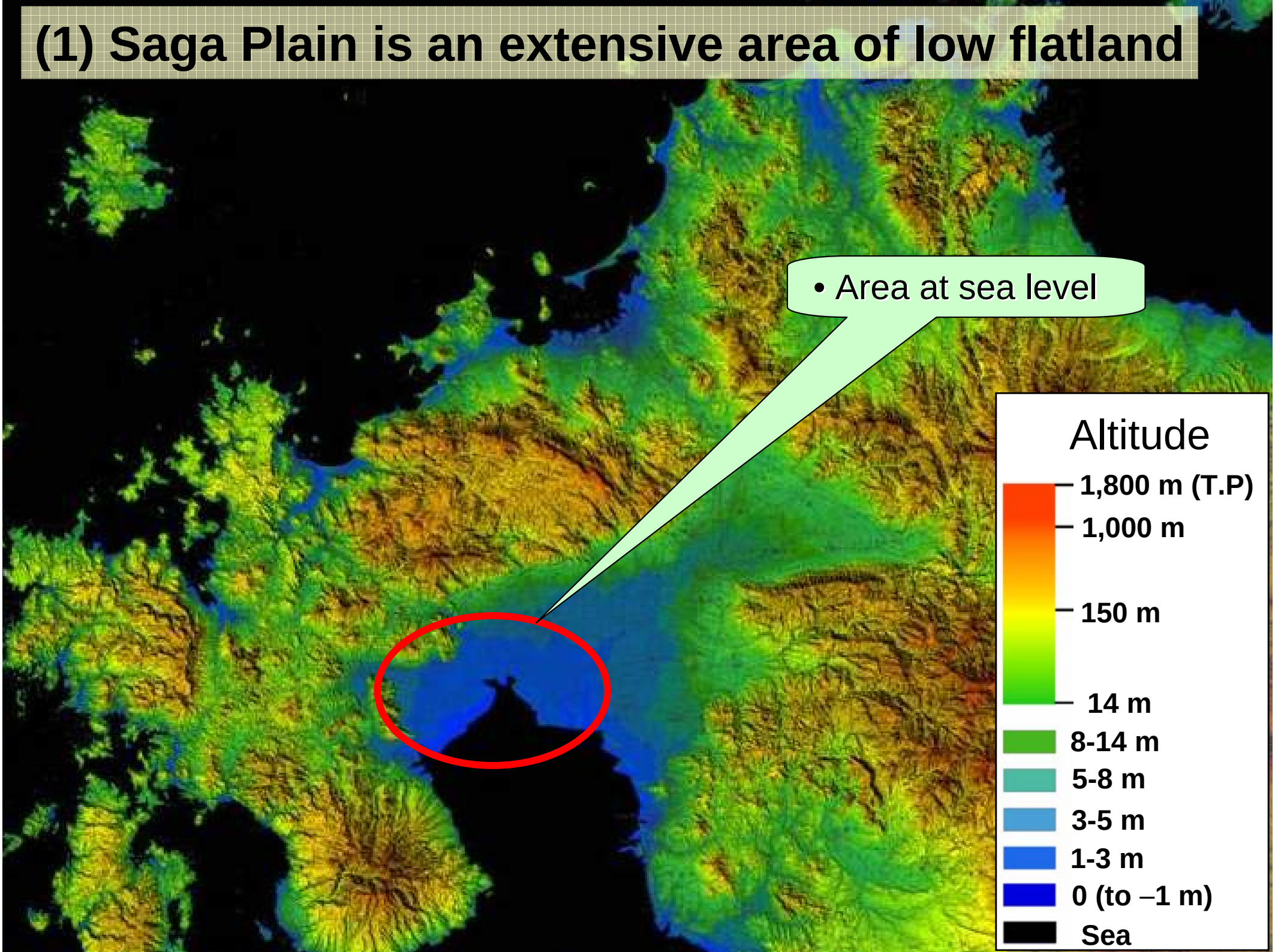
New Contingency Plan

February 8, 2011

Takeo Office of River,
Kyushu Regional Bureau, MLIT

(1) Saga Plain is an extensive