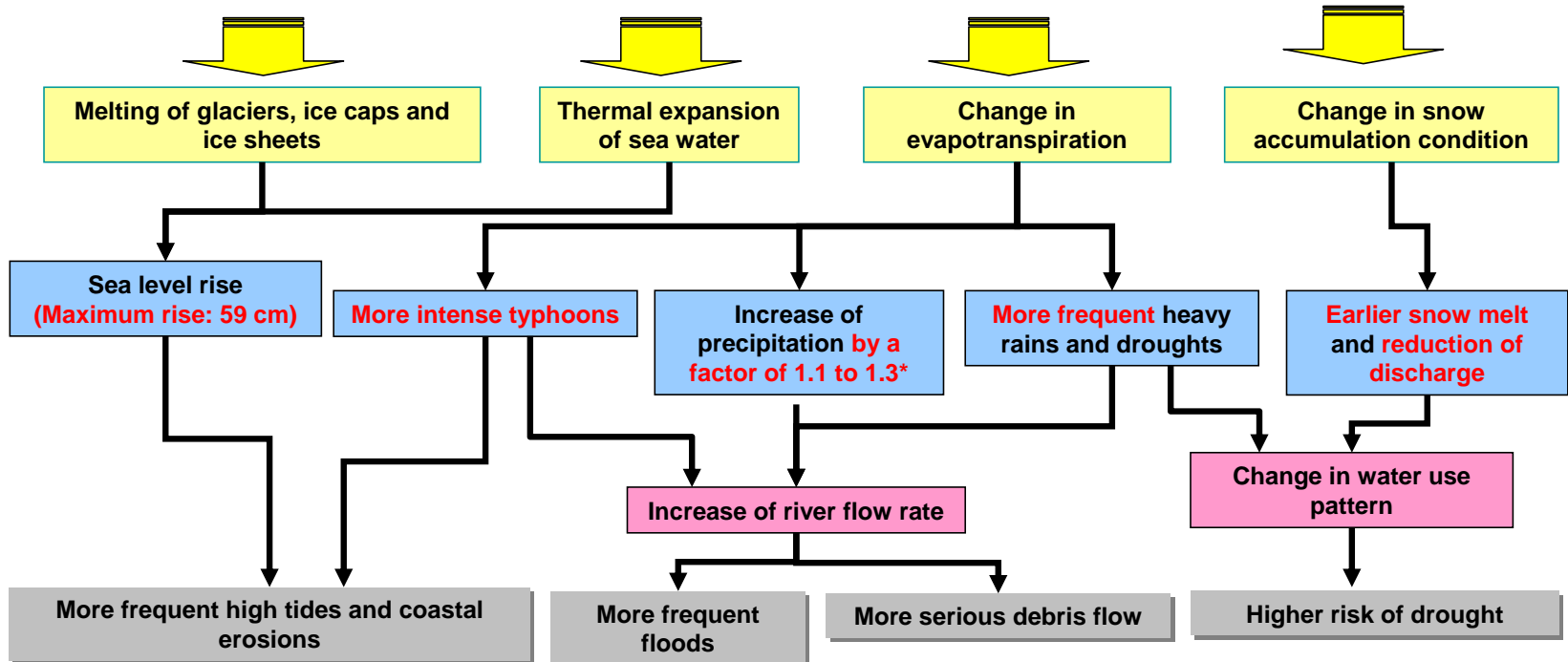


Mechanism of global warming and climate change (impacts on water-related disasters)

2. Outline of the IPCC AR4 Report

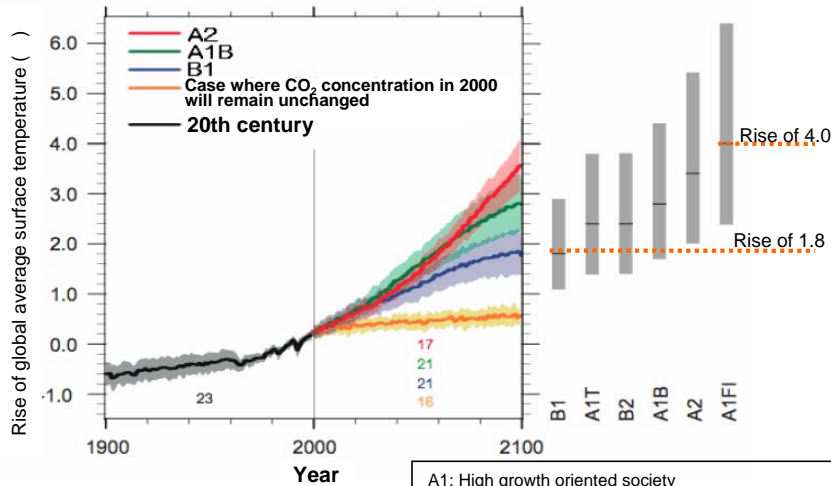
Large volumes of greenhouse gas emissions cause CO₂ concentration in the air to rise and increase heat absorption, resulting in temperature rise. Thus, global warming occurs.



Rises of temperature and sea level

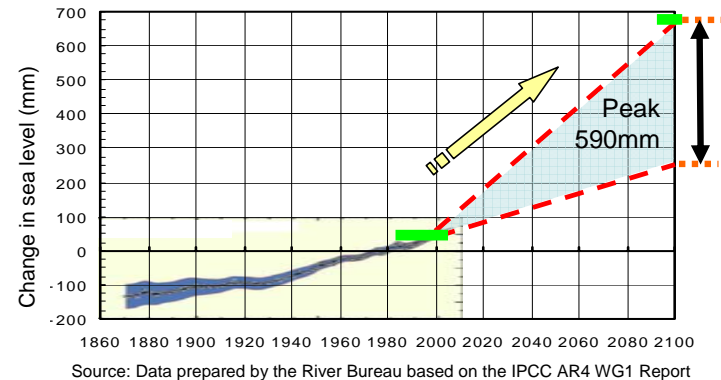
- Temperature is expected to rise by about 0.2 per decade in the next 20 years.
- Global average surface temperature is expected to rise by 1.8 to 4.0 in 100 years' time from now.
- Global average sea level is expected to rise by 18 to 59 cm in 100 years' time from now.
- Global warming and sea level rise will continue over several centuries even if green-house gas emissions are controlled.

• Average temperature



A1: High growth oriented society
 A1FI: Dependent on fossil energy sources
 A1T: Dependent on non-fossil energy sources
 A1B: Emphasis on the balance among various energy sources
 A2: Multipolarized society
 B1: Sustainable growth oriented society
 B2: Emphasis on regional initiatives

• Average sea level



• Rises of average temperature and sea level at the end of the 21st century

	Society achieving both global environmental protection and economic development	Society achieving high economic growth dependent on fossil energy sources
Temperature rise	About 1.8 (from 1.1 to 2.9)	About 4.0 (from 2.4 to 6.4)
Sea level rise	Sea level rise	26 ~ 59 cm

Source: IPCC AR4 WG1 Report

Source:
 IPCC AR4 WG1 (Working Group 1) Summary for Policymakers (Japan Meteorological Agency)
 -Solid lines indicate rises of global average surface temperature in each scenario identified using multiple models.
 -Shaded areas indicate the range of standard deviations of average annual temperature for each model.