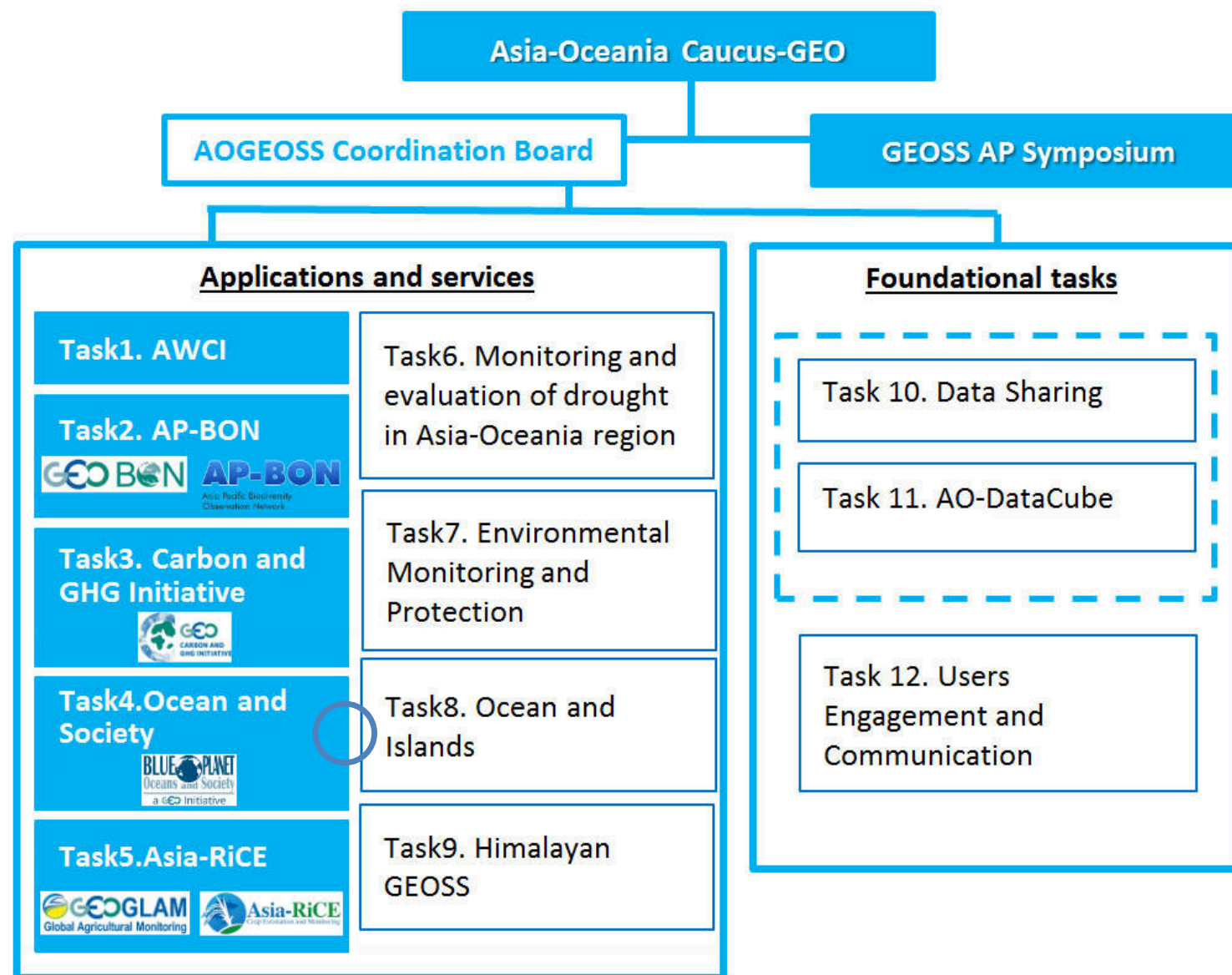
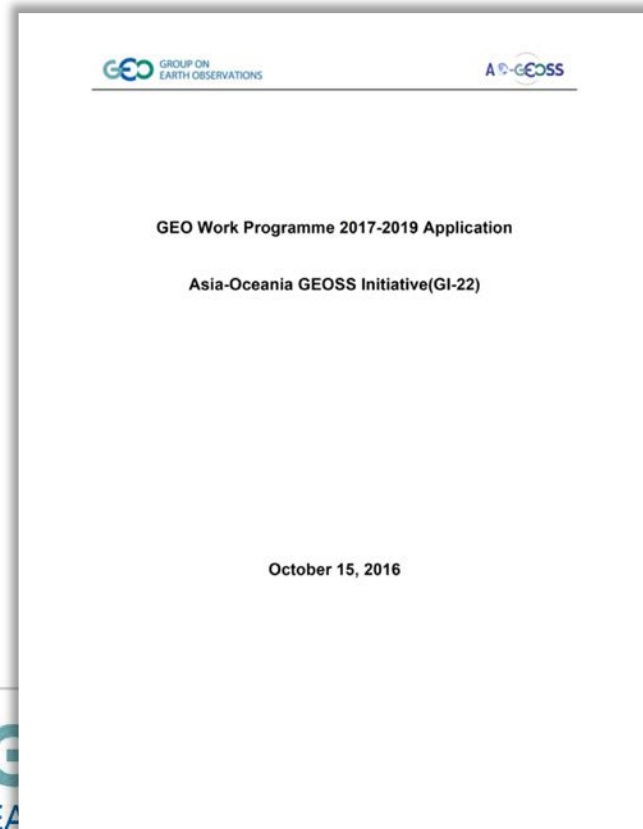


