

# REVIEW OF JAPANESE HYDROLOGICAL SERVICES

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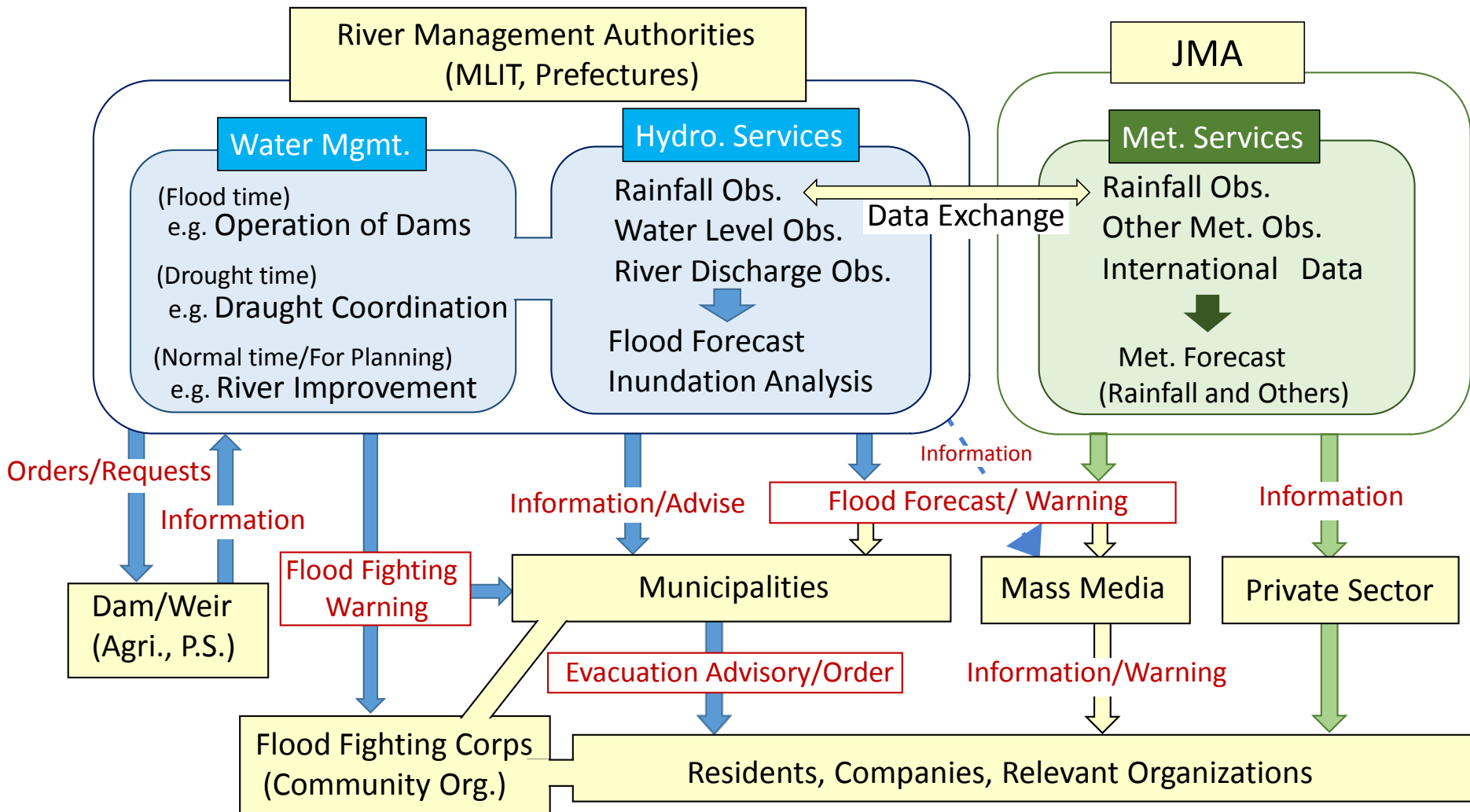


