International Conference on Flood Management
Webinar No.2

"The Flood Challenge to Resilience"

2020 Kyushu (Japan) floods

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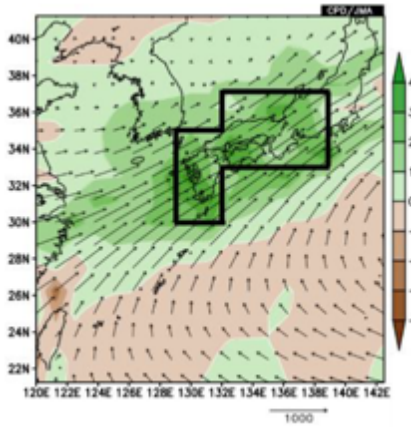
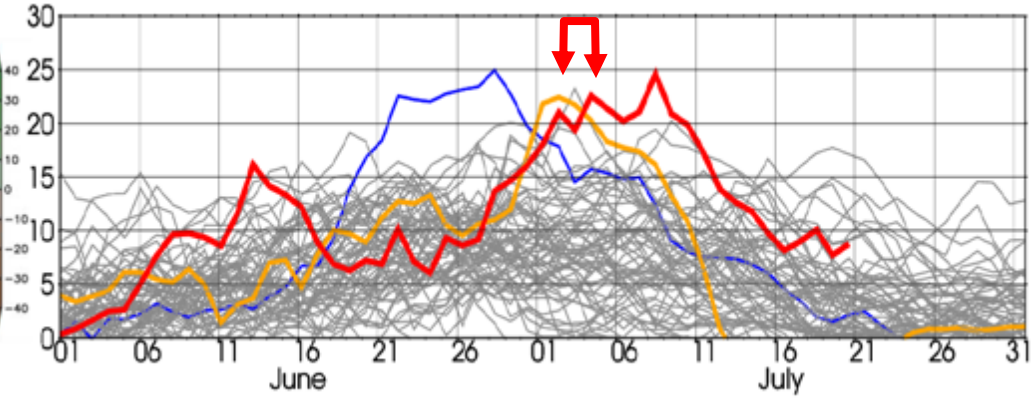
Chair, Japan National Committee on Earth Observation, MEXT
Chair, River Council of Japan, MLIT

(1) what is happening in your region - source/s of flooding





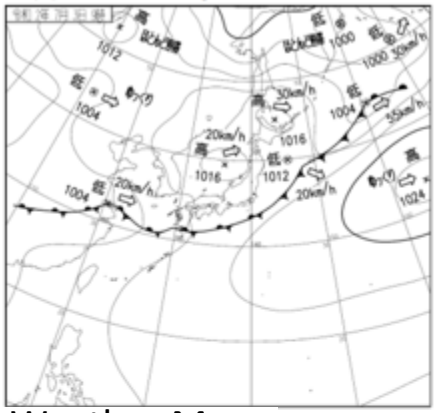
Water Vapor Convergence to Western Japan since 1958 by JRA55

