

Collaborative activities and efforts based on lessons from past events



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Dialogue Session 1: Sharing Experiences

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Collaborative information issuances and disaster responses **in Japan**

Disasters and meteorological information for disaster management in Japan

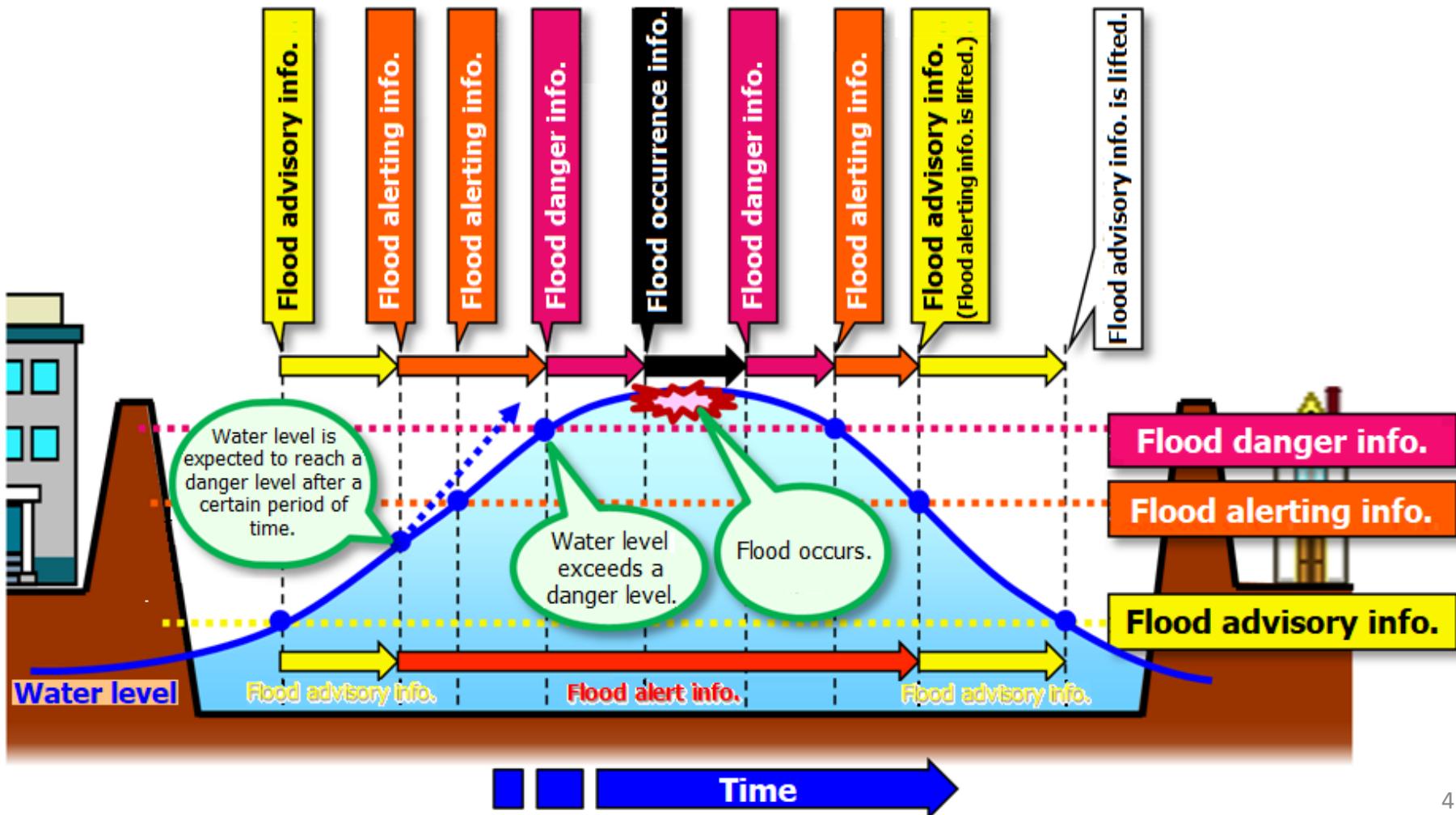
- Timing and areas for evacuation are shown in concrete in Guidelines for Evacuation Recommendations created by the Cabinet Office.

