

**THA 2022** International Conference on

**Moving Towards a Sustainable Water and  
Climate Change Management After COVID-19**

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# Telemetry for Irrigation

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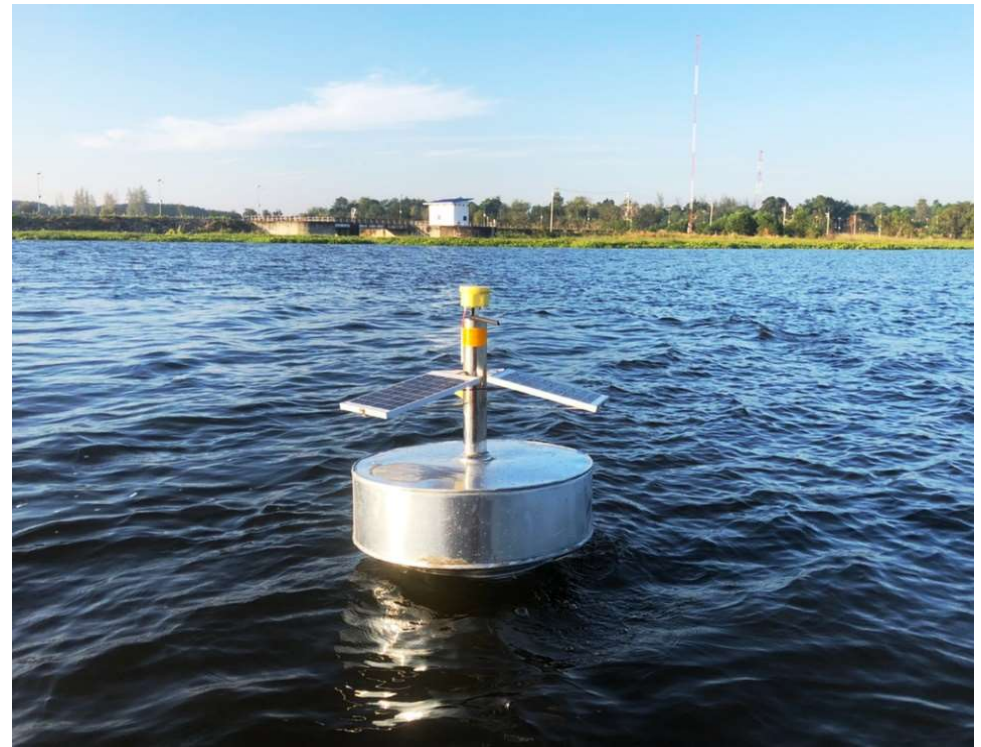


