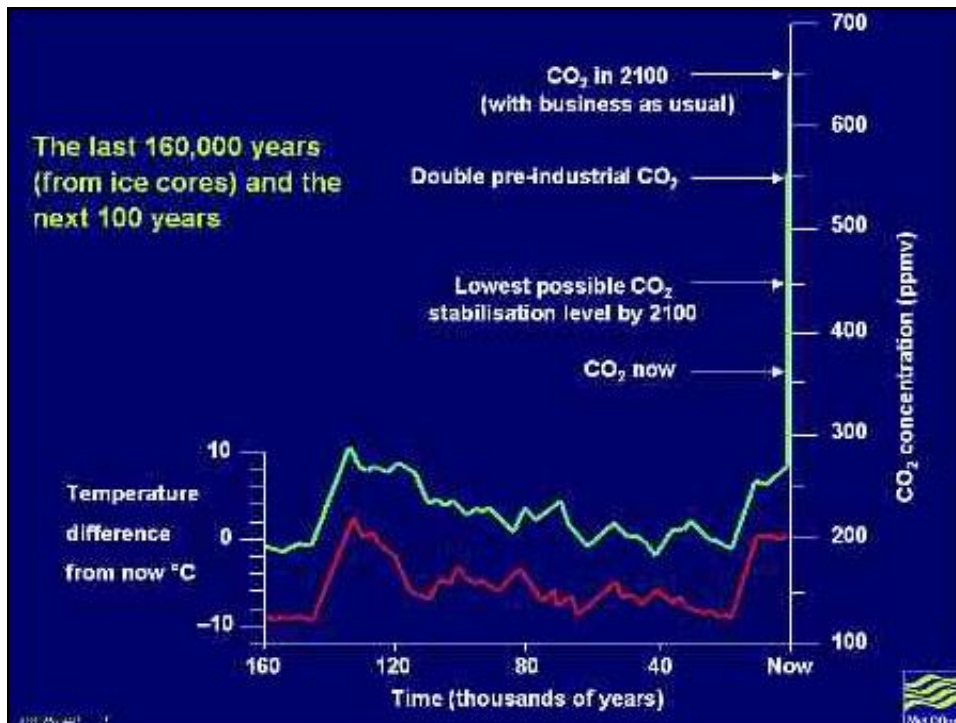
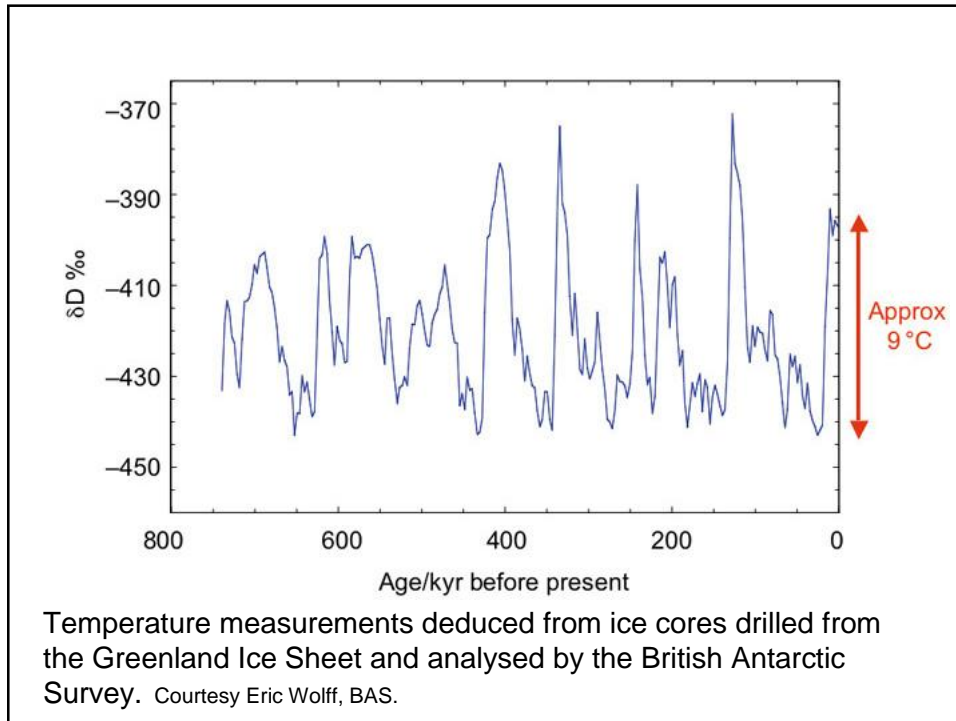
- Transitive - All initial states lead to same set of statistical properties.
- Intransitive, Almost Intransitive - statistical properties highly sensitive to initial conditions.