2020 Kyusyu Floods

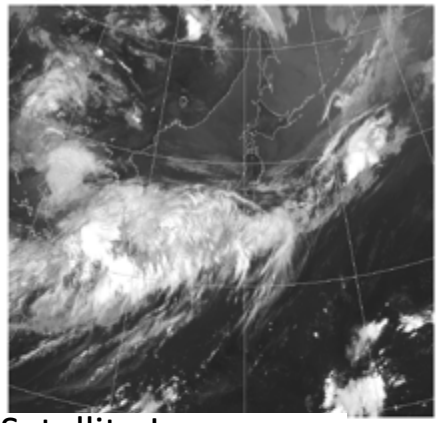
2018 W-Japan Floods

1985 Typhoon & Frontal Rainfall

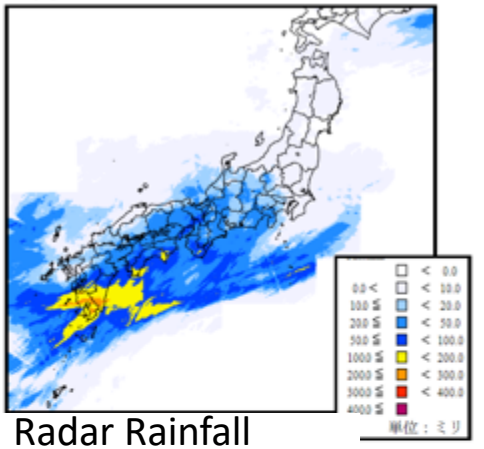
9:00am 3rd July



Weather Map

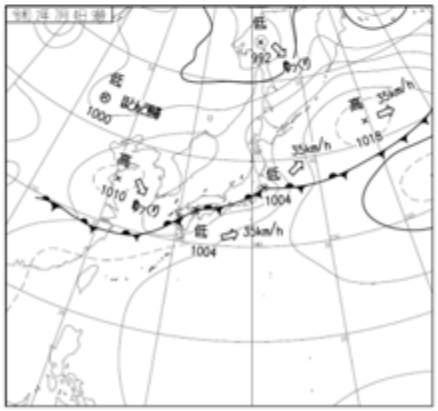


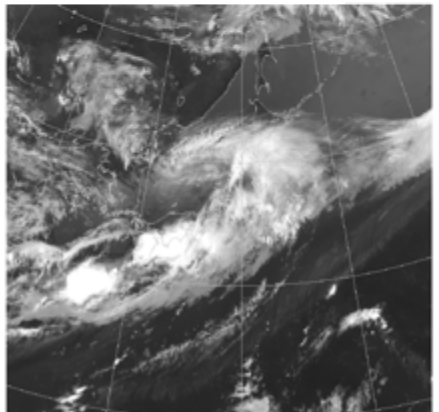
Satellite Image

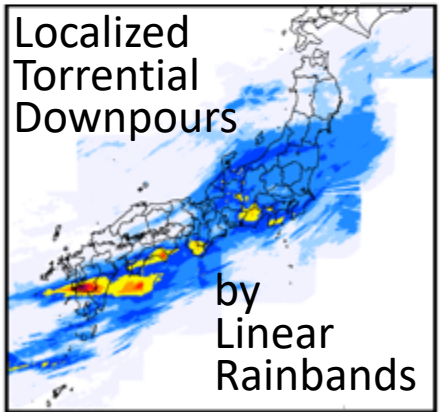


Radar Rainfall

9:00am 4th July







