



# Challenge for Groundwater Management in Malaysia

**June 25, 2019**

**Japan Water Forum Communication Lounge**

# Yachiyo Engineering Co., Ltd.



## **Establishment**

January 29, 1963

## **Paid-up Capital**

450 million yen  
(USD 5.6 millions)

## **Number of Professional Staff**

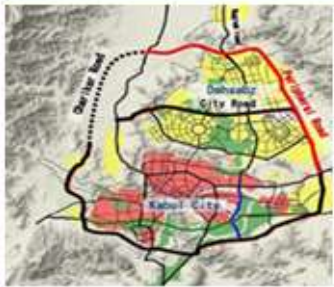
1,082 (As at Oct., 2018)





# Our Field

## Urban Planning



- Urban Development
- Regional Development
- Smart Community
- Investment Plan

## Transportation



- Transportation Planning
- Road
- Railway
- Port

## Environment



- Solid Waste Management
- Sewerage
- Pollution Control
- EIA

## Water Resources Disaster Management



- Dam
- Groundwater
- Water Supply
- Flood Control
- Disaster Risk Management

## ICT, Architect



- Architecture
- Information & Communication System
- Broadcast System

## Electricity



- Power Generation
- Electric Power Distribution
- Renewable Energy



# Experiences in Malaysia

Project Title	Client	Contract Period		Sector
		From	Until	
CDM FS on Combined Systems with Waste Disposal and Methane Generation in Ipoh, Malaysia	GEC, Japan	Aug-10	Mar-11	SWM
The Preparatory Study for Integrated Flood Management with Adaptation of Climate Change in Malaysia	JICA	Aug-09	Jan-11	Flood Control
The Study on National Waste Minimization in Malaysia	JICA	Jul-04	Aug-06	SWM
The Study on Safety Closure and Rehabilitation of Landfill Sites in Malaysia	JICA	Jan-03	Nov-04	SWM
Consultancy Services for Design, Construction, Completion and Commissioning of Rawang Sanitary Landfill Project in Selangor, Malaysia	Ministry of Housing and Local Government	Jun-02	Mar-06	SWM
National Strategic Plan Study for Solid Waste Management	Ministry of Housing and Local Government	Nov-01	Mar-06	SWM
The Project for the Design, Construction, Completion and Commissioning of Solid Waste Transfer Station at Taman Beringin, Mukim Batu, Kuala Lumpur Malaysia	Ministry of Housing and Local Government	Oct-00	Nov-03	SWM
Feasibility Study on the Second Penang Strait Crossing Road Construction Project	Ministry of Works	Sep-00	Aug-01	Bridge
Project Management Consulting Services for the Project of Solid Waste Thermal Treatment Plant at Beroga, Mukim Semenyih, Daerah Hulu Langat, Selangor Darul Ehsan, Malaysia	Ministry of Housing and Local Government	Mar-00	Oct-09	SWM





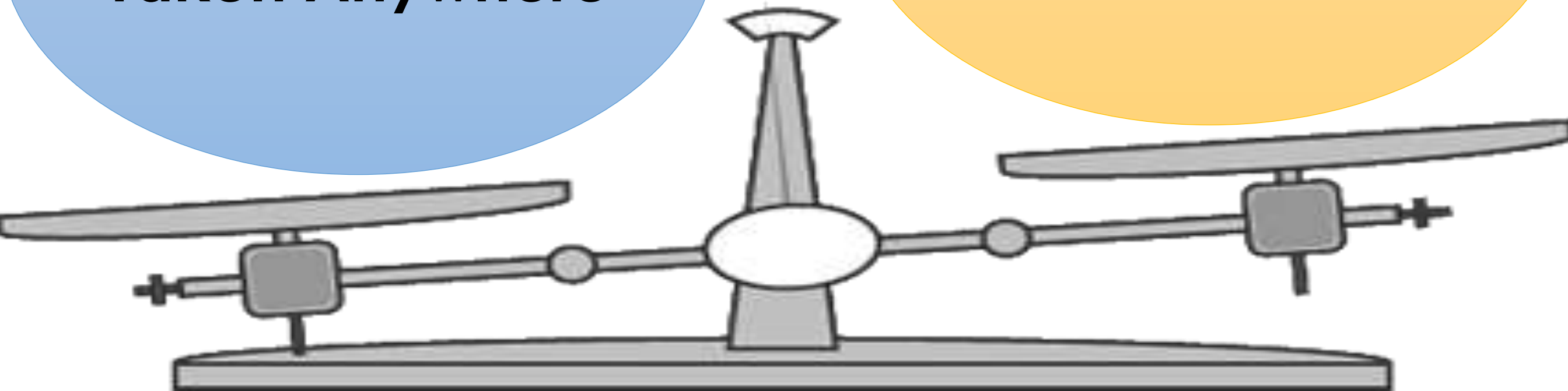
# Challenge for Groundwater Management in Malaysia