area of low flatland



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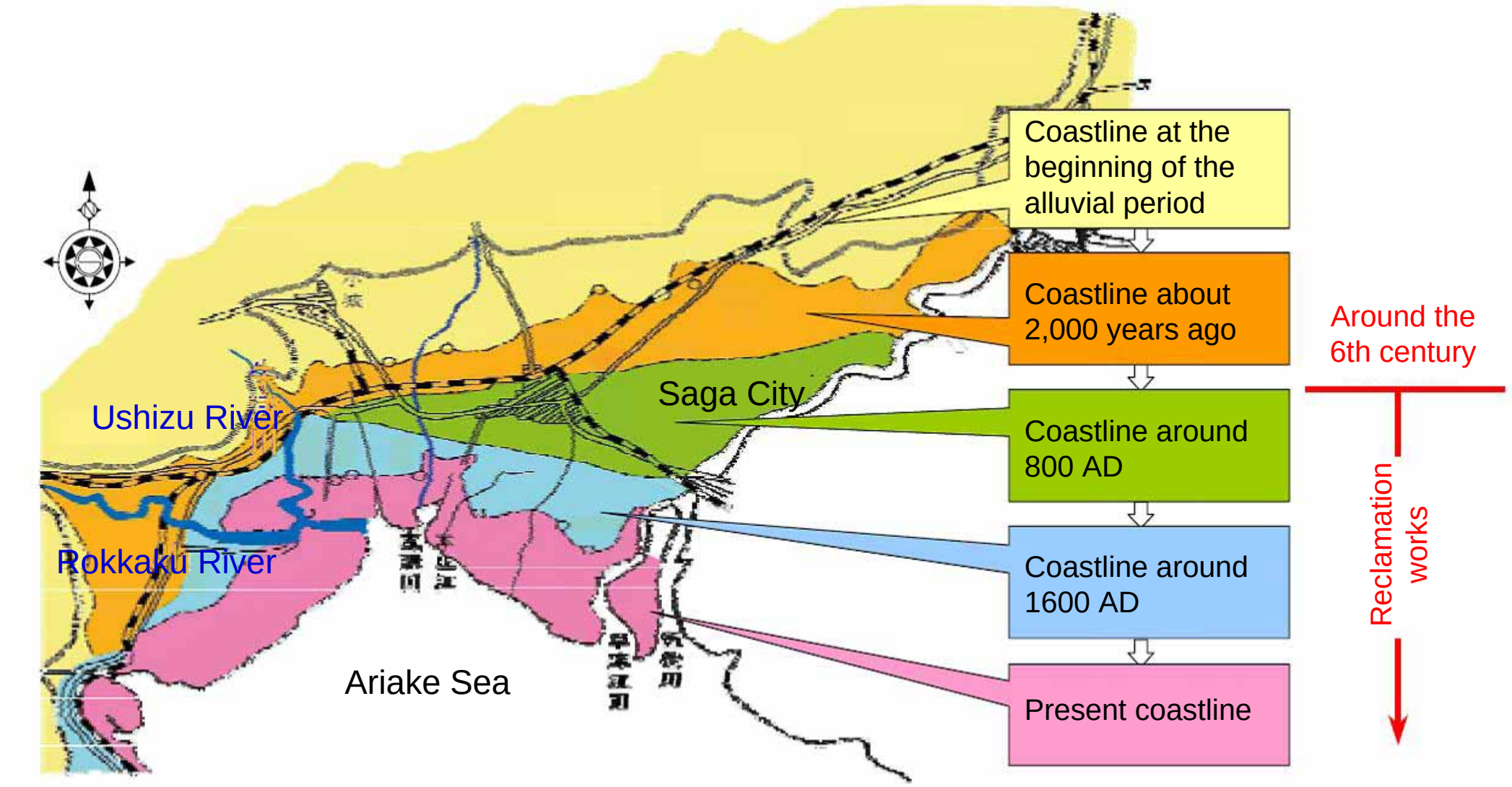
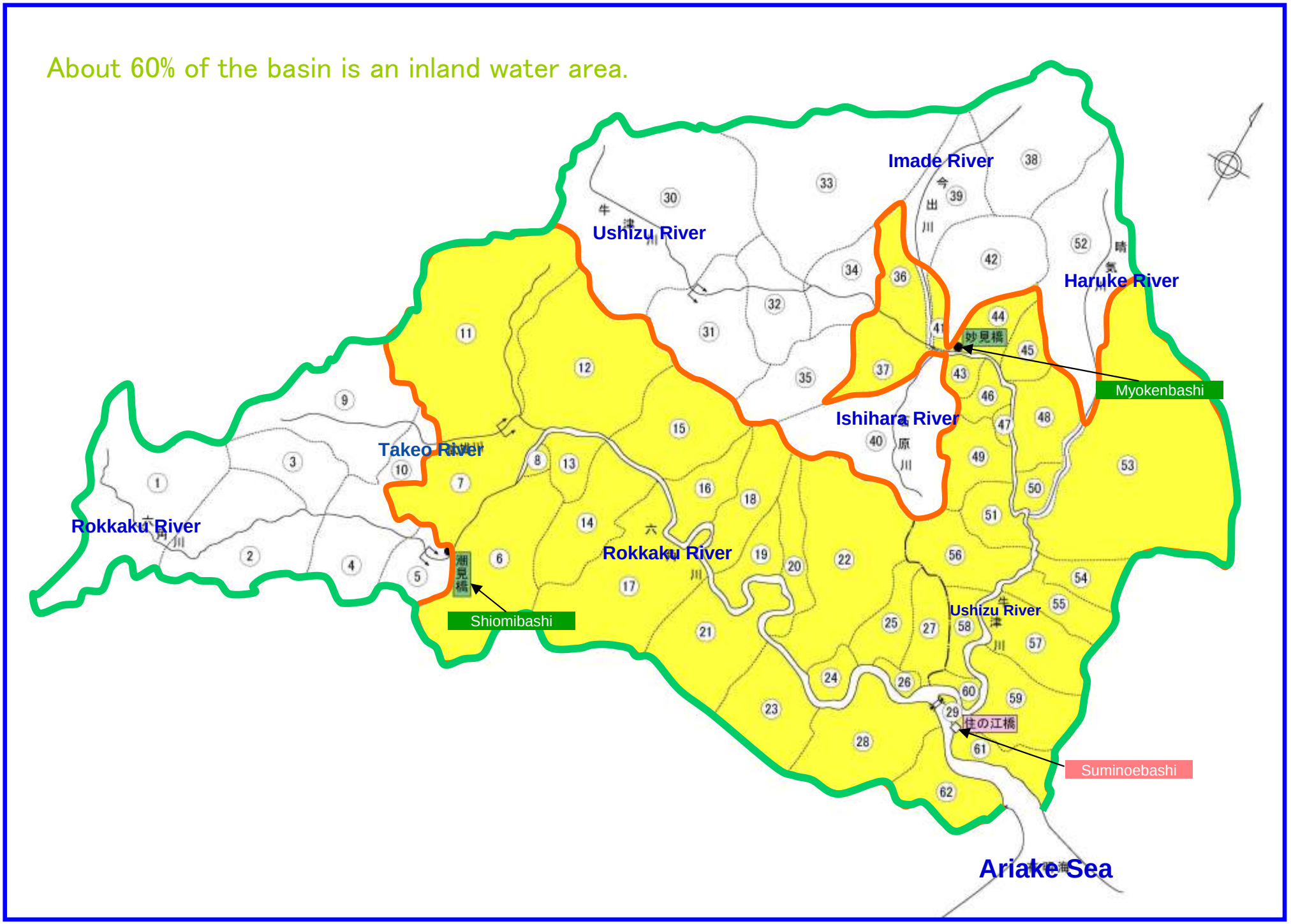