# Telemetry for Irrigation

## The Innovation instrument for water management system



**Base Station**



**Bouy(Rover) Station**



# Climate Change

## Drought / Flood



Drought

Flood



## 412 Reservoirs

75 : Northern

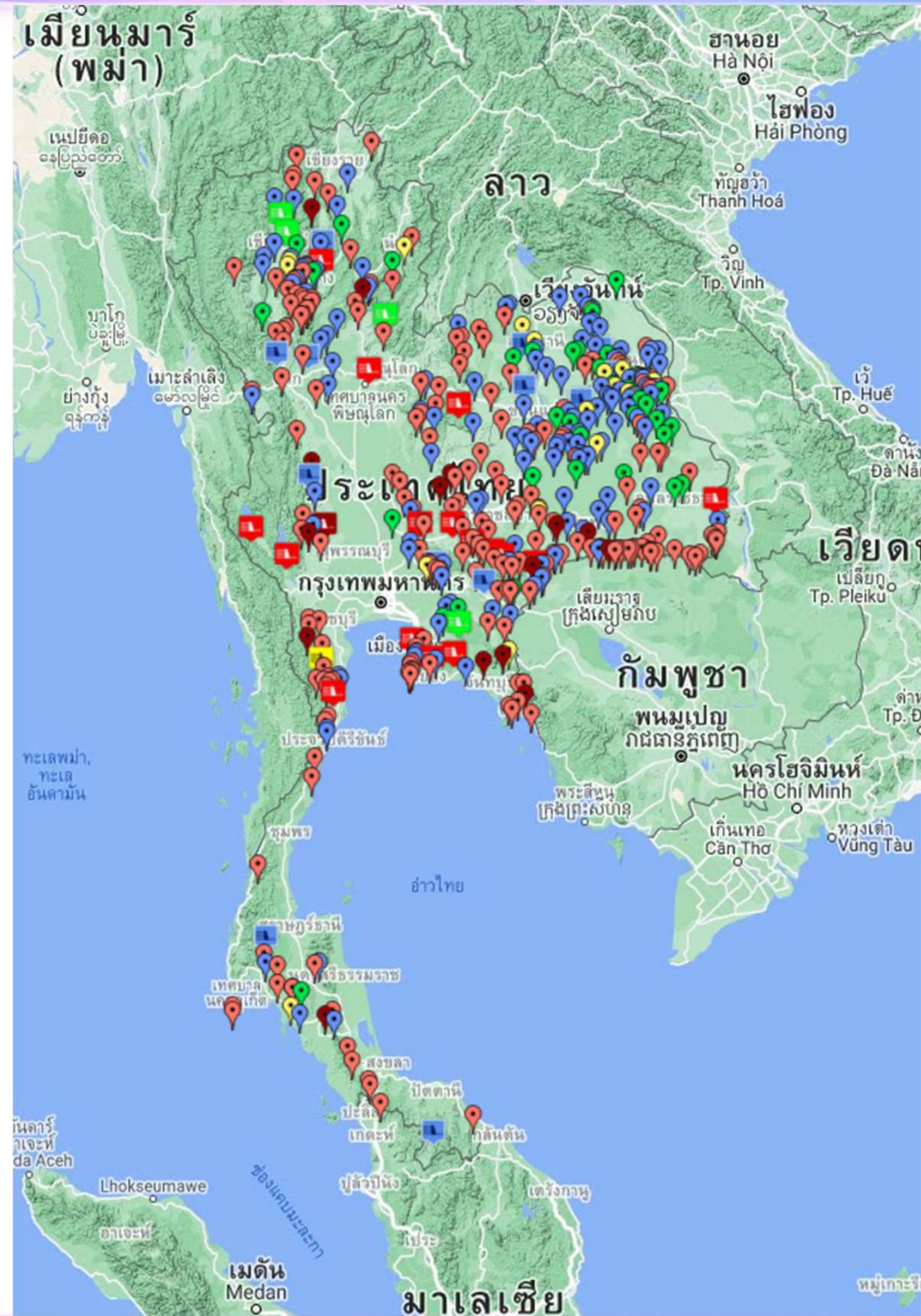
218 : North-eastern

51 : Eastern

22 : Central

7 : Western

39 : Southern



# Drainage Diagram





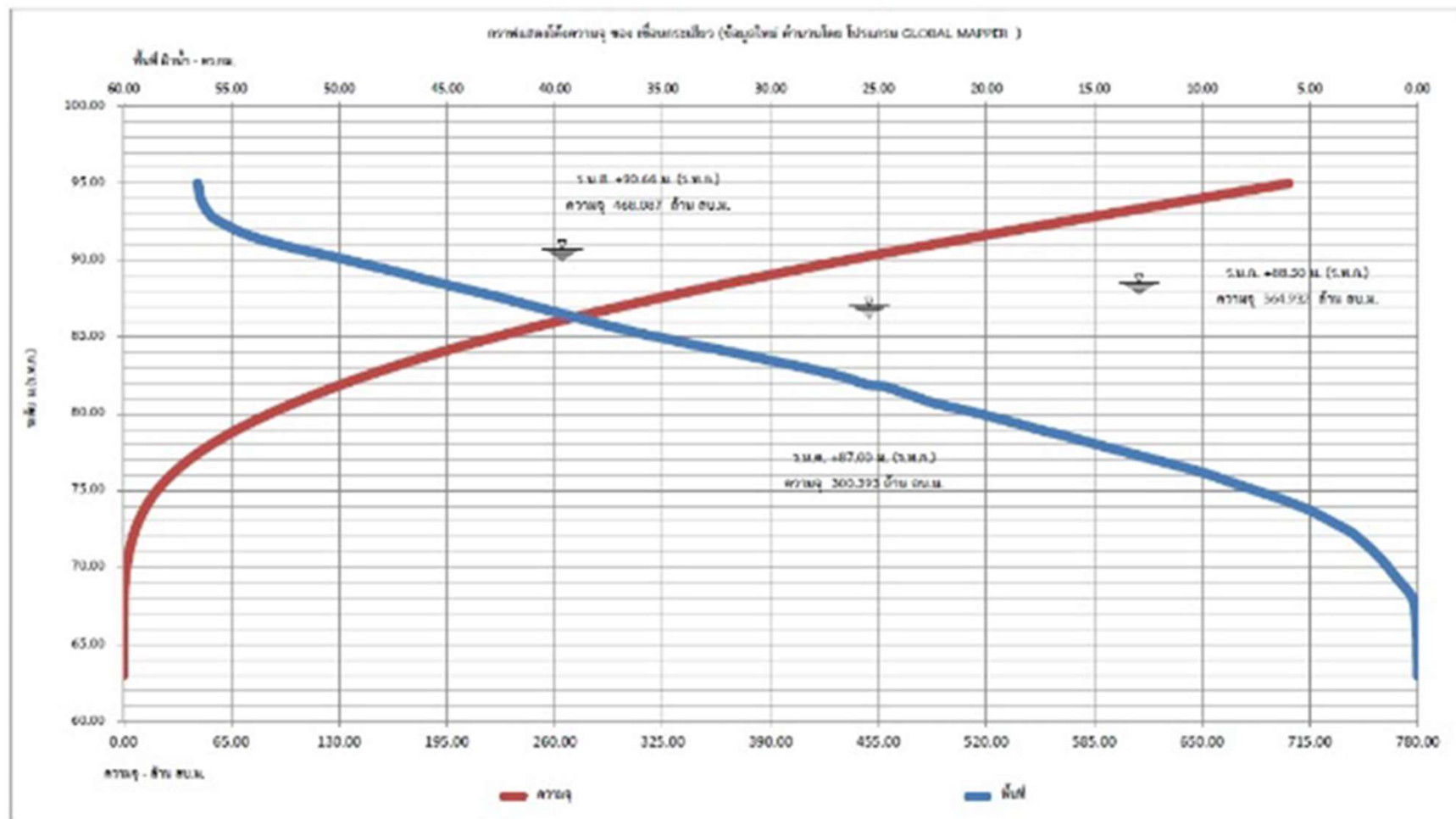
# Telemetry for Irrigation



**Base Station**

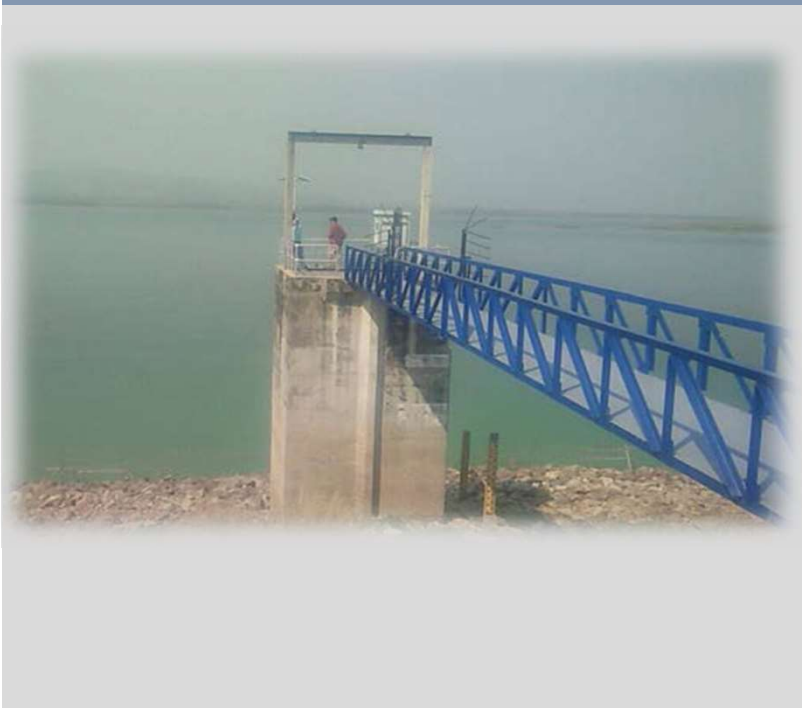


**Bouy(Rover) Station**



# Telemetry for Irrigation at a reservoir.

**Old model**



**Building Station**

**New model**



**Buoy Station**



## **Proposes**

### **“Telemetry for Irrigation”**

**The Innovation instrument for water management system data.**

- Better information supporting to SWOC.**
- More efficiency for RID. water management.**
- Support missions of RID.**
- Applying survey instruments**