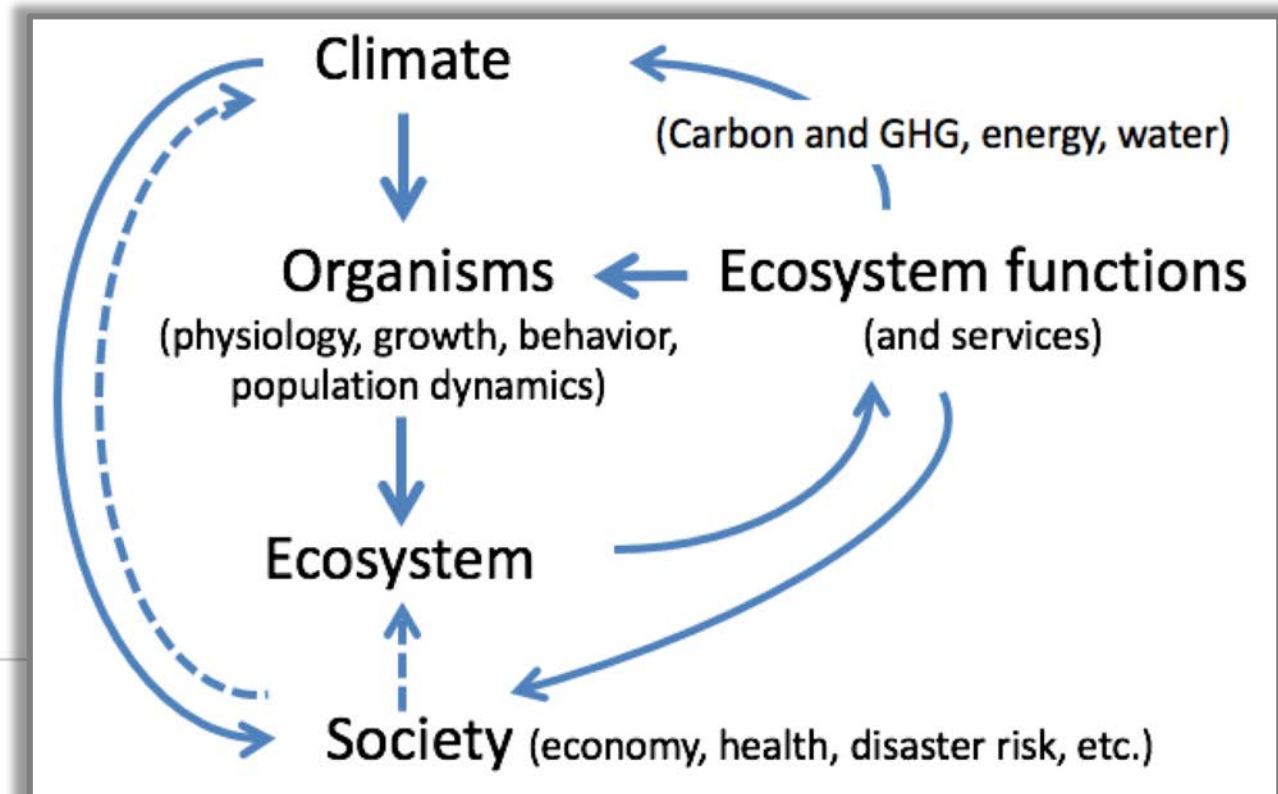
Discussions: Collaboration with AOGEOSS Task Groups