Figure 1-2(3): Changes in the coastline of the Saga Plain (Shiroishi District)

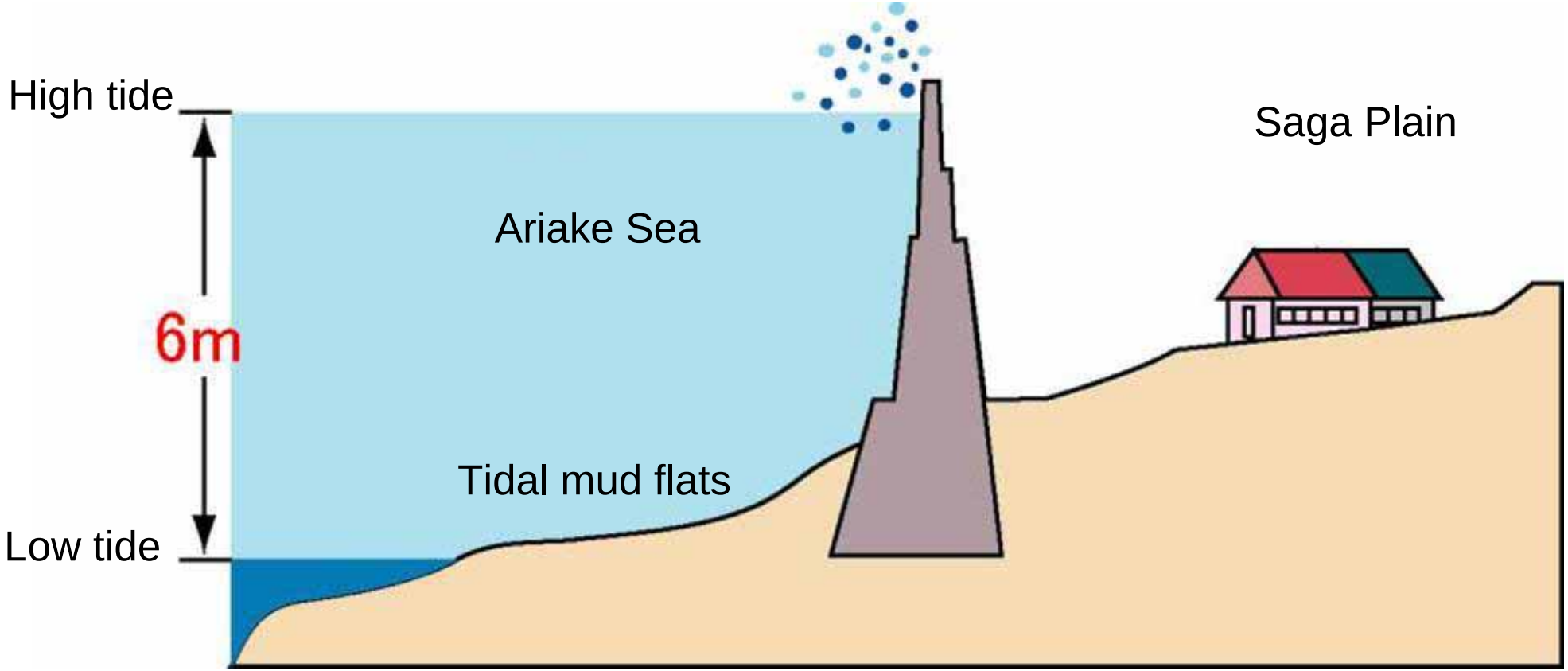
(2) The mountain area is smaller than the plain area



