

The 9<sup>th</sup> GEOSS AP symposium

11-13 January 2017

Tokyo International Exchange Center

Plaza Heisei, Japan

# **WG2: ASIA-PACIFIC BIODIVERSITY OBSERVATION NETWORK: Introduction from co-chairs**

**Tetsukazu Yahara (Japan)**

**Sheila Vergara (ACB)**

**Eun-Shik Kim (Korea)**



# History of GEO BON until 2010

2006: **User Needs workshop**, Geneva 23-25 October

2007: **GEO Ministerial** in Cape Town

2008: **Interim GEO BON Committee** formed 14-16 January

2008: **2<sup>nd</sup> International workshop**, Berlin/Potsdam 8-10 April  
Draft **GEO BON concept document**

➔ J BON & APBON launched

2009: **GEO Plenary**, Washington DC Nov 09

2010: **Implementation Plan drafting meeting**, Asilomar 22-24 Feb

**GEO** GROUP ON EARTH OBSERVATIONS

Biodiversity Observation Network

## GEO Biodiversity Observation Network

– 2<sup>nd</sup> International Workshop –

8-10 April 2008  
Potsdam/Berlin

Establishing a network to implement a global biodiversity observation system that will collect, manage, analyze, and share data on the status and trends of the world's biodiversity

Federal Ministry of Education and Research

**DIVERSITAS**  
an international programme of biodiversity science

NASA

# History of AP BON and Other Network Activities

Year	GEOSS AP Symposia	GEO BON	AP BON Meetings	National BONs	CBD COPs	IPBES
2007	1st GEOSS AP					
2008	2nd GEOSS AP	GEO BON Workshop (April, Potsdam)			COP9	
2009	3rd GEOSS AP (Kyoto, February)		1st AP BON (July, Japan) 2nd AP BON (December, Japan)	Japan BON (May)		
2010	4th GEOSS AP (a session, Bali, March)	GEO BON Meeting (February, USA)	3rd AP BON (CBD COP10 Preconference, March, Japan)		COP10 (Japan, Side-event)	
2011			4th AP BON (December, Japan)			
2012	5th GEOSS AP (Tokyo, April)	GEO BON Meeting (December, USA)	WCC of IUCN (September, Korea)	Korea BON, Nepal BON, Bangladesh BON	COP11 (India, Side-event)	
2013	6th GEOSS AP (Ahmedabad, February)		5th AP BON (November, ACB, Philippines)	Philippines BON		Plenary-1
2014	7th GEOSS AP (Tokyo, May)	IC and AB (June, Germany)	6th AP BON (October, NIBR Korea)		COP12 (Korea, Side-event)	Plenary-2
2015	8th GEOSS AP (Beijing, September)	IC and AB (June, Germany)		Sino BON, Indonesia BON		Plenary-3
2016	2016-2025 A New GEO Strategy Plan Initiated	All-Hands Meeting (July, Germany)	7th AP BON (ACB, Thailand) 8th AP BON (Taipei, Taiwan)	WCC of IUCN (September, USA)	COP13 (December, Mexico)	Plenary-4

# AP BON visions

- To establish a **coordinated network** that gathers and shares information on biodiversity and ecosystem services;
- To provide tools for **data** collection, **sharing**/exchange, analysis, and synthesis integration;
- To contribute to improving ecosystem management, **sustainable use** of biodiversity, and human well-being.

Yahara T, Ma K, Darnaedy D, Miyashita T, Takenaka A, Tachida H, Nakashizuka T, Kim ES, Takamura N, Nakano S, Shirayama Y, Yamamoto H, Vergara S. (2014)

# A coordinated network established

- **Database structure and data sharing**
  - ABCD net, ACB (clearing house), S9 (Japanese project), TaiBIF etc
- **Network of programs, national BONs, and institutes:**
  - **ESABII, GBIF, IUCN, ILTER-EAP** etc
  - K-BON, J-BON, Nepal BON, Sino BON etc
  - Many hub institutes in AP (see Yahara et al. 2014)