Disasters and meteorological information for disaster prevention (■: high-risk areas with a threat to life)			Example of actions by municipalities and residents (■: zones where evacuation advisories should be issued)
Landslides	Floods (for designated rivers)	Storm surge	
Heavy Rain (landslide) Warning, Landslide Alert Info. Landslide prone areas with high risks in Real-time Landslide Risk Map	Flood Warnings and Advisories for designated rivers Expected inundation areas in hazard maps on floods	Storm Warning, Storm Surge Warning Areas where inundation is expected when a storm warning or a storm surge warning is issued	[Municipalities] - set up a liaison - prepare for issuance of notifications to "Prepare to evacuate and start evacuating elderly and other persons requiring special care" [Residents] - pay attention to meteorological information such as warnings
Heavy Rain Advisory	Information to call attention to flooding	Storm Surge Advisory	[Municipalities] - issue notifications to "Prepare to evacuate and start evacuating elderly and other persons requiring special care" - prepare for issuance of evacuation recommendations [Residents] - prepare to evacuate (elderly and other persons requiring special care start to evacuate)
Heavy Rain (landslide) Warning with Red in Real-time Landslide Risk Map	Information to provide a warning on flooding	Storm Surge Advisory (indicates the likely issuance of a Storm Surge Warning)	[Municipalities] - issue evacuation recommendations - establish Disaster Management Headquarters [Residents] - start to evacuate
Light-purple in Real-time Landslide Risk Map or Landslide Alert Information	Information on potential flood hazard	Storm Warning or Storm Surge Warning	[Municipalities] - issue evacuation instructions (emergency) [Residents] - complete evacuation (start to evacuate if not evacuated; move to a room with low risk of exposure to disasters for safety if evacuation may be hazardous due to heavy rain or storm winds)
Dark-purple in Real-time Landslide Risk Map	(High probability of flooding)	(Over the hazardous tidal levels)	
(Landslides occurred)	Information on flooding	(Extreme overflow occurred)	

Collaborative information issuances

- Flood forecasts -

- **JMA** issues **flood forecasts** in cooperation with **MLIT** or **prefectures** for rivers under government control which has large basin area and may suffer great damage due to flood.



Collaborative information issuances

- River water level information & Real-time risk map for flood-

- For other rivers, river water level information from **MLIT** and others and **JMA's Real-time risk map for flood** are available.