(1) what is happening in your region - source/s of flooding

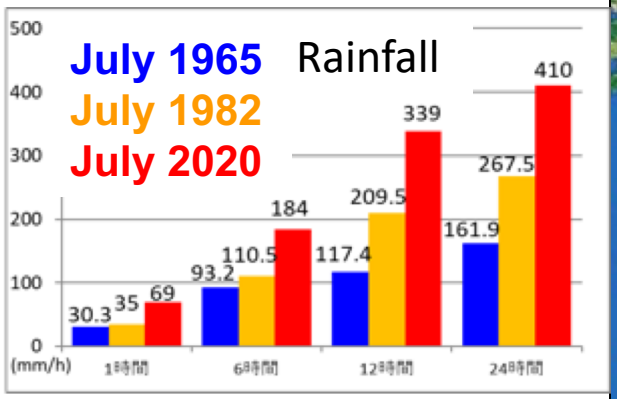
Historical Floods

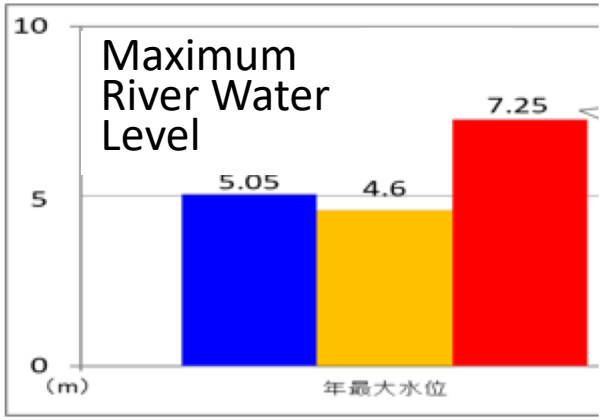
July 1965 5700 m^3/s

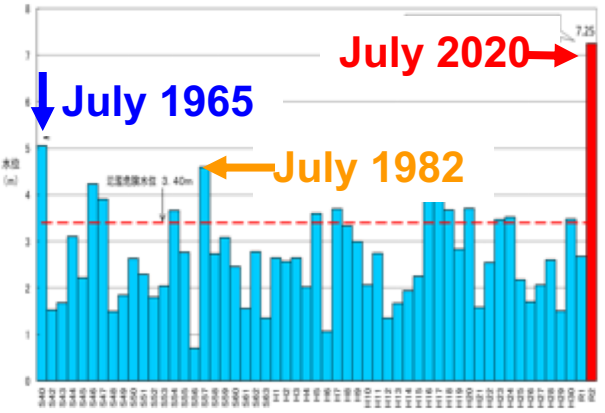
July 1982 5500 m^3/s

1669

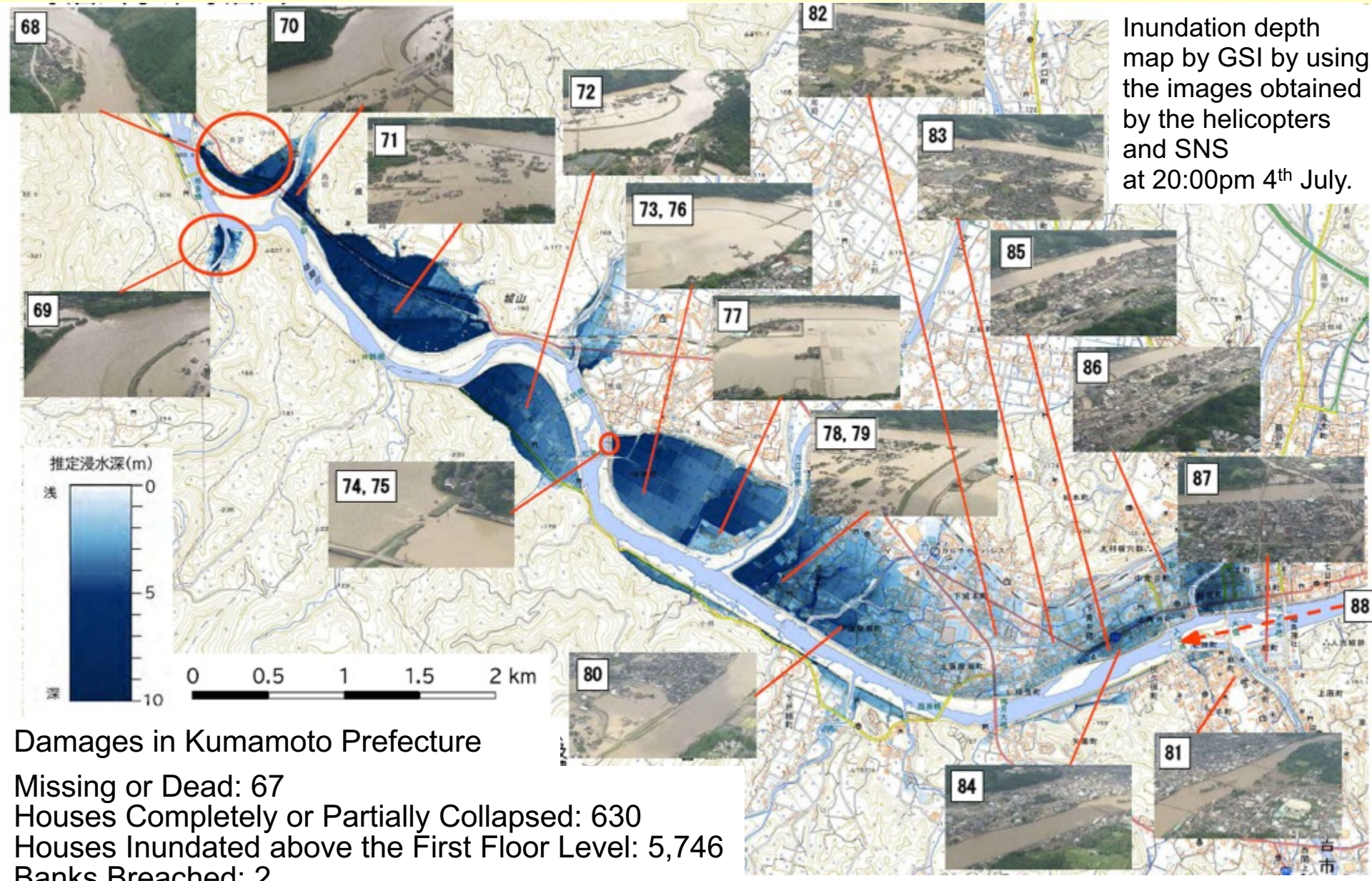
(1) what is happening in your region - source/s of flooding







