

Research on the Development of Statistical Data and Information Platforms for Responding to the Climate Crisis in South Korea

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Table of Contents

1. Intensification of the Climate Crisis
2. Current Policy Responses of South Korea
3. Climate Change Statistics and Indicators
4. Establishment of Climate Crisis Adaptation Information Statistical Data
5. Climate Crisis Response Plan Based on Information Platforms
6. Conclusions



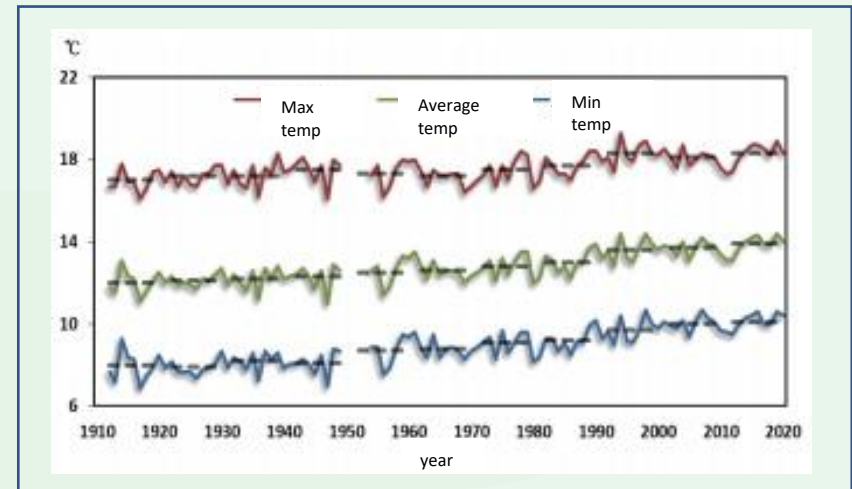
1 Intensification of the Climate Crisis

- Global temperatures are rising, leading to more frequent and intense natural disasters, largely due to human activities.

Global climate change disasters

- In May 2024, extensive flooding in southern Brazil displaced approximately 150,000 people.
- The Sahel region of Africa experienced extreme heat in April 2024, with temperatures in Mali reaching 48.5°C, leading to increased hospitalizations and deaths.
- East Africa faced five consecutive failed rainy seasons from 2020 to 2022, resulting in the worst drought in 40 years and the displacement of 1.2 million people in Somalia.
- Canada recorded its worst wildfire season in 2023.

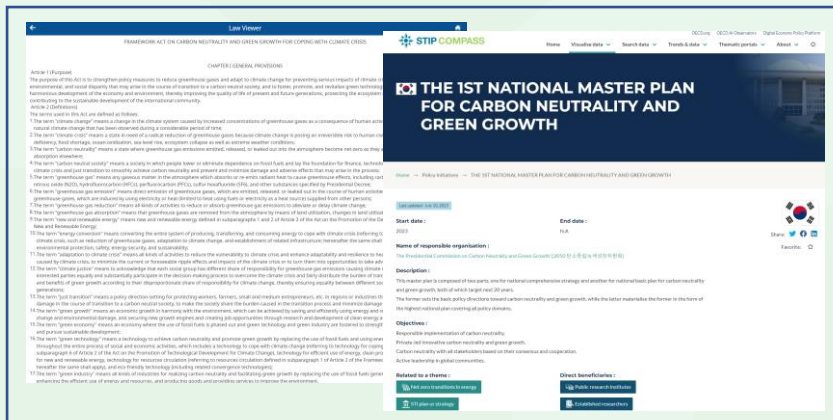
Korea's climate change disasters



- South Korea's average temperature rose by 1.6°C over the past 30 years, exceeding the global average increase. This has led to significant climate-related damages, including 254 casualties and 2.4 billion EUR in economic losses over the past decade.

- South Korea is addressing climate change through the "Framework Act on Carbon Neutrality and Green Growth for Coping with Climate Crisis" and national strategies like the "3rd National Climate Change Adaptation Plan."

South Korea's climate policies



- The "Framework Act on Carbon Neutrality and Green Growth for Coping with Climate Crisis" enacted in September 2021, aims to reduce greenhouse gas emissions and respond to climate change. Based on this legislation, the government has developed national strategies and master plans.

National Climate Crisis Adaptation Plan



- The Enhanced 3rd National Climate Crisis Adaptation Plan focuses on minimizing climate damage, strengthening adaptive capacity, and promoting tailored local responses, demonstrating the country's commitment to addressing climate change effectively.