# WHY Groundwater Management

**Clean  
Taken Anywhere**

**Cannot See  
Hard to Recover**



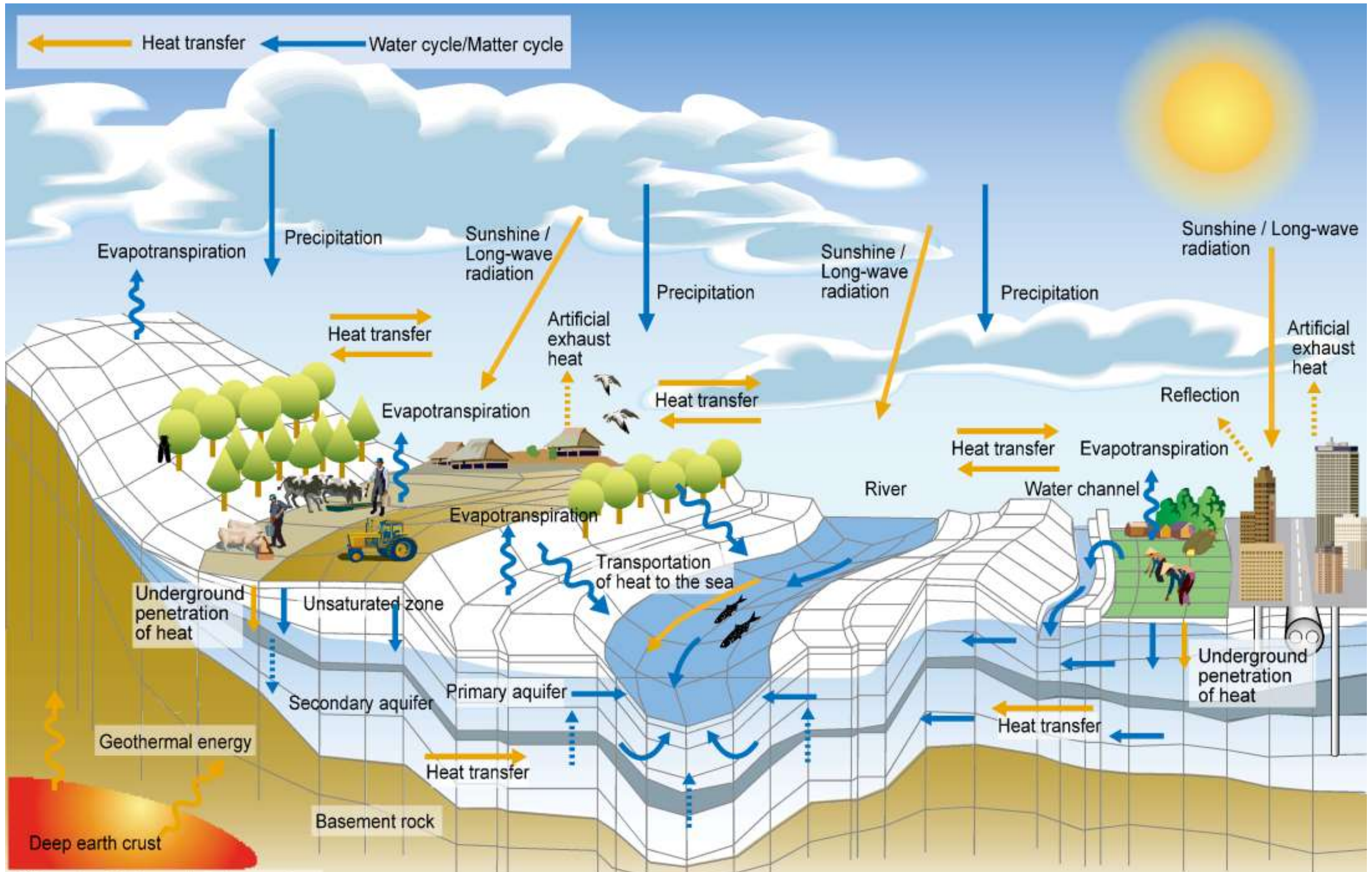