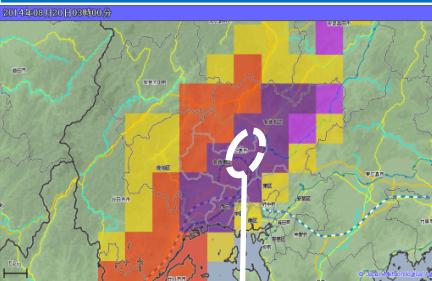
From MLIT and
Local governments

From JMA

Collaborative information issuances

- JMA's Real-time risk map -

Risk-based information

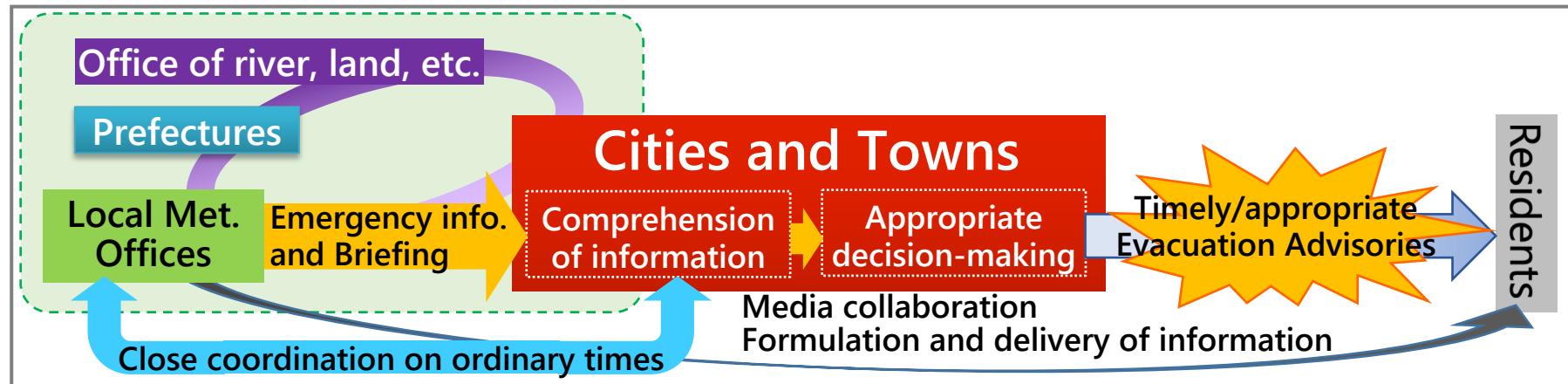
	Landslide (2015※-)	Inundation (2017-)	Flood (2017-)
Risk Map Landslide Risk Map			
Related Disaster			 <p style="text-align: right;">Ono River (photo: provided by Hita city officer)</p>
Resolution/Update Interval/Lead time	1 km/10 min/2 hours	1 km/10 min/1 hour	1 km/10 min/3 hours

※ Upgraded from 5 km to 1 km in 2019.

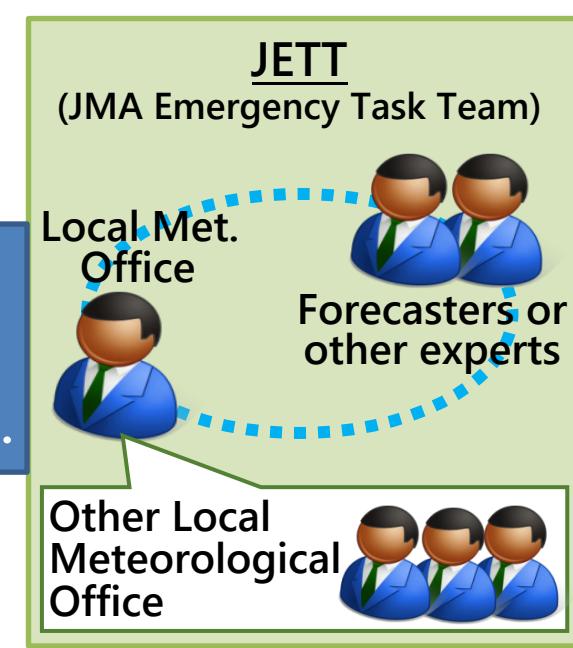
- **Colored-grid information indicating how close current and forecasted hazards potential** is to pre-defined warning criterion at each point.
- **Spatially specific information about risk-level of landslide, inundation and flood** in colors using a standardized color code.

Decision support service for governments

JETT (JMA Emergency Task Team) since 1 May 2018



Detailed weather information on-site when disaster conditions are expected.