※ Ref : Korea Law Translation Center(2024, https://elaw.klri.re.kr/eng_mobile/viewer.do?hseq=59958&type=part&key=39), STIP COMPASS(2023, <https://stip.oecd.org/stip/interactive-dashboards/policy-initiatives/2023%2Fdata%2FpolicyInitiatives%2F99997402>), The Enhanced 3rd National Climate Crisis Adaptation Plan(2023, The Government of the Republic of Korea)

3 Climate Change Statistics and Indicators

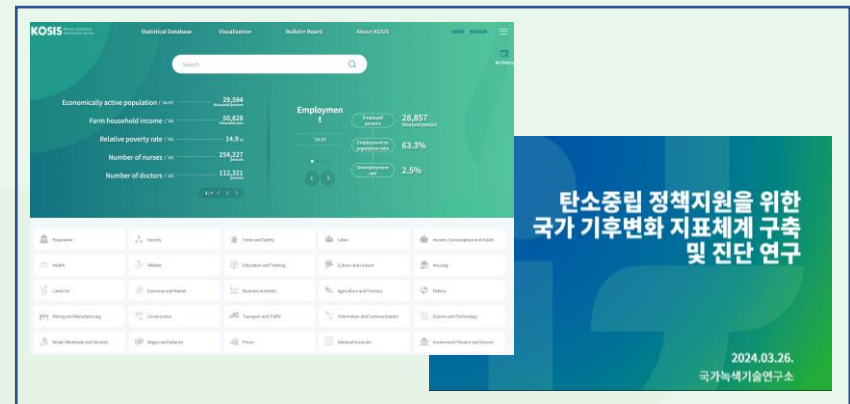
- The UN's CISAT tool helps countries evaluate and develop climate change statistics and indicators. South Korea is working to align its climate change statistics with international standards, focusing on areas like mitigation and adaptation.

UN's CISAT for climate statistics

Field	Indicator	Description
158	158	Proportion of domestic and industrial wastewater flows safely treated
Indicator	158	Proportion of domestic and industrial wastewater flows safely treated
Metadata	158	Proportion of domestic and industrial wastewater flows safely treated
Area	158	Adaptation
Topic	158	Waste management
Theme	158	Water quality
Paris Agreement article	158	7, 13.B
FPSP database	158	Decision 18/CMA.1, chapter IV; Decision 19/CMA.1
FDS	158	6.3.1
SDG	158	6.3.1
Sample Framework	158	2
Unit	158	2
Definition	158	This indicator measures the volumes of wastewater which are generated through different activities, and the volumes of wastewater which are safely treated before discharge into the environment. Both of these indicators are measured in units of 1000 m ³ /day, although some data sources may use other units that require conversion. The ratio of the volume treated to the volume generated is taken as the 'proportion of wastewater flow safely treated'.

- The CISAT, developed by the UNSD, helps countries systematically evaluate and develop climate change statistics and indicators. Adopted by the UN Statistical Commission in 2022, CISAT provides a global framework of 158 indicators and 190 statistics.

NIGT and Statistics Korea developing climate indicators.



- The National Institute of Green Technology (NIGT), in collaboration with the Statistics Korea SRI*, is conducting research to create a national system for climate change indicators, ensuring effective policy implementation and international cooperation.

* Statistics Research Institute (SRI)

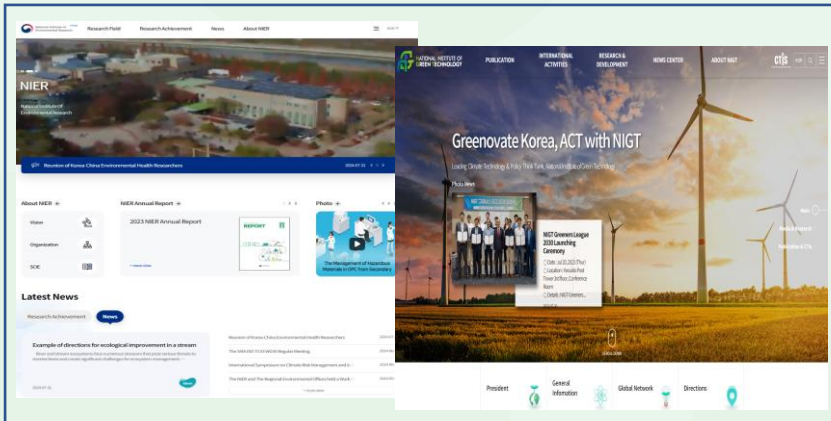
※ Ref : Climate Change Statistics and Indicators Self-Assessment Tool (CISAT) Metadata (2023, United Nations Statistics Division), Korean Statistical Information Service(2024, <https://kosis.kr/eng/>), A study on National Climate Change Statistical Indicator System for Carbon Neutrality Policy Support (2024, National Institute of Green Technology, Statistics Korea Statistics Research Institute)

4

Establishment of Climate Crisis Adaptation Information Statistical Data

- South Korea is developing a climate crisis adaptation information system to support policy-making, focusing on collecting and aligning adaptation statistical data with global standards.

