

Relationships between criteria and indices

Phenomenon	Criteria	
Heavy rain	Heavy rainfall with a level of intensity observed only once every few decades is predicted in association with a typhoon or similar.	
Storm	A storm is predicted	in association with a typhoon expected to have a level of intensity observed only once every few decades or an extratropical cyclone with comparable intensity.
Storm surge	A storm surge is predicted	
High waves	High waves are predicted	
Snow storm	A snow storm is predicted in association with an extratropical cyclone expected to have a level of intensity observed only once every few decades.	
Heavy snow	Heavy snowfall with a level of intensity observed only once every few decades is predicted.	

Indices for Emergency Warnings in association with rain

Indices for Emergency Warnings in association with typhoons and extratropical cyclones

Indices for Emergency Warnings in association with snow

The Japan Meteorological Agency (JMA) issues Emergency Warnings based on latest observations/forecasts relating to meteorological phenomena and objective indices in consideration of past catastrophes.

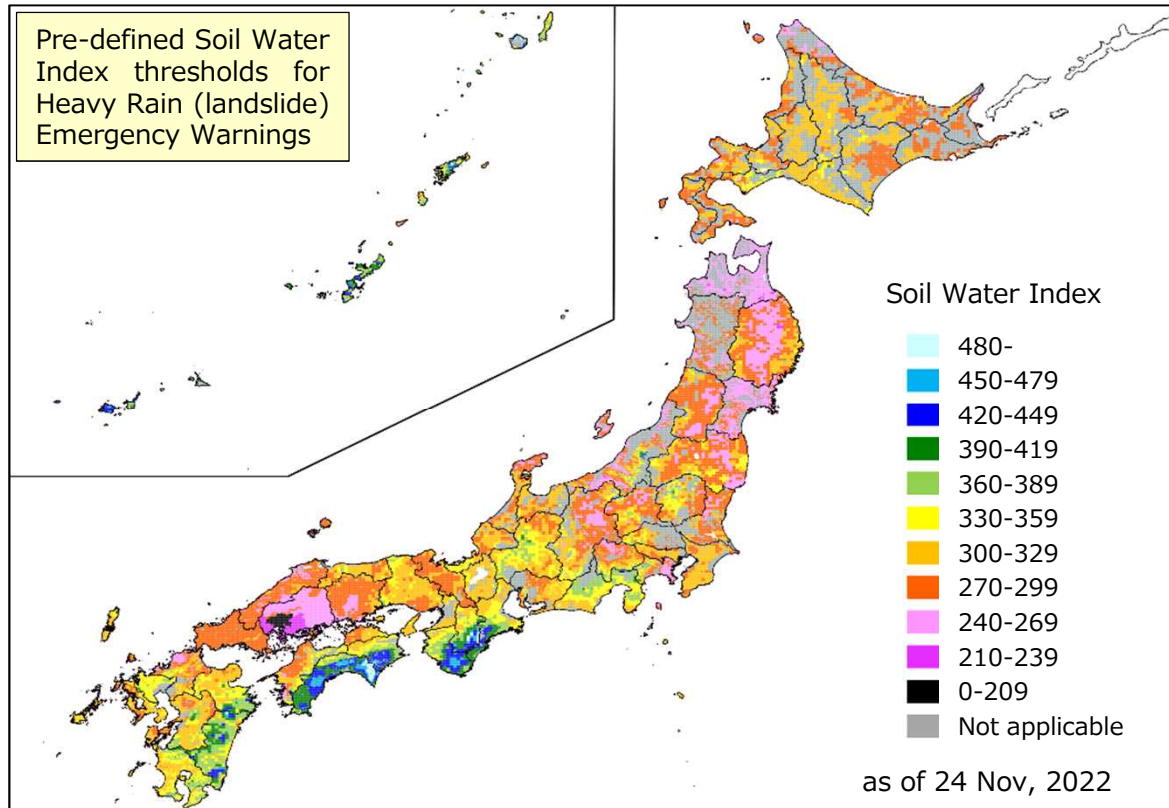
Indices that correspond to a phenomenon observed only once every few decades are shown below.

Indices for rain-related Emergency Warnings based on Soil Water Index values

JMA issues Heavy Rain (landslide) Emergency Warnings for municipalities when the following conditions is expected to persist with rainfall of around 30 mm/hr or more:

Index

Clustering with 10 or more 1×1 km grid boxes containing Soil Water Index values exceeding pre-defined thresholds set in reference to previous extreme landslide damage.