# Telemetry for Irrigation



**Base Station**



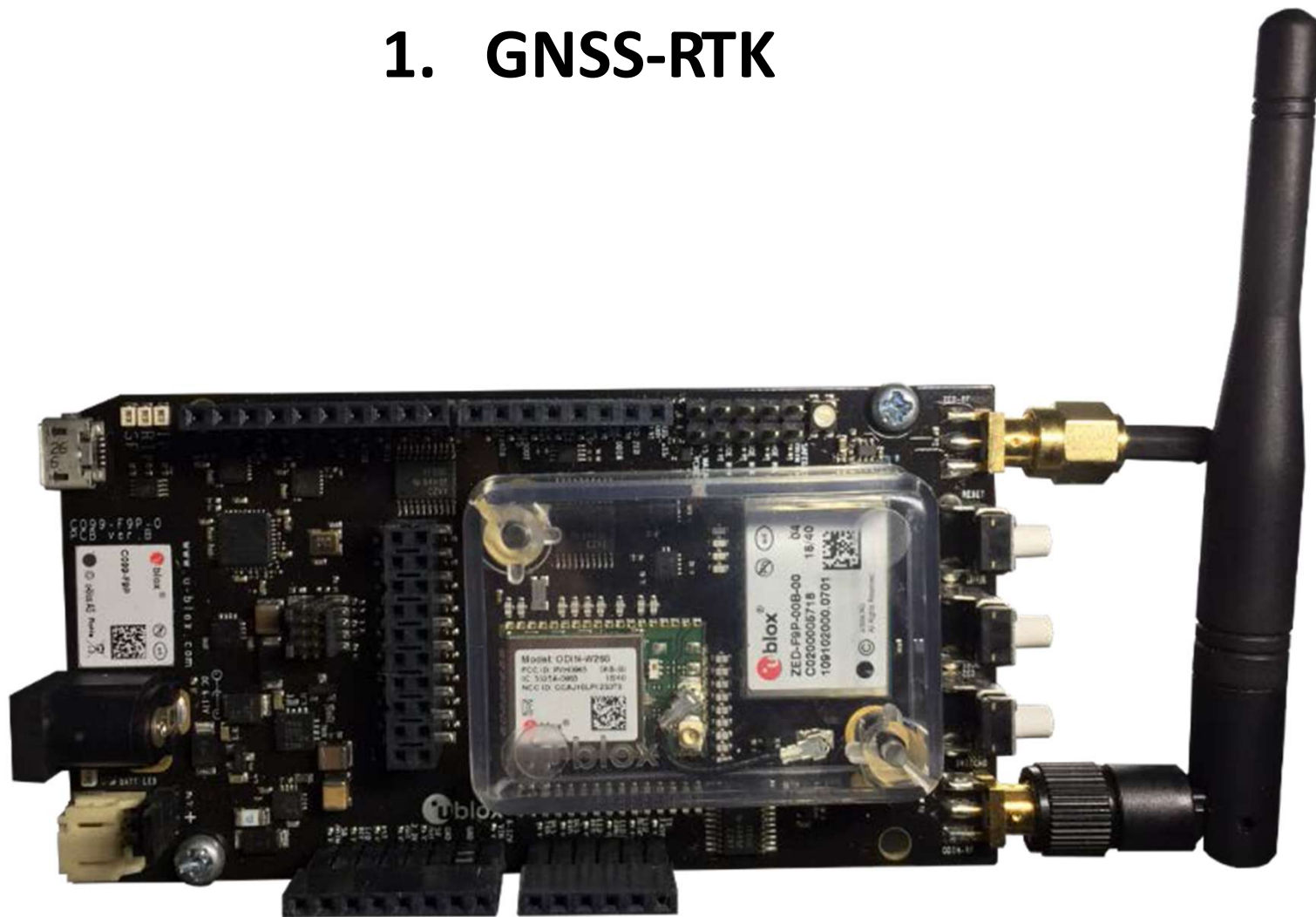
**Bouy(Rover) Station**



## **5 Features**

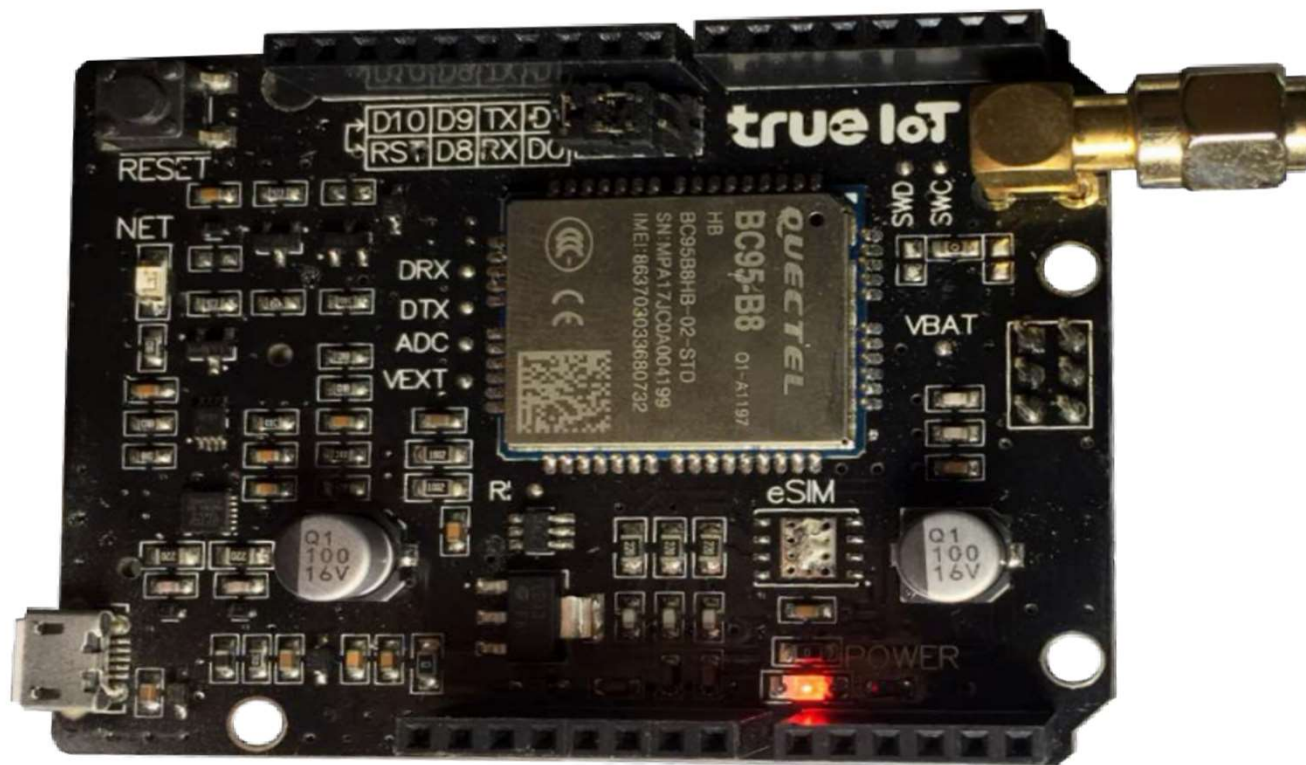
- 1. GNSS-RTK**
- 2. Data Network NB-IoT /  
LoRaWan Gateway**
- 3. Database system**
- 4. Application software**
- 5. Buoy station**

