

Initiative to Promote the Development of Early Warning Systems through Public-Private Partnerships in the Asia-Pacific Region

1. Background and History

In March 2022, the United Nations (UN) set a goal to protect the world's entire population with early warning systems over the next five years, and efforts led by the World Meteorological Organization (WMO) and United Nations Office for Disaster Risk Reduction (UNDRR) are accelerating. At the 27th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP 27) in Egypt in November 2022, the WMO announced an action plan to achieve the goal.

With regard to this UN initiative, Japanese private companies are expected to contribute to the business sector in developing countries. For example, Japanese private companies could promote the introduction of early warning systems in locations where large industrial parks are located, and in important business locations such as land and sea transportation routes and raw material production sites.

The Japanese private sector has many technologies, services, and experience related to early warning systems, and many companies are expanding their business overseas, including in the Asia-Pacific region. The establishment of a new weather observation system could also create new business opportunities, such as the expansion of the market for weather index insurance to cover climate change risks related to crop production and transportation.

On the other hand, in order to promote the development of early warning systems for the business sector, it is necessary to promote data development, analysis, and forecasting in target areas by utilizing ground radar and satellite observation data, and for weather index insurance, it is necessary to develop insurance products that are compatible with early warning systems and available data. In order to promote such projects, it is not only necessary to develop a business model that takes into account local conditions in developing countries, but also to consult with local governments and go through the necessary procedures (e.g. consultations on data use and cost sharing, and licensing for observation and communication). Therefore, it is anticipated that some companies may encounter challenges in proceeding with their initiatives.

2. Overview of the "Initiative to Promote the Development of Early Warning Systems through Public-Private Partnerships in the Asia-Pacific Region"

In this situation, the Japanese government expressed its support for the UN initiative at COP27 and

announced the launch of a new initiative by the Ministry of the Environment, the "Initiative to Promote the Development of Early Warning Systems through Public-Private Partnerships in the Asia-Pacific Region" (hereinafter referred to as the "EWS Public-Private Partnership Initiative").

The EWS Public-Private Partnership Initiative promotes the introduction of early warning systems for the business sector by the Japanese private sector in the Asia-Pacific region, including the ASEAN region, based on the current status and issues described in section 1, including the development of observation equipment, analysis and prediction of observation data, provision of climate information services. To this end, the initiatives aim to formulate public-private partnership to develop case studies of early warning system for the business sector that will pave the way for its implementation ahead of its Asian counterparts.

The Ministry of the Environment, in cooperation with related ministries and agencies, will work together to promote the introduction of early warning systems for the business sector in the Asia-Pacific region, including the ASEAN region, and to develop projects that utilize these systems by promoting various initiatives including the following:

- Consultation of the Early Warning Systems through Public-Private Partnership Initiative" (hereinafter referred to as "EWS Consultations") and exchange of views, and information sharing through the website,
- Research on relevant regulations, market needs, funding in developing countries,
- Review, proposal and matching of business models utilizing technologies and services related to early warning systems (e.g. sales of weather observation equipment, provision of paid weather information services, development of cell phone applications for individuals) owned by the Japanese private sector, based on the needs of developing countries and the intentions of companies participating in the EWS Consultations,
- Promotion of the EWS Public-Private Partnership Initiative and the EWS Consultations, making full use of the channels that the Ministry of Environment has, including international climate change negotiations, bilateral meetings, and the ASEAN-Japan Environment Ministerial Meetings,

[Reference] Early Warning System

(c.f. UNDRR website: <https://www.undrr.org/terminology/early-warning-system>)

An integrated system of hazard monitoring, forecasting and prediction, disaster risk assessment, communication and preparedness activities systems and processes that enables individuals, communities, governments, businesses and others to take timely action to reduce disaster risks in advance of hazardous events.

Annotations: Effective “end-to-end” and “people-centred” early warning systems may include four interrelated key elements: (1) disaster risk knowledge based on the systematic collection of data and disaster risk assessments; (2) detection, monitoring, analysis and forecasting of the hazards and possible consequences; (3) dissemination and communication, by an official source, of authoritative, timely, accurate and actionable warnings and associated information on likelihood and impact; and (4) preparedness at all levels to respond to the warnings received. These four interrelated components need to be coordinated within and across sectors and multiple levels for the system to work effectively and to include a feedback mechanism for continuous improvement. Failure in one component or a lack of coordination across them could lead to the failure of the whole system.

Multi-hazard early warning systems address several hazards and/or impacts of similar or different type in contexts where hazardous events may occur alone, simultaneously, cascadingly or cumulatively over time, and taking into account the potential interrelated effects. A multi-hazard early warning system with the ability to warn of one or more hazards increases the efficiency and consistency of warnings through coordinated and compatible mechanisms and capacities, involving multiple disciplines for updated and accurate hazards identification and monitoring for multiple hazards.

MOEJ's Initiative to Promote the Development of Early Warning Systems through Public-Private Partnerships in the Asia-Pacific Region (announced by Minister of the Environment at COP27)



Background

- The **UN** announced, "Within the next five years, **everyone on Earth** should be protected by EWS (Early Warning Systems)" (2022.3)
- Recently, the **private sector** has joined the movement to develop **EWS** and **climate-information solutions** for corporate **supply chains**.
- the World Economic Forum released a briefing paper on **business action** for adaptation at COP27.

Overview of the Initiative

- **Ministry of the Environment of Japan** is planning to establish a **new and additional** cooperative structure for **Japanese companies interested in developing EWS** and will support **consultations** with developing country governments and **cooperation** through G7.
- MOEJ promotes to develop **EWS** and **projects using EWS (e.g., insurance)** by Japanese companies in the **Asia-Pacific** region.

■ Example of EWS development by the private sector

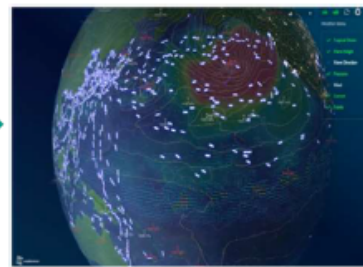


Weathernews Inc.: Plans to install small radars in Vietnam. Targets 50 locations by 2024 in Indonesia, Japan, and other Asian countries.

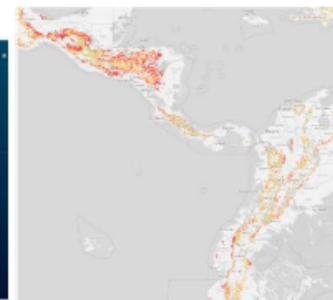
■ Example of Climate Information Solutions

(Climate Information Service)

(Weather Derivatives/Insurance)



•Recommendation of the best route for vessels



•Support for procurement through yield risk assessment

Examples of insurance goods provided by an **insurance company**:

1. Sugar Refining (Thailand)
Yield and production decrease due to rainfall and high temp.
2. Mining (South Africa)
Suspension of operations due to cyclone
3. Vehicle Dispatch (Singapore)
Decrease in sales due to rainfall

Roadmap for the Initiative to Promote the Introduction of Early Warning Systems (EWS) through Public-Private Partnership(draft)

