Biodiversity and Sustainable Society : How EO contributes to integrating nature into economic activities

Biodiversity visualization platform for 2030 Nature Positive and 2050 Living in Harmony with Nature

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Value chain of the biodiversity data and its vulnerabilities

How the data processed, analyzed and consumed?

Fundamental data collection through national budget

Scientists are the primary consumers of data

Data generation by earth observation and natural history inventories

Data processing

Data analysis

Publishing paper

OBIS OCEAN BIOGEOGRAPHIC INFORMATION SYSTEM

GBIF

Data repository
Data distribution

(3) Missing link
Data consumption (output) is Not circulating into data primary production.

Biodiversity visualization platform (BVP) contributes to filling a gap in the data value chain and structures the data ecosystem.

Data users

(2) Providing data is rarely examined from the user's perspective

Private companies, local governments, citizens

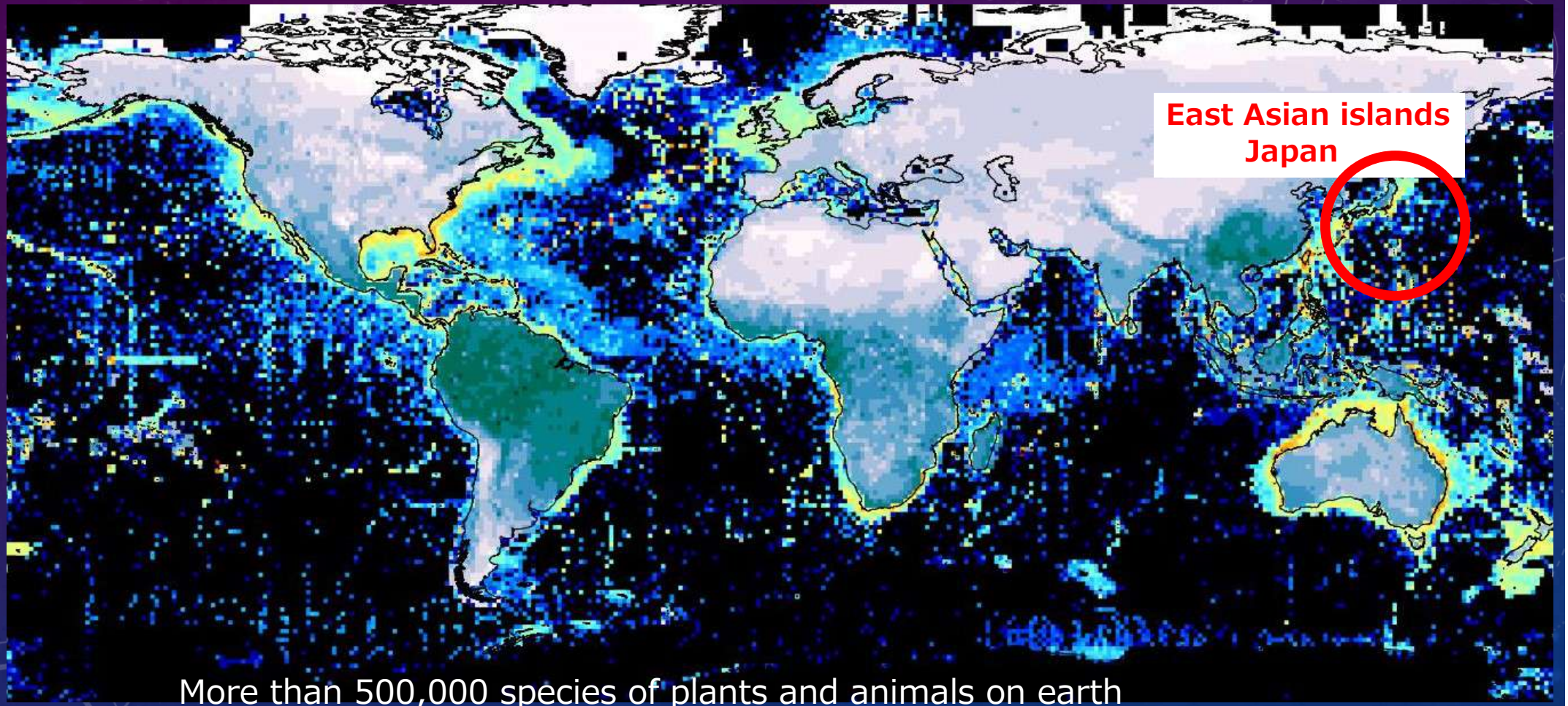
Data curation

(1) Absence of data curator
Lack of curating services

Long-term maintenance of data value
Annotating data to encourage re-use (meta-data maintenance)
Including their publication