# Case Study of Kumamoto Area





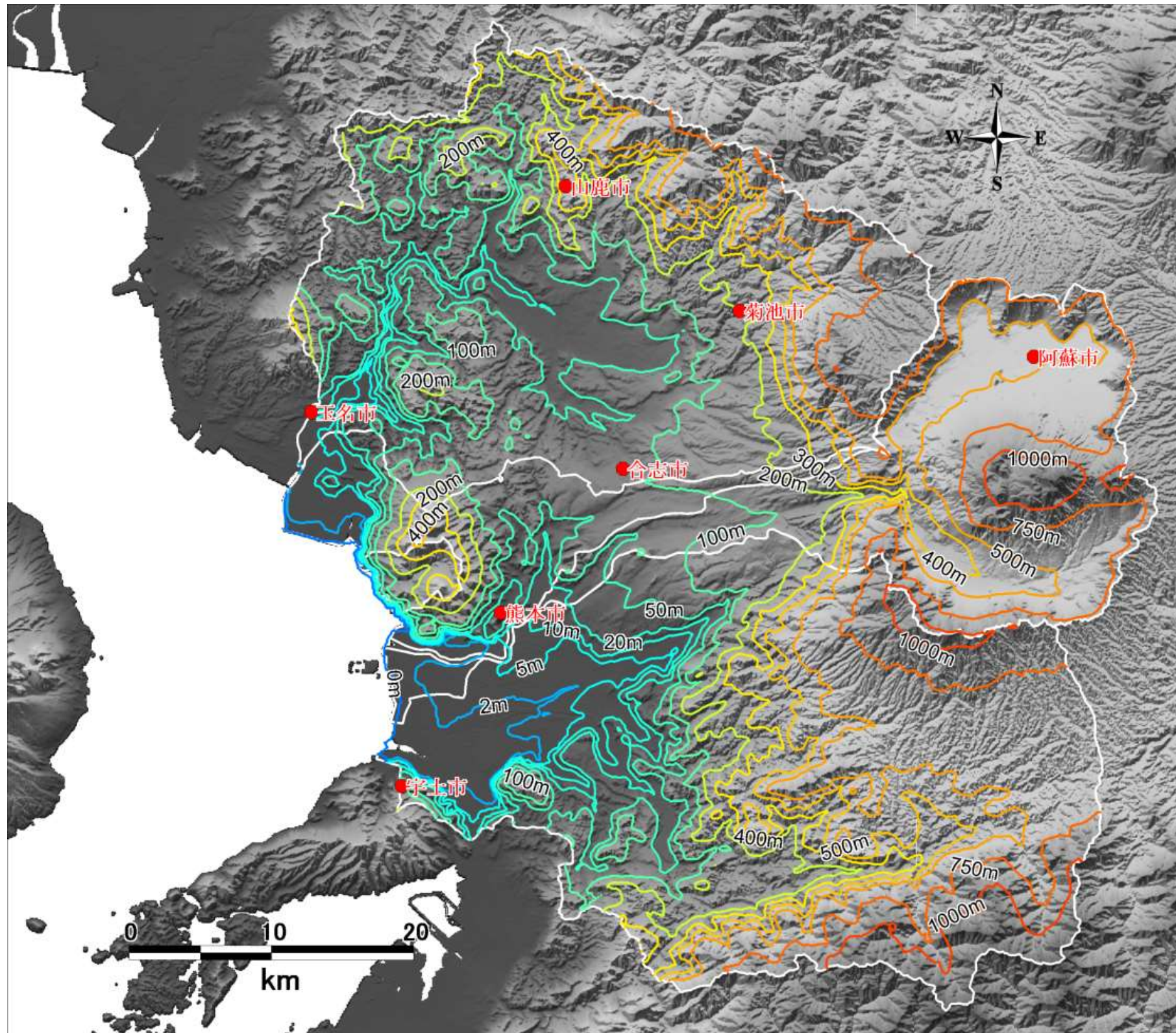
# Overview of the water circulation model