# Publications of AP-BON Books

2012

Ecological Research Monographs



S. Nakano · T. Yahara  
T. Nakashizuka *Editors*

## The Biodiversity Observation Network in the Asia-Pacific Region

Toward Further Development of Monitoring

 Springer

2014

Ecological Research Monographs



S. Nakano · T. Yahara  
T. Nakashizuka *Editors*

Asia-Pacific Biodiversity Observation Network

## Integrative Observations and Assessments

 Springer

2016

Ecological Research Monographs



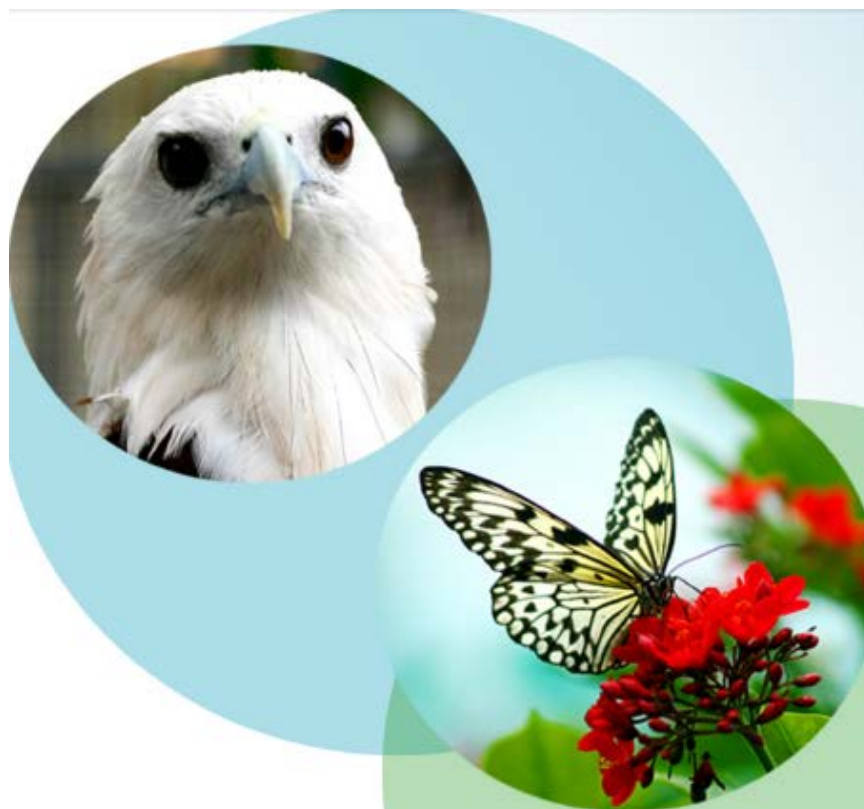
Shin-ichi Nakano · Tetsukazu Yahara  
Tohru Nakashizuka *Editors*

Asia-Pacific Biodiversity Observation Network

## Aquatic Biodiversity Conservation and Ecosystem Services

 Springer

# 5<sup>th</sup> AP BON Workshop in ACB



## Fifth Meeting of the Asia-Pacific Biodiversity Observation Network (AP-BON) Report

5th Meeting of the Asia-Pacific Biodiversity Observation Network (AP-BON) Report 2013

### List of Annexes

Annex No.	Title	Link
1	Directory of Participants	<a href="#">DOWNLOAD</a>
2	Welcome Speech	<a href="#">DOWNLOAD</a>
3	Programme	<a href="#">DOWNLOAD</a>
4	AP-BON History and Strategy	<a href="#">DOWNLOAD</a>
5	State of Biodiversity Observation in the Philippines	<a href="#">DOWNLOAD</a>
6	Inventory and Assessment of Biodiversity in Mts. Igit-Baco Mountain Range: Mt. Masulong Key Biodiversity Area	<a href="#">DOWNLOAD</a>
7	National Museum of Nature and Science	<a href="#">DOWNLOAD</a>
8	Current Biodiversity Observation in Indonesia	<a href="#">DOWNLOAD</a>
9	Promotion of the Network Activities for the Biodiversity Observation in Nepal and Region	<a href="#">DOWNLOAD</a>
10	Current Activity on Biodiversity Observation Data Archiving in Japan	<a href="#">DOWNLOAD</a>
11	The ASEAN Clearing House Mechanism	<a href="#">DOWNLOAD</a>
12	Biodiversity Databases at the Forest Research Institute Malaysia and the Malaysian Clearing House Mechanism	<a href="#">DOWNLOAD</a>
13	Followup measures of the IUCN Resolution for the promotion of the AP-BON adopted at the World Conservation Congress in 2012	<a href="#">DOWNLOAD</a>
14	ICIMOD's Biodiversity Information and Gaps in Information Availability and Sharing in HKH Region	<a href="#">DOWNLOAD</a>
15	Indian Bio-resource Information Network	<a href="#">DOWNLOAD</a>
16	A GIS web server for the development, circulation, and utilization of biodiversity information	<a href="#">DOWNLOAD</a>
17	Database for freshwater fishes in East and Southeast Asia	<a href="#">DOWNLOAD</a>
18	Biodiversity Informatics in China	<a href="#">DOWNLOAD</a>
19	FishBase Information and Group, Inc. Databases	<a href="#">DOWNLOAD</a>
20	Plant Databases in Singapore	<a href="#">DOWNLOAD</a>
21	National Institute for Agro-Environmental Sciences and Collaboration work in Japan	<a href="#">DOWNLOAD</a>
22	Day 1: Meeting Discussions	<a href="#">DOWNLOAD</a>
23	Compilation of a Regional Red List	<a href="#">DOWNLOAD</a>
24	Data Publication's means of sharing biodiversity information	<a href="#">DOWNLOAD</a>
25	AP-BON Potential Products: 2014 and beyond	<a href="#">DOWNLOAD</a>
26	Photo Gallery	<a href="#">DOWNLOAD</a>

# 5<sup>th</sup> AP BON Workshop in ACB

## Potential products 2014 and onwards



## Suggestions

- Regional Red List
- KBAs
- Essential Biodiversity Variables
- Support for work on Mosses
- Publishing data papers

→ We had a training workshop in 2016 in Taipei.



