

G-Science Academies' Meeting - International Symposium



Urgent Action with Integrated Approach for Climate Change

Nobuo Mimura
Specially Appointed Professor
Ibaraki University



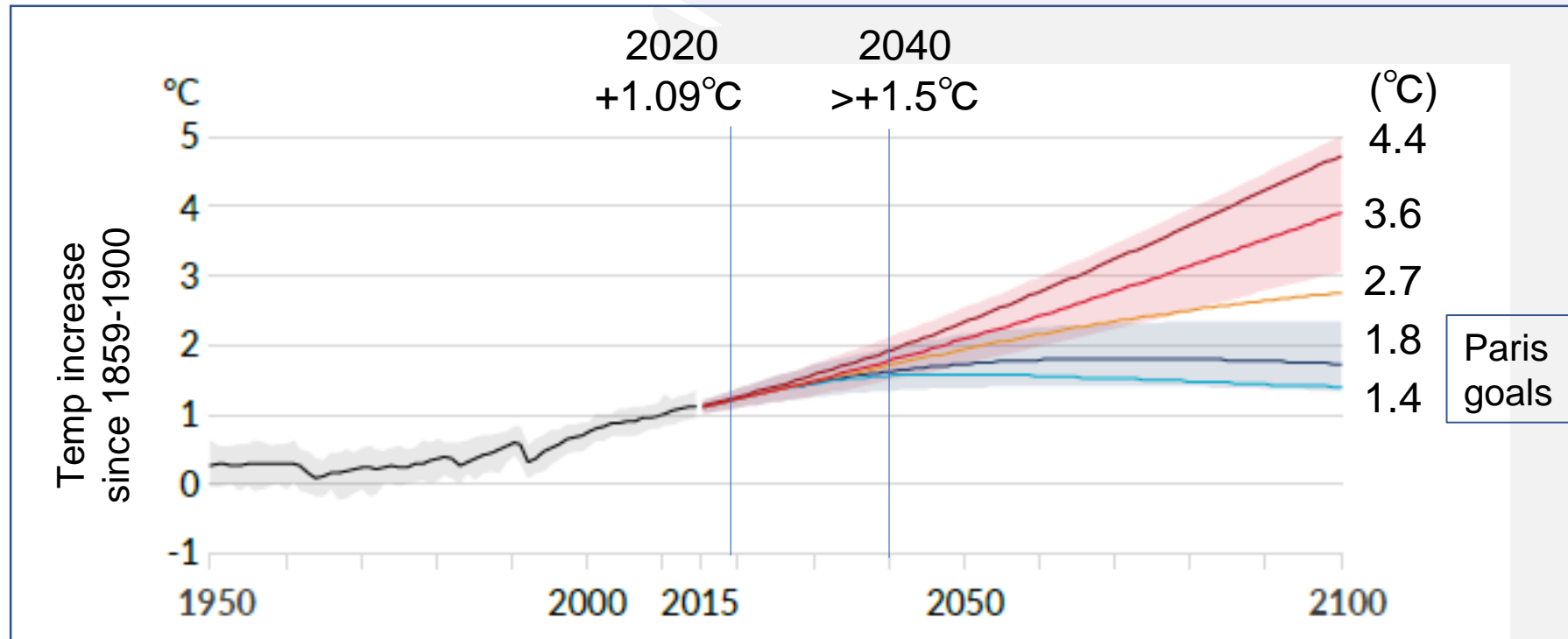
Three Points

- 1 Urgency of Action**
- 2 Climate Resilient and Sustainable Development**
- 3 Integrated Approach**

1 Urgency of Action

IPCC Sixth Assessment Reports(2021, 2022) indicated the urgency of actions.

- Future warming varies depending on the GHG emission scenarios. Global mean temperature will likely reach 1.5°C increase around 2040 for most emission scenarios.
We are not on track to limit warming to 1.5°C.
- Achievement of carbon neutrality 2050 highly depends on the societal choices and actions in the next decade.



Source: IPCCAR6
SPM WG Report, 2021

2 Climate Resilient and Sustainable Development

CC response and its implication

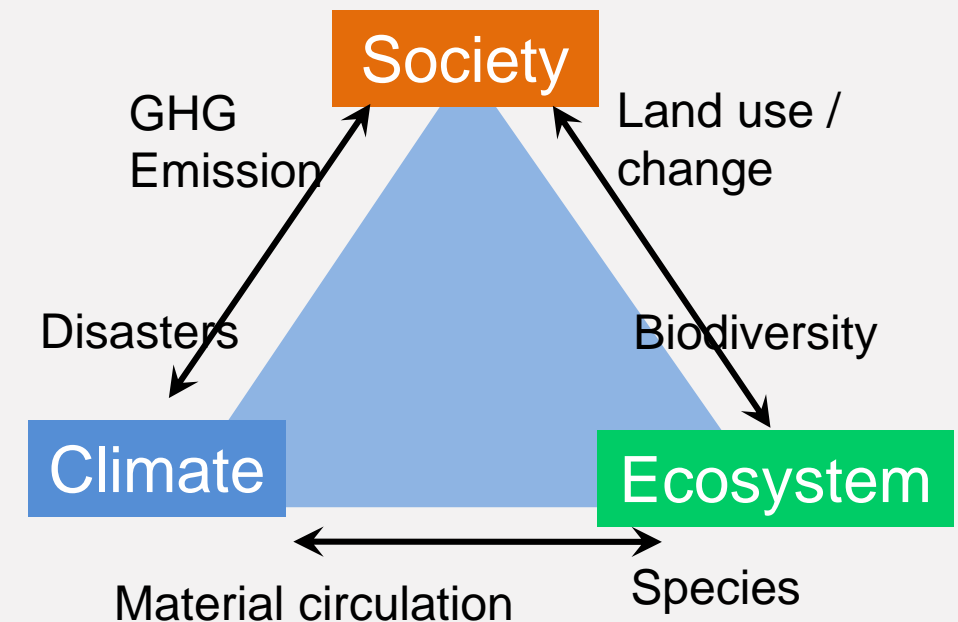
- CC response (mitigation and adaptation) has two implications.
 - managing CC risks by building social resilience
 - transforming socio-economic development
- Climate change is caused by huge GHGs emission from human activities using fossil fuel energies. Therefore, mitigation means the transformation to a society that is supported by renewable energies and safeguard ecosystem and biodiversity.

Climate Resilient Development (CRD)

- CRD targets to restore the relationship between society, climate system and ecosystem through implementing CC mitigation and adaptation.

Role of Science

- **CRD is a big challenge of mankind.** Academia should contribute to acceleration of CC mitigation and adaptation, and to promote science for CRD.



3 Integrated Approach

Emphasis on the integrated approach

- Integrated approach has been emphasized repeatedly in the academic community.
 - interdisciplinary, transdisciplinary, holistic approach etc
- Given a wide range of impacts of CC on all people in the world, addressing CC really need integrated approach.

Integrated approach within academic community

- Understanding of CC and its impacts, and policy formulation need a firm scientific basis.
i.e., Interdisciplinary nature of IPCC
 - WGI The physical science basis: geophysics, paleo climate, climate modelling
 - WGII Impacts, adaptation and vulnerability: agriculture, water engineering, etc
 - WGIII Mitigation: economics, policy science, engineering etc
- Solutions to CC such as mitigation, adaptation and CRD need more collaboration of natural, social and humanity sciences.

Integrated approach between science and society

- More emphasis is needed to promote the interaction between science community and policy-makers, private companies, local communities etc.



Thank you very much!