

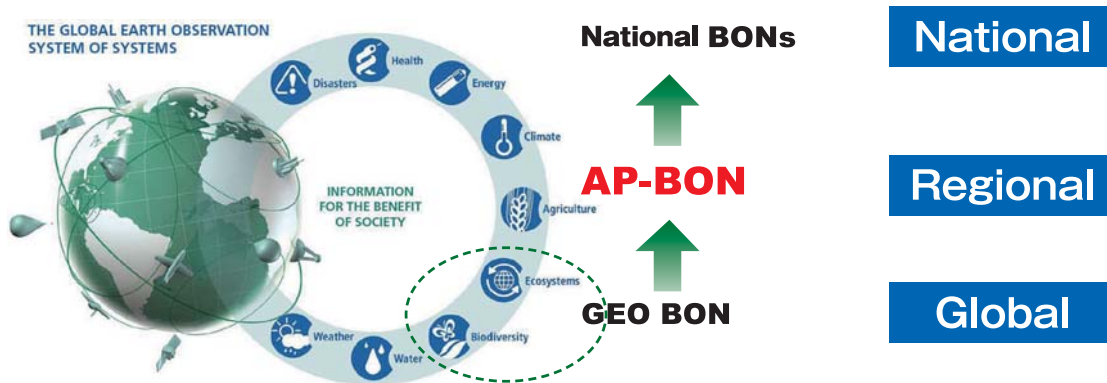
AP-BON

Asia-Pacific Biodiversity
Observation Network

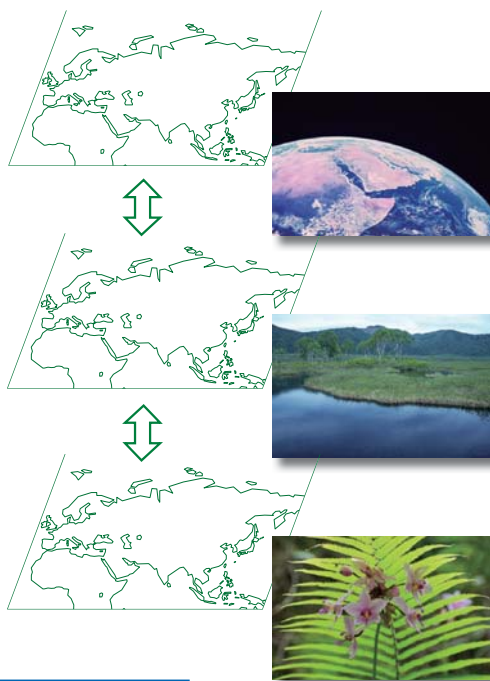


What is AP-BON?

AP-BON has been established as a regional network with a specific interest to collaborate with the Global Earth Observation: Biodiversity Observation Network (GEO BON), covering most countries of the Asia-Pacific region and covering all levels of biodiversity and ecosystems.



AP-BON's approaches for biodiversity observation are on three levels: remote sensing, ecological process research and species/genetic research. AP-BON tries to link the outcomes of each level of observation with an aim to contribute to policy-making for the conservation of biodiversity.



Satellite remote sensing

- Ecosystem and land-use types
- Vegetation structure
- Temporal change in ecosystems

Research and modeling of ecological processes

- Primary production (carbon flux and cycling)
- Ecohydrology and nutrient cycling
- Ecosystem services

Species and genetic level research

- Plant species distribution
- Wildlife habitat assessment
- Biological interactions

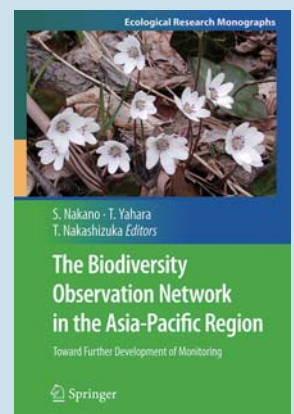
AP-BON book

Published in August 2012

"The Biodiversity Observation Network in the Asia-Pacific Region: Toward Further Development of Monitoring" introduces biodiversity observation as conducted separately by each region and taxon, and the approaches for the sharing them. We will publish the second volume of the AP-BON book, covering coastal and marine ecosystems, and observations on forest plots.

Contents

- Part 1** General Introduction
- Part 2** Networks of Monitoring and Research on Biodiversity in Asia-Pacific Region
- Part 3** Establishing Biodiversity Database
- Part 4** New Methods & Analyses for Biodiversity Studies
- Part 5** Biodiversity and Ecosystem Services



Working Groups of AP-BON

AP-BON consists of a Steering Committee and five working groups.

Steering Committee

Co-chairs: Tetsukazu Yahara (Kyushu University), Sheila Vergara (ASEAN Centre for Biodiversity) and Eun-Shik Kim (Kookmin University)
 Committee members: Keping Ma (Chinese Academy of Science), Tohru Nakashizuka (Tohoku University), Dedy Darnaedi (Research Center for Biology, Indonesian Institute of Sciences), and Yoshihisa Shirayama (Japan Agency for Marine-Earth Science and Technology)