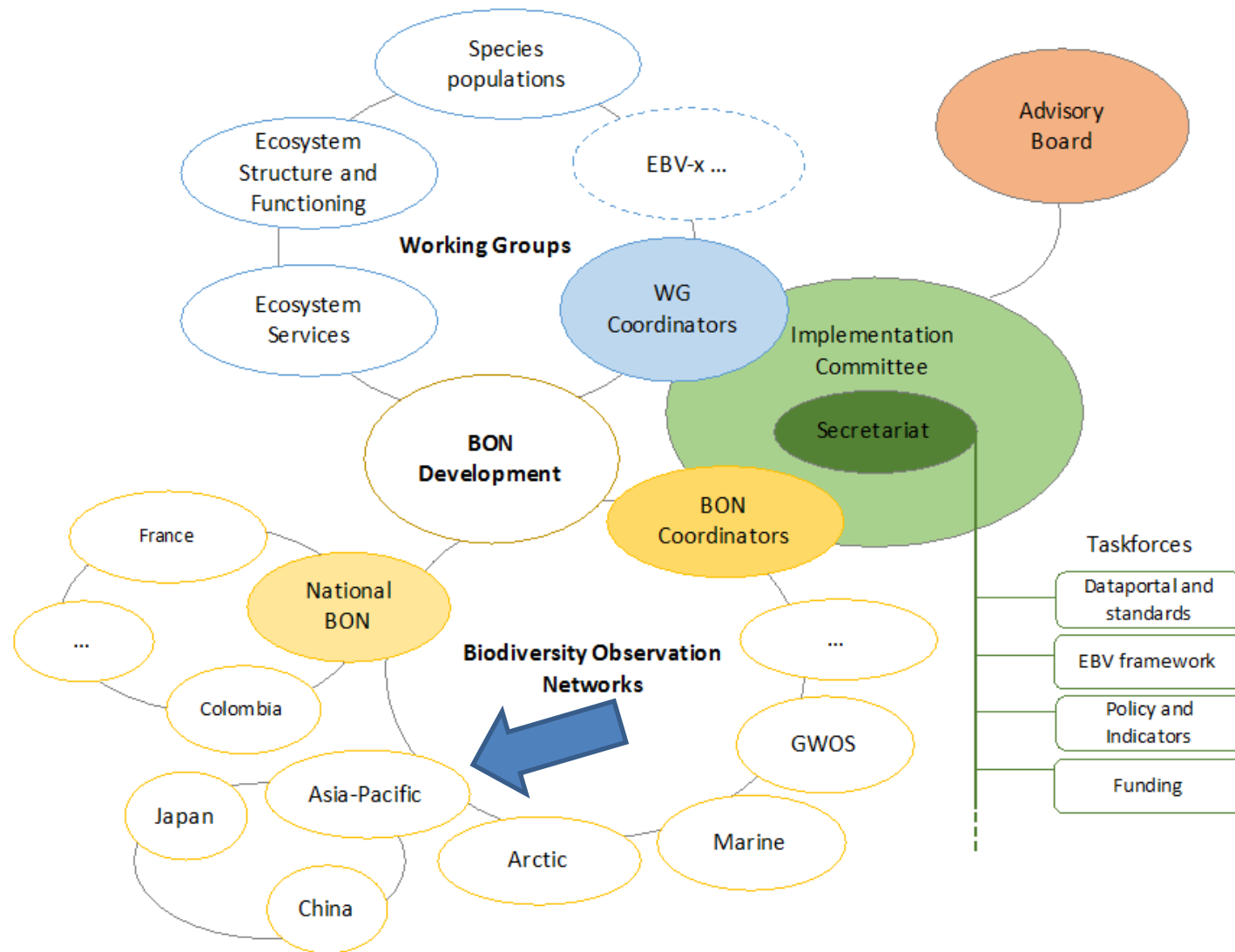
# AP BON: A turning point

- A core project S9 sponsored by the Ministry of the Environment of Japan (MoEJ) ended in March 2016.
- IPBES assessments have started.
  - Linked to CBD 2020 targets (Aichi Targets)
- A New GEO Strategic Plan 2016-2025 is being implemented.
  - GEO BON new structure 2016-2019.
- Linkage to BIFA workshop; many new participants in this 8<sup>th</sup> workshop.
- **Developing an AP BON work plan towards 2020: discussed in the 8<sup>th</sup> workshop in Taipei**

# Chapter outline of IPBES regional assessment

- 1. Setting the scene
- 2. Nature's benefits to people and its impact on quality of life
- 3. Status and trends of biodiversity and ecosystems underpinning nature's benefits to people
- 4. Direct and indirect drivers of change in the context of quality of life
- 5. Integrated analysis of interactions of the natural world and human society
- 6. Options for decision-making across scales and sectors

# GEO BON new structure 2016-2019



# Developing an AP BON work plan towards 2020

- Promoting Data Sharing
- Increasing Access to Data
- Filling gaps in data availability
- Monitoring Ecosystem / Biodiversity
- Monitoring Changes in Biodiversity and Ecosystems
- Networking observation sites
- Supporting to Global Platforms
- Publishing APBON Book 4

8th AP BON Workshop in Taipei (12-13 September 2016)