Foundation of River & Basin Integrated  
Communications, JAPAN

# Structure of Presentation

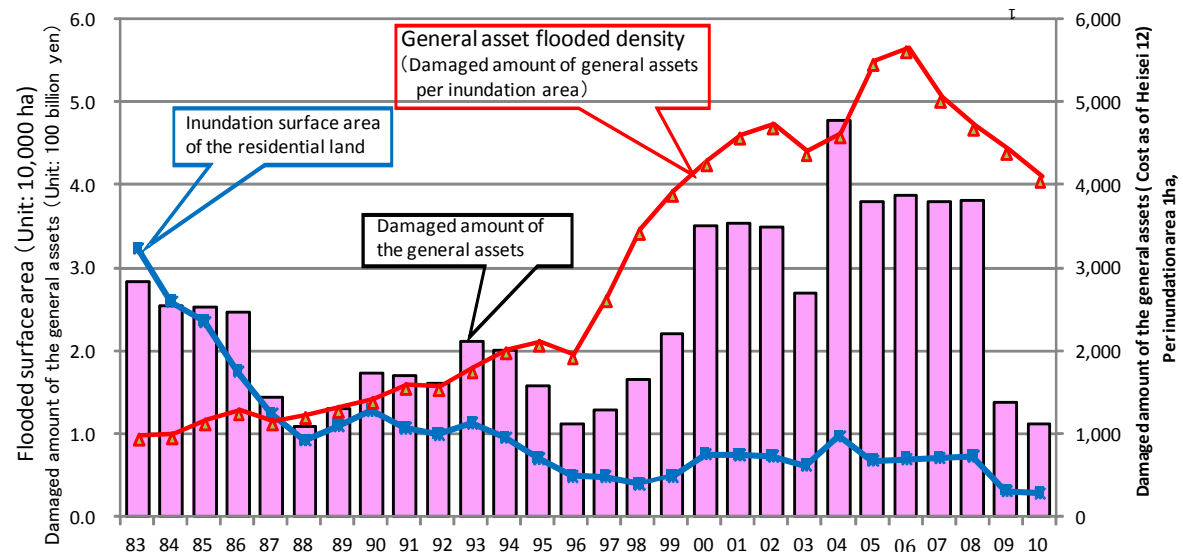
- ***Overview of Information Flow in Integrated Water Management in Japan***
- ***Changes in water-related disaster management in Japan and required hydrological services***
- ***Flood forecasting cooperation between MLIT and JMA***

