EMF-Snowmass, 2010

Collaboration among IAV, IAM, and CM for IAV Studies in the Integration Phase of New Scenario Development Process

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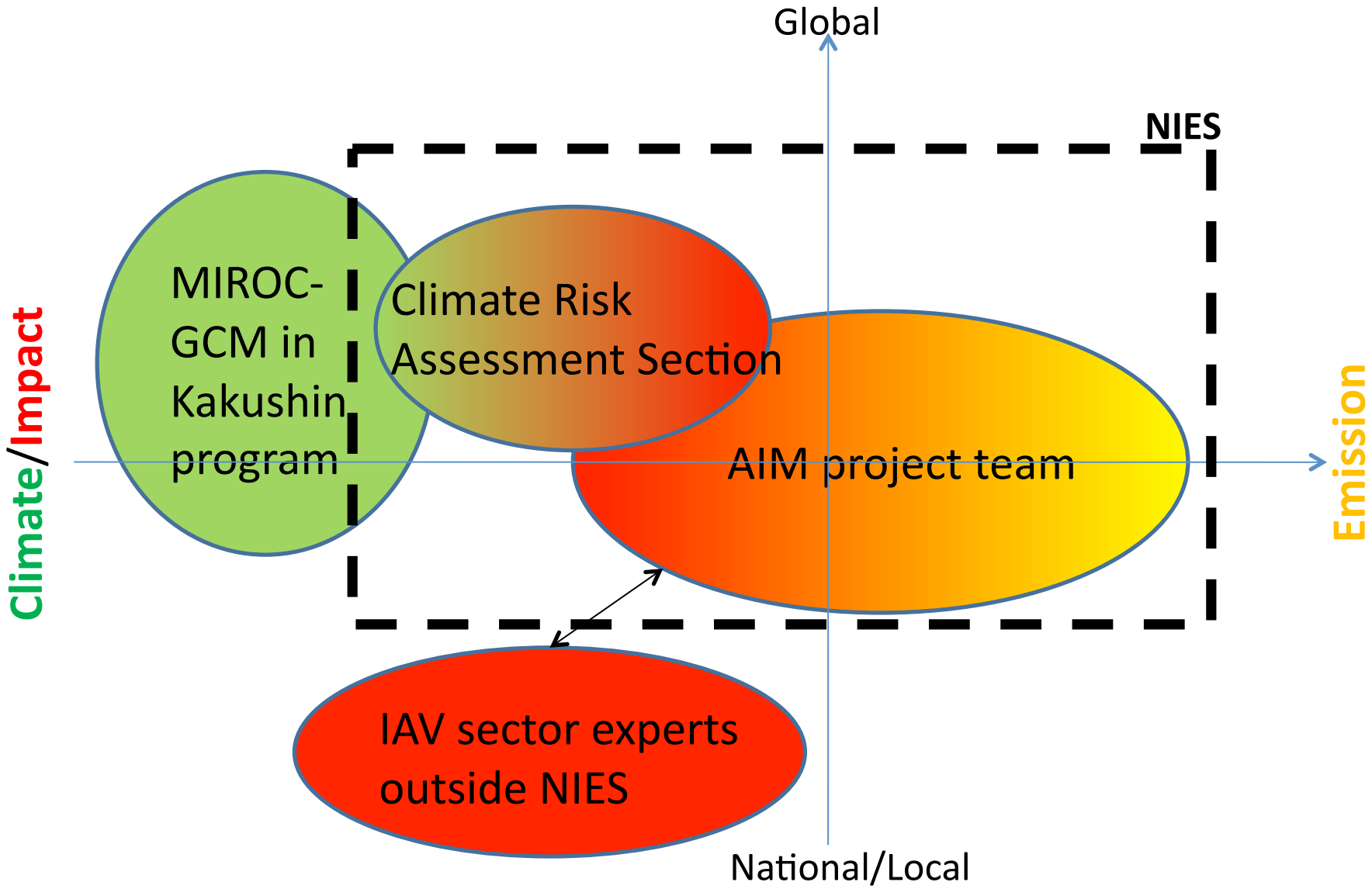
IAM, IAV and CM studies in NIES



Scheme of the Project for Comprehensive Projection of Climate Change Impacts in Japan