# Filling gaps in data availability

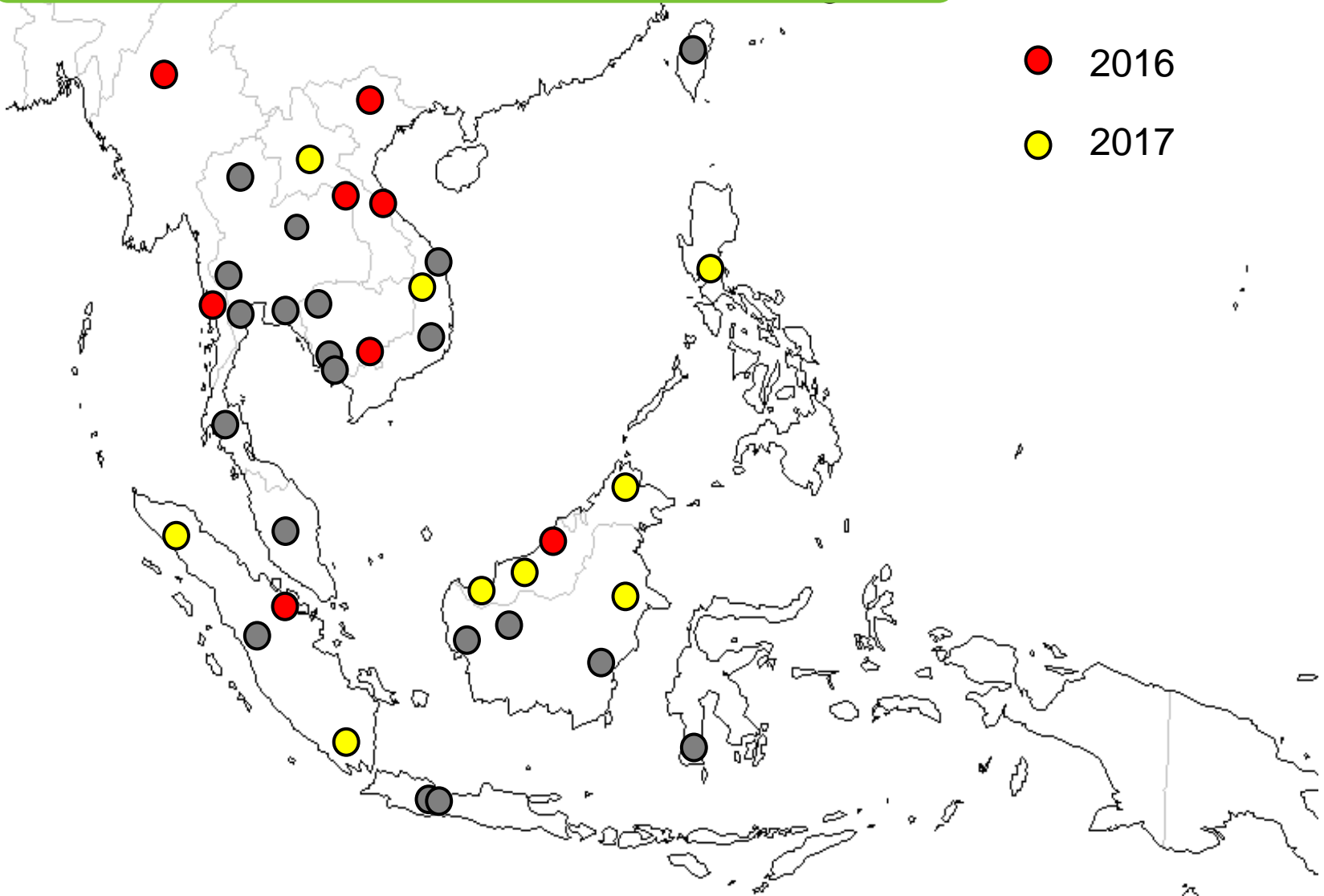
- Complete biodiversity data in selected sites through
  - a) camera traps
  - b) soundscape monitoring and
  - c) UAS (Unmanned Aerial Systems)
- Support ILTER sites monitoring as well as lakes within the ILTER and sites outside of ILTER sites as necessary
- Use citizen science to record sounds
- Collaboration with FishBase on particular sites
- Long-term biodiversity research
- Work on animal migration
- Relate research work to genetics
- Work in the context of RRR (reserves, research and restoration)

8th AP BON Workshop in Taipei (12-13 September 2016)