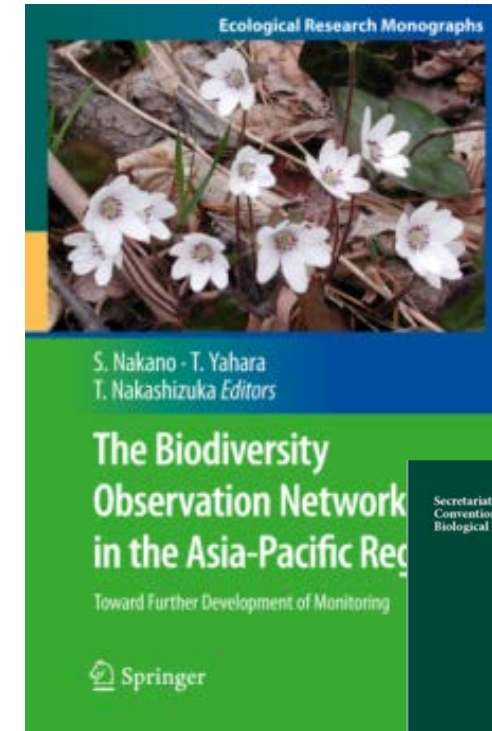
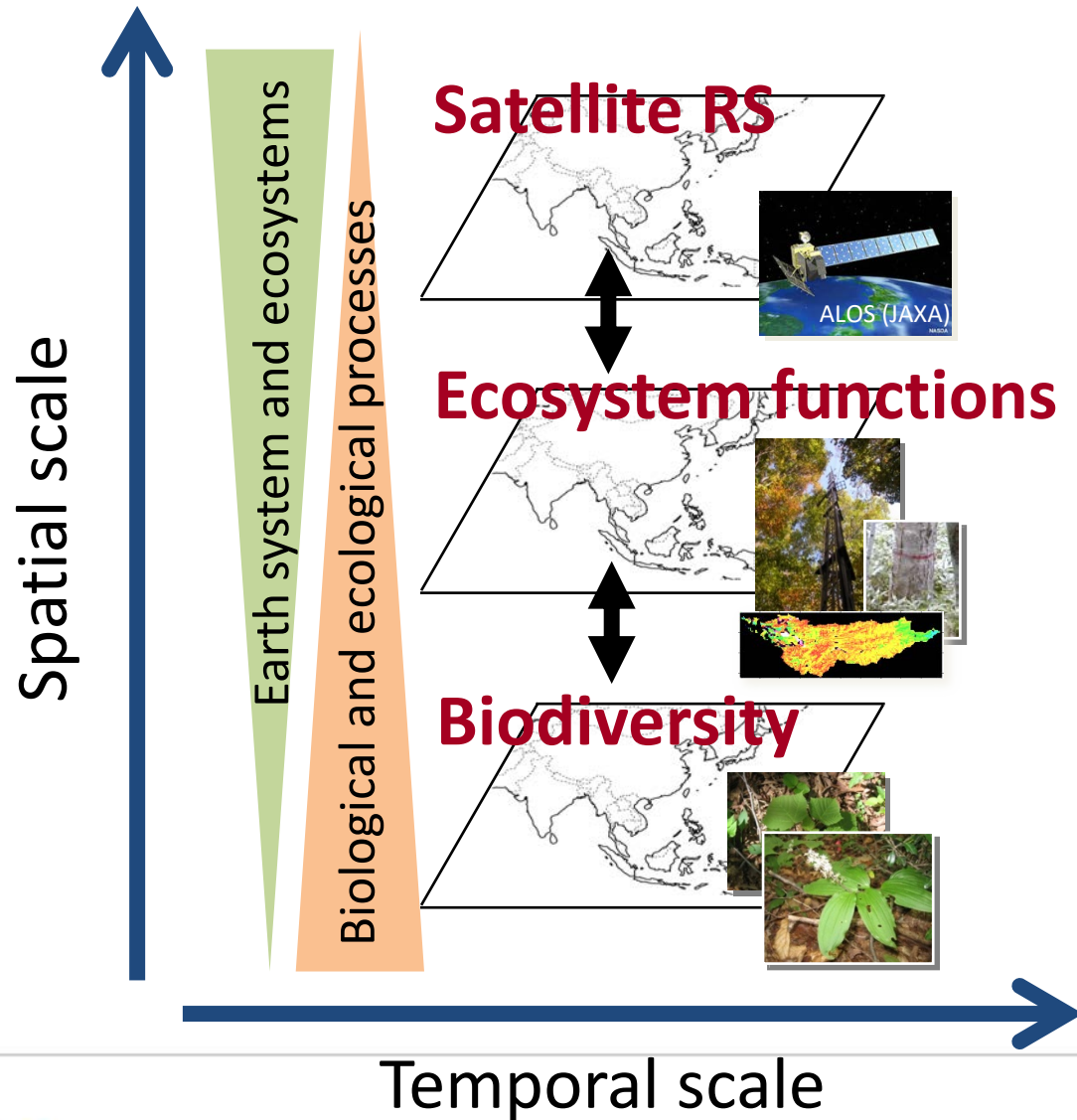
- 1. Inter-disciplinary scientific studies by sharing thematic areas / geographical target(s)**
- 2. Mapping exercise on SDGs, Sendai framework for DRR, and Paris Climate Agreement**
- 3. Input to “Kyoto Statement”**

Research questions from ILTER-EAP and AP BON

1. How does the climate change influence differently on the ecological behaviors of ecosystems in the region? (Geographical heterogeneity? Teleconnections? etc.)
2. What are the critical aspects of biodiversity and ecosystems in the region that contribute to the sustainability of Earth systems and global society?
3. How does growing spatial gradient of economic development in the region influence biodiversity, ecosystem functions, and their goods and services, and finally influence the ecosystem resilience to climate change?
4. How do the increasing extreme climatic events and land use change influence ecosystem functions and services?



Various Earth observations and analysis – In-situ, Satellites, Models



Opportunities: networking the networks

Coordinated observations/experiments/analyses for interdisciplinary research, outreach and development.

