

July 11th, 2019

Weathernews, One Concern, and Sampo Japan Nipponkoa Jointly Deploy an AI Disaster Prevention and Mitigation System for Real-time Prediction of Flood and Earthquake Damage

June 19th Seminar on Improving Disaster Prevention, Mitigation, and Resilience

On June 19th, Weathernews Inc. (Head Office: Mihama-ku, Chiba-shi; CEO: Chihito Kusabiraki) co-hosted a seminar together with Silicon Valley startup, One Concern, Inc. (Head office: California, USA; CEO: Ahmad Wani; below, One Concern) and Sampo Japan Nipponkoa Insurance Inc. (Head office: Shinjuku, Tokyo; President: Keiji Nishizawa; below, Sampo Japan Nipponkoa) on "Improving Disaster Prevention, Mitigation, and Resilience Using Cutting-edge Technology (Society 5.0) ," and introduced an AI disaster prevention and mitigation system that the three entities will jointly deploy. Using Kumamoto City as a model case, and with the cooperation of the city government, the three companies started deploying an AI disaster prevention and mitigation system in March of this year, and plan to introduce a flood damage prediction simulation system on a trial basis beginning this fall.

Seminar on disaster prevention and mitigation hosted together with US artificial intelligence company, One Concern and Sampo Japan Nipponkoa

On June 19th, Weathernews, together with One Concern and Sampo Japan Nipponkoa, hosted the joint seminar, "Improving Disaster Prevention, Mitigation, and Resilience Using Cutting-edge Technology (Society 5.0) – Using AI to Construct a Global Smart Resilience Model for SDGs." The seminar featured the introduction of a public-private initiative for disaster prevention and mitigation from the National Research Institute for Earth Science and Disaster Resilience and the City of Kumamoto, as well as an AI disaster prevention and mitigation system jointly deployed by the three companies.

At the seminar, Weathernews CEO, Chihito Kusabiraki said, "Countermeasures against weather risks, which have been increasing and diversifying in recent years, as well as terrestrial phenomena such as earthquakes and tsunamis, are becoming increasingly important for industries and daily life around the world. If our demonstration of this AI disaster prevention and mitigation system proves successful in Japan, we can expand it to Asia where weather-related disasters occur frequently. Our hope is that, by combining our own weather-related big data with One Concern's AI disaster simulation technology and Sampo Japan Nipponkoa's risk management know-how, we can develop a new system that will reduce disasters throughout Japan and around the world."



Keiji Nishizawa, President and Managing Director of Sampo Japan Nipponkoa (left),
Ahmad Wani, CEO of One Concern, Inc. (center),
Chihito Kusabiraki, CEO of Weathernews Inc. (right)

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*One Concern's mission is, "To protect human life and livelihoods before, during, and after a disaster," which is carried out by providing disaster prediction, prevention, and mitigation systems that utilize cutting-edge technologies such as AI. In the United States, approximately 10 local governments and companies have already introduced these systems, including the cities of Los Angeles, San Francisco, and Seattle.

Jointly deploying AI disaster prevention and mitigation systems capable of making real-time predictions of damage from earthquakes and floods

In recent years, there have been many large-scale disasters due to abnormal weather and climate change, which are causing unprecedented damage and are testing the limits of conventional capabilities. For this reason, there is a need for measures to minimize the damage from these disasters and begin reconstruction as quickly as possible. In response to this situation, Weathernews began collaborating with Silicon Valley disaster-prevention startup One Concern and Sampo Japan Nipponkoa in March 2019, to jointly deploy a disaster prevention and mitigation system utilizing advanced AI technology. Also at that time, we began deployment of an AI disaster prevention and mitigation system for Kumamoto, a city which has been hit repeatedly by earthquakes and heavy rains. Kumamoto will be the first municipality in Japan to use a system of this type. Machine learning technology is used to train the system based on a variety of data about the natural environment, building and infrastructure construction, as well as live incidents such as detection of river water levels and earthquakes. It is the only system in the world that enables the real-time prediction of damage over a wide area, before, during, and after a disaster.

One Concern plans to introduce a damage prediction simulation system in Kumamoto on an experimental basis, in September to October for floods, and in December for earthquakes.

For many years, Weathernews has provided its vast amounts of accumulated weather data and the latest forecast data, and through this public-private partnership aimed at providing an advanced, detailed disaster simulation system, we will continue to help local governments and companies improve their disaster prevention, reduction, and resilience capabilities.

Details of the AI Disaster prevention and mitigation system

1) Before a disaster

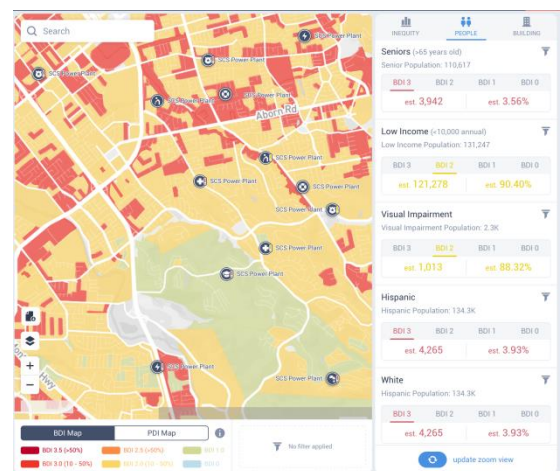
The system enables accurate damage simulations based on disaster risks and local vulnerabilities. Based on these simulations, users can formulate and review effective BCPs (Business Continuity Plans) and disaster prevention plans, conduct more practical disaster prevention drills with the participation of private firefighting teams and local residents, and review disaster evacuation sites and procedures. This will strengthen disaster prevention and mitigation measures before a disaster occurs.

2) During a disaster

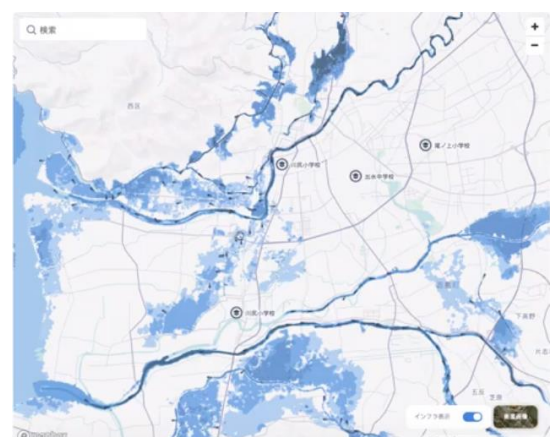
The system provides near real-time predictions of damage immediately after a disaster. Based on this information, users can accurately identify the area and scale of the disaster, enabling initial responses that are fast, efficient, and effective, such as prioritizing the elderly and children, and minimizing the overall damage.

3) After a disaster

Collecting real-world damage data and reflecting it into the forecasts enables more accurate prediction of damage in real time. This information is helpful to users in determining the most appropriate and effective measures for rapid recovery from such disasters.



Simulated earthquake damage prediction



Simulated flood damage prediction