# Networking observation sites

## Plant diversity observation sites

- 2011-2015
- 2016
- 2017

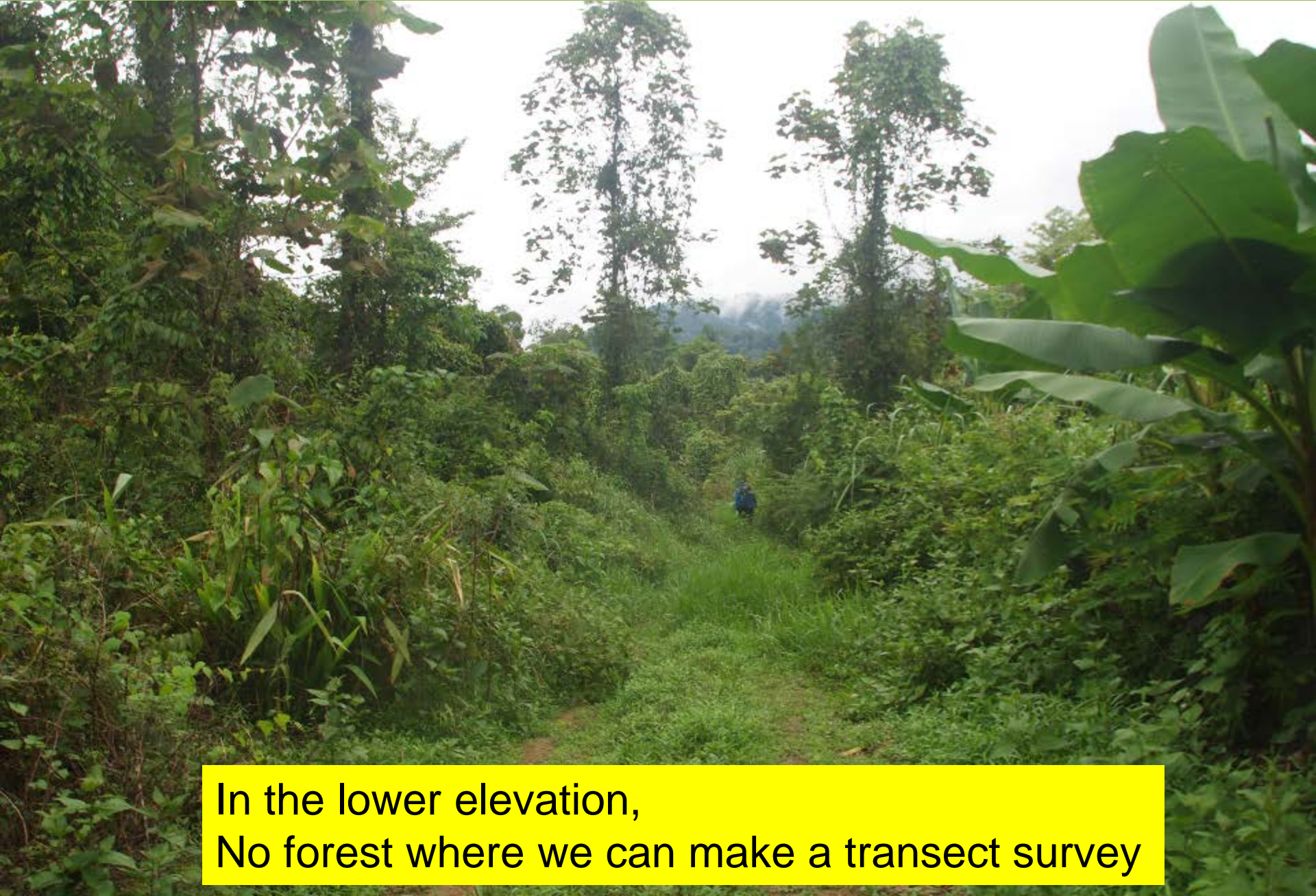


# Fansipan (Hoang Lien National Park), Vietnam



Below 1800 m,  
No forest where we can make a transect survey

# Myanmar: Tanintharyi Nature Reserve



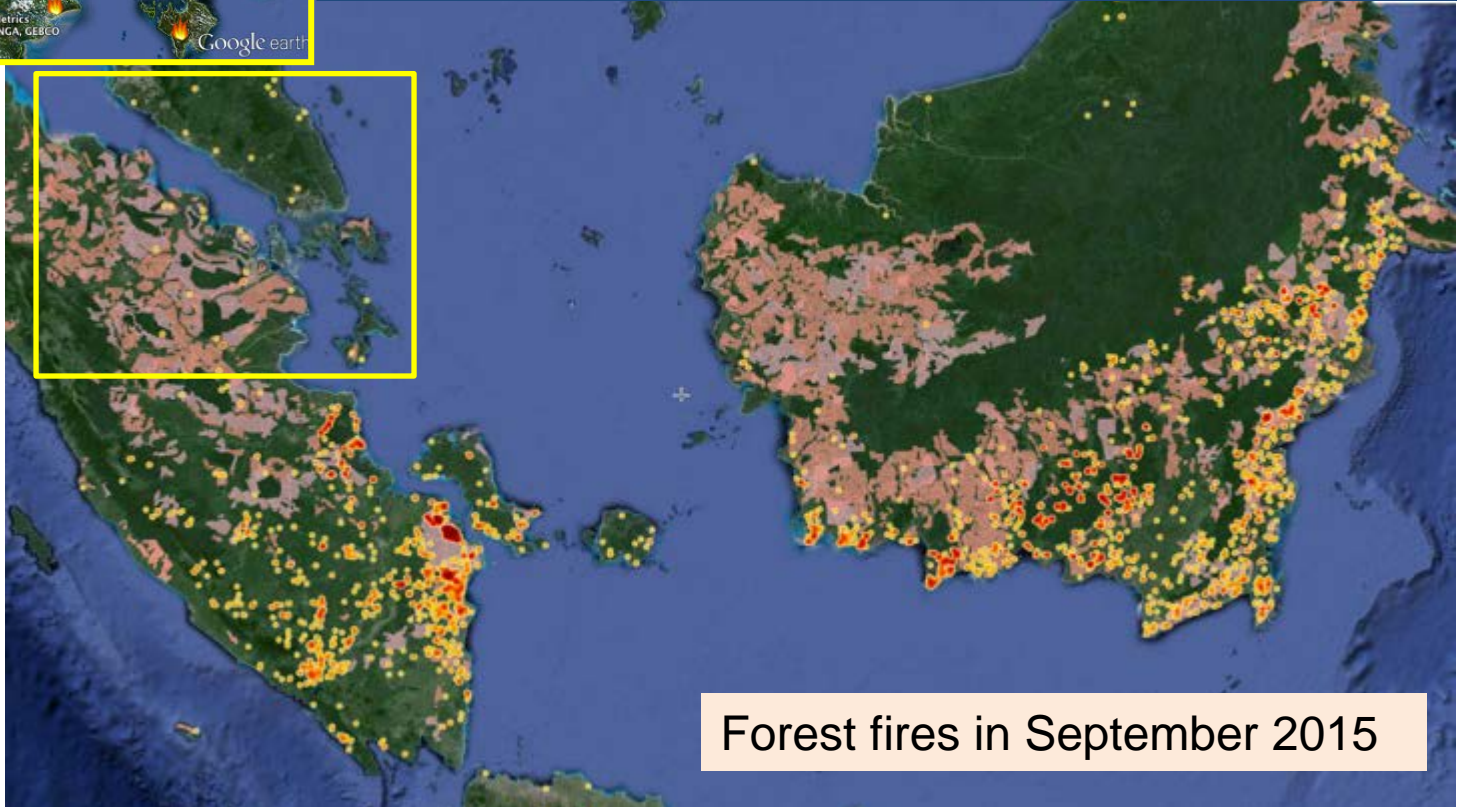
In the lower elevation,  
No forest where we can make a transect survey