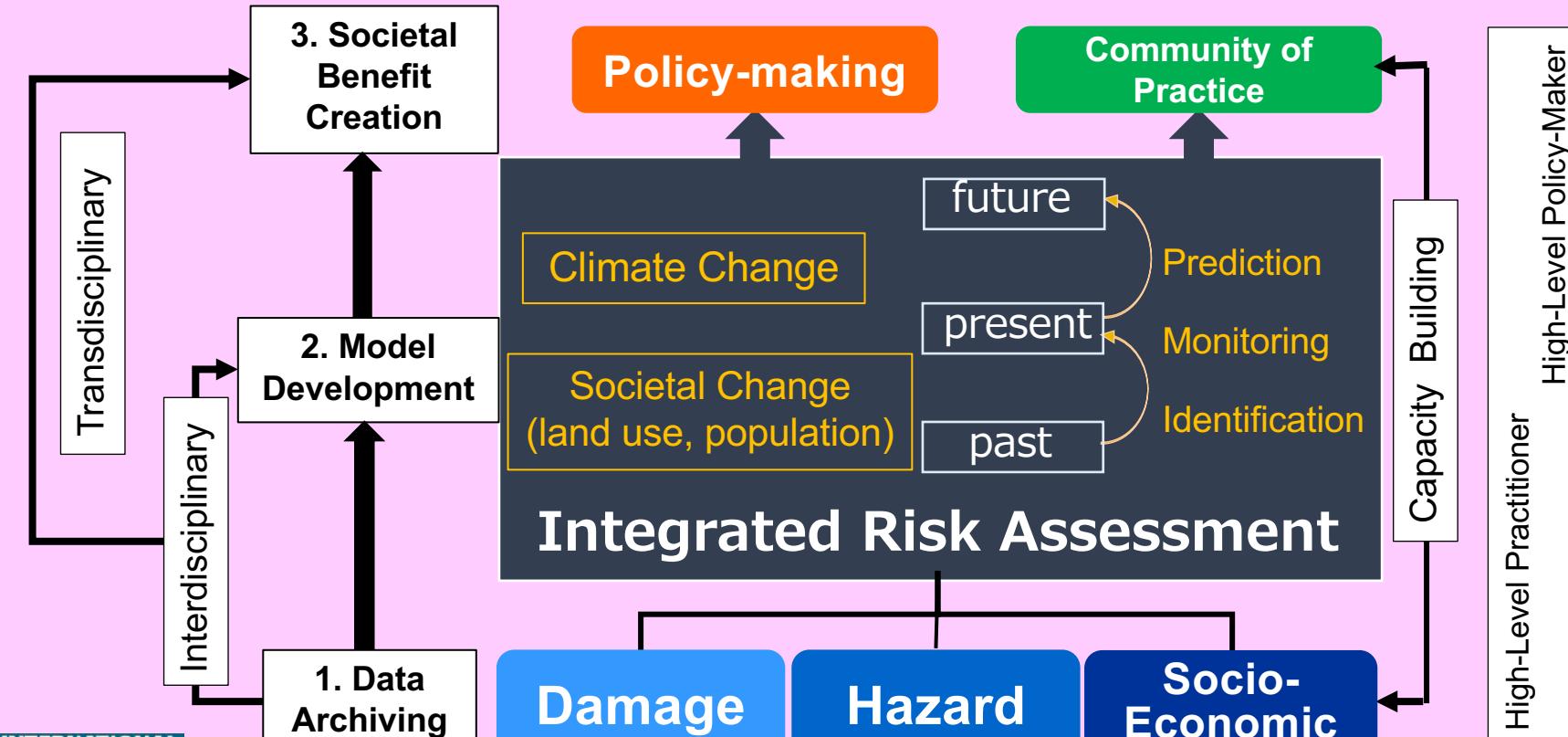


Collaborative *regional* capacity building

Collaboration between ICHARM and JMA

- IFI Platform - based project -

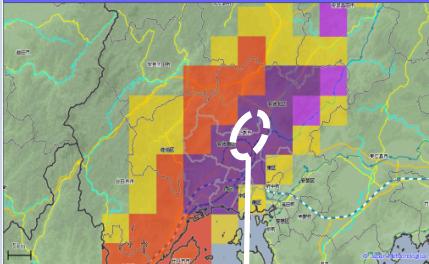
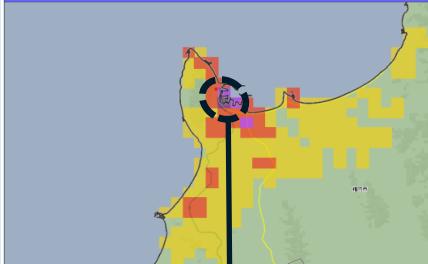
Platform on Water Resilience and Disasters



Collaboration between ICHARM and JMA

- IFI Platform - based project -

Risk-based information

	Landslide (2015※-)	Inundation (2017-)	Flood (2017-)
Risk Map Landslide Risk Map	 <p>2014年08月10日 03時00分</p> <p>Extreme risk [Level 4 eq.] High risk [Level 4 eq.] Warning [Level 3 eq.] Advisory [Level 2 eq.] Check weather bulletin</p>	 <p>2016年09月06日13時00分</p>	 <p>2km</p>
Related Disaster			 <p>Ono River (photo: provided by Hita city officer)</p>
Resolution/Update Interval/Lead time	1 km/10 min/2 hours	1 km/10 min/1 hour	1 km/10 min/3 hours

※ Upgraded from 5 km to 1 km in 2019.