ILTER-EAP sites



<https://deims.org/map/>

AP BON sites



APBON book 1

AsiaFlux and OzFlux sites

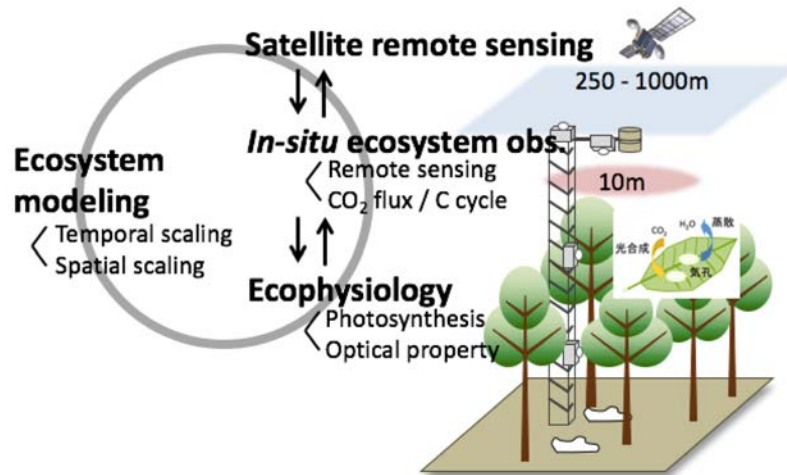
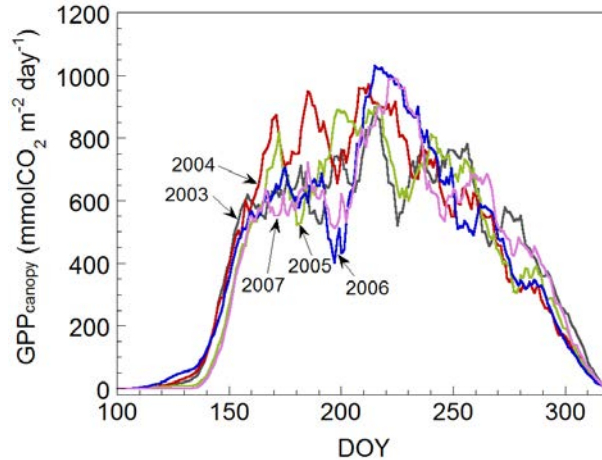


ex.) Carbon cycle processes and CO₂ flux of forest ecosystems

Leaf phenology and forest C allocation

Takayama site (Japan)

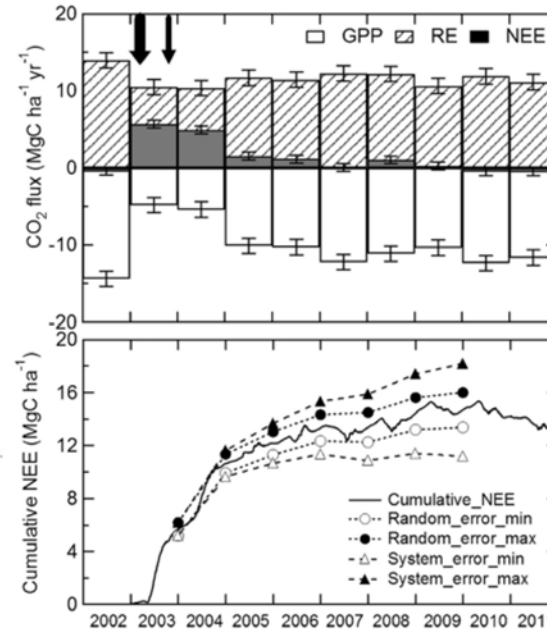
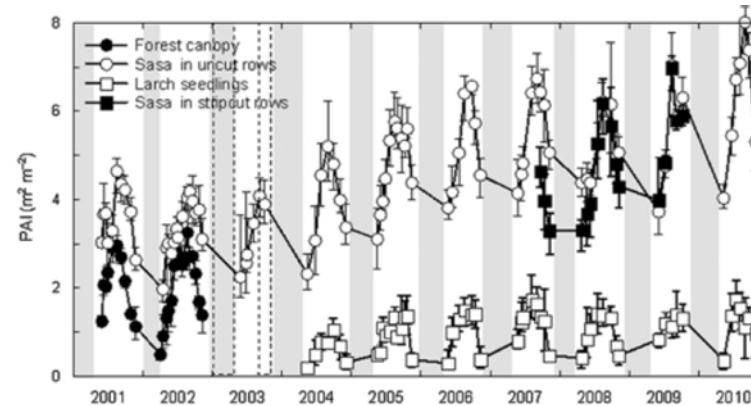
Muraoka et al. (2010) *JPR*



Forest growth and CO₂ flux

Teshio site (Japan)

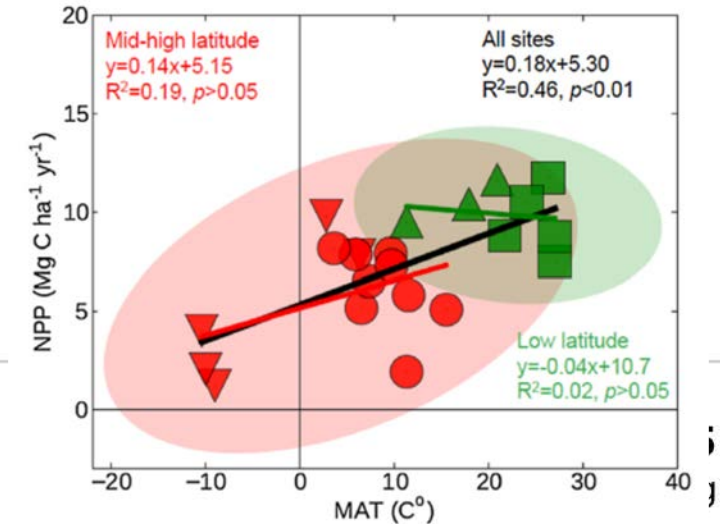
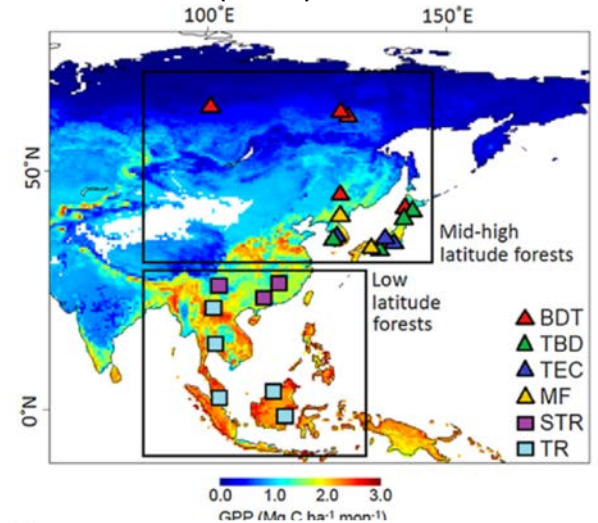
Aguilos, Takagi et al. (2014) *AGFM*



