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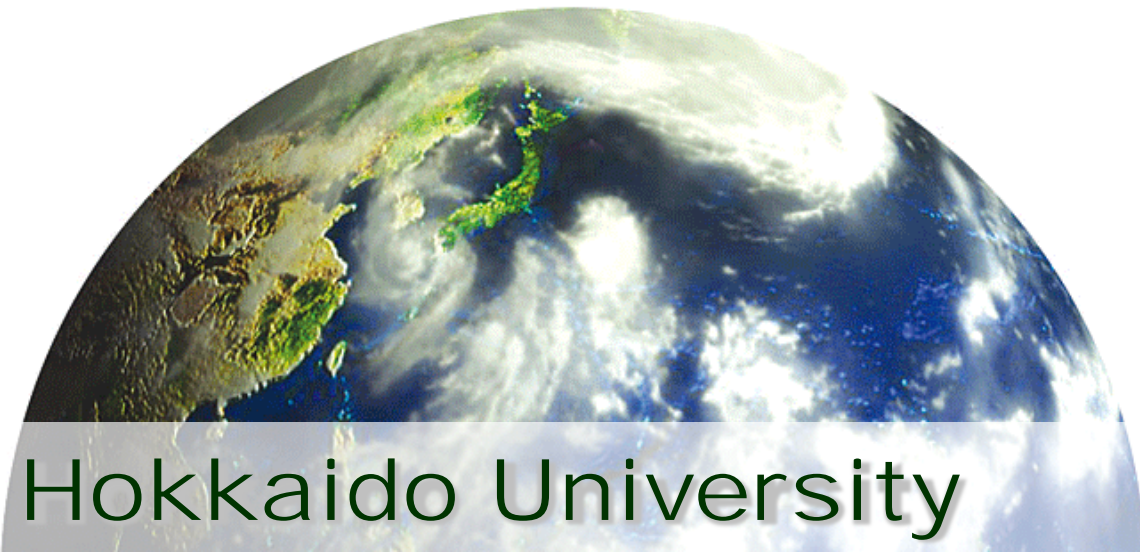
Green New Deal and Global Change

Global Change

Earth system change

and its feedbacks with human society:
agriculture, fisheries and water resources

Sustainability Weeks 2008 -G8 Summit Round



Hokkaido University



G8 Summit Symposium (June, 2008)

Drastic Change in the Earth System during Global Warming

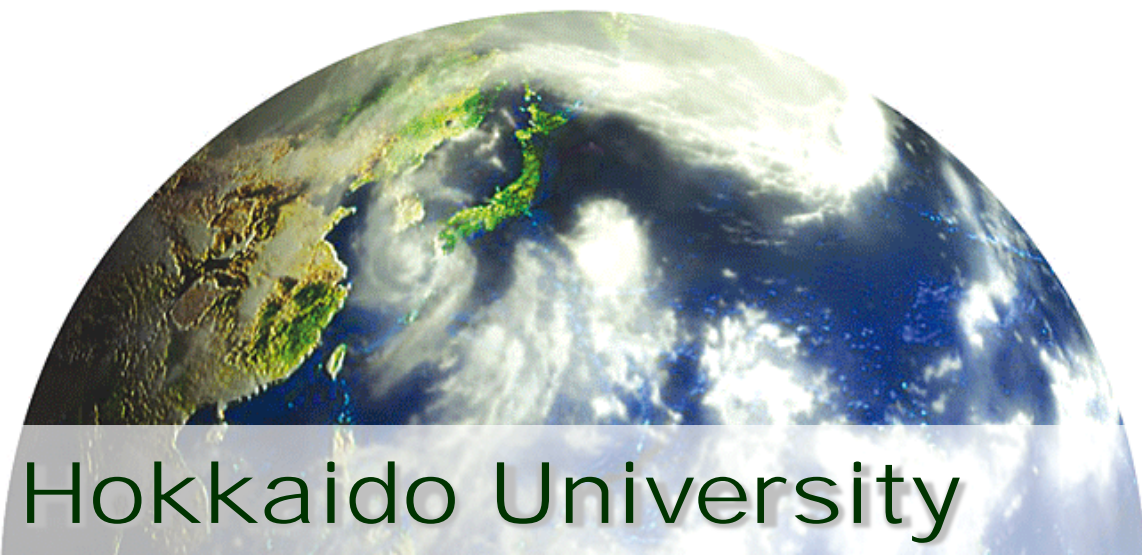
Five hot issues

1. Clarify causes and magnitude of **sea level rise**
2. Decay of glaciers and Greenland and Antarctic **ice sheets**
3. When will summer Arctic **sea ice** disappear?
4. Carbon uptake or emission by terrestrial **ecosystem**
5. Marine **ecosystem** change resulting in carbon emission

Scientific clarification is required on mechanisms which yield positive feedback in the earth system.