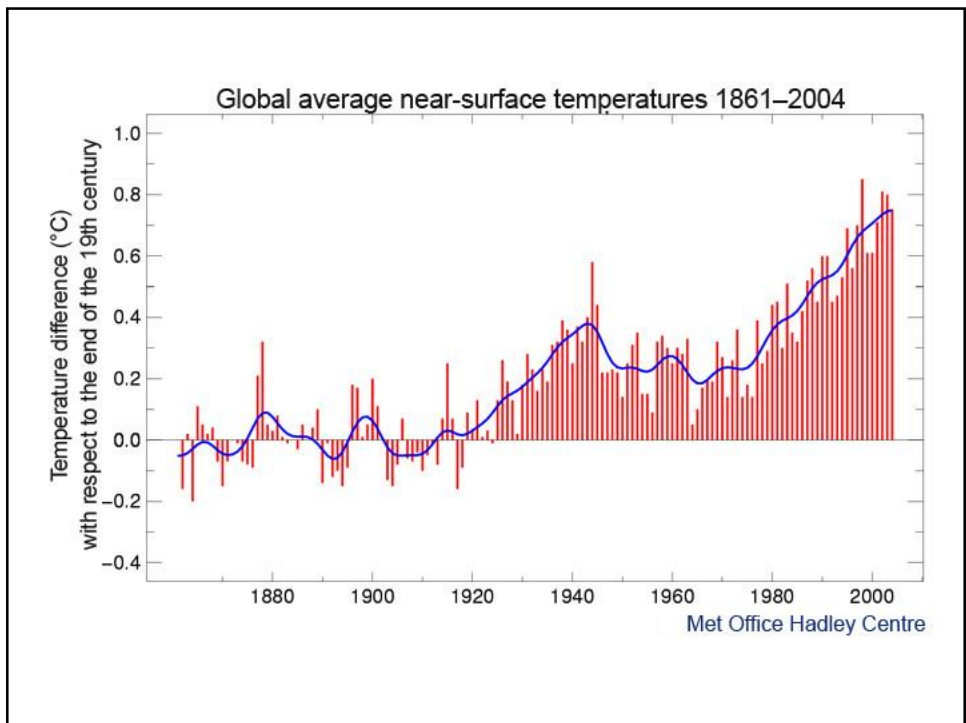
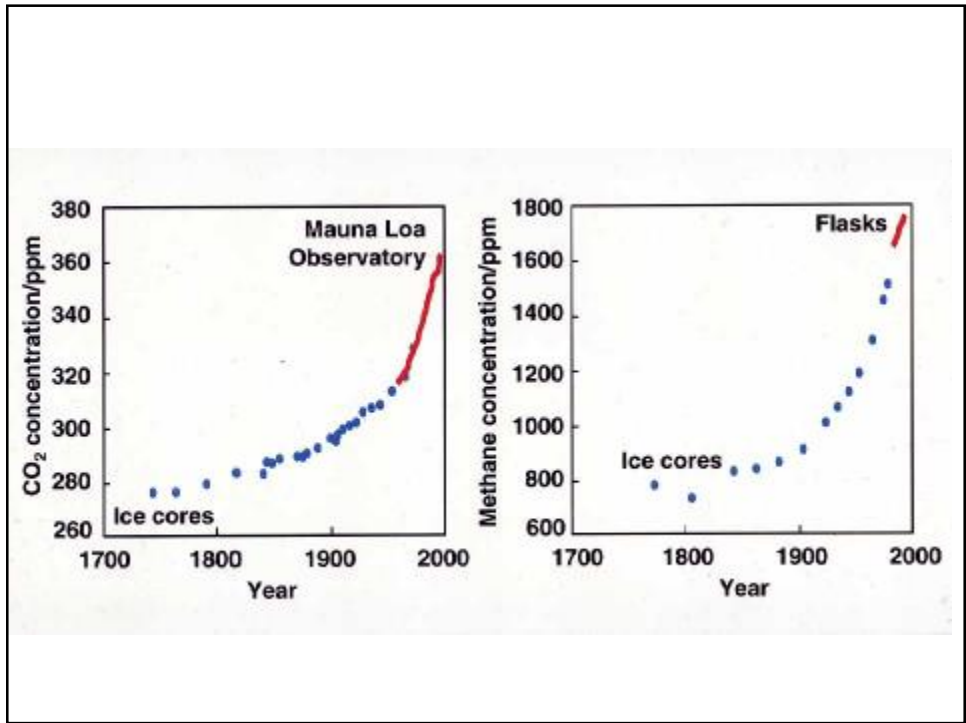