## ■ Overview of model



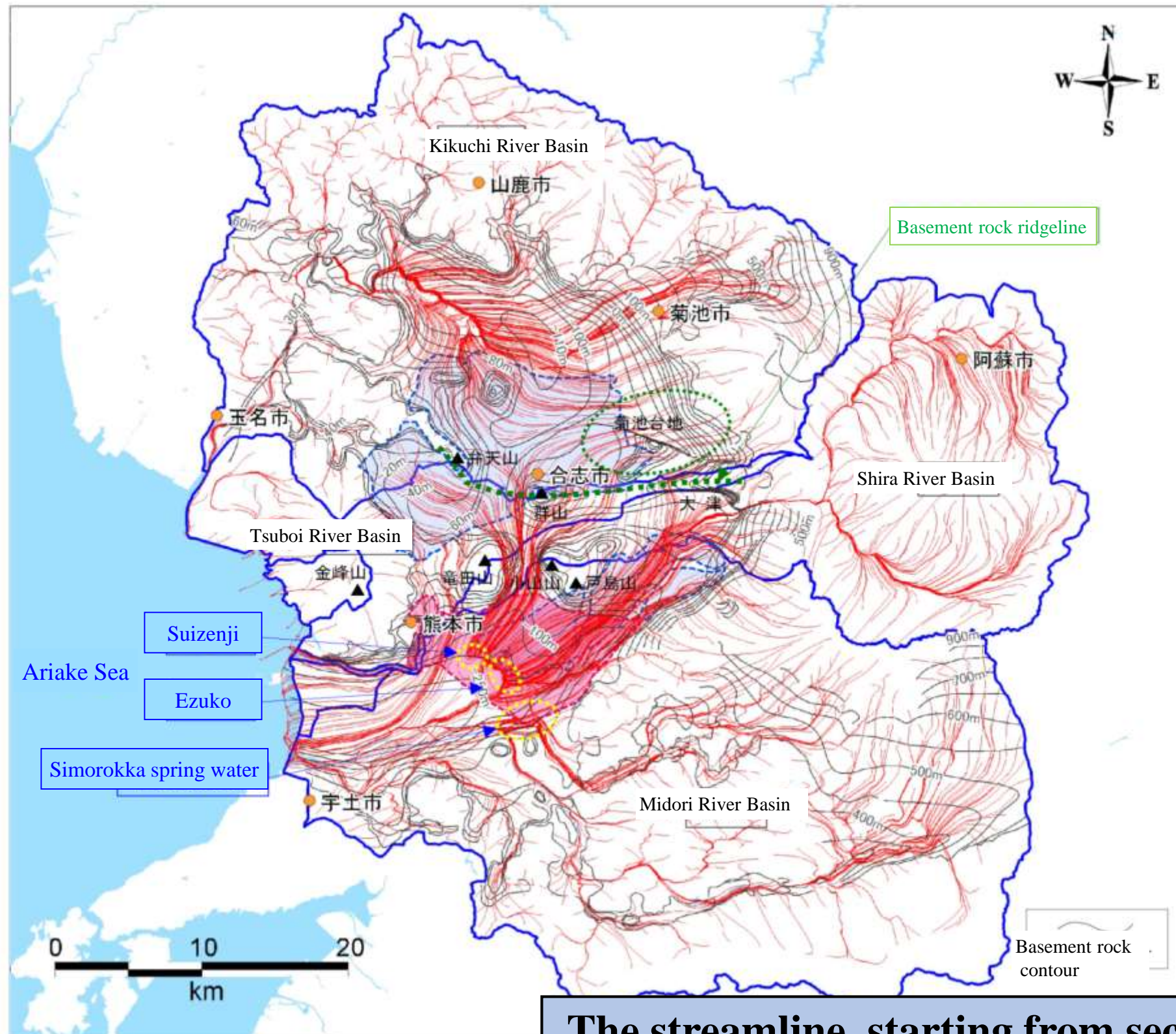


# Water table contour lines (Unconfined