Environmental gradient and NPP

AsiaFlux sites

Kondo et al. (2016) *AGFM*



Mapping exercise with GEO the 3 Priorities and SBAs



- Biodiversity and Ecosystem Sustainability
- Disaster Resilience
- Energy and Mineral Resource Management
- Food Security and Sustainable Agriculture
- Public Health Surveillance
- Transport
- Sustainable Urban Development
- Water Resources Management

GEO Priorities		Cross-Cutting Areas	Example	TG1	TG2	TG3	TG4&8	TG5	TG6	TG7	TG9	TG10	TG11	TG12
SDG	1.NO POVERTY		0											
	2.ZERO HUNGER		1											
	3. GOOD HEALTH AND WELL-BEING		0											
	4.QUALITY EDUCATION		0											
	5.GENDER EQUALITY		0											
	6.CLEAN WATER AND SANITATION		3											
	7.AFFORDABLE AND CLEAN ENERGY		2											
	8.DECENT WORK AND ECONOMIC GROWTH		0											
	9.INDUSTRY, INNOVATION AND INFRASTRUCTURE		0											
	10.REDUCED INEQUALITIES		0											
	11.SUSTAINABLE CITIES AND COMMUNITIES		0											
	12.RESPONSIBLE CONSUMPTION AND PRODUCTION		0											
	13.CLIMATE ACTION		2											
	14.LIFE BELOW WATER		3											
	15.LIFE ON LAND		0											
	16.PEACE, JUSTICE AND STRONG INSTITUTIONS		0											
	17.PARTNERSHIP FOR THE GOALS		2											
Paris Agreement	Adaptation		0											
	Loss & Damage		0											
	Capacity Development/ Technology Transfer		0											
	National Reporting/ Global Stocktake		0											
Sendai Framework	Mitigation		0											
	Understanding disaster risk		0											
	Strengthening disaster risk governance to manage disaster risk		0											
	Investing in disaster risk reduction for resilience		0											
	Enhancing disaster preparedness for effective response, and to "Build Back Better" in recovery, rehabilitation and reconstruction		0											
		Data Sharing Infrastructure	0											
		User Engagement and Communication	0											
Total:			13	0	0	0	0	0	0	0	0	0	0	0

*Scoring: 0=Do nothing, 1=less active, 2=active, 3=very active

Cross-mapping of the indicators within the Biodiversity Indicators Partnership to Aichi Biodiversity Targets and SDGs









































In this table the current suite of indicators brought together under the Biodiversity Indicators Partnership (BIP) have been mapped to both the Aichi Biodiversity Targets (ABTs) and the Sustainable Development Goals (SDGs) to support the identification of indicator synergies between the processes.











In this table the indicators under the BIP have been mapped to their primary ABTs only. Many of these indicators also map to further ABTs and these links can be explored further via the BIP website. This is a working table and will be further updated as the BIP expands.

The Biodiversity Indicators Partnership (BIP) website

All of the indicators in this cross-mapping document can be explored in more detail on the BIP website www.bipindicators.net. Each indicator has a dedicated web page, which includes information on the methodology, current storyline, national use, alignment with targets and SDGs and provides contact points for indicator providers. The website also allows you to browse which indicators fall under certain targets, SDGs, MEAs and themes such as species, agriculture and policy.

