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| Title | Introduction of the session on Global Change |
| Author(s) | Ikeda, Motoyoshi |
| Description | Intenational Symposium "Toward a Sustainable Low Carbon Society -Green New Deal and Global Change-" PartII Global Change. 5 November 2009. Sapporo, Japan. |
| Relation | Intenational Symposium "Toward a Sustainable Low Carbon Society -Green New Deal and Global Change-". 4-5 November 2009. Sapporo, Japan. |
| Issue Date | 2009-11-05 |
| Doc URL | https://hdl.handle.net/2115/39929 |
| Type | conference presentation |
| File Information | introduction.pdf |

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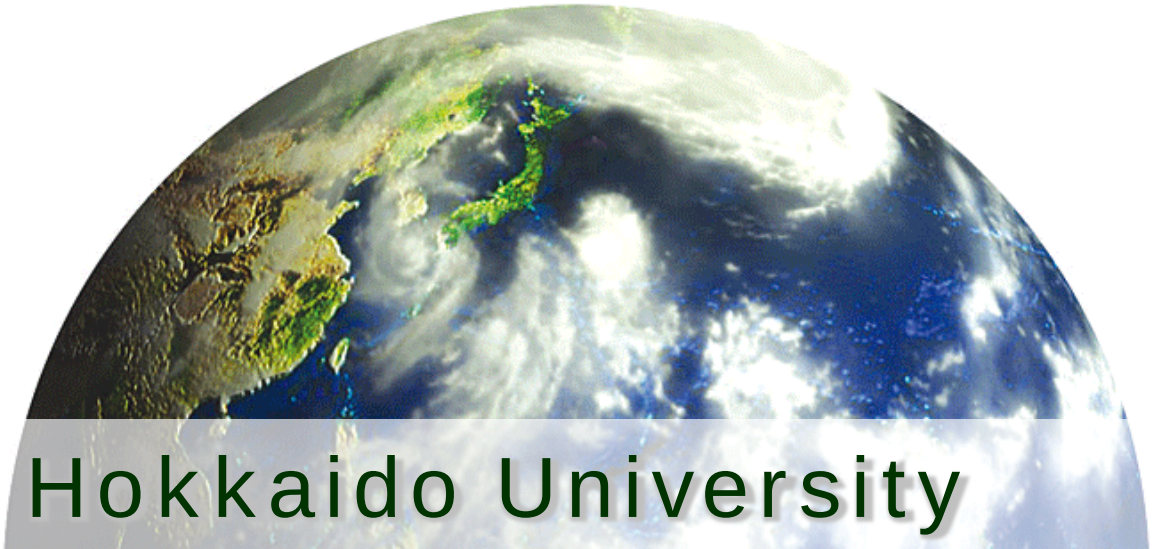
Green New Deal and Global Change

# Global Change

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

# Sustainability Weeks 2008

## –G8 Summit Round



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# G8 Summit Symposium (June, 2008) Drastic Change in the Earth System during Global Warming