Indices for rain-related Emergency Warnings based on Surface Water Index values and Runoff Index values

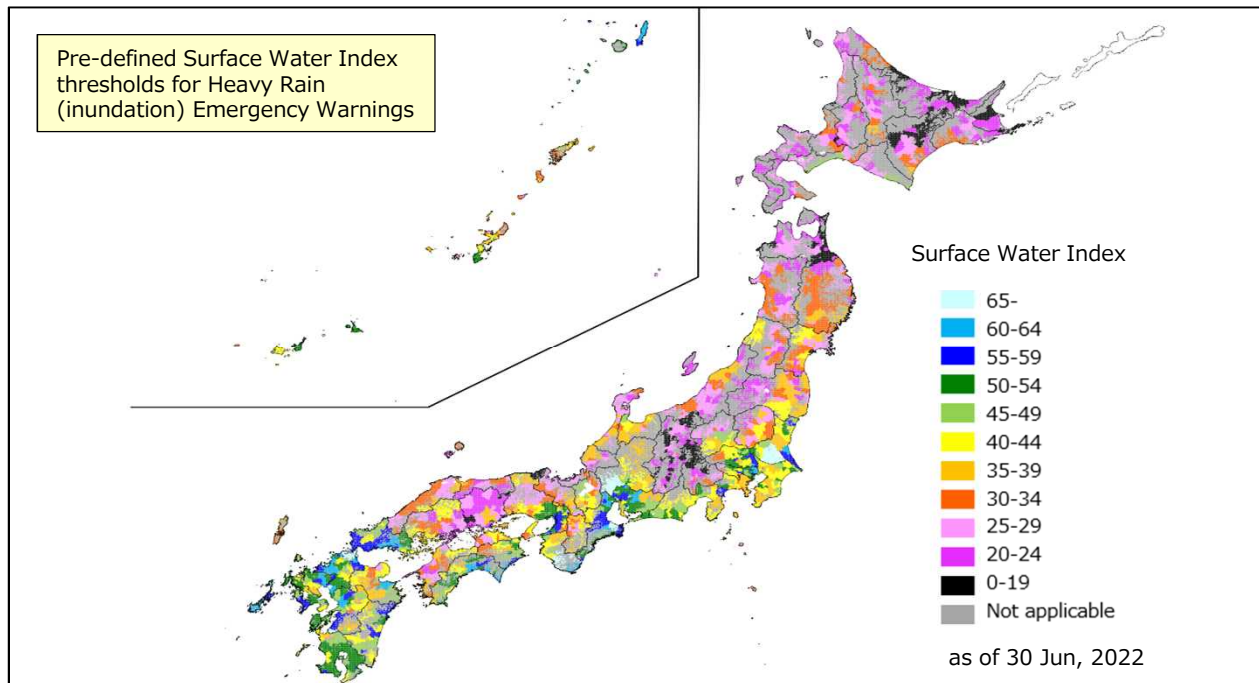
JMA issues Heavy Rain (inundation) Emergency Warnings for municipalities when the following conditions is expected to persist with rainfall of around 30 mm/hr or more:

Index #1

Clustering with 30 or more 1 × 1 km grid boxes containing Surface Water Index values exceeding pre-defined thresholds

Index #2

Clustering with 20 or more 1 × 1 km grid boxes containing Runoff Index values exceeding pre-defined thresholds



Indices for Emergency Warnings in association with typhoons and extratropical cyclones

JMA issues Emergency Warnings when a typhoon with a central pressure of 930 hPa or lower or a maximum wind speed of 50 m/s or higher, which is equivalent to the scale of 1959's Typhoon Vera (also known as Isewan Typhoon), or a comparable extratropical cyclone hits Japan.

For Okinawa, Amami and Ogasawara, JMA issues Emergency Warnings when a typhoon with a central pressure of 910 hPa or lower or a maximum wind speed of 60 m/s or higher is expected.