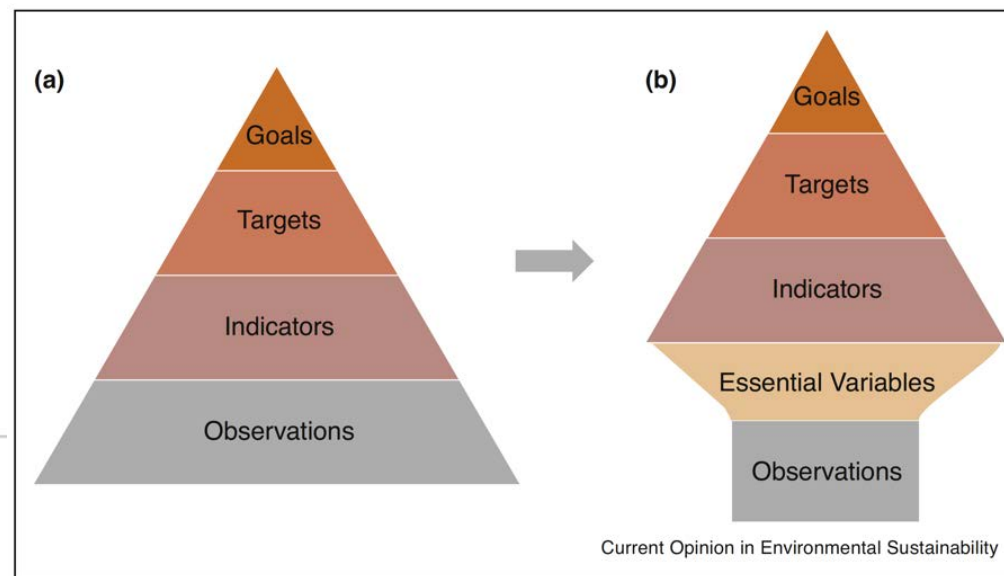
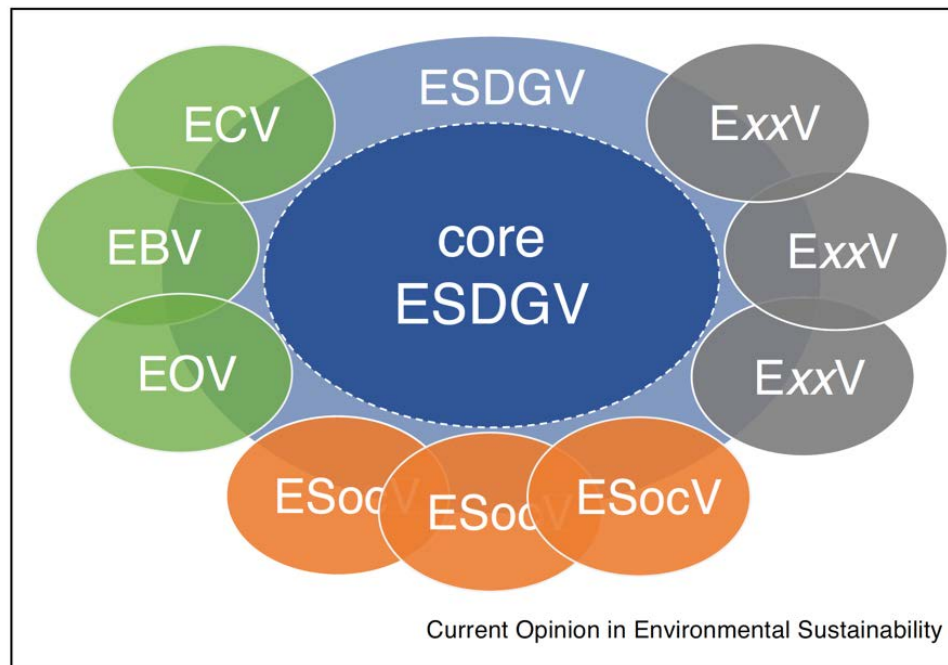
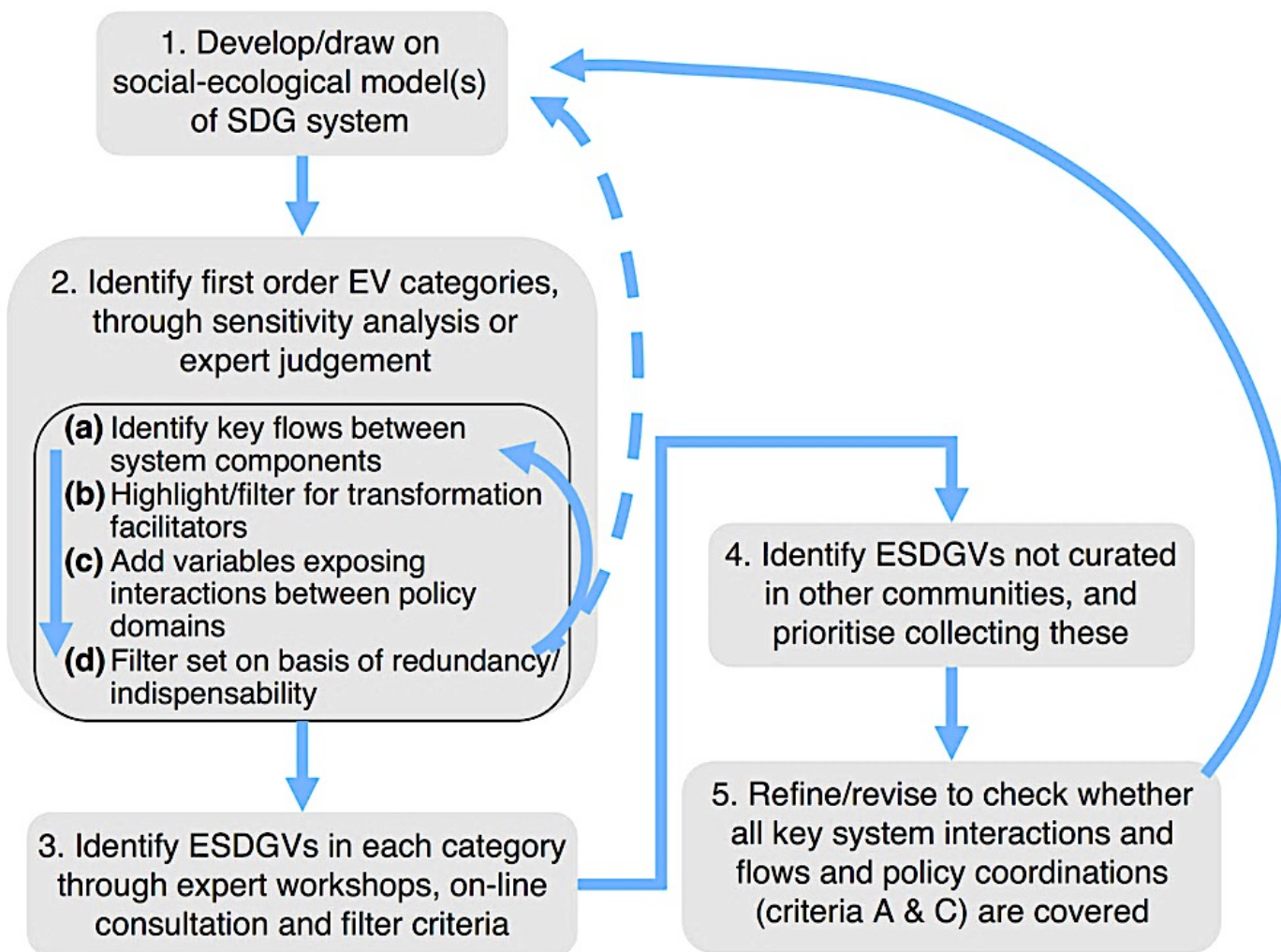
www.bipindicators.net