Improvement of Impact Projection

Water resources

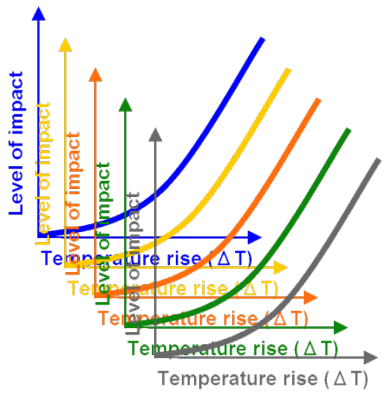
Human health

Agriculture

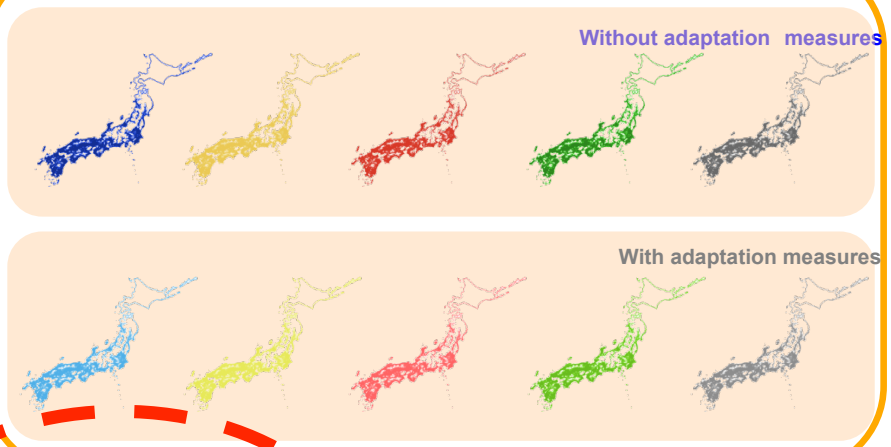
Forests

Coasts

Development of Impact Functions



Risk Map



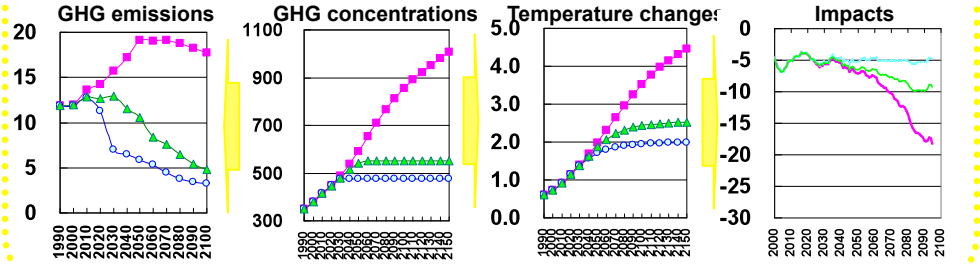
Adaptation measures

Common scenario

Climate scenario

Non-climate scenario

Integrated assessment tool



Economic assessment

Proposal of economic assessment method

Development of monetary assessment basic unit

Comprehensive projections

IAV studies' requests on socio-economic scenarios
- Experiences in the research project conducted in Japan -

- NIES team took a role to prepare and provide climate and non-climate scenarios that were commonly used in the project.
- Less concrete requests on socio-economic scenarios than on climate scenarios.
  - Requests from IAV sector experts were limited to scenarios on population distribution, land-use, asset distribution.
  - It is obvious that there were much more socio-economic factors which needed to be considered in the IAV analyses.
- Many non-climate factors related to vulnerability were treated as static factors which would not change in future.

- IAV studies have a space to become more realistic through better use of socio-economic scenarios.

IAMs: Suitable tool for socio-economic scenarios provision?