(2) what are the consequences of these events



Inundation depth map by GSI by using the images obtained by the helicopters and SNS at 20:00pm 4th July.

Damages in Kumamoto Prefecture

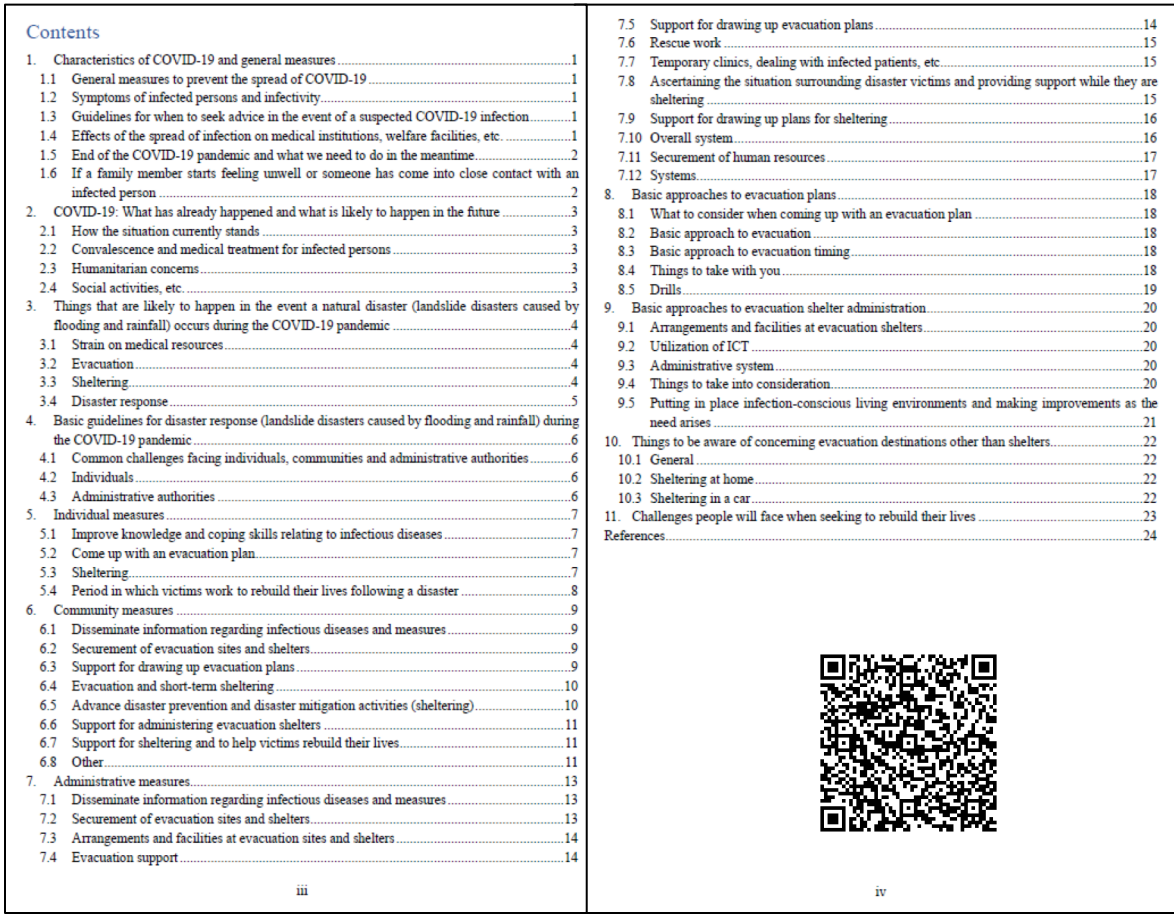
Missing or Dead: 67
Houses Completely or Partially Collapsed: 630
Houses Inundated above the First Floor Level: 5,746
Banks Breached: 2
Bridges lost: 13