Aquifer)





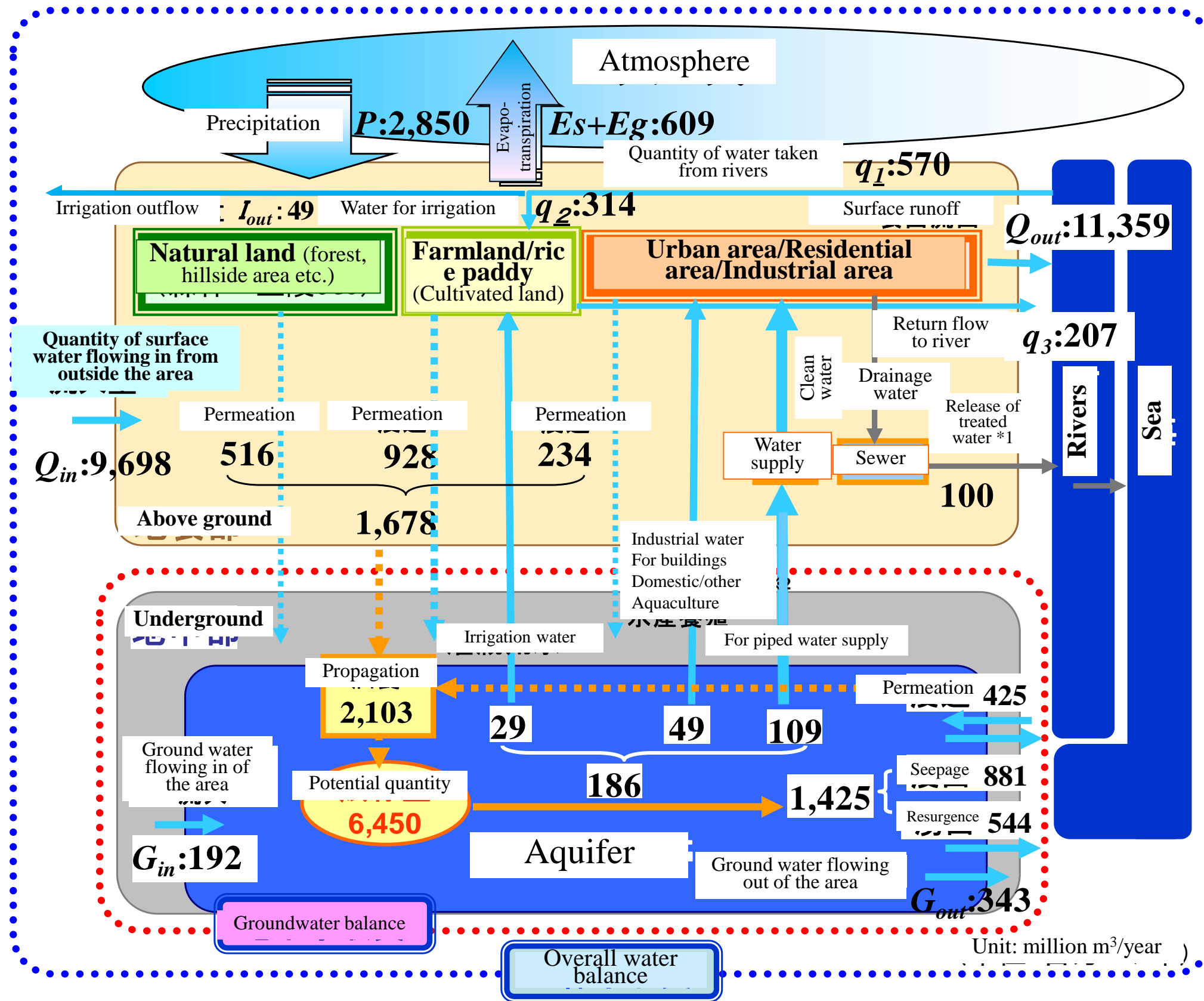
# Flow mechanism within the catchment area