Improving Korea's climate adaptation statistics



- South Korea's climate adaptation statistics meet just 28% of international standards. To improve, the country is developing plans to enhance data collection and management, with the NIER* and the NIGT** leading efforts to better predict and respond to climate risks.

* National Institute of Environmental Research (NIER)

** National Institute of Green Technology (NIGT)

Creating climate crisis data using the KAD-Taxonomy

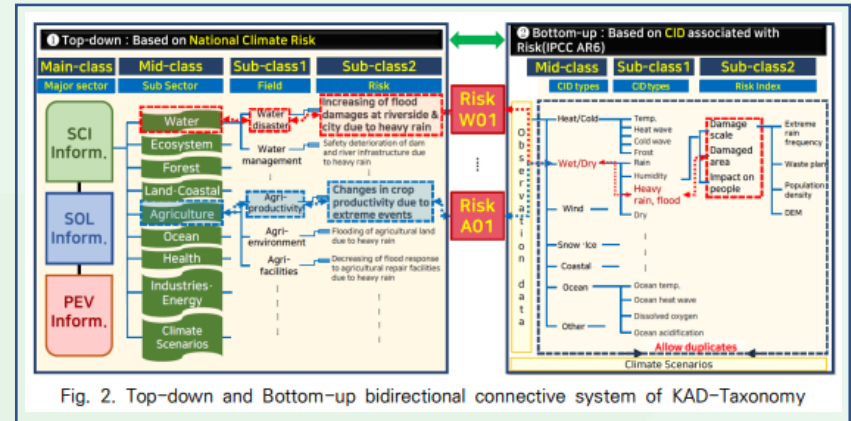


Fig. 2. Top-down and Bottom-up bidirectional connective system of KAD-Taxonomy

- South Korea is creating climate crisis data using the KAD-Taxonomy*, prioritizing urgent issues. In the future, NIGT and NIER will publish a data book and develop an information platform to support climate crisis policies.

* Korean Adaptation Information Classification System (KAD-Taxonomy)

※ Ref : National Institute of Environmental Research(2024, <https://www.nier.go.kr/NIER/eng/index.do>),

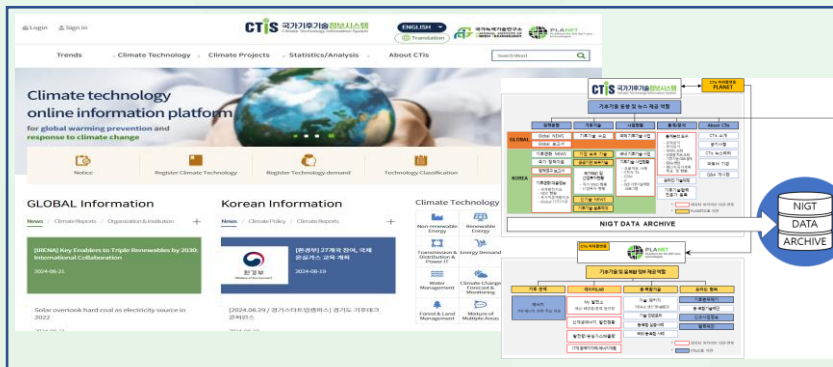
National Institute of Green Technology(2024, <https://www.nigt.re.kr/eng/index.do>),

Seo DH., et al.(2023). Development of a standard classification system for climate crisis adaptation information: Part-I. Overview and framework. Journal of Climate

5 Climate Crisis Response Plan Based on Information Platforms

- The international community emphasizes the systematic management of climate adaptation information. In response, South Korea is establishing legal frameworks, developing national strategies, and implementing adaptation measures.

Information platforms for climate change response



- South Korea is creating and managing information platforms for climate change response, including the CTis* for integrated data and a platform for international cooperation in carbon neutrality. These platforms aim to support policy-making and research through comprehensive data collection and advanced technologies like big data and AI.