(2) what are the consequences of these events

(3) how are these events being managed under the current situation of coronavirus pandemic

The contents of “A guideline for the creation of countermeasures against flood disasters during a pandemic situation (COVID-19)”

1. Characteristics of COVID-19 and general measures
2. COVID-19: What has already happened and what is likely to happen in the future
3. Things likely to happen in the event of a natural disaster can occur during the COVID-19 pandemic
4. Basic guidelines for disaster response during the COVID-19 pandemic
5. For individuals
6. For communities
7. For local governments
8. Basic approaches to planning evacuation
9. Basic approaches to evacuation shelter administration
10. Things to be aware of concerning evacuation destinations other than shelters
11. Challenges people will face when seeking to rebuild their lives



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岐阜大学 GIFU UNIVERSITY

https://paper.dropbox.com/doc/A-guideline-for-the-creation-of-countermeasures-against-flood-disasters-during-a-pandemic-situation-COVID-19--A53bx_Bwm7Kcwc71ZHrVJGN_AQ-3dGRPxvB9TlVcCuqvlPSv

(3) how are these events being managed under the current situation of coronavirus pandemic

Collection of Critical Situations in which local government officers are confused or in dilemma during an emergency response.

(Appendix)

Collection of Critical Situations during Flood Emergency Response
(Appendix: Local Government Response under COVID-19)

QR

June 2020

Public Works Research Institute (PWRI)
International Center for Water Hazard and Risk Management (ICHARM)

Critical Situations in Flood Damage Response — 8 Shelters (designated evacuation space and shelters, etc)

8.11

It seems there was an infected person among the evacuees, but we don't know who the high-risk contacts are!

~ Difficulty in grasping who are high-risk contacts ~

Target

- Managers of designated evacuation space and shelters, etc.

Critical Situation

Critical situation point

The public health center informed us that a person who had temporarily evacuated at our shelter later went on to test positive for COVID-19 at the health center. However, we have no record of an evacuee by the name given to us, so we do not know the space allocated to that person.

Result The high-risk contacts of the infected person are unknown, so evacuees become worried. Also, as the used shelter space is also unclear, the entire shelter has to be disinfected.

Measures

Management — Prepare a reception sheet for listing names of evacuees

- Prepare a reception sheet for recording names of evacuees in readiness for tracing people if it emerges that an evacuee tests positive at a later date, making sure that evacuees write down their names and contact details, and that you record their state of health at time of evacuation, in order to make tracing easier.

Emergency Response — Distinguish people suspected of being infected at receptions of designated emergency evacuation sites/shelters

- In disaster response, if a suspected COVID-19 case comes to the designated emergency evacuation site/shelter to evacuate regardless of advance guidance, get that person to make a self-dedaration about his/her condition at the entrance reception.
- If implementing space division, record the space to be used by that evacuee and his/her state of health in the reception sheet, so that any people coming into close contact with that evacuee can be traced if necessary.

Facilities — Stockpile clinical thermometers

- If evacuation at designated emergency evacuation sites/shelters becomes prolonged, the health of evacuees may change. Therefore, stock up on clinical thermometers in order to distinguish changes in the health of evacuees. As contact from a clinical thermometer may spread the infection, it is best to use a non-contact thermometer.

Emergency Response — Make evacuees aware of the need to record their health changes

- Make evacuees aware that they should notify the shelter reception at anytime if their health changes, such as running a high temperature.