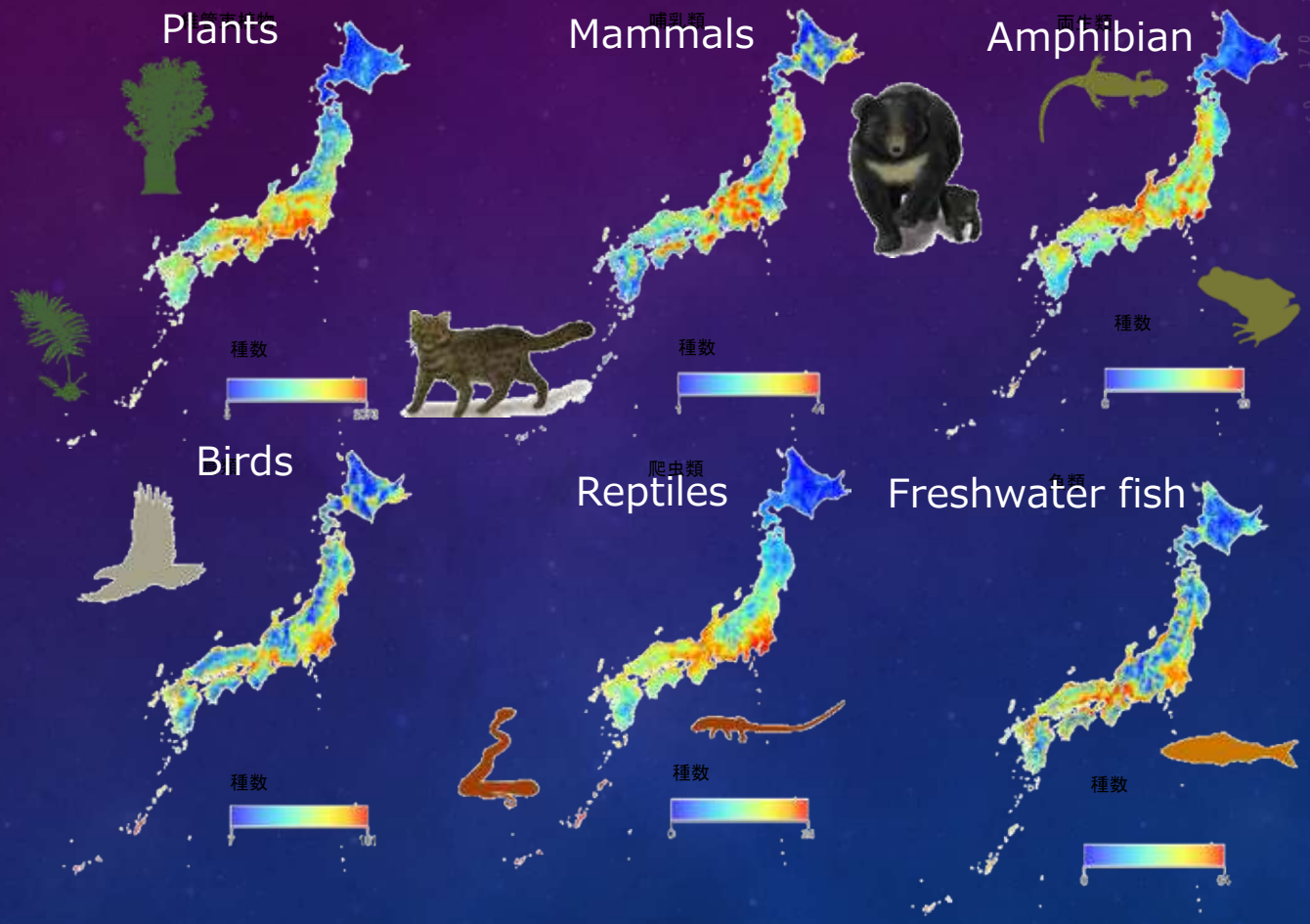
Data application development

Biodiversity big data

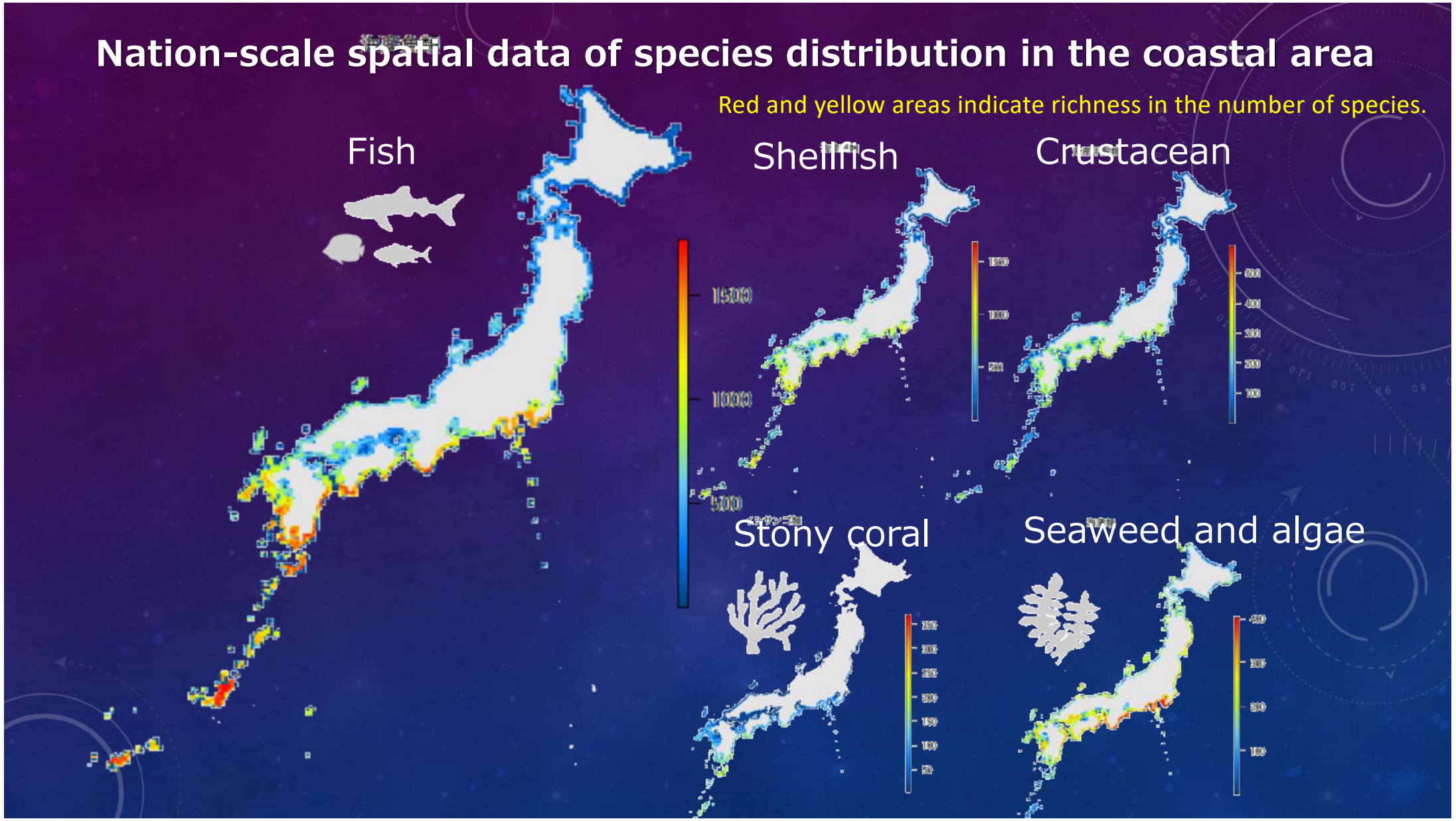


More than 500,000 species of plants and animals on earth