# 1. GNSS-RTK

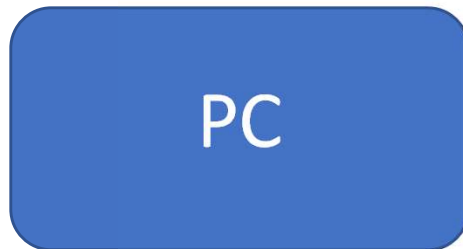




## 2. Data Network NB-IoT / LoRaWan Gateway



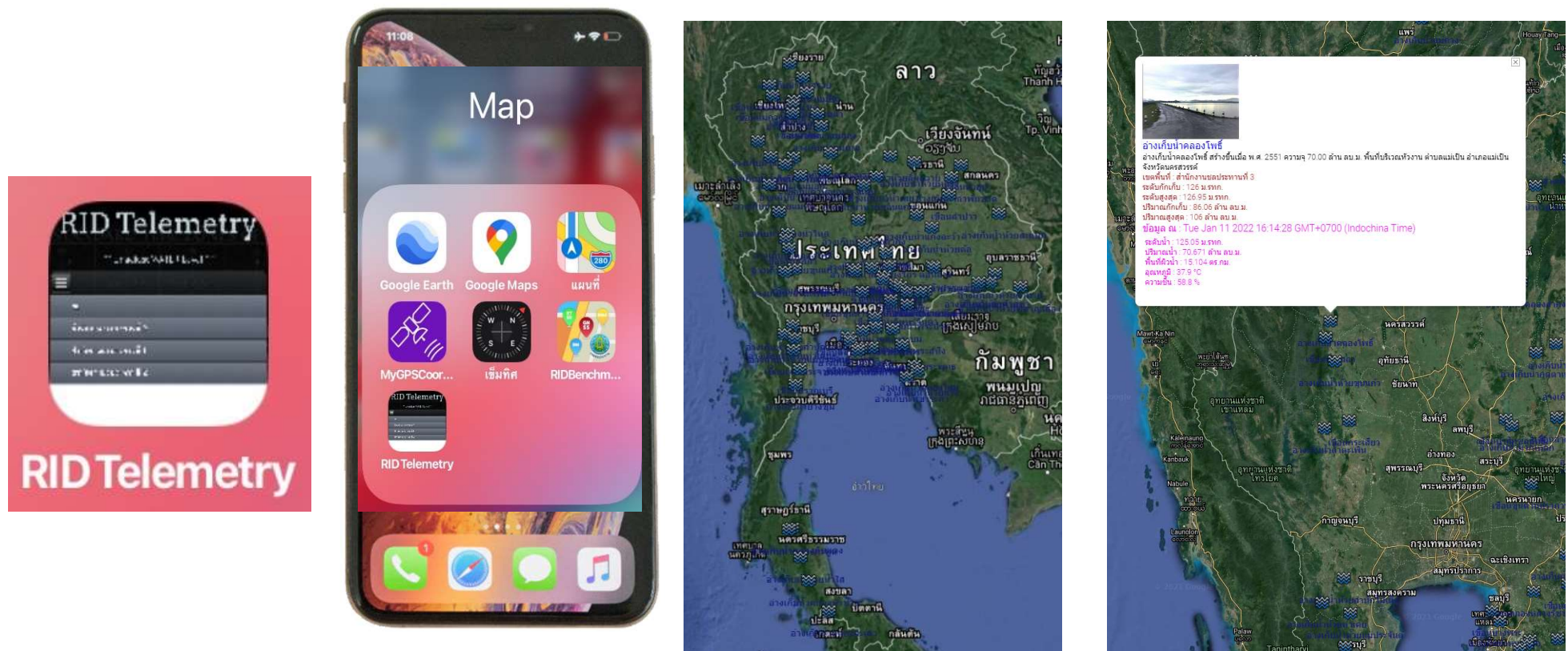
### 3. Database System



**Database  
Server**