- Risk map requires **disaster statistics to grasp the vulnerability**.
- In IFI platform, **various data are collected from related hydro-, met- and DRR organization**, which are useful for investigating local vulnerability and creating warning criteria.

Collaboration between RSMCs New Delhi and Tokyo

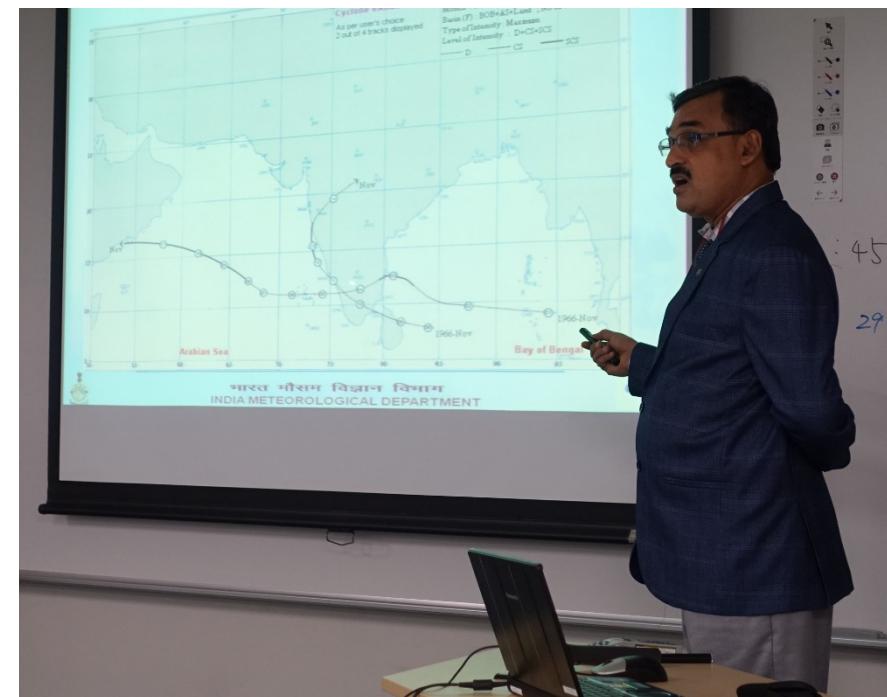
- RSMC Attachment Training -

RSMCs conduct Attachment Training for forecasters of Members in each region every year.

In 2019, RSMCs **New Delhi** and **Tokyo** dispatched a **lecturer** to each other's training course.



Lecturer of the RSMC Tokyo – Typhoon Center
at the Attachment Training in New Delhi