(200,000 species in ocean + 300,000 species on terrestrial)

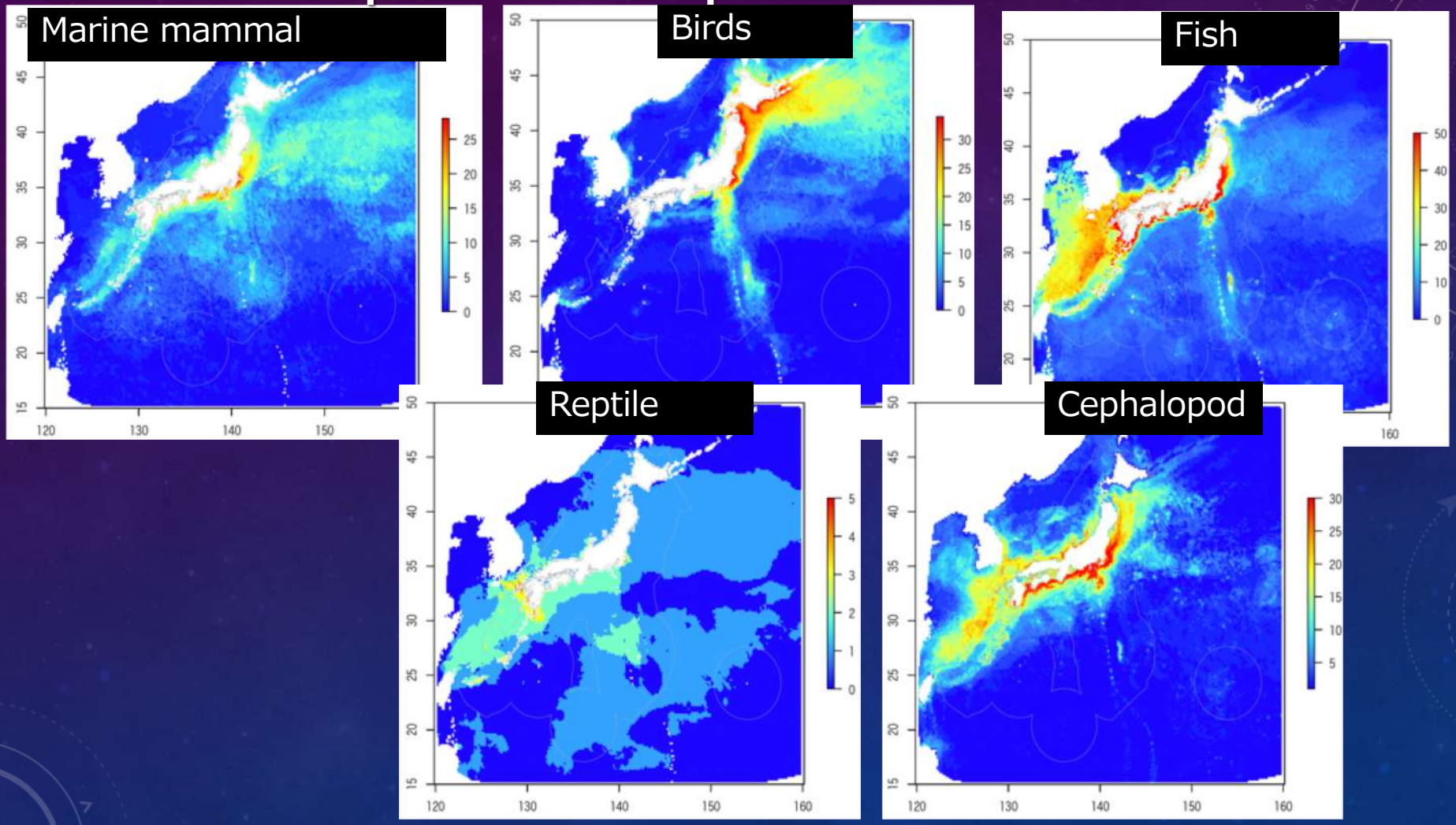
Nation-scale spatial data of species distribution in the terrestrial