Working Group 1
 Genetics/phylogenetic diversity

Working Group 2
 Terrestrial species monitoring

Working Group 3
 Terrestrial ecosystem change

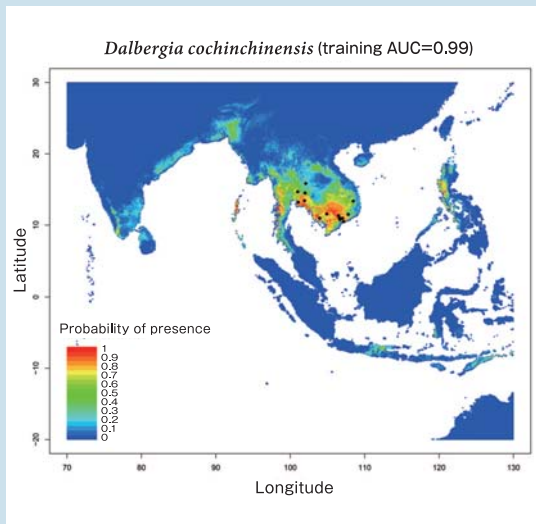
Working Group 4
 Freshwater ecosystem change

Working Group 5
 Marine ecosystem change

Studies by each working group

● Working Group 2

Estimation of the distribution range of a rosewood, *Dalbergia cochinchinensis* Pierre



Dalbergia cochinchinensis is a species of an evergreen broadleaf tree of the Fabaceae. It is called "rosewood" and is used for such as furniture, musical instruments taking advantage of its beautiful color and texture of heartwood. As a result of excessive logging, it has been listed as a threatened species (VU) in the IUCN Red List. Although available specimen records of this species are not so many, the original distribution range was estimated using Ecological Niche Modeling method. The result suggests that the center of distribution of this species would be southern Indo-China.

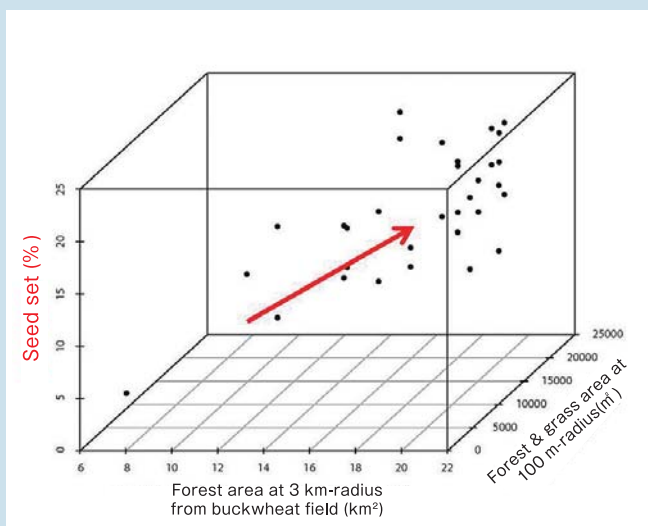
The working group assesses the present status of each species by distribution ranges and local land-use change, and distributes the results through the Red Data Book and other media to citizens and policy-makers for conservation and sustainable use of biodiversity.



Dalbergia cochinchinensis

● Working Group 3

Evaluation of the ecosystem service (pollination service) of farmlands



Pollination of buckwheat (*Fagopyrum esculentum*) is performed by insects such as bees, ants, flies, hoverflies and cetoninae beetles.

The results of this study show that the seed-set rate of buckwheat is proportionate to the size of the forest area within a 3 km radius, which is within the migration range of a Japanese honeybee (*Apis cerana*), and the size of forest and grassland area within a 100 m radius, which is within the migration range of insects other than the honeybee.



Apis cerana



Oxycetonia jucunda



Formica japonica

Development of AP-BON

2008	Apr.	GEO BON Meeting, Potsdam
2009	Jul.	1st AP-BON Workshop, Nagoya * AP-BON was established
	Dec.	2nd AP-BON Workshop, Tokyo * The Steering Committee was formed * Publication of AP-BON book was discussed
2010	Feb.	GEO BON Implementation Plan Meeting, Alismar, California
	Mar.	3rd AP-BON Workshop, Nagoya * Draft implementation plan for 2010-2011 was revised * Five working groups were organized
	Oct.	AP-BON side event, CBD COP10 1st AP-BON Steering Committee, Nagoya * Visions and missions of AP-BON were agreed
2011	Dec.	4th AP-BON Workshop, Tokyo * Implementation plan for 2012-2015 was discussed * Publication of the next AP-BON book was planned AP-BON Science Symposium, Tokyo



1st AP-BON Workshop, Nagoya, 2009



AP-BON Science Symposium, Tokyo, 2011

Major Activities for 2012-2015

(1) Editing and networking national biodiversity outlook

AP-BON will help with the efforts in Asia Pacific countries to document the state and trends of biodiversity. This work would be promoted by organizing a national BON in each country.

(2) Publication of additional AP-BON books

(3) Promotion of collaborative projects using "Integrative Observations and Assessments of Asian Biodiversity (S9)" by the Environment Research and Technology Development Fund as a pilot project

The Japanese project (S9) funded by the Ministry of the Environment will be used as a good opportunity to develop collaborative projects in the Asia Pacific region.

(4) Development of shared database

Data sharing/exchange, analysis and synthesis/integration are one of the key missions of AP-BON. In terms of existing tools, Darwin core and its extension used in GBIF provide a basic tool for this mission regarding distribution records and other data associated with a taxon name and coordinate data, and EML (Ecological Metadata Language) provides a basic tool for database metadata of various ecological observations. The link between these databases and other databases, such as DNA and satellite images will be developed.

(5) Capacity building

AP-BON will provide capacity-building opportunities for such tools as DNA barcoding, distribution modeling, plot data analyses, etc.

Secretariat of AP-BON

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