

# Development of Practical Guidelines on Strategic Climate Change Adaptation Planning — Flood Disasters —

The Ministry of Land, Infrastructure, Transport and Tourism of Japan has developed a manual of basic procedures for deciding on adaptation measures to cope with increasing flood risks caused by climate change.

This manual is based on the experience, strategies and technology accumulated over the years in Japan.

- Title : Practical Guidelines on Strategic Climate Change Adaptation Planning — Flood Disasters —
- Author : River Bureau, Ministry of Land, Infrastructure, Transport and Tourism, Japan
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## Practical Guidelines on Strategic Climate Change Adaptation Planning — Flood Disasters —



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River Bureau  
Ministry of Land, Infrastructure, Transport and Tourism, Japan

- This manual can be used to develop adaptation measures in Asia-Oceania countries, etc.
- For use by Practitioners of river and water resources management responsible for developing concrete adaptation plans.

- (Features)
- River basin-based planning
  - Detailed explanations of methods for estimating meteorological external forces such as precipitation that are important for the adaptation to climate change
  - Setting goals and selecting a combination of concrete adaptation measures based on hazard, vulnerability and risk assessment

Impacts of climate change are strongly reflected in changes in precipitation and sea level, which are external forces against which flood damage mitigation measures are to be taken.

Consequently, additional damage resulting from "no action" for flood damage mitigation is likely to increase considerably.

Although adaptation measures should be designed taking into consideration overall environmental impacts including impacts on food and forests, these guidelines give priority to measures to be taken to maintain safety from floods, which are the greatest threats in the Asia- Oceania countries.

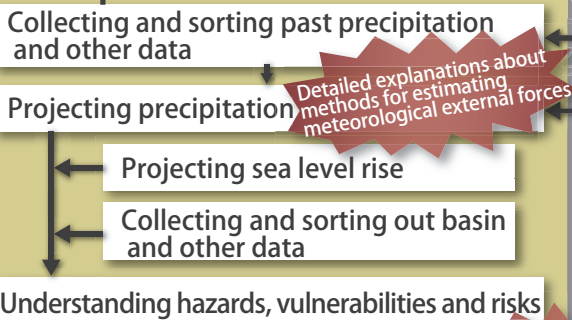
### Who Needs These Guidelines?

- 1 Country or area where social and economic progress and population growth or urbanization are expected.
- 2 Country or area where production facilities and people are concentrated in alluvial plains.
- 3 Country or area where effective flood control measures are yet to be developed.

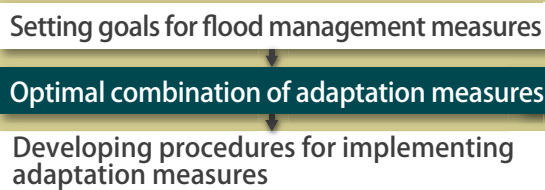
= **Asia-Oceania countries, etc.**

### Adaptation Planning Procedures

#### 1. Understanding Climate Change and its Impacts



#### 2. Developing Adaptation Measures



#### 3. Monitoring

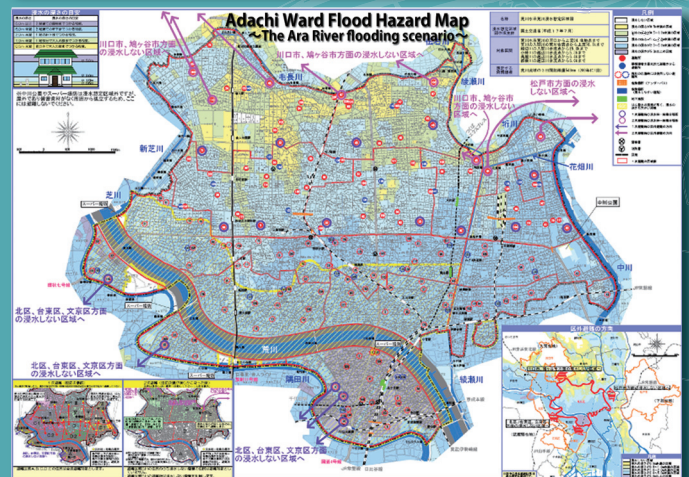
### Utilizing the Guidelines at Various Stages of Development including:

- Use in knowledge hubs of climate change and adaptation
- Use for bilateral cooperation, etc.

**Contribution to effective implementation of adaption measures in Asia-Oceania countries**

### Options for Adaptation Measures

- A** Measures for reducing risks of inundation (excavation of river channels, levee setting back, embankment, dam, flood control facilities, etc.)
- B** Measures for controlling flooding flow (e.g., secondary levees, open levees, ring levees)
- C** Measures for reducing damage in floodplain (regulation of land use, raising floors of buildings, installing electric and machinery equipment at higher places)
- D** Evacuation and evacuation guidance measures (evacuation and evacuation guidance, forecast and warning, evacuation facilities, etc.)
- E** Emergency measures (flood fighting, cofferdam, drainage measures, training, and education)
- F** Measures for expediting rehabilitation and reconstruction (disaster prevention facilities, transportation network, disaster prevention operation plan, business continuity plan, disposal of flood-generated waste, etc.)



Development of hazard maps to promote appropriate and safe self-evacuation of local residents (Ara River Basin, Japan)



Stormwater storage facilities that are used as tennis courts in normal times (Tsurumi River Basin, Japan)

Practical Guidelines on Strategic Climate Change Adaptation Planning—Flood Disasters can be downloaded at

[http://www.mlit.go.jp/river/basic\\_info/english/climate.html](http://www.mlit.go.jp/river/basic_info/english/climate.html)

(These guidelines will continue to be regularly updated.)



**Ministry of Land, Infrastructure, Transport and Tourism**

#### Contact

River Planning Division, River Bureau, Ministry of Land, Infrastructure, Transport and Tourism (MLIT), Japan

2-1-3 Kasumigaseki, Chiyoda-ku, Tokyo 100-8918, Japan

TEL:+81-(0)3-5253-8444 FAX:+81-(0)3-5253-1602

E-mail:river\_kokusai@mlit.go.jp <http://www.mlit.go.jp/river>