Red and yellow areas indicate richness in the number of species.


Nation-scale spatial data of species distribution in the coastal area
Red and yellow areas indicate richness in the number of species.
Fish
Shellfish
Crustacean
Stony coral
Seaweed and algae
15000
10000
5000

Nation-scale spatial data of species distribution in the ocean



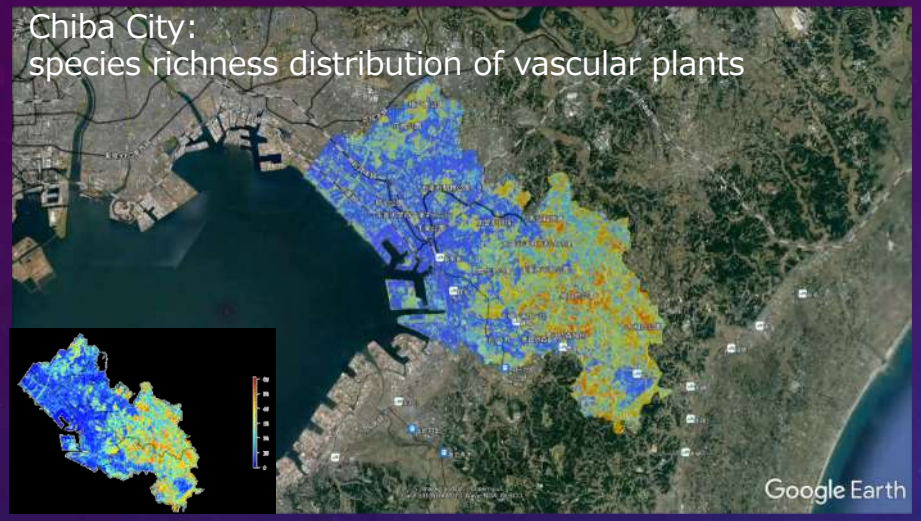
Red and yellow areas indicate richness in the number of species.

Biodiversity digital twin

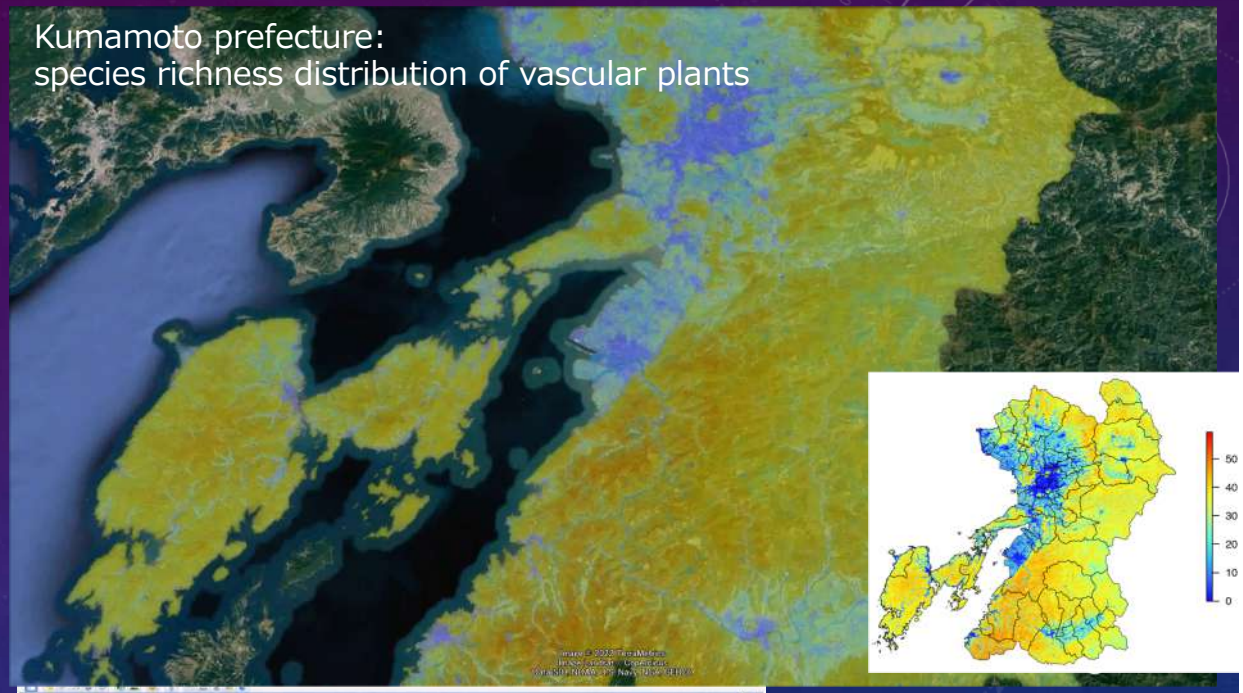
Spatial resolution: species distribution at 20m scale
Temporal resolution: updateable in 3-month