# Overview of Information Flow in Integrated Water Management in Japan



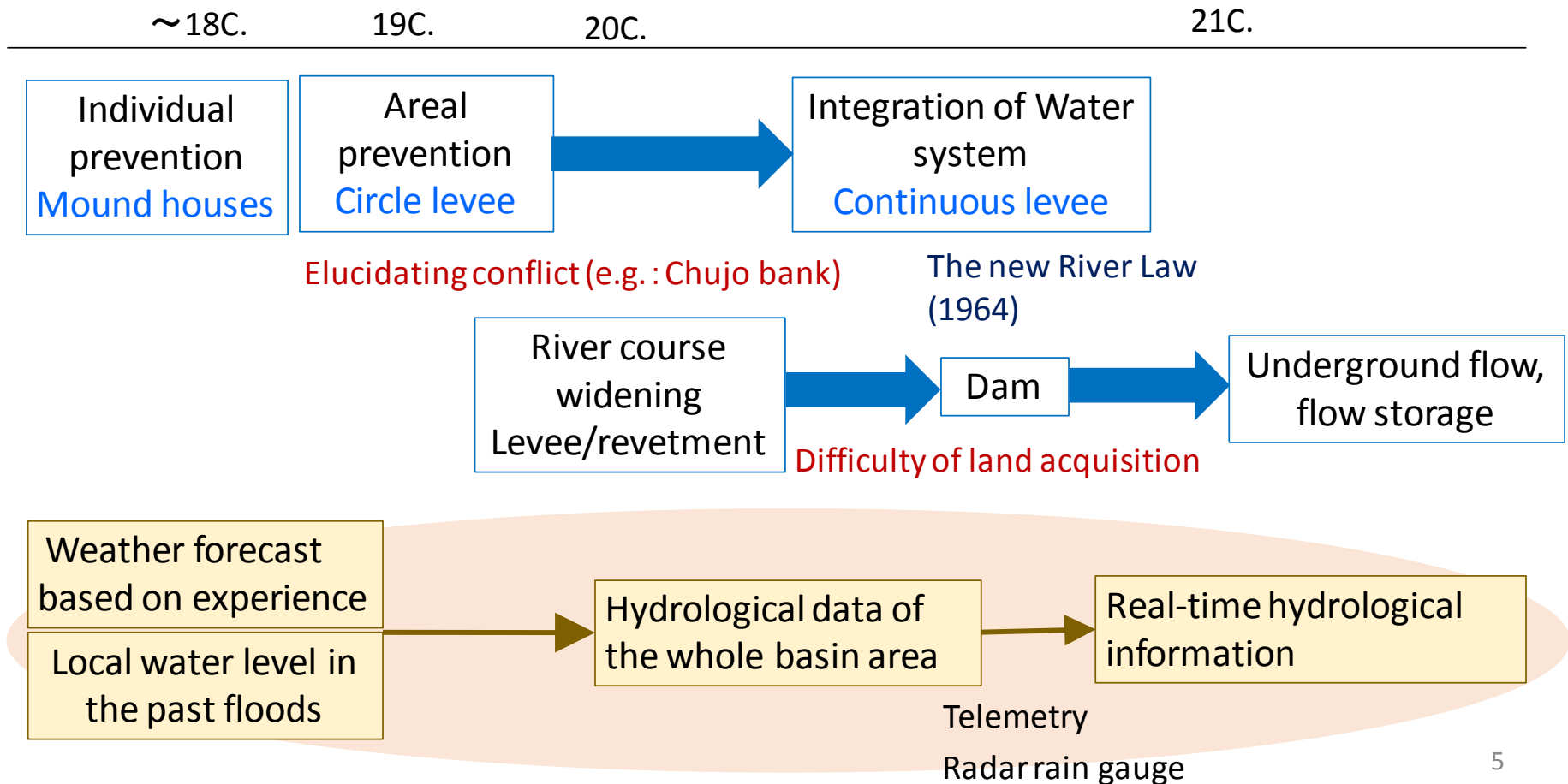
# Changes in water-related disaster management in Japan and required hydrological services

1. A shift in level of decision-making and cooperation
2. A shift in consideration of flood hazards
3. A shift in assessing risks



# A shift in level of decision-making and cooperation

From individual/local disaster prevention to the integrated disaster prevention



# A shift in consideration of flood hazards

From disaster prevention without consideration of inundation to with consideration of inundation

~18C.

19C.

20C.

21C.

Facility  
development



Less recognition to the flood

Minimize damage even in case  
of the inundation  
Super levee/Secondary levee/  
Waterproofing

Amendment of the Flood  
Control Act (2005)