(3) The rivers meander due to the low flatland (Meandering river)

(4) Ariake Sea has the greatest tidal range in Japan

The tidal range of the Ariake Sea reaches is up to about 6 m. Seawater therefore flows to the upstream section of the rivers at high tide. The hinterland is a low flatland that is 0-3 m above sea level since the tidal mudflats have been converted to land or reclaimed by people. As a result, it is difficult to use the river water.

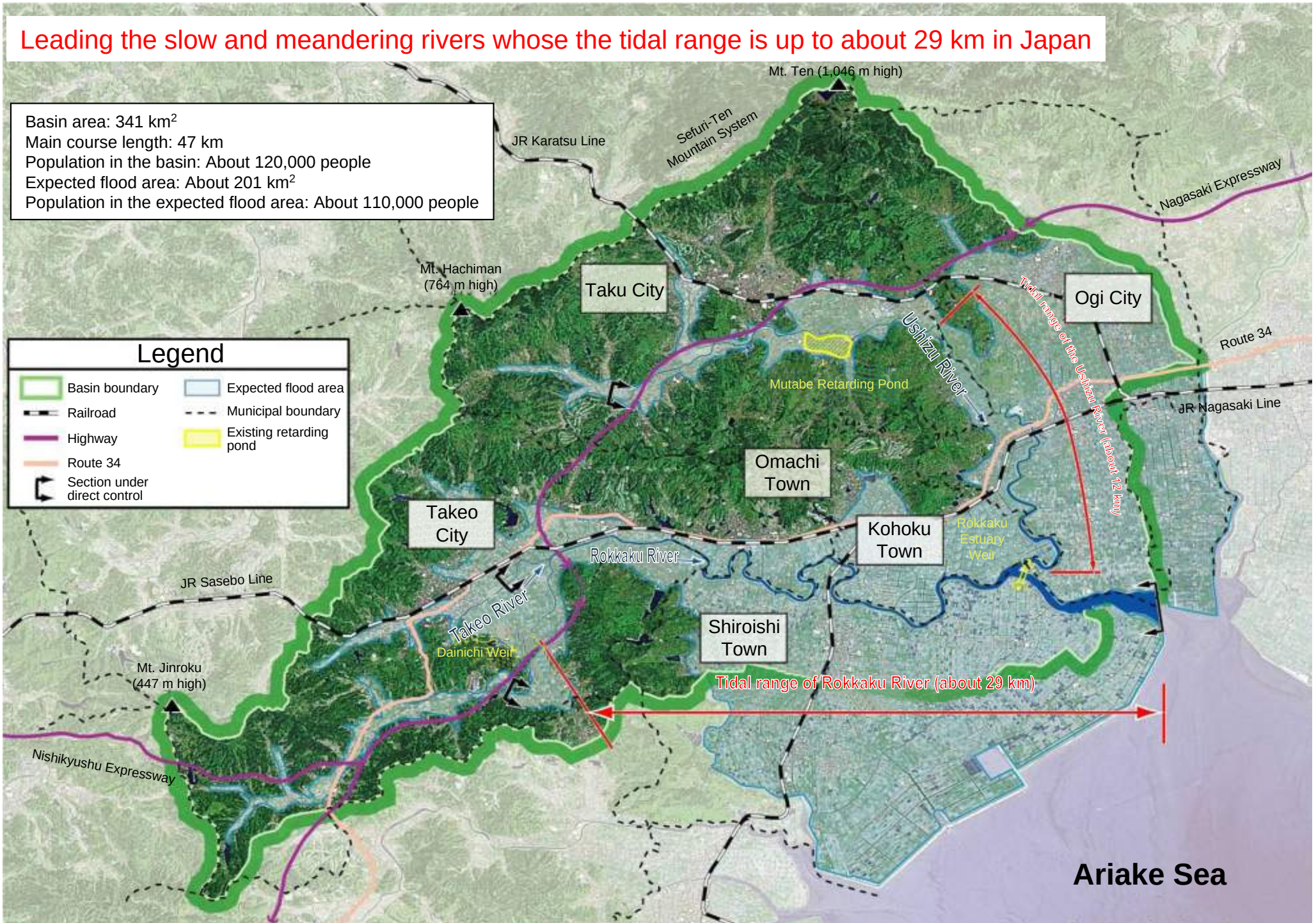


(4) Ariake Sea has the greatest tidal range in Japan

At high tide

At low tide

(4) Ariake Sea has the greatest tidal range in Japan



When a flood has occurred, . . .