Red and yellow areas indicate high species richness

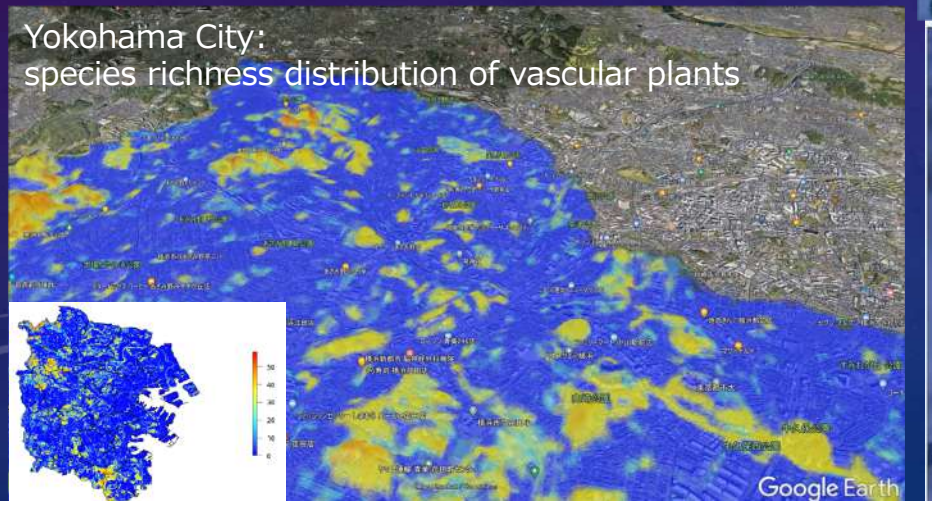
Chiba City:
species richness distribution of vascular plants



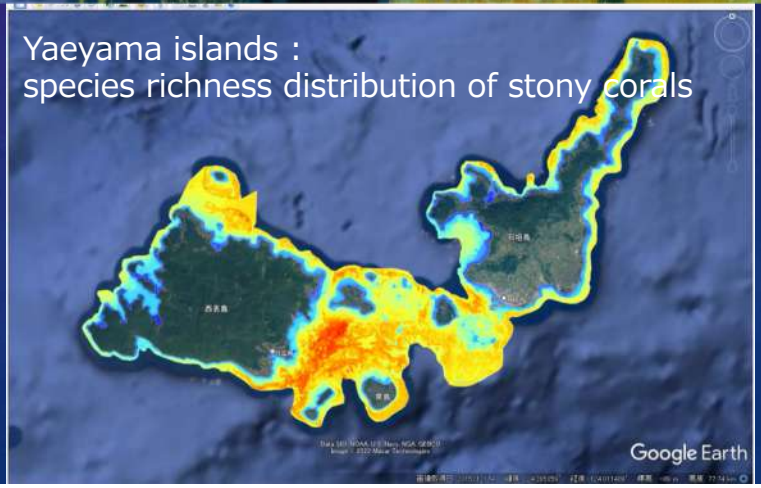
Kumamoto prefecture:
species richness distribution of vascular plants