Hydrological  
data on rivers

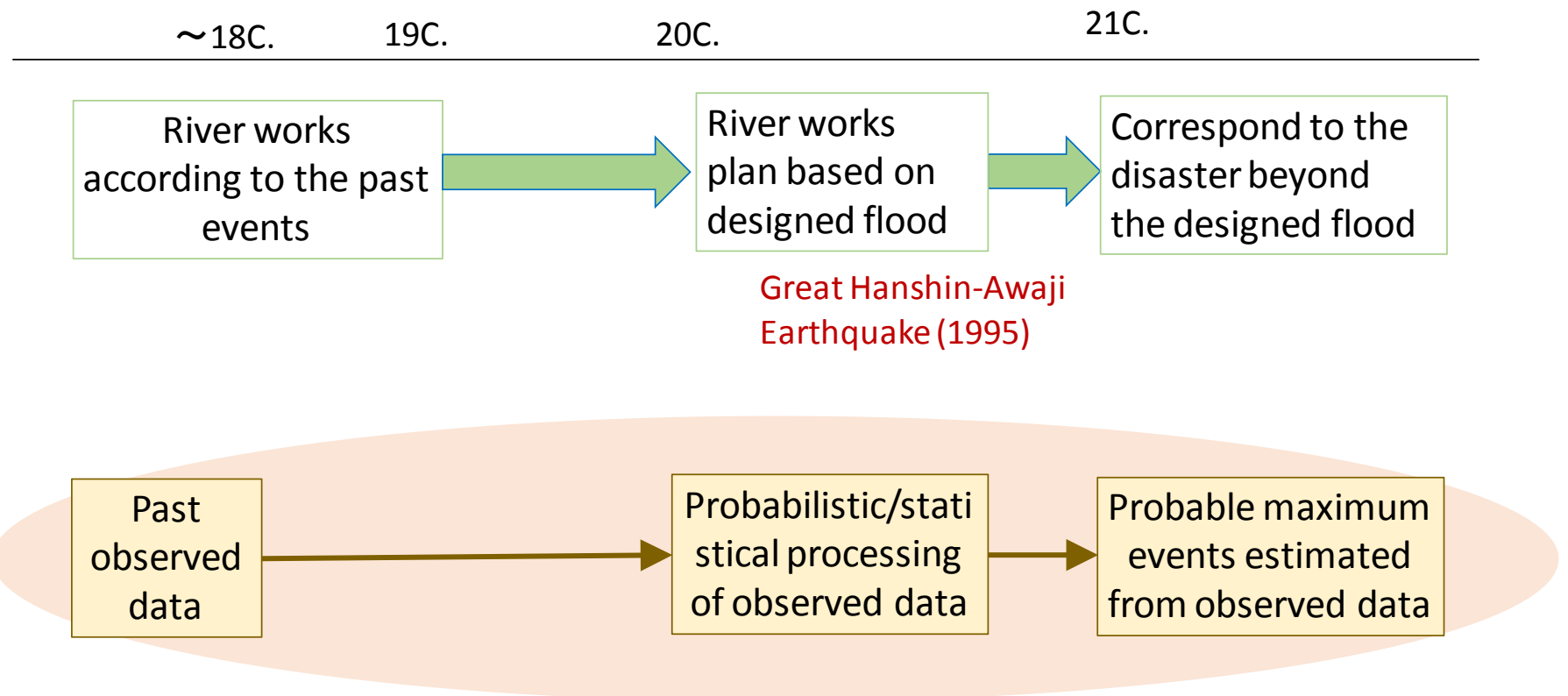


Hydrological information  
including inundated area  
Inundation area/ water depth

Real-time hydrological  
information

# A shift in assessing risks

From disaster prevention based on past events, through designed floods, to floods exceeding designed floods



# *Flood forecasting cooperation*

- 1955**

The Flood Control Act and the Meteorological Service Act was implemented. MLIT (then the Ministry of Construction) and the JMA designate rivers and jointly issue advisories and warnings.

- after late 1960s**

Telemetry expanded.

- 1990s**

On-line data exchange became widely available.

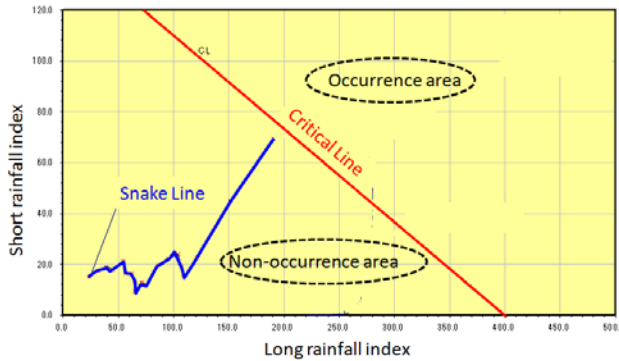
The number of designated rivers rapidly increased. The selected rivers have expanded into the middle- and small-sized rivers managed by the national government and rivers managed by the prefectural governments.