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https://www.pwri.go.jp/icharm/special_topic/20200625_flood_response_collection_e.html

(4) what are the main lessons learned from the situation

Oct., 2013
Izu Oshima Island（Sediment）
- 824mm/24hrs (Typhoon)
- Human Loss: 39
- *evacuation warning*

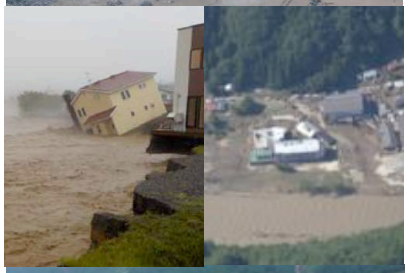
Aug., 2014
Hiroshima City (Sediment)
- 121mm/hr (Typhoon, Frontal Line)
- Human Loss: 74
- *evacuation warning, land use*

Sep., 2015
Kanto & Tohoku (Bank Breach)
- 551mm/24hrs (Typhoons)
- Human Loss：8
- *evacuated by helicopter: 1339 and by boat: 2919*

Aug., 2016
Hokkaido & Tohoku (Bank Breach and Sediment)
- 251mm/72hrs (Typhoons)
- Human Loss: 27
- *evacuation of physical handicaps*
- *local socio-economic impact*

June, 2017
Northern Kyushu (Sediment)
- 299mm/6hrs (Frontal Line)
- Human Loss: 42
- *sediment and flood complex*




Nov., 2014
Amendment: Sediment Disasters Prevention Act

Jan., 2015：
Policy Vision: Disaster Prevention and Mitigation against a New Stage

May, 2015
Amendment: Flood Risk Management Act
- Probable Maximum Rainfall for Life-Saving

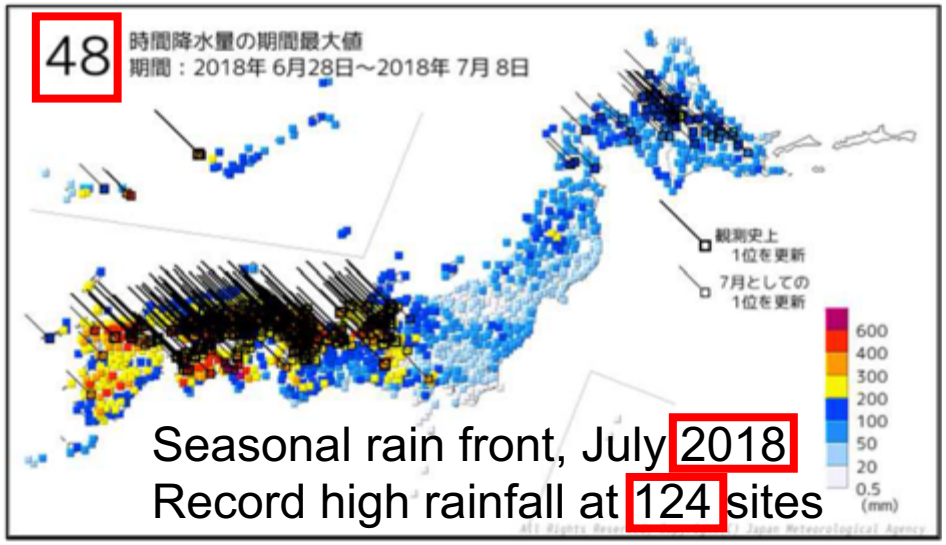
Dec., 2015
Policy Vision: Rebuilding Flood-Conscious Societies: Class A Rivers
- Raising public awareness
- Structural measures for crisis management

Jan., 2017
Policy Vision: Rebuilding Flood-Conscious Societies: Class B Rivers
- Life-saving of physical handicaps
- Local socio-economical continuity