Yokohama City:
species richness distribution of vascular plants

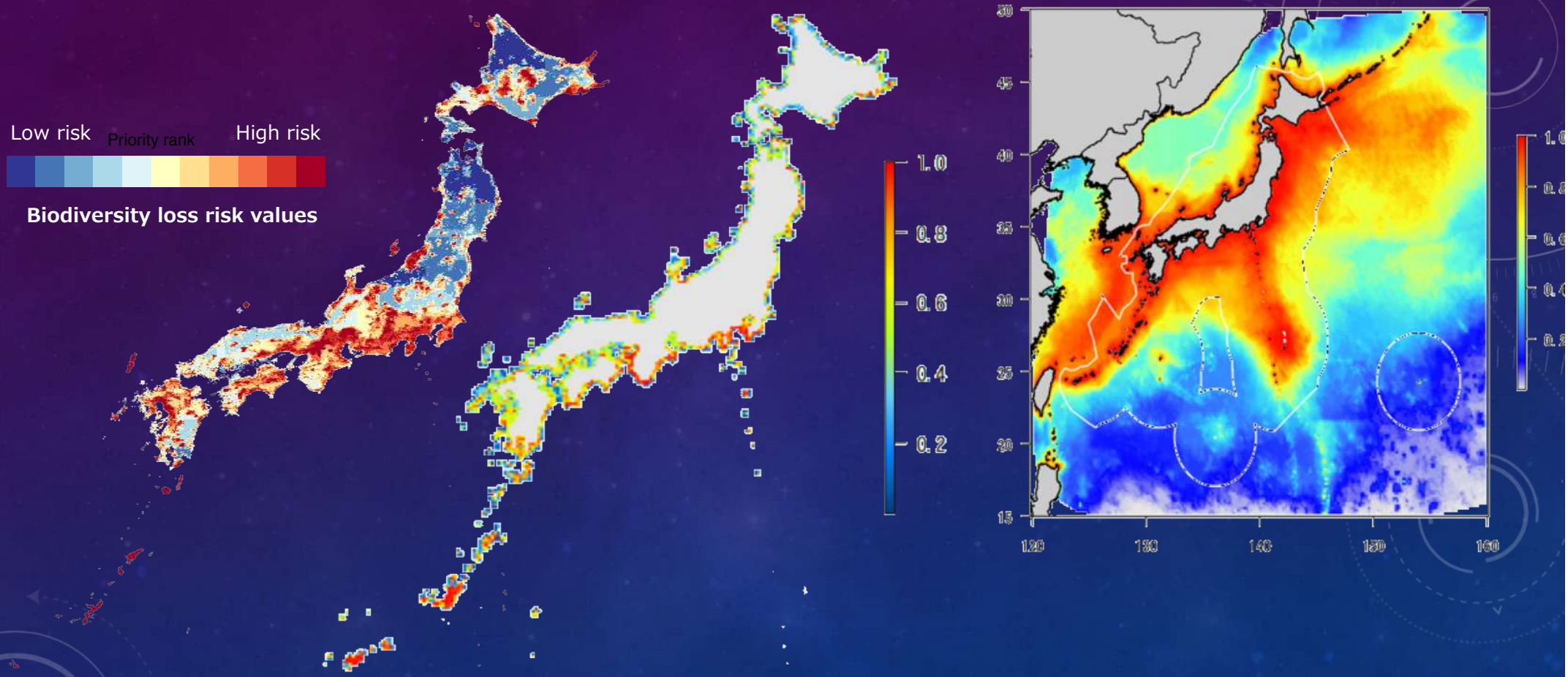


Yaeyama islands :
species richness distribution of stony corals



How to design terrestrial/marine spatial planning?

Conservation priority rank maps to evaluate the impact on biodiversity



Spatial data of conservation importances based on biodiversity loss risk values provides fundamental information for considering sustainable use of natural capital.

Yokohama City: priority rank map in terms of biodiversity loss risk

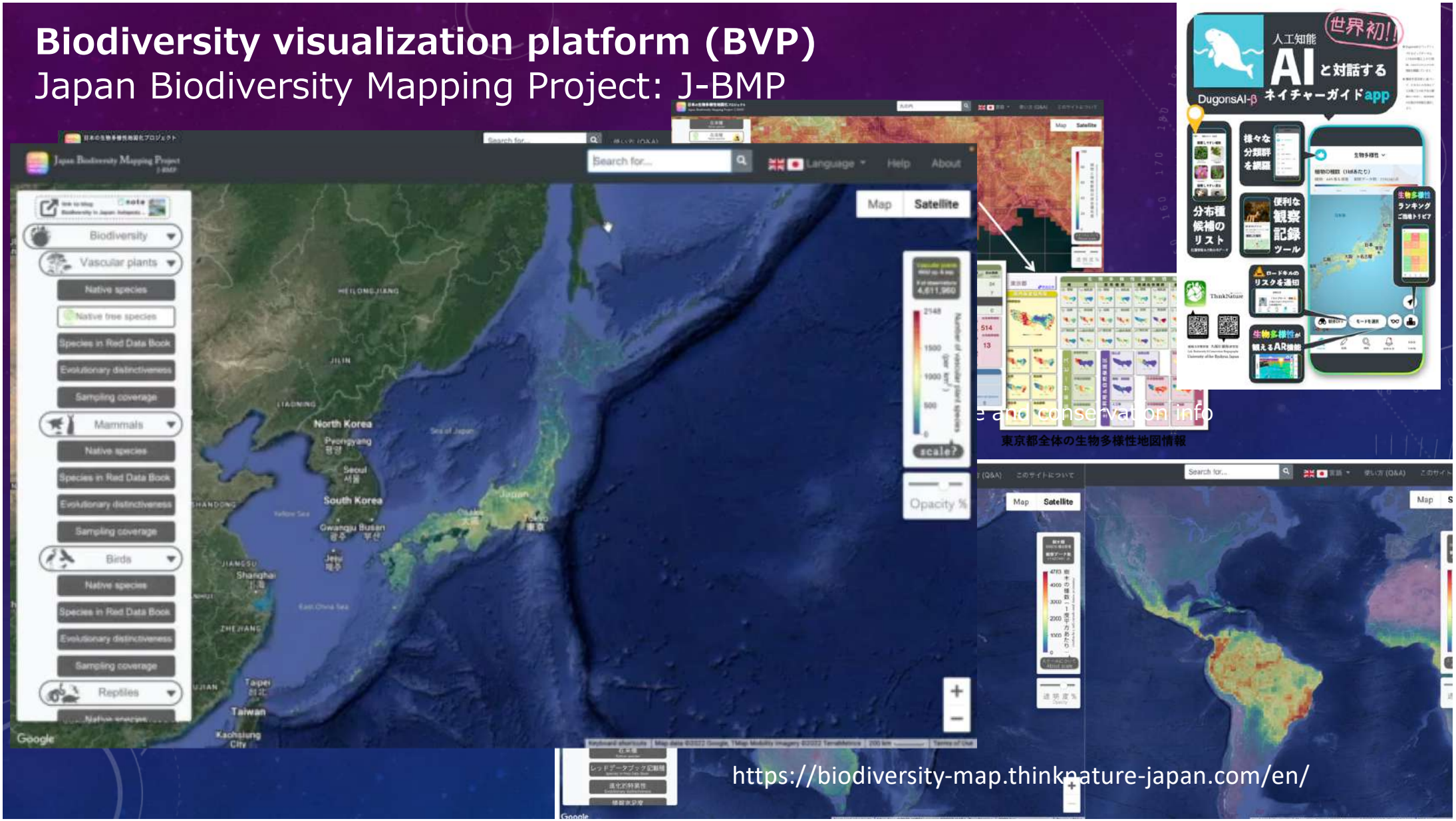
Red and yellow areas indicate priority areas in terms of plant biodiversity conservation.