# Flood forecasting cooperation

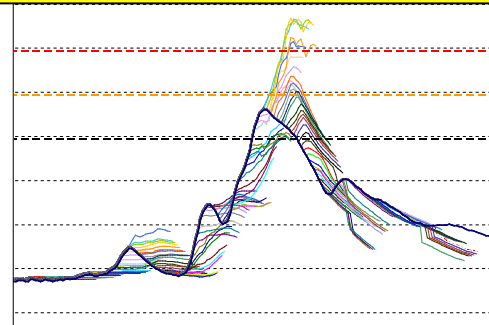
## Sediment disaster forecast

Caused by localized rainfall.



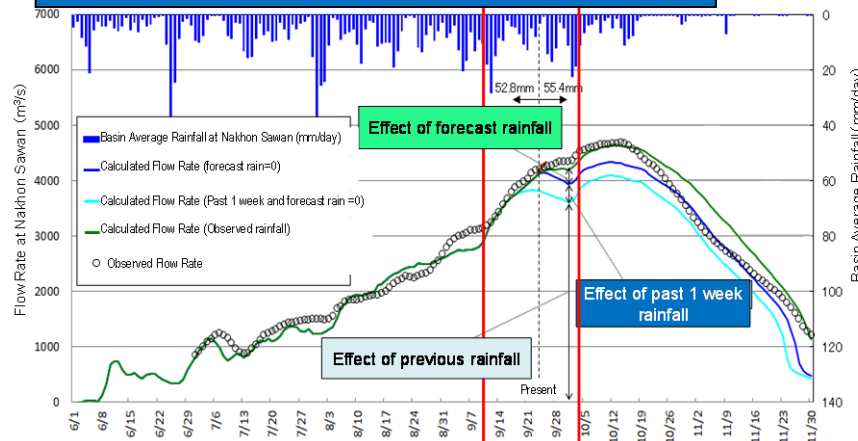
(Forecast rainfall is **critical** information.)

## Flood Forecast of a small river



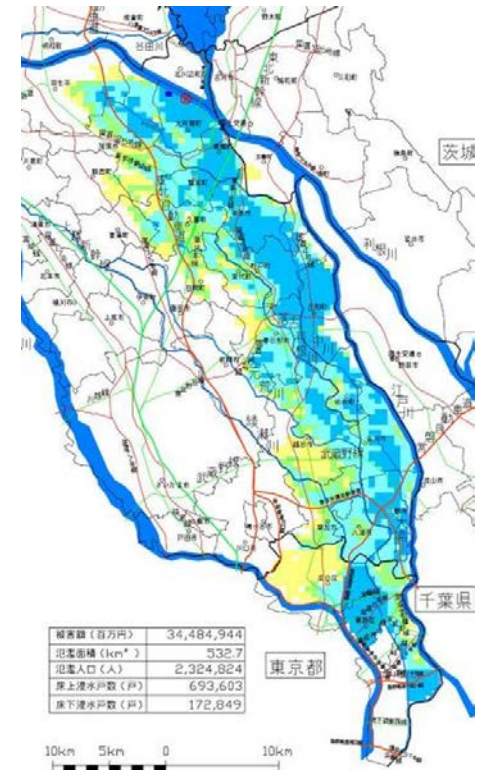
(Forecast rainfall is **important** information.)

## Flood Forecast of a big river



(Forecast rainfall is of **secondary** importance.)

## Inundation Forecast



(Public awareness is the key.)

# Levee Break at Joso City (2015.09.10)



Geospatial Information Authority of Japan