August 1980
(Takeo City)

Flooding in July 1990

Flooding in July 1990

Submerged Route 34 (Asahi Town, Takeo City)

Flood on July 26, 2009

Flooded Asahi Town, Takeo City

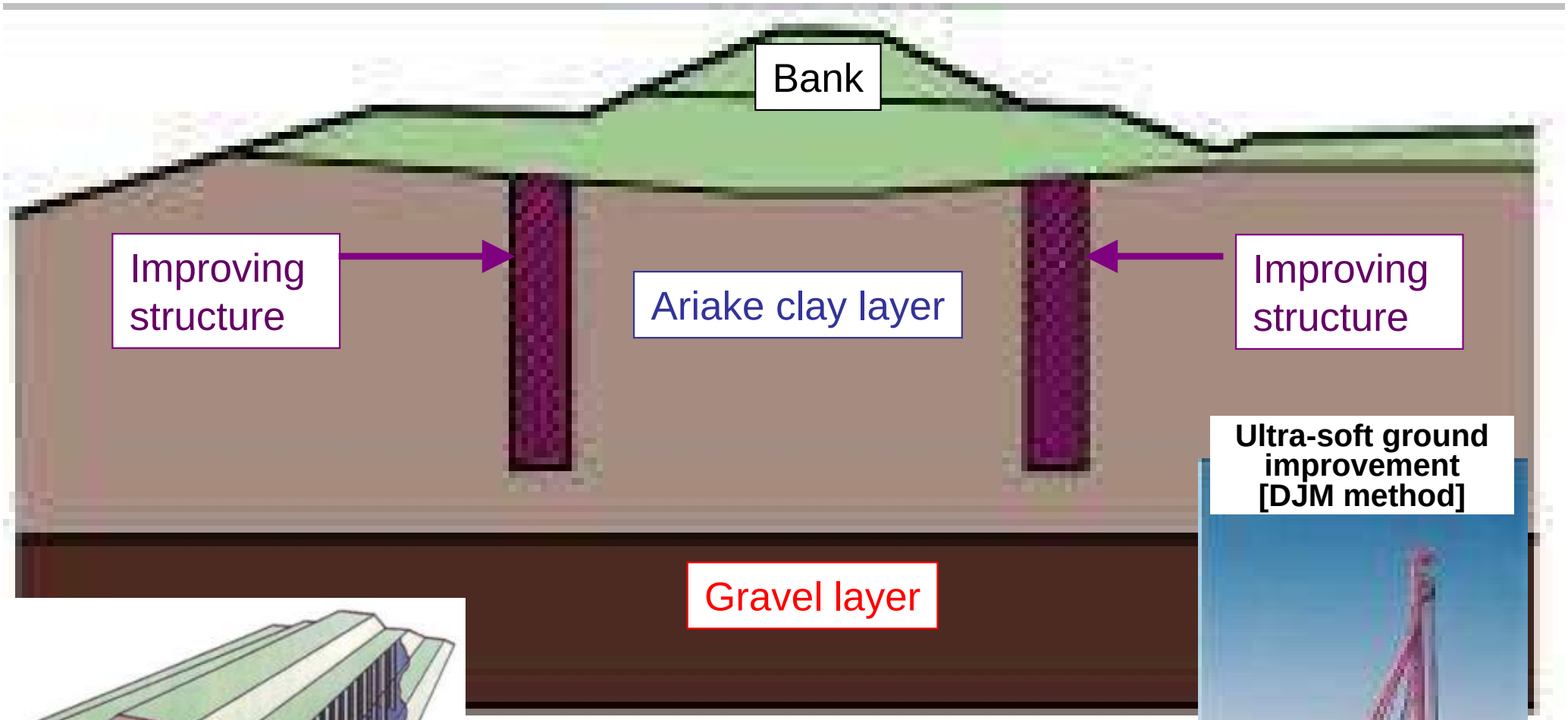
Present Flood Control

(1) Letting floodwater flow safely
Construction of embankments

(2) Controlling floodwater
Dams and retarding ponds

(3) Discharging inland water
Drainage pumps

■ Since the start of the modification of rivers under direct control in 1958, embankments and river channels have been constructed and modified weirs installed to improve the flow-down capability. When constructing embankments, the ultra-soft ground was improved by means of slow banking work.