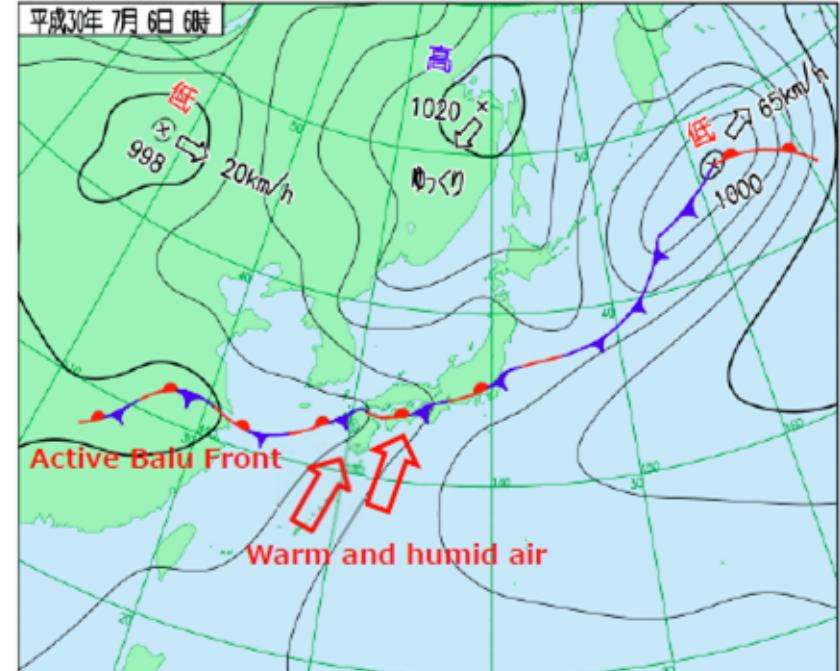


Lecturer of the RSMC New Delhi
at the Attachment Training in Tokyo

**Efforts for the appropriate use of the
information based on lessons from past
events**

The Heavy Rain Event of July 2018

A stationary Baiu front, enhanced by very warm and humid air of the southern ocean, **intermittently brought heavy rainfall** over Japan.



Weather Chart at 06JST, July 6

Photo:
http://www.mlit.go.jp/river/bousai/pch-tec/pdf/H3007_TEC-FORCE_ph_180710.pdf

- **More than 200 people died** in the torrential rainfall in western Japan
- **Most severe human losses** caused by heavy rainfall **in the recent 30 years**

What have arisen?

- Warnings were issued in a timely manner and JMA called for caution more intensely than before.
- Other related organizations also issued information and local government made evacuation calls.
- **However, the heavy rainfall caused severe loss and damage.**



Why?

Challenges to overcome

In the case,

- the sense of risk was not conveyed to the public in an appropriate manner
- people were not quite aware of the meaning of the information and its usage

The biggest challenge to overcome is

“how to initiate people’s evacuation action.”



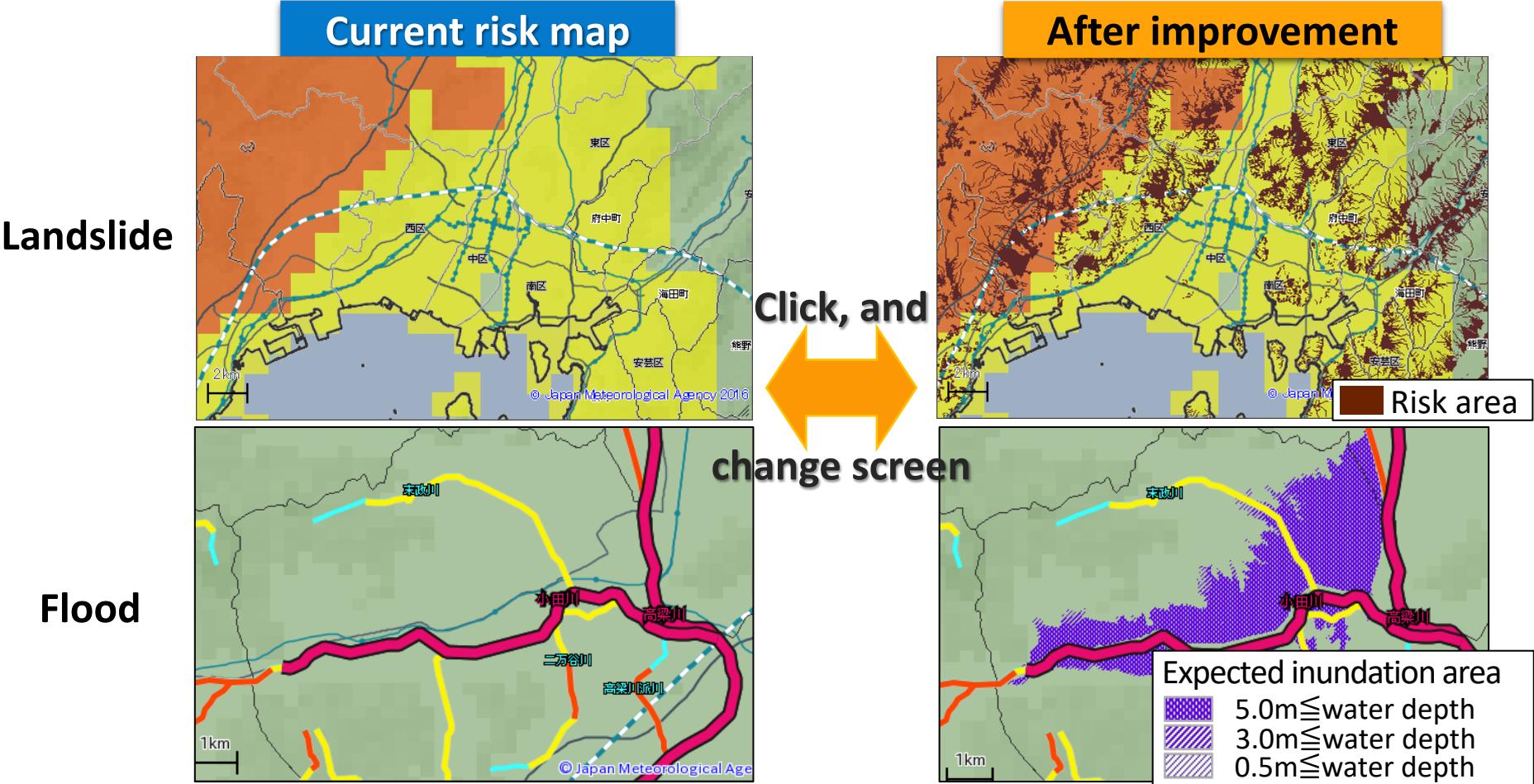
- How to design information
- How to delivery information
- Public awareness and education campaign