Probability of changes in England and Wales rainfall in a world where atmospheric carbon dioxide is doubled.

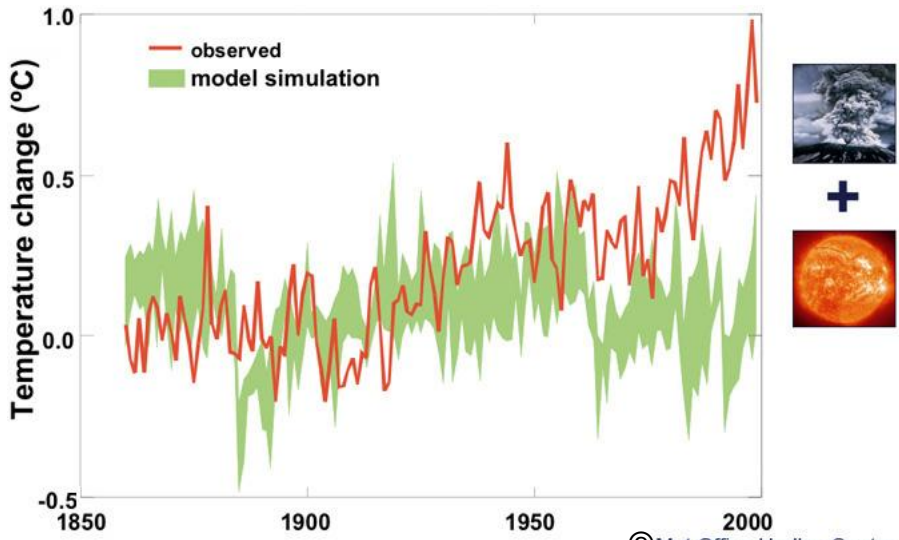
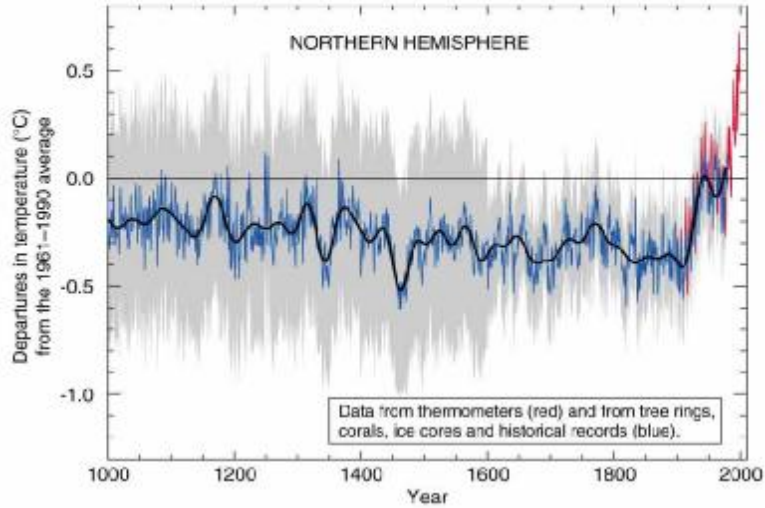


- Interesting properties of atmosphere/ocean systems include - abrupt jumps from one climatic state to another, non-stationary statistical relationships, persistent oscillations.





Variations of the Earth's surface temperature for:
(b) the past 1000 years



Temperature simulations from a climate model driven by changes in natural factors but not including increases in atmospheric carbon dioxide. These do not agree with temperature observations due to the neglect of increases in atmospheric carbon dioxide.