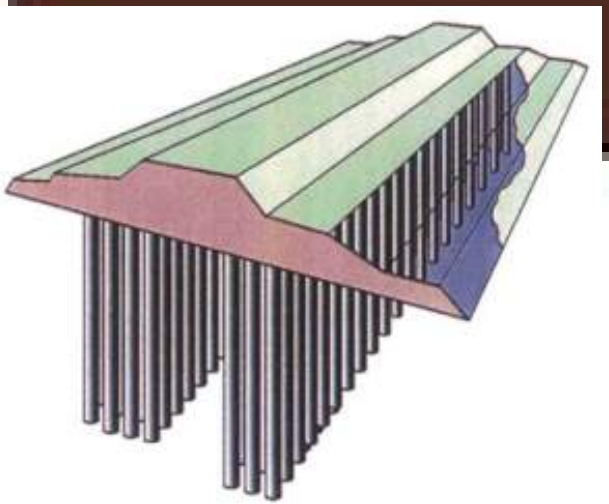
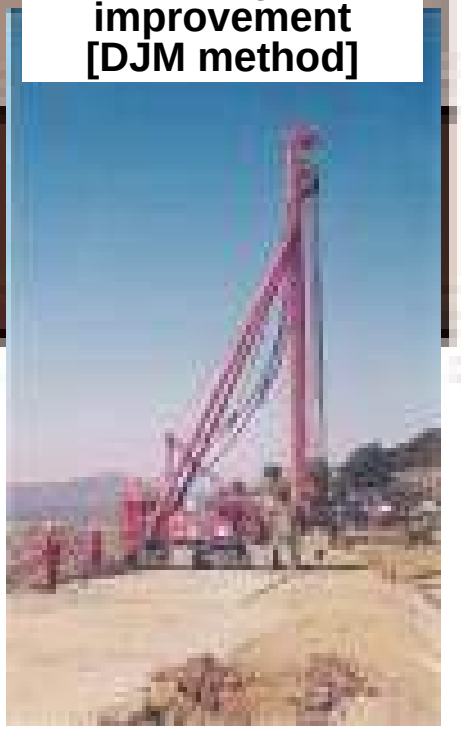
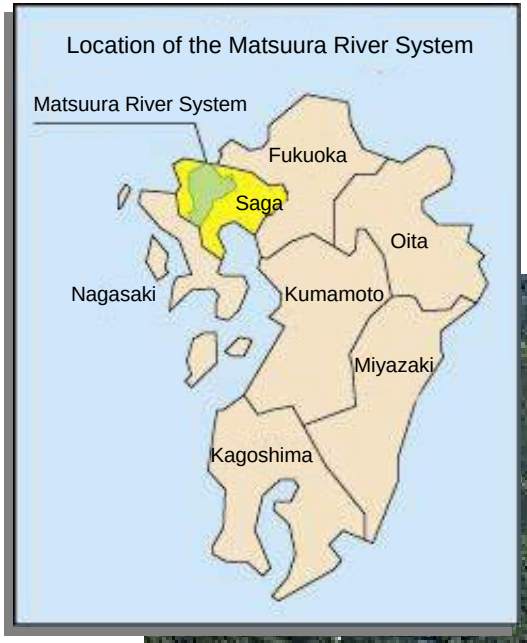


Image of soft ground improvement

Ultra-soft ground improvement [DJM method]



Kyuragi Dam


Location of the Matsuura River System
Matsuura River System
Fukuoka
Saga
Oita
Nagasaki
Kumamoto
Miyazaki
Kagoshima