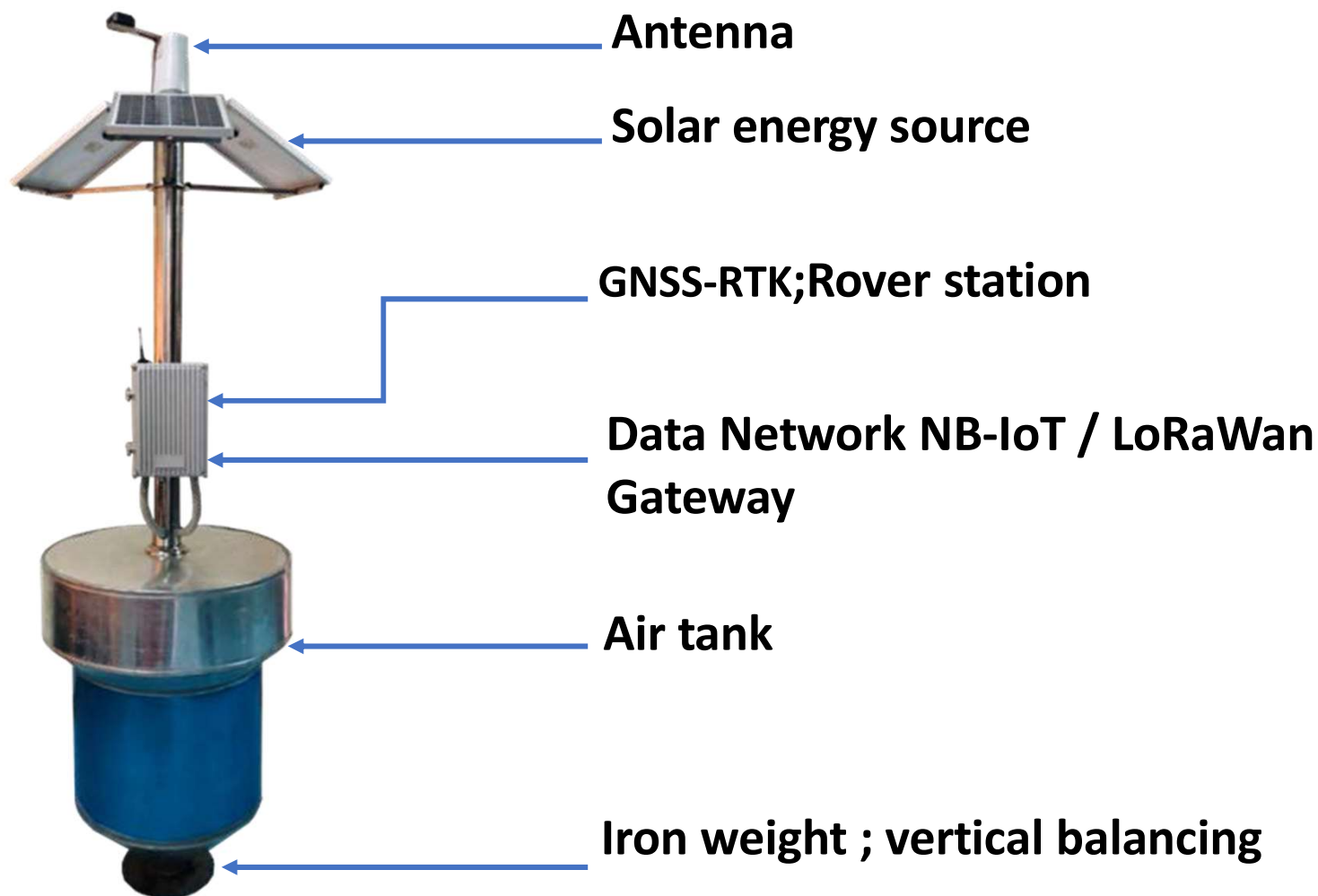


## 4. Mobile Application



- Easy access information by public via mobile devices
- Real time data showing on map, GUI.

## 5. Buoy Station and composition