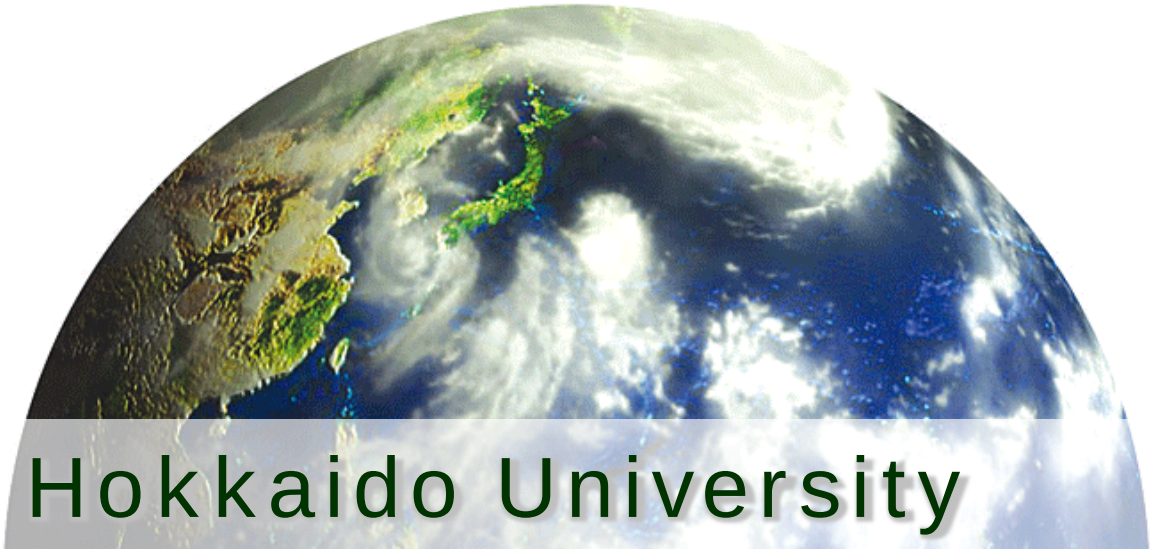
**Five hot issues**

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**

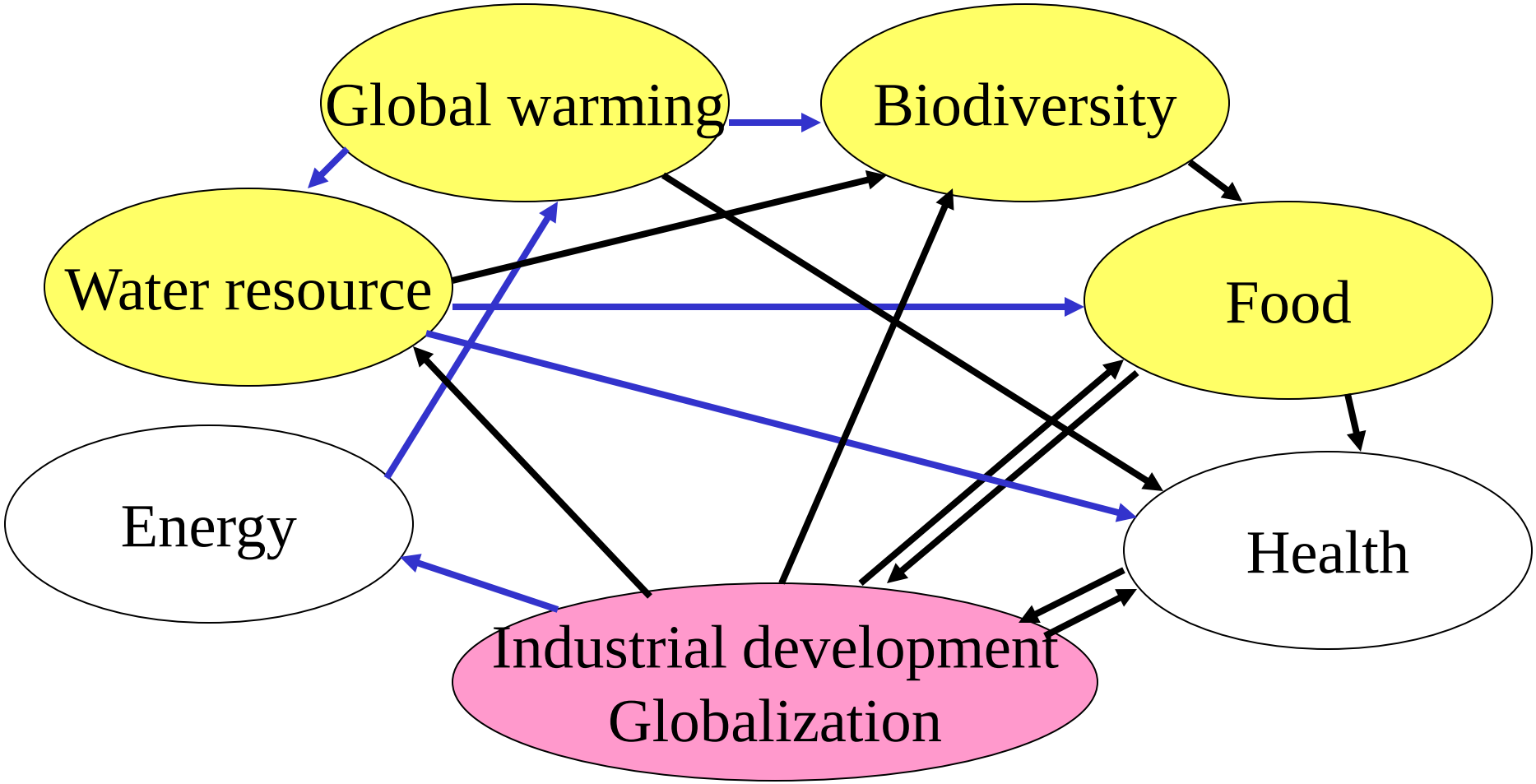
1-1. Polar region change interacting with global climate
(D. Yang, J. Oh, M. Ikeda)

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?