# Serious forest fire in Sumatra and Kalimantan

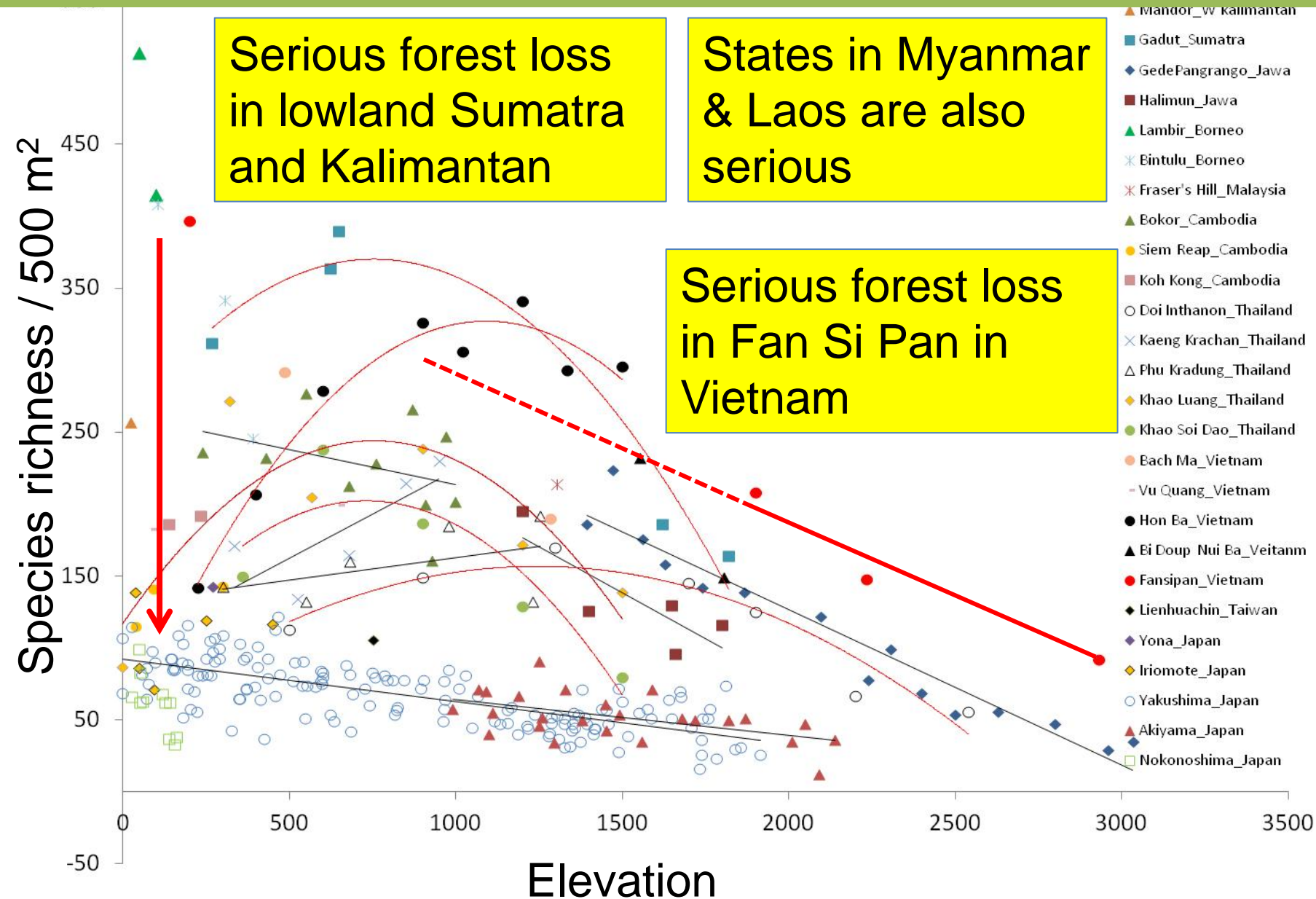


Japan is importing paper and palm oil from Indonesia



Forest fires in September 2015

# Plant species richness vs elevation



# Networking people for plant diversity assessments

**Ngọc Van Nguyễn & Hoang Thi Binh**, Dalat University, Vietnam

**Son Van Dang**, Institution of Tropical Biology, Vietnam

**Hop Tran**, University of Ho Chi Minh, Vietnam

**Phetlasy Souladeth**, RCNRCC, Laos National University, Laos

**Phourin Chhang**, Forest Administration of Cambodia

**Somran Suddee & Sukid Rueangruea**, Forest Herbarium, Thailand

**Dokrak Marod**, Kasesart Univ., Thailand

**Mu Mu Aung**, Forest Research Institute, Forest