* Climate Technology Information System (CTis)

Korea's climate adaptation platform

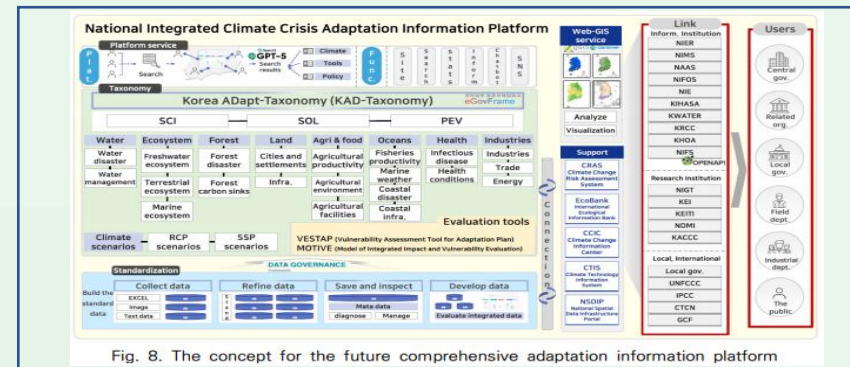


Fig. 8. The concept for the future comprehensive adaptation information platform

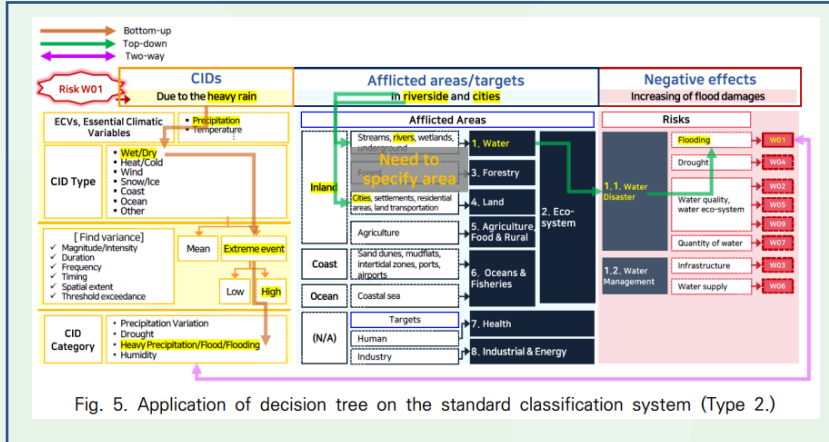
- Ministry of Environment and NIER have created the KAD-Taxonomy for climate adaptation data and plan to develop a comprehensive information platform by 2028. This initiative aims to unify climate crisis information and support policy-making, helping to reduce climate change damage and promote sustainable development.

※ Ref : Climate Technology Information System(2024, <https://www.ctis.re.kr/en/index.do>), Seo DH., et al.(2023). Development of a standard classification system for climate crisis adaptation information: Part-I. Overview and framework. Journal of Climate Change Research - Vol. 14, No. 6-2, pp.903-918

6 Conclusions

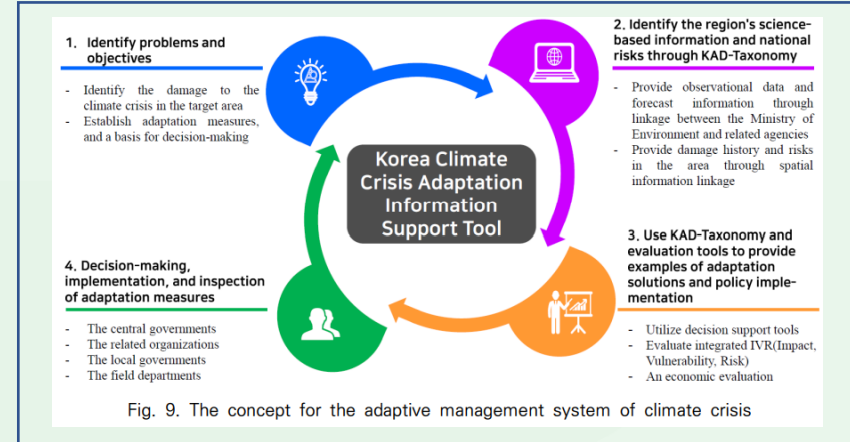
- South Korea is addressing climate change with national strategies, improved data, and information platforms to support effective policies and promote sustainable development.

Enhances climate data standards



- Accurate climate change data is vital for effective policies. South Korea is using the UN's CISAT and the KADT to develop comprehensive statistical indicators that meet international standards, enhancing the scientific foundation of its climate response efforts.

Data-driven approach to climate policies



- South Korea is creating information platforms and a classification system to support data-driven climate policies, highlighting its commitment to addressing climate change and promoting sustainability.

Thank you



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