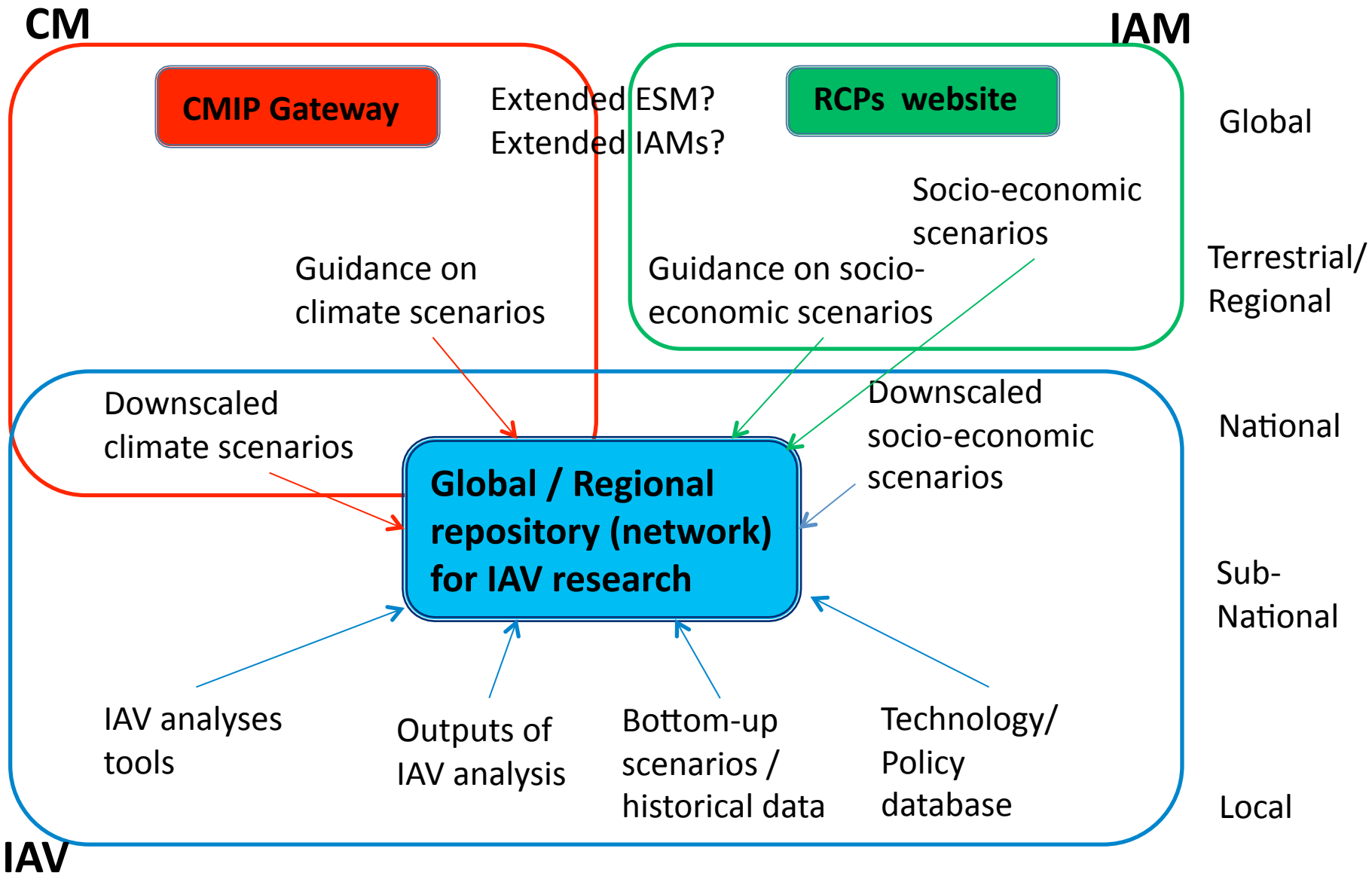
- What can we really expect IAMs to provide?
  - Excessive or ambiguous expectations from IAV studies?
  - Risk of distributing less-accurate ad-hoc products?
  - Need to clarify the gaps between the requests from IAV and what IAMs can provide.
- Are there something which IAV researchers could do for effective cooperation between IAV and IAM?
  - Some kind of socio-economic scenarios, especially sector specific ones, cannot be provided by IAMs and need to be developed by IAV sector experts.
  - IAV researchers should have a skill to evaluate, choose and utilize scenarios provided by CMs and IAMs properly.
  - Needs for guidance materials for IAV researchers on development and usage of socio-economic scenarios?

Advantages of IAMs to be used for scenario development

- IAM as a tool for checking consistency among diversified scenario elements which are interacted each other.
- IAM as a tool for explicitly describing scenario development procedure (formulations and assumptions), which is possible to increase transparency of the process.

- But… proper technical documentation of the model, which can be under stood by IAV community people, is prerequisite for those advantages.
- Without understanding the features of IAMs, IAV sector experts may not be able to decide how much they can rely on the IAMs' outputs.

Repository system?



Conclusions

- In NIES, we are trying to enhance interaction among IAM, IAV and CM researches for contributing to the integrated scenario development.
- For effective data exchange among the different research communities, transparency of data development process is critical.
- Establishment of “repository site”, where input/ output data of IAV as well as relevant tools and documents are archived and communized, is the key for enhancing integration phase of new scenario development process.