Reliable projection on distinct indicators is crucial.

Sustainability Weeks 2009



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Earth system change and its feedbacks with human society

Linkages among four crucial components

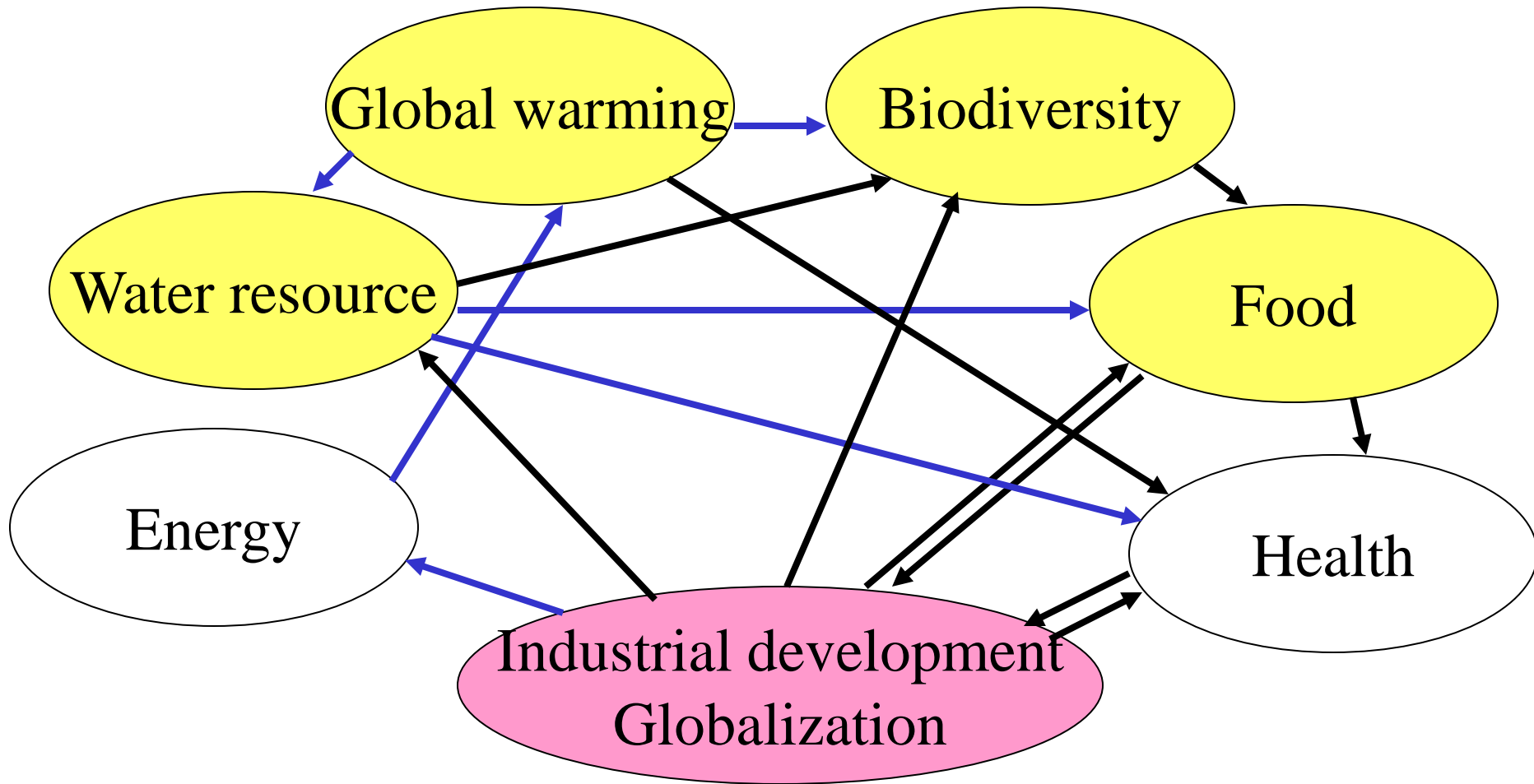
1-1. Polar region change interacting with global climate
(D. Yang, J. Oh, M. Ikeda)

1-2. Terrestrial and marine bio-geochemical systems
(S. Samdan, H. Shibata, A. Andreev, Y. Watanabe)

2-1. Fisheries and agriculture under global change
(C. Zhang, M. Kaeriyama, H. Oselebe, G. Brierley,
Y. Chi, H. Araki)

2-2. Water resources under global change
(T. Matsushita, T. Yamada, T. Fujiwara, T. Imai,
M. Takaoka)

Feedbacks among Urgent Issues



Once each issue gets worse, it worsens the others.
Can we solve all issues at once?