**The streamline starting from secondary aquifer**



# Water volume balance (Kumamoto area: 11 cities and towns)

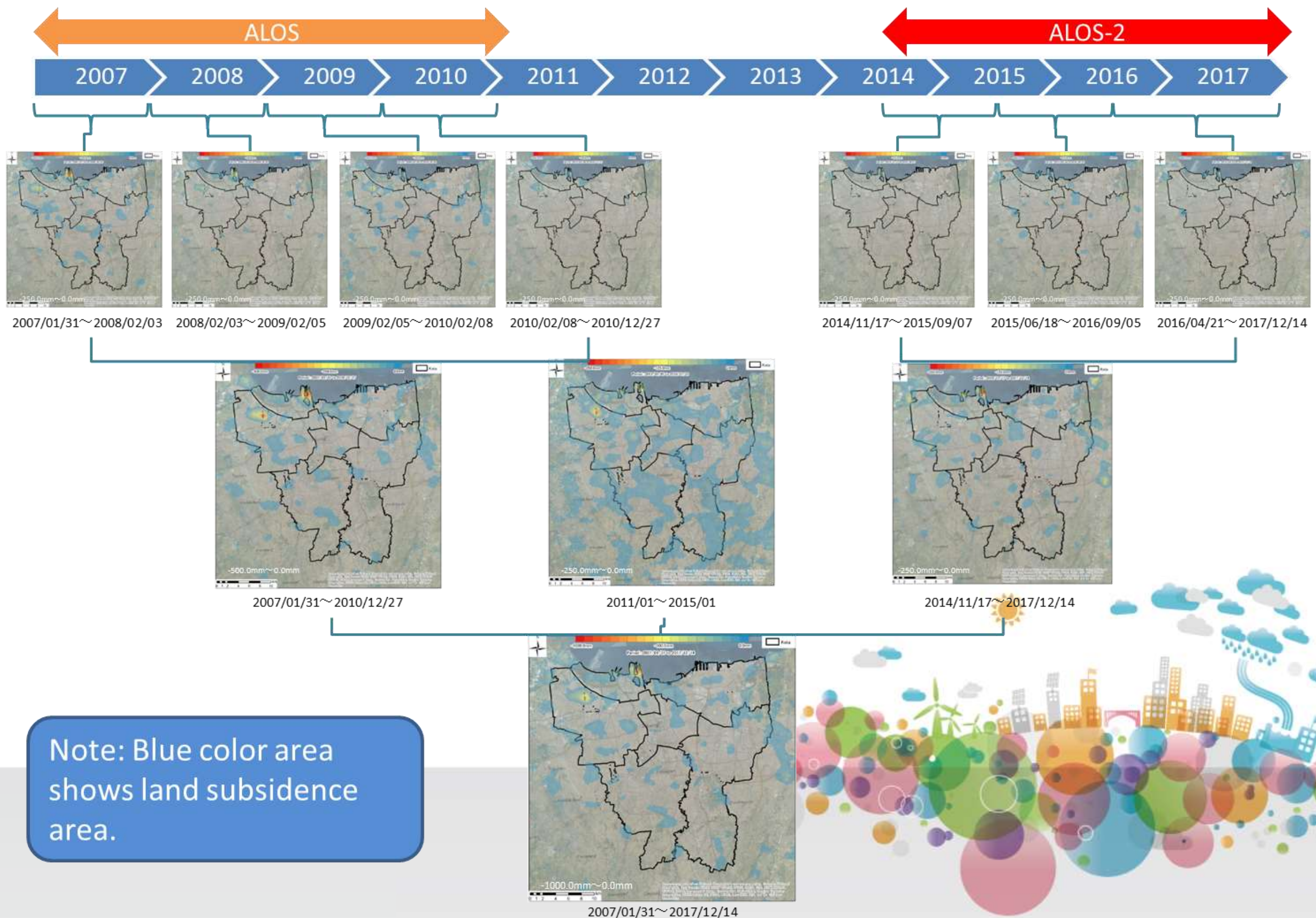


# Other Related Challenges (1)



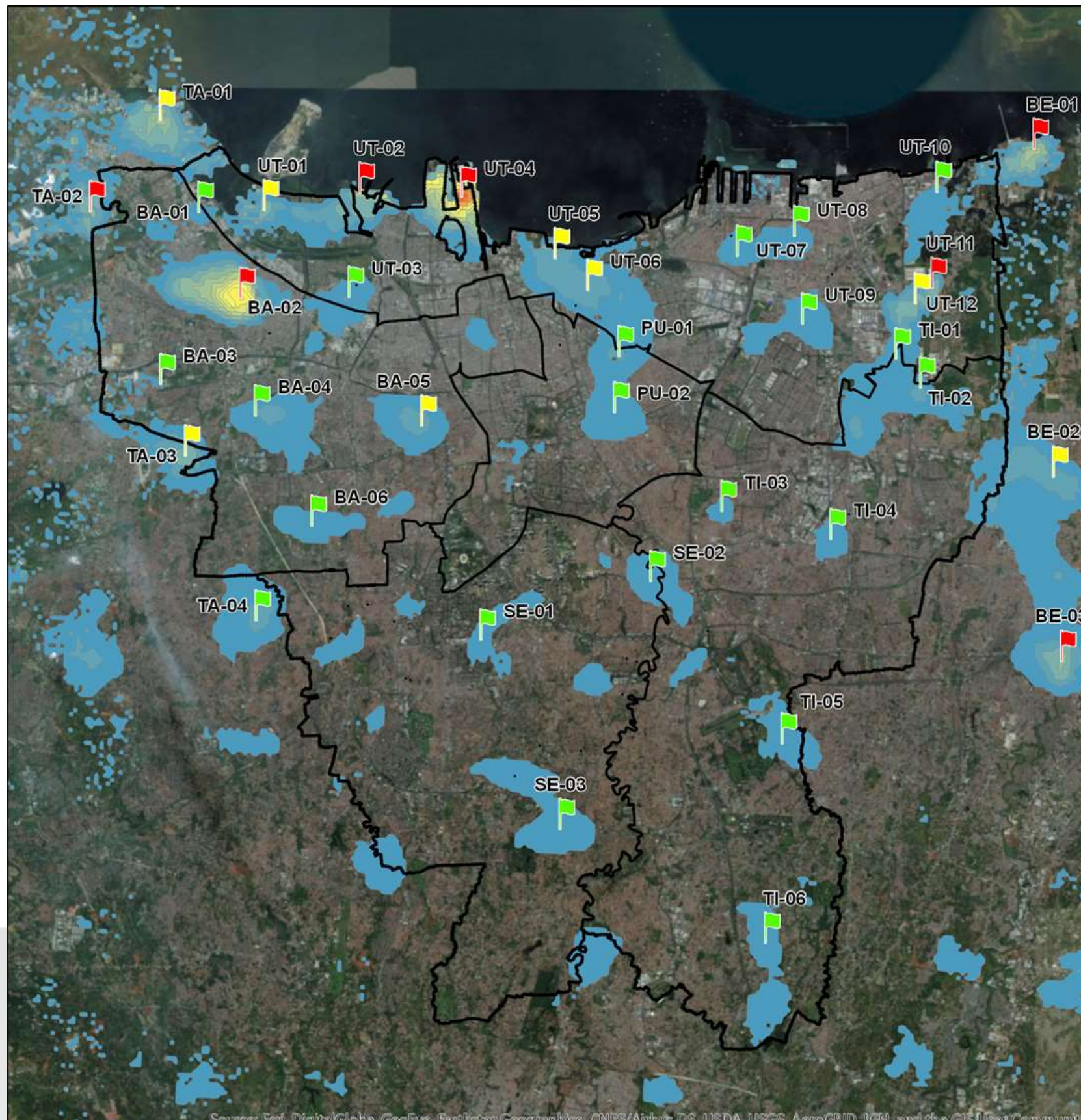


# Project for Promoting Countermeasures against Land