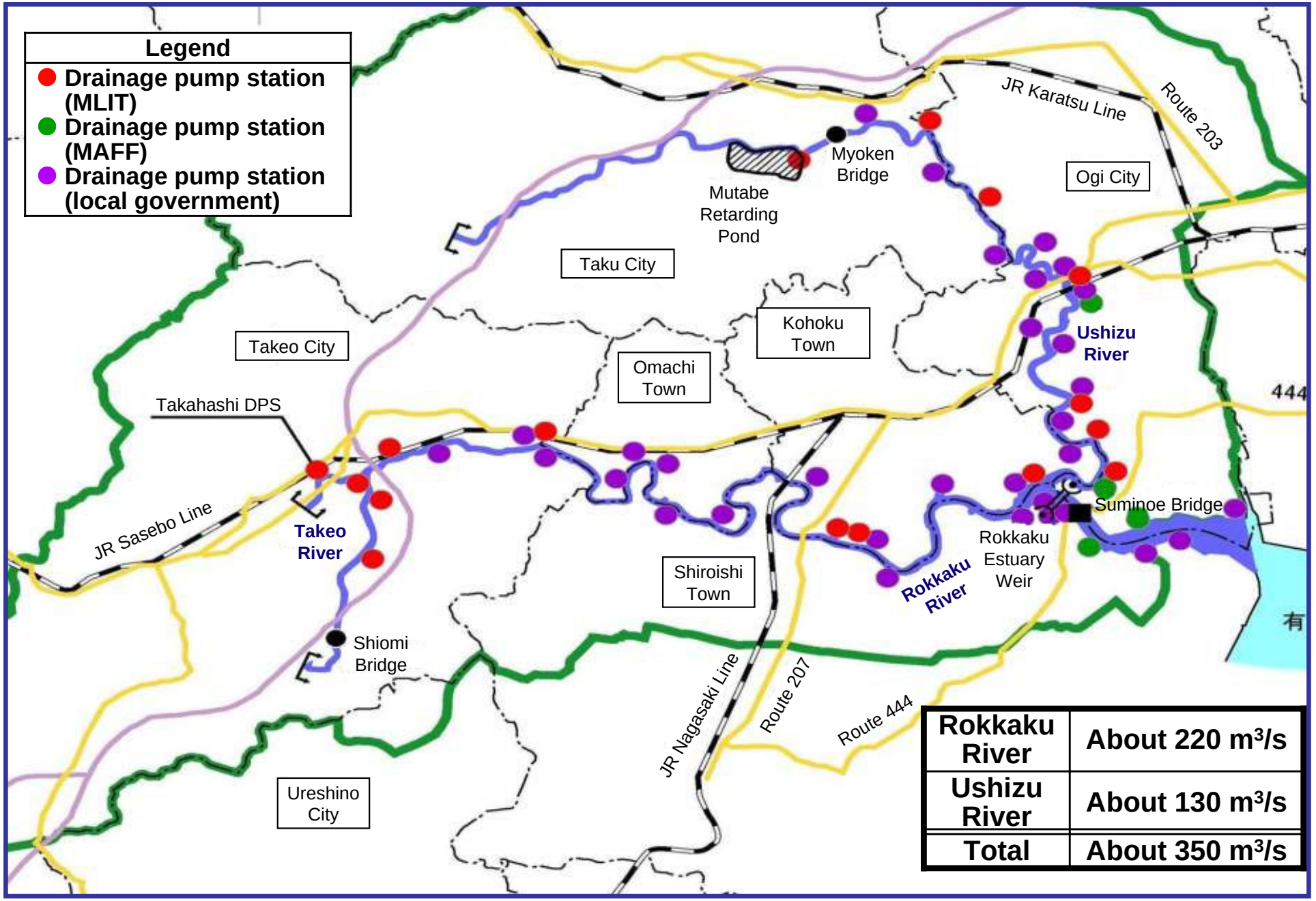
Mutabe Retarding Pond

Right bank of the midstream section of the Ushizu River (15 k100 to 16 k400)

[Facility scale] Design scale: 1/100 (Target: Myoken Bridge) Flood control rate: 100 m^3/s

Pond area: 53.4 ha Storage: 900,000 m^3

Arrangement of the Drainage Pump Stations



Takahashi Drainage Pump Station

Location: Left side of the Rokkaku River (0/800), Takahashi, Asahi-cho, Takeo-shi, Saga

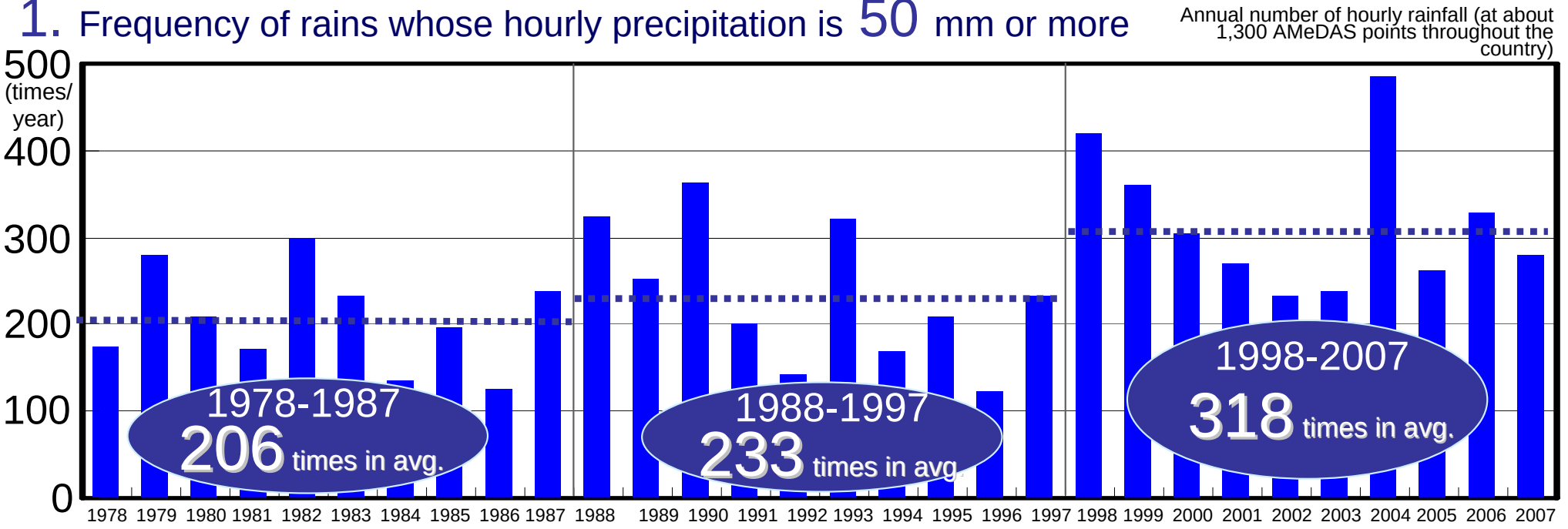
Completion: March 1997

Design discharge:
50 m^3/s (3 pumps, each rated at 16.7 m^3/s)