Operational BIP Indicators	Aichi Biodiversity Targets	SDGs and Targets	
Strategic Goal A			
Biodiversity Barometer			Y
WAZA bio-literacy survey (Biodiversity literacy in global zoo and aquarium visitors)			Y
Trends in potentially environmentally harmful elements of government support to agriculture (producer support estimate)			Y
Number of countries with biodiversity-relevant taxes			Y
Number of countries with biodiversity-relevant charges and fees			Y
Number of countries with biodiversity-relevant tradable permit schemes			Y
Ecological Footprint			Y
Red List Index (impacts of utilisation)			Y
Human Appropriation of Net Primary Production			Y
Percentage of Parties with legislation in Category 1 under CTES National Legislation Project			Y
Strategic Goal B			
Wetland Extent Trends Index			Y
Forest area as a percentage of total land area			Y
CGMFC-21 - Continuous Global Mangrove Forest Cover for the 21st Century			Y
Biodiversity Habitat Index			Y
Marine trophic index			Y
Marine Stewardship Council certified catch			Y
Proportion of fish stocks within biologically sustainable levels			Y
Red List Index (impacts of fisheries)			Y
Living Planet Index (trends in target and bycatch species)			Y
Area of forest under sustainable management: total FSC and PEFC forest management certification			Y
Wild Bird Index			Y
Living Planet Index (farmland specialists)			Y
Trends in loss of reactive nitrogen to the environment			Y
Trends in nitrogen deposition			Y
Red List Index (impacts of pollution)			Y
Red List Index (impacts of invasive alien species)			Y
Trends in the numbers of invasive alien species introduction events			Y
Proportion of countries adopting relevant national legislation and adequately resourcing the prevention or control of invasive alien species			Y
Trends in invasive species vertebrate eradications			Y
Climatic impacts on European & American birds			Y
Cumulative human impact on marine ecosystems			Y
Live coral cover			Y

Operational BIP Indicators	Aichi Biodiversity Targets	SDGs and Targets	
Strategic Goal C			
Protected area coverage			Y
Protected area coverage of Key Biodiversity Areas			Y
Protected area coverage of ecoregions			Y
Protected Area Management Effectiveness			Y
Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type			Y
Protected Area Representativeness Index (PARC-Representativeness)			Y
Protected Area Connectedness Index (PARC-Connectedness)			Y
Wildlife Picture Index			Y
Wildlife Picture Index in tropical forest areas			Y
Living Planet Index			Y
Living Planet Index (forest specialists)			Y
Red List Index			Y
Red List Index (internationally traded species)			Y
Red List Index (forest specialist species)			Y
Proportion of known species assessed through the IUCN Red List			Y
Number of extinctions prevented			Y
Number of species extinctions (birds and mammals)			Y
Biodiversity Intactness Index			Y
Genetic diversity of terrestrial domesticated animals			Y
Strategic Goal D			
Red List Index (species used for food and medicine)			Y
Ocean Health Index			Y
Red List Index (pollinating species)			Y
Coverage by protected areas of important sites for mountain biodiversity			Y
Proportion of land that is degraded over total land area			Y
Number of Parties to the CBD that have deposited the instrument of ratification, acceptance, approval or accession of the Nagoya Protocol			Y
Strategic Goal E			
Number of countries with developed or revised NBSAPs			Y
Index of linguistic diversity			Y
Growth in species occurrence records accessible through GBIF			Y
Official development assistance for biodiversity			Y