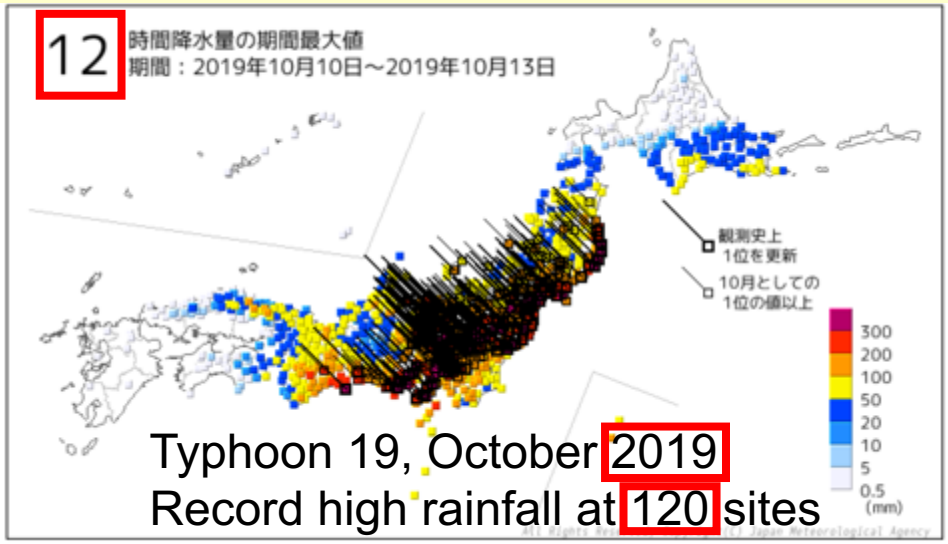
May, 2017
Amendment: Flood Risk Management Act
- Mega-Flood Management Committee
- Evacuation planning and drilling for handicap-accessible facilities
- Recovery by the national government

Recurrent Water-related Disasters in Japan

Events and Countermeasures



Seasonal rain front, July 2018
Record high rainfall at 124 sites



Typhoon 19, October 2019
Record high rainfall at 120 sites

2,581	Sediment Disasters	935
18.010	Houses Completely or Partially Collapsed	13,945
47	Banks Breached	140
7,100	Houses Inundated above the First Floor Level	32,563
245	Missing or Dead	101

(4) what are the main lessons learned from the situation

River Council of Japan, Panel on Infrastructure Development
Committee on Water-related Disaster Risk Reduction under Climate Change

The Kick-off Meeting with the Minister,Nov. 13, 2019

Strengthening water-related disaster resilience and enabling sustainable development through inclusive ways

“Rebuilding Flood-Conscious Societies”

“Flood design by coupling with climate models”
“Basin-wide Flood Management”

A new basin-wide flood management policy was proposed to the Minister
July 9, 2020

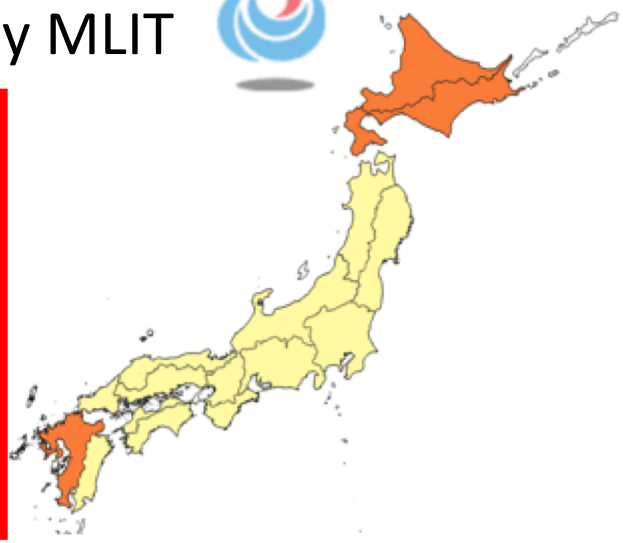
“Flood design by coupling with climate models”