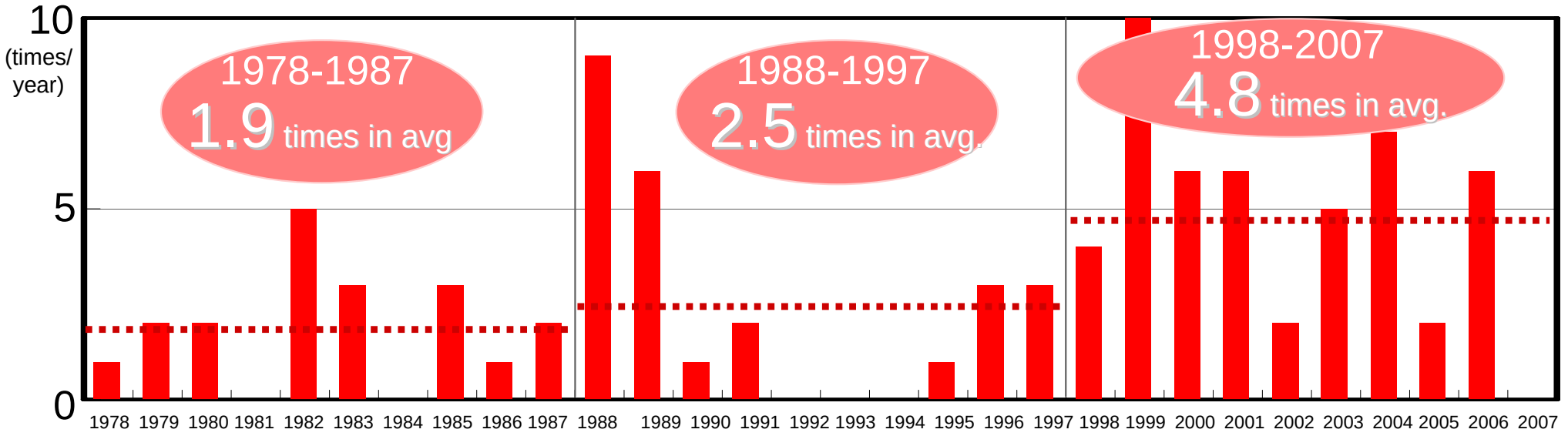
Limits of Disaster Prevention that Relies on Facilities

Recent Rise in the Frequency of Torrential Rain

1. Frequency of rains whose hourly precipitation is 50 mm or more



2. Frequency of rains whose hourly precipitation is 100 mm or more



Source: Japan Meteorological Agency

Change in Approach from Disaster Prevention to Disaster Reduction

- It is difficult to completely prevent disasters
- Avoiding devastating damage
- Minimizing damage to the greatest possible extent

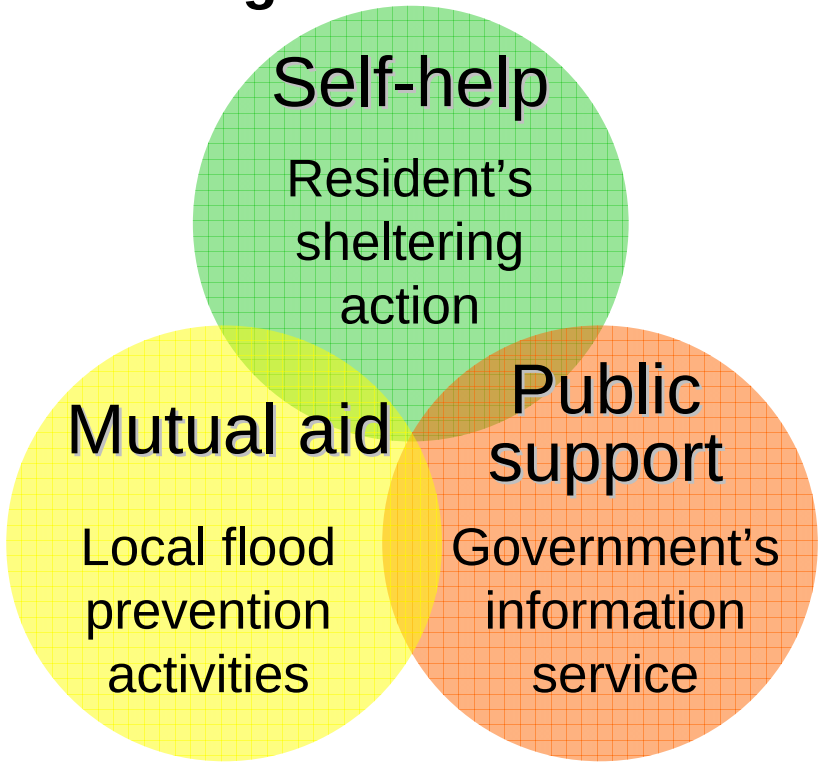
Disaster prevention reliance is based on physical aspects (hard)

Disaster reduction is based on non-physical resources (soft)

New Contingency Plan

Plan 1:	Using new information about disaster prevention
Plan 2:	Making towns in consideration of risk management

Improving the disaster prevention capabilities of local areas should start with a review of the relationship between the government and residents.



Thank you for your attention.