

EcoBank: Pioneering Standards for Ecological Data Sharing and Utilization in South Korea

Sungsoo Yoon, Yongsu Kwon

National Institute of Ecology, Seocheon-gun, Republic of Korea vssfran@nie.re.kr, https://orcid.org/0000-0003-4712-8004

1. About Ecological Information Bank (EcoBank)



Purpose: National Institute of Ecology (NIE), Korea aims to provide accessible ecological survey and research data for anyone through EcoBank.

Data status (the number of spatial features): Original research data including 6 million field survey data, 15 million synthetic data (thematic maps), 5 million long-term ecological research data and 3 million from other sources (ecological corridor, roadkill, etc.). 2023~

System design	Stabilization & Advancement	Service Diversification
		0
Information strategy	Launch of global and	Operation of journal
planning for EcoBank	Open API-services	repository
 Integration and 	Enactment of research	Expansion of external
standardization of NIE	data management	data source linkages
research data	guideline	Implementation of
Web-GIS	Participation in	TNFD support services
development	biodiversity standard	
	initiatives	

4. Current directions & issues in standardization

- Application of Public Data Portal (PDP)'s schemes by adopting DCAT-based schema (TTAK.KO-10.1249) and Common Standard Terms for metadata elements of datasets and standardization of research data, respectively.
- \rightarrow PDP's schemes cannot cover or link ecological information (EI) as Ecological Metadata Language and Darwin Core do.
- Participation in ISO/TC 331 (Biodiversity) WG1 (Vocabulary) and WG2 (Measurement, data, monitoring and assessment), data journal conferences, etc.
- \rightarrow Low priority and expertise in standards for ecological data.
- data providers, · Collaboration with data-producing or platform-managing ecologists, general stakeholders in NIE and other institutes for data integration. users, etc.
- \rightarrow Lacking data experts and physically detached platforms.

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		EcoBank		
Users		Open Service Module		
	Data publication	Data contribution	Informative services	
Public	Web Journal repository	Research data provision	Web GIS	
	GEO DATA PNIE	Citizen Science-based survey	Thematic maps Species occurrence	
Policymaker	Research/Survey data	System feedback	Statistics / Reporting tools	
S 1	API DOI datasets Open API	Ecological forum User polls	LTER Ecological status	
esearchers	¢ ‡	\$	\$	
		Data Management Module		
	Data managemen	t services	Research	
NIE	Data / DMP uploads Data usage statistics D	ata analysis QA / QC	Integrated DB	
Θ		External Ecological Informati	on	
	Taxonomic codes Map services Reports			
Managers	API	GBIF GBIF Backbone		

3. SWOT analysis for standardization strategies

W Experts: The low Continuity: The number of NIE majority of data are produced in the experts in data standardization. same long-term **Diversity:** Current standards designed Networking: Active for table-type data communications with hinder the system developers,

various types of

ecological data

(image, gene, etc.).

S

projects.

guidelines. **Demand:** Rising interests in climate changes and biodiversity from standardization of

standardization

private sectors.

Т Rigidity: Low flexibility and coverage of current PDP's schemes.

Advancement:

Demanding types of data become various as the advent of AI-based techniques.

Extra information **GEO DATA**

> An open geoscience research data platform, publishing peerreviewed scientific data and papers.

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https://geodata.kr/



The official journal of NIE, publishing multidisciplinary ecological research from both Korea and abroad.

https://accesson.kr/pnie/

4. Future directions



Refinement: Utilize continuous data collection

- S and communication
- channels to refine and

expand the coverage of standardization practices.

leveraging their capital and expertise to meet the growing demand for biodiversity data. Introduction: Benchmark against align and W standards with leading as

initiatives such DataONE. TERN **GBIF** for linking systems



and

0 Policy: Promotion of **Digital Platform** Government with