Climate Change Projection by MEXT, JMA, and ME

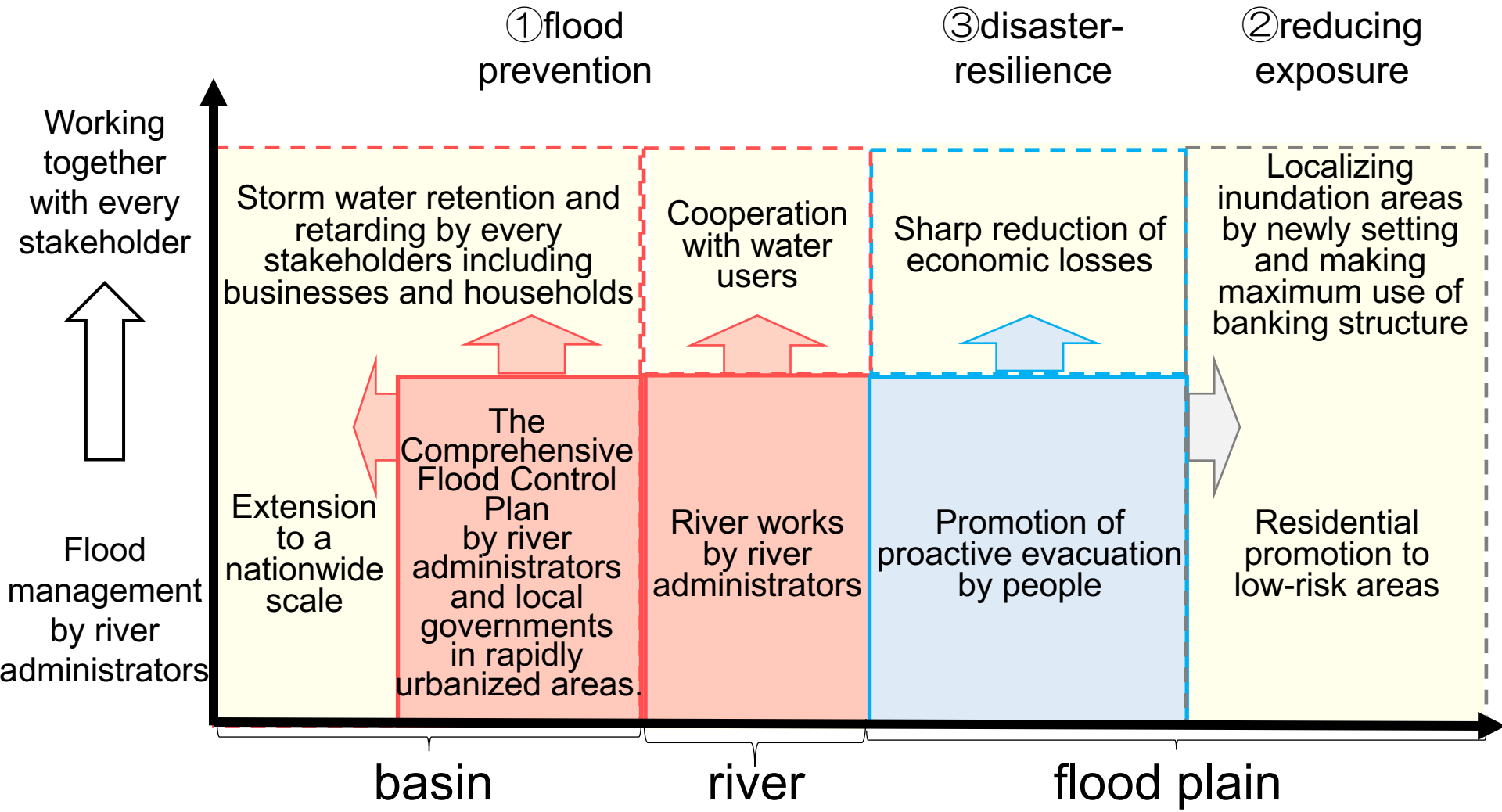
	scenarios	resolution	ensemble	Targeted Area	Product Name
ME, JMA	RCP 2.6～8.5	20km		nationwide	NHRCM20
MEXT	RCP8.5	20km	○	nationwide	d4PDF(20km)
		5km		nationwide	NHRCM05
		2km		nationwide	NHRCM02
MEXT	RCP2.6	5km		nationwide	NHRCM05
		2km		nationwide	NHRCM02
MEXT	RCP8.5	5km	○	nationwide	d4PDF（5km,SI-CAT）
			○	Hokkaido Kyushu	d4PDF （5km,yamada）
	RCP8.5 （2d increae）	20km	○	nationwide	d2PDF(20km,SI-CAT)

Flood Management Plan Revised by MLIT

	2degree increase	4degree increase	**Short event**
Hokkaido, NW-Kyusyu	1.15	1.4	1.5
The Other	1.1	1.2	1.3
National Average	1.1	1.3	1.4



“Basin-wide Flood Management”



Measures up to now

Measures to be implemented

Strengthening Disaster Resilience