Department, Myanmar

**Saw Leng Guan and Lim Chung Lu**, Forest Research Institute Malaysia

**Bibian Diway**, Botanical Research Center, Sarawak, Malaysia

**Dedy Darnaedi, Marlina Ardiyani, & Arief Hidayat**, Research Center for Biology-LIPI, Indonesia

**Anes Syamsuardi**, Andalas University, Indonesia

**Ngakan Putu Oka & Ibrahim Djamaluddin**, Hasanudin University, Indonesia

Kyushu U  MOU  Institute



Permission for research



Field survey



Permission for exports

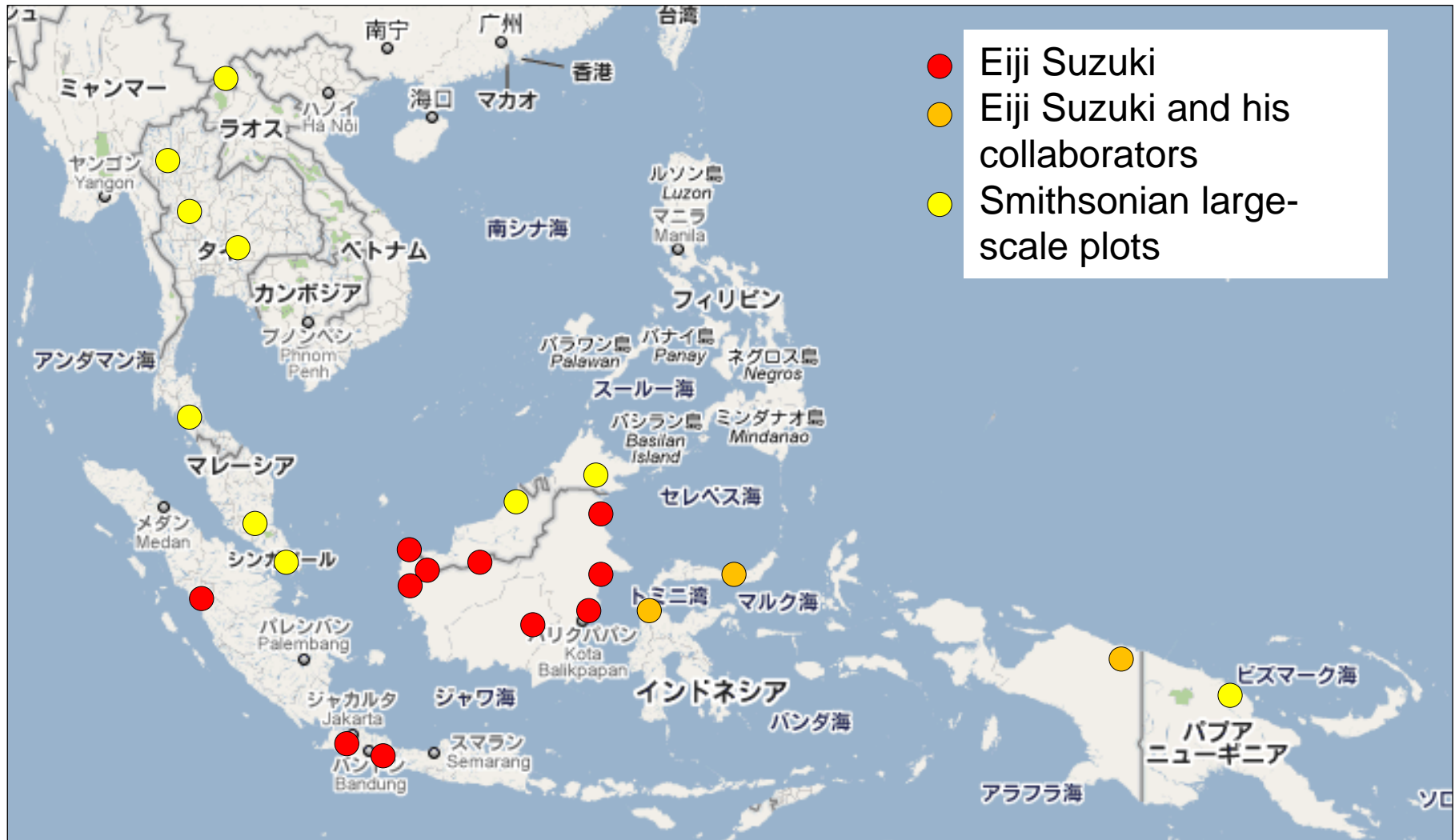


Sending specimens to Japan for identification



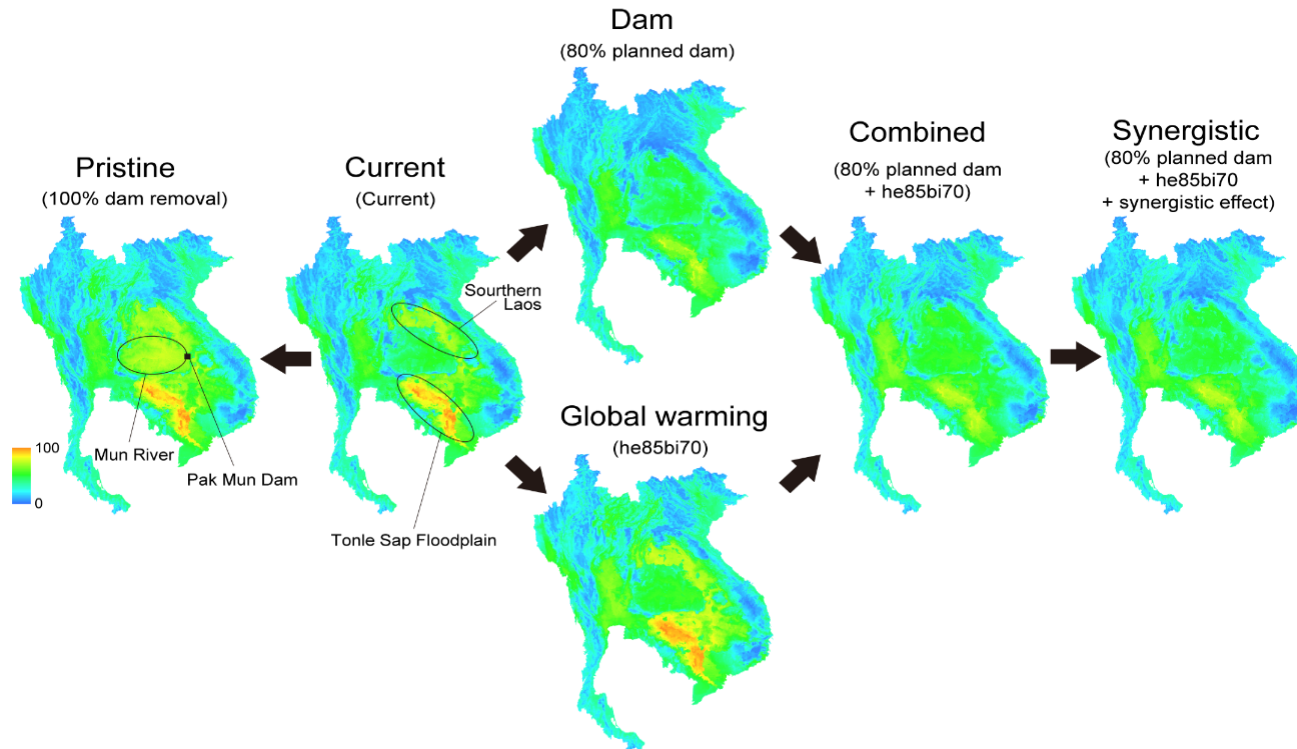
# Networking observation sites

Plot-based approach: forest plots in SE Asia



# Trends: freshwater fish diversity in Mekong

Threats of dam construction and global warming upon freshwater fish diversity in Mekong Basin (Kano et al. 2016, Plos One)



Fish biodiversity index	Pristine	Current	Dam	Global warming	Combined	Synergistic
Mean species richness	39.6	37.3	32.8	41.1	36.1	34.2
Mean range size (km <sup>2</sup> )	637,097	613,626	564,744	586,691	546,480	511,394
Threatened species	0.0%	4.7%	16.0%	35.0%	39.7%	40.5%

# 9<sup>th</sup> GEOSS AP symposium Day 2: Agenda

- **Session 1: Overview of regional and national BON activities**
- **Session 2: GEO Strategic Plan 2016-2025 and GEO Work Programme 2017-2019**
- **Session 3: Development of broader observation networks**
- **Discussion towards broader engagement of observation and user communities**