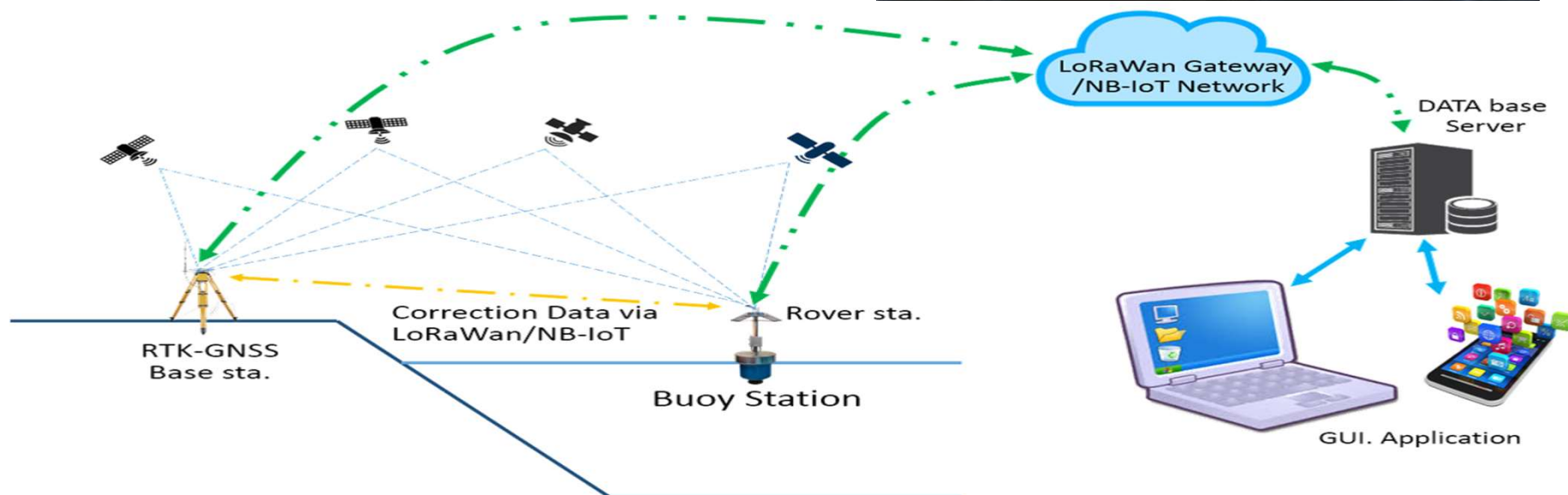


# Infographic system

## Base Station



## Bouy(Rover) Station





# Base station setting

## Position(Co-ordinate & Elevation)



## Base station