Example

- Improvement in Information design -

Visibility and accessibility improvement

→ overlay with vulnerability data (e.g. hazard map)

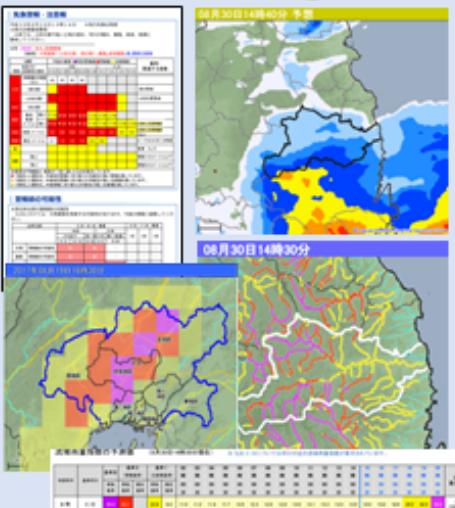


Example

- Public awareness and education campaign -

Outline of the workshop

Meteorological information
for disaster mitigation



Understanding and use
of information

- Group work
○ for disaster responses



○ Simulation of disaster responses
at municipality level

Explanation based on
"Guidelines on Evacuation Advisories"
revised by the Cabinet Office



Deep understanding of
the guidelines under
specific weather conditions

Development of mutual understanding
and new findings through discussion
among participants in various fields

Materials for the workshop are
available online in editable
format to be easy to modify
for one's own use.



Based on the group work,
participants review the current disaster
management in their municipality
and discuss tasks and solutions

↓
Improvement of their operations

Summary

- Collaborative information issuances and disaster responses **in Japan**
 - Cooperation in information issuance related to flood **with MLIT and local governments**
 - Efforts of support **on local governments** for the appropriate use of the information
- Collaborative **regional** capacity building
 - Collaboration **with ICHARM** on IFI Platform to improve local disaster prevention capabilities against water-related disasters in the Asian region
 - Collaboration **with RSMCs New Delhi** on attachment training for tropical cyclone forecasters in each region
- Efforts for **the appropriate use of the information** based on lessons from past events
 - Improvement in **Information design and deliver**
 - Promotion of public awareness and education campaign

Thank you