Spatial resolution: species distribution at 20m scale
Temporal resolution: updateable in 3-month

Google Earth

Biodiversity visualization platform (BVP)

Japan Biodiversity Mapping Project: J-BMP



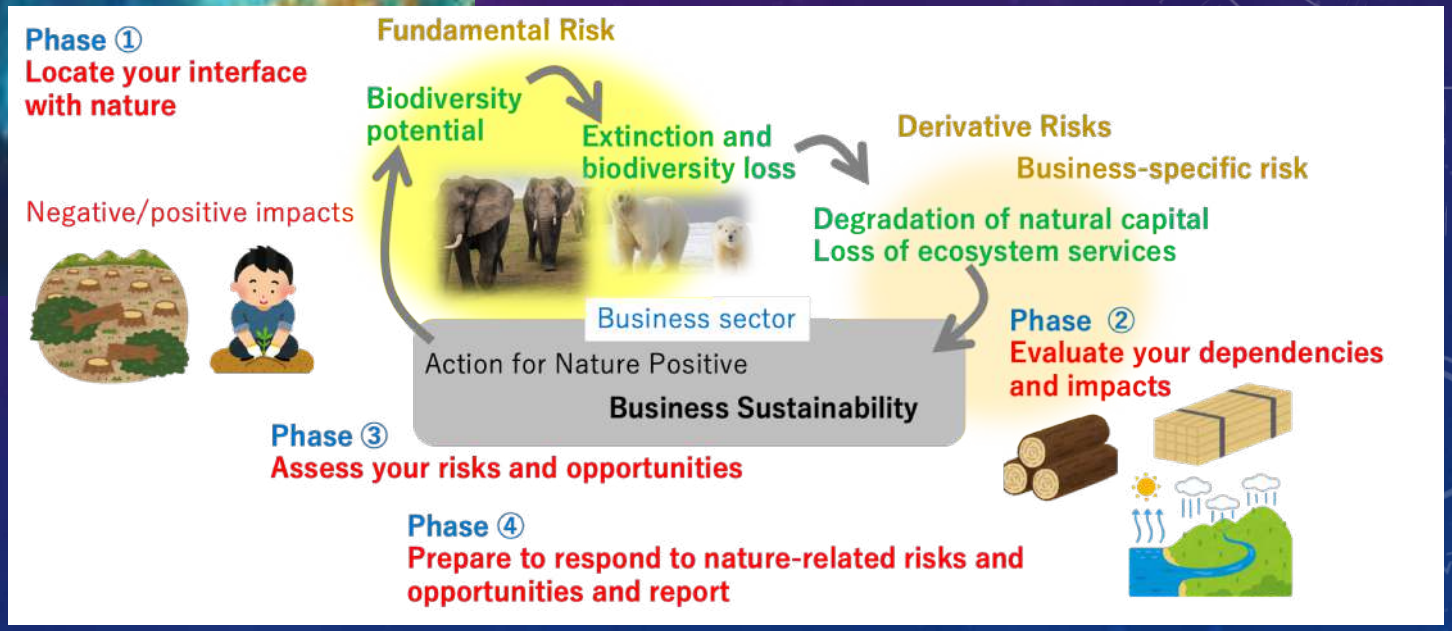
Nature (biodiversity and ecosystem service)-related data being into business activities

TNFD releases first beta version of nature-related risk management & disclosure framework for market consultation

TNFD Taskforce on Nature-related Financial Disclosures

TNFD's LEAP approach consists of four core analysis phases.