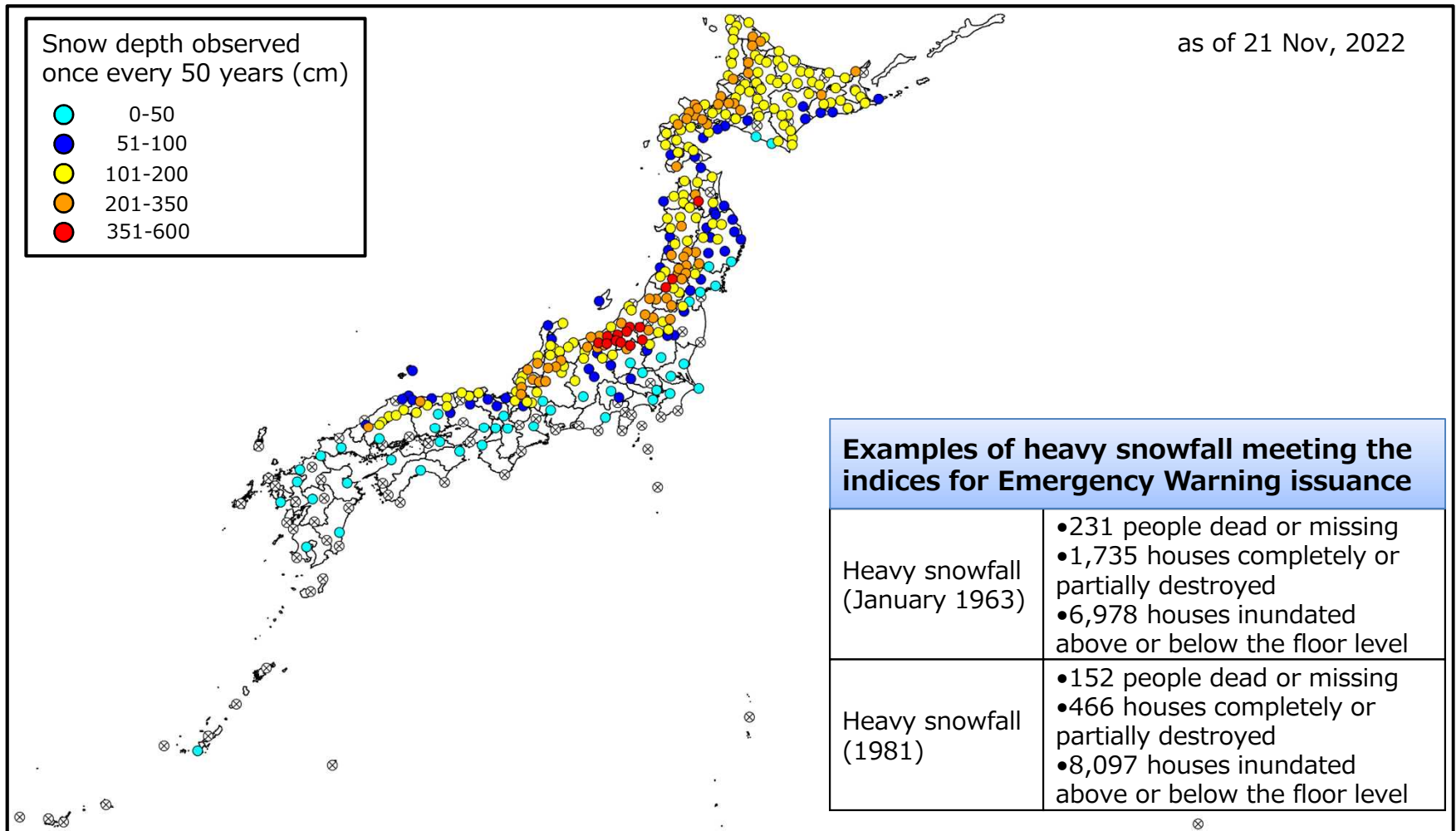
JMA issues Emergency Warnings for storms, storm surges and/or high waves to areas where the center of a typhoon is expected to approach or pass* with a central pressure and a maximum wind speed meeting the issuance indices.

* Areas covered by the 70% probability circle of the center-position forecast

For extra-tropical cyclones, JMA issues Emergency Warnings for storms/snowstorms, storm surges and/or high waves to areas with a maximum wind speed expected to meet the issuance indices.

Indices for Emergency Warnings in association with snow

JMA issues Heavy Snow Emergency Warnings when snow depth observed once every 50 years is expected on a prefectural scale and warning-class snowfall continues for around a day or longer.



For areas where the snow depth observed once every 50 years is small, indices are determined using such value as the deepest snow in the past.