Essential Variables help to focus Sustainable Development Goals monitoring

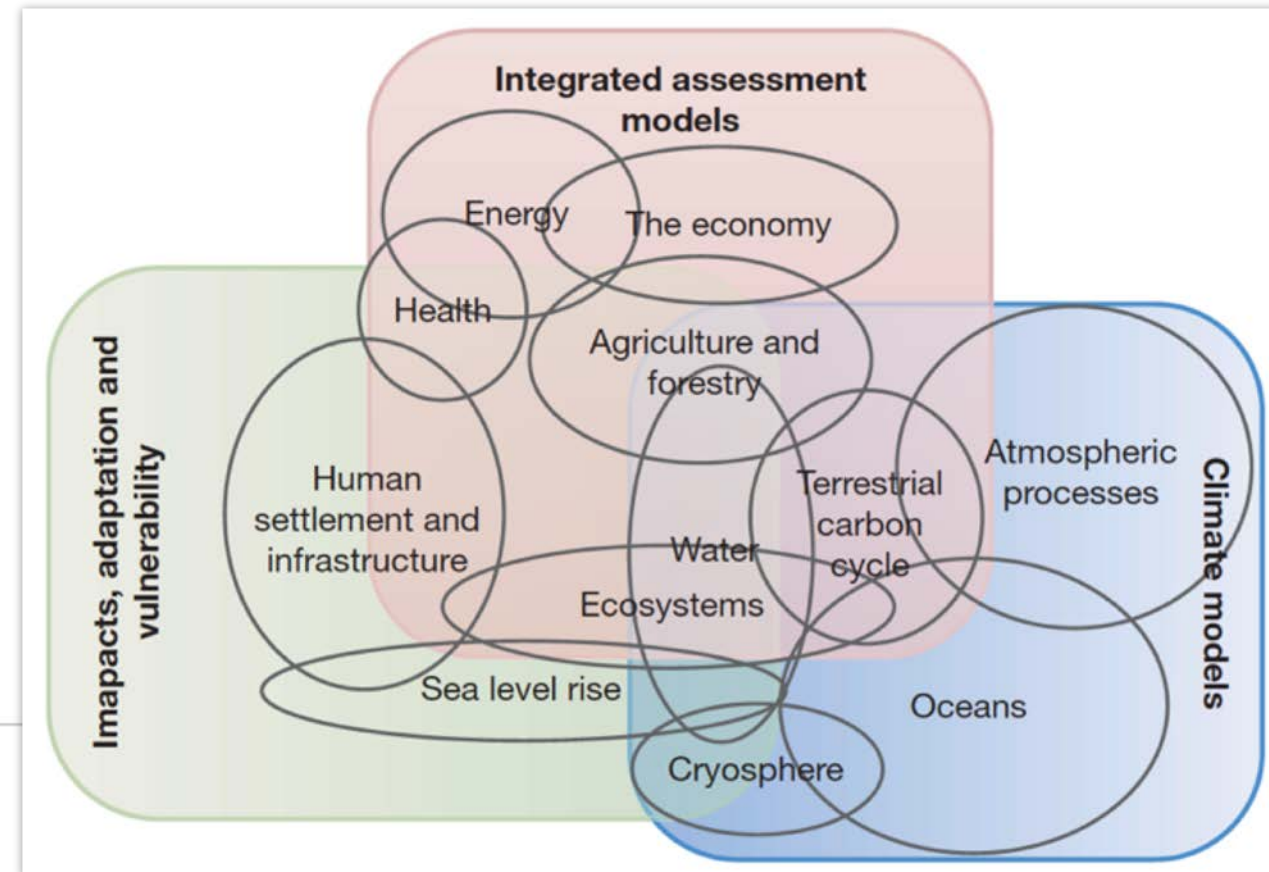
Belinda Reyers^{1,2,3}, Mark Stafford-Smith^{4,2}, Karl-Heinz Erb⁵, Robert J Scholes⁶ and Odirilwe Selomane^{3,7}



PERSPECTIVES

The next generation of scenarios for climate change research and assessment

Richard H. Moss¹, Jae A. Edmonds¹, Kathy A. Hibbard², Martin R. Manning³, Steven K. Rose⁴, Detlef P. van Vuuren⁵, Timothy R. Carter⁶, Seita Emori⁷, Mikiko Kainuma⁷, Tom Kram⁵, Gerald A. Meehl², John F. B. Mitchell⁸, Nebojsa Nakicenovic^{9,10}, Keywan Riahi⁹, Steven J. Smith¹, Ronald J. Stouffer¹¹, Allison M. Thomson¹, John P. Weyant¹² & Thomas J. Wilbanks¹³



Specific issues, targets, areas on biodiversity and ecosystems
(ex., phenology, primary production, etc.)



Directly related environmental and/or societal issues
(ex., synergy and trade-off between ecosystem services)



Emerging practical concept(s) to be tackled by cross-disciplinary approach and engagement of stakeholders

Day 3: Plenary discussions – Questions to the panelists

- A) What are the best practice(s) and emerging opportunities of the TG to respond/contribute to the three Engagement Priorities?**
- B) What would be the expected opportunities by collaboration between the TGs?**
- River Basin approach - The Mekong River Basin case study (ex., current status, threats, future of ecosystem services under changes in climate, society and land-use?)
... *ex., Yongyut's case (ecosystem services), Kano-san's case (dam and fish diversity)*...
 - Other geographical areas, or other multidisciplinary thematic areas.
- C) For multi-platform EO and knowledge development over local, national and regional:**
- Gaps and challenges in scientific activities and user engagement?
 - How do we work on those issues?
 - What are the priorities?