- Locate your interface with nature
- Evaluate your dependencies and impacts
- Assess your risks and opportunities
- Prepare to respond to nature-related risks and opportunities and report



Biodiversity visualization platform (BVP) is essential to Locate your business with nature in Phase 1, and spatial data of conservation-priority and biodiversity-loss-risk can be used to Evaluate and Assess business impacts on nature, in Phase 2 and 3.

Growing Need to Visualize Nature

Earth observation
Natural history inventories

Monitoring biodiversity

Finding degrading Ecosystems

United Nations Framework Convention on Climate Change

Convention on Biological Diversity

13 気候変動に具体的な対策を

14 海の豊かさを守ろう

15 陸の豊かさも守ろう

Loss of natural capital

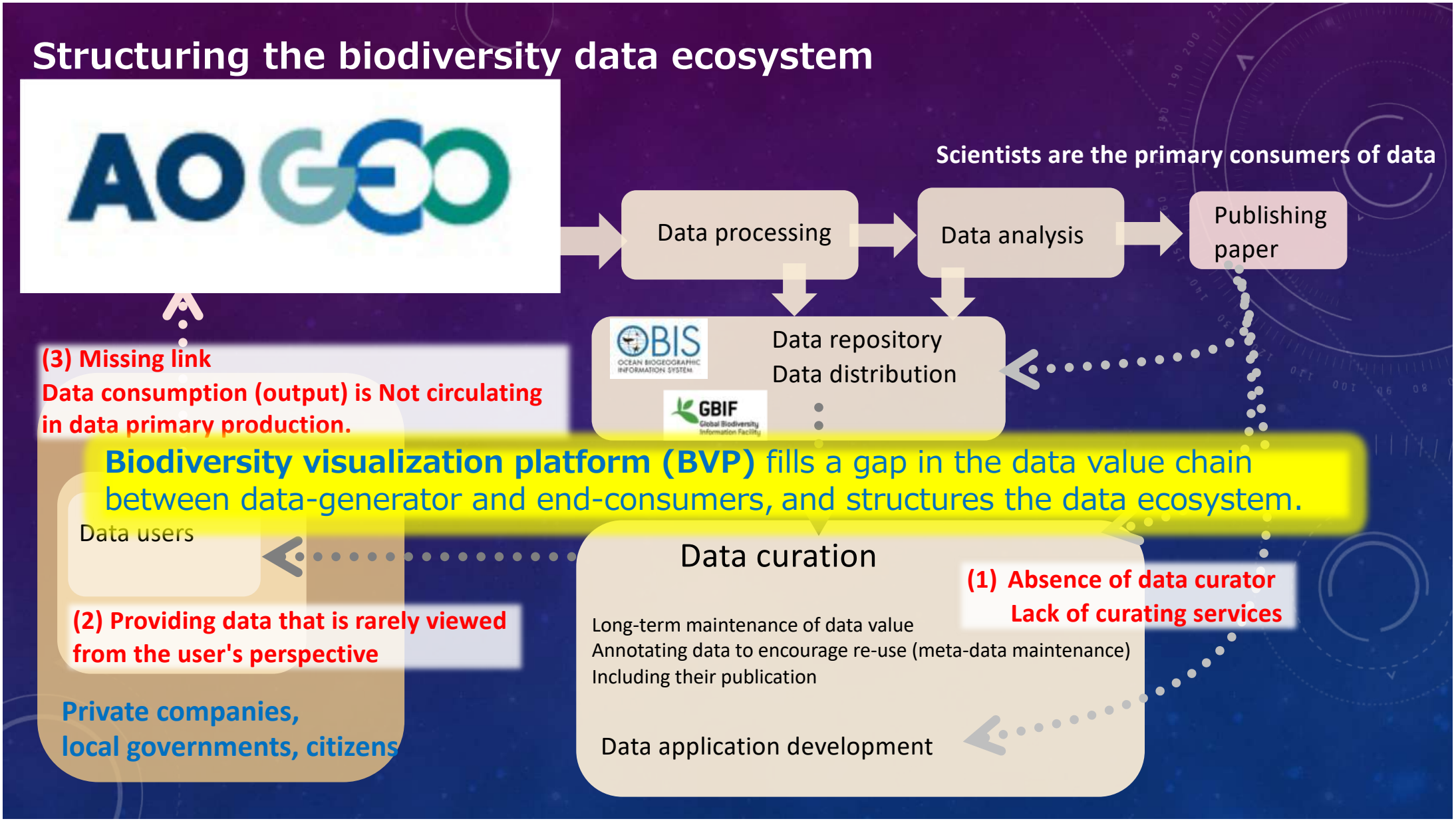
TNFD
SBTN

Financial valuation of biodiversity and ecosystem service

Science and business/financial sectors are meeting each other.

Growing social needs of biodiversity information

Structuring the biodiversity data ecosystem



Take home messages

- Biodiversity visualization platform (BVP) plays a role in structuring data ecosystem.
- Biodiversity visualization platform (BVP) acts as data curator and curating service provider.
- These contribute to connecting a missing link in the value chain between data-generator and end-consumers.