Subsidence in Jakarta





# Project for Promoting Countermeasures against Land Subsidence in Jakarta



## Classification of Critical Zones

### A: Red

More than 50mm/year  
or  
More than 20mm/year in  
whole period and 2014-  
2017 (ALOS-2)

### B : Yellow

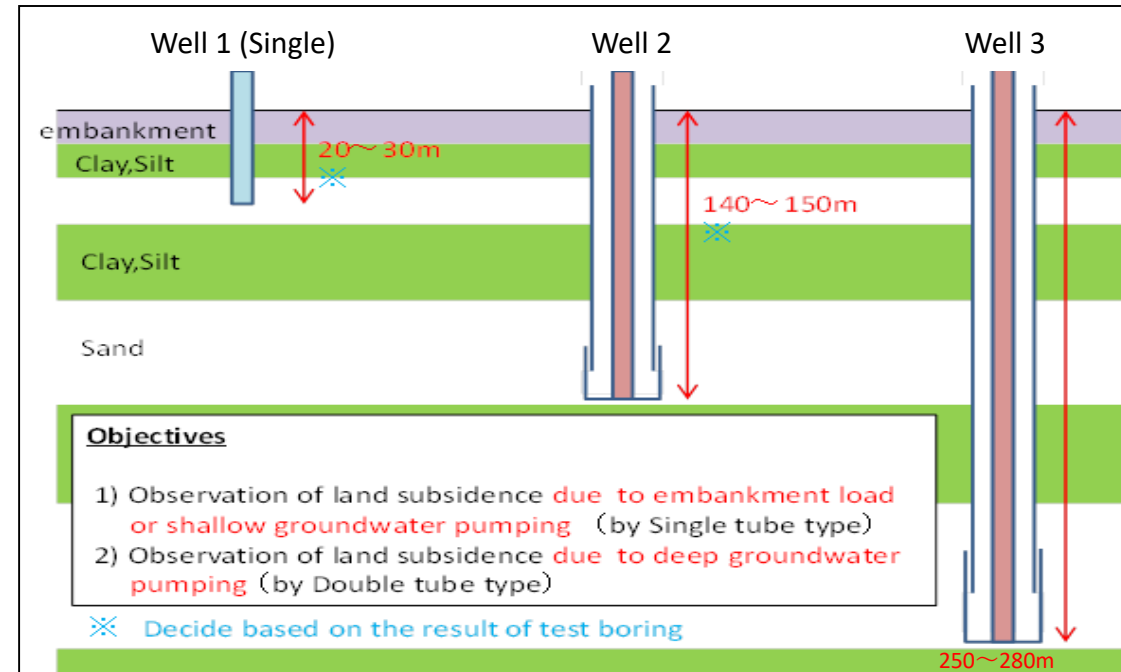
More than 20mm/year in  
whole period  
BUT  
Less than 20mm/year in  
2014-2017 (ALOS-2)

### C: Green

Less than 20mm/year in  
whole period



# Project for Promoting Countermeasures against Land Subsidence in Jakarta



**Terima Kasih**  
**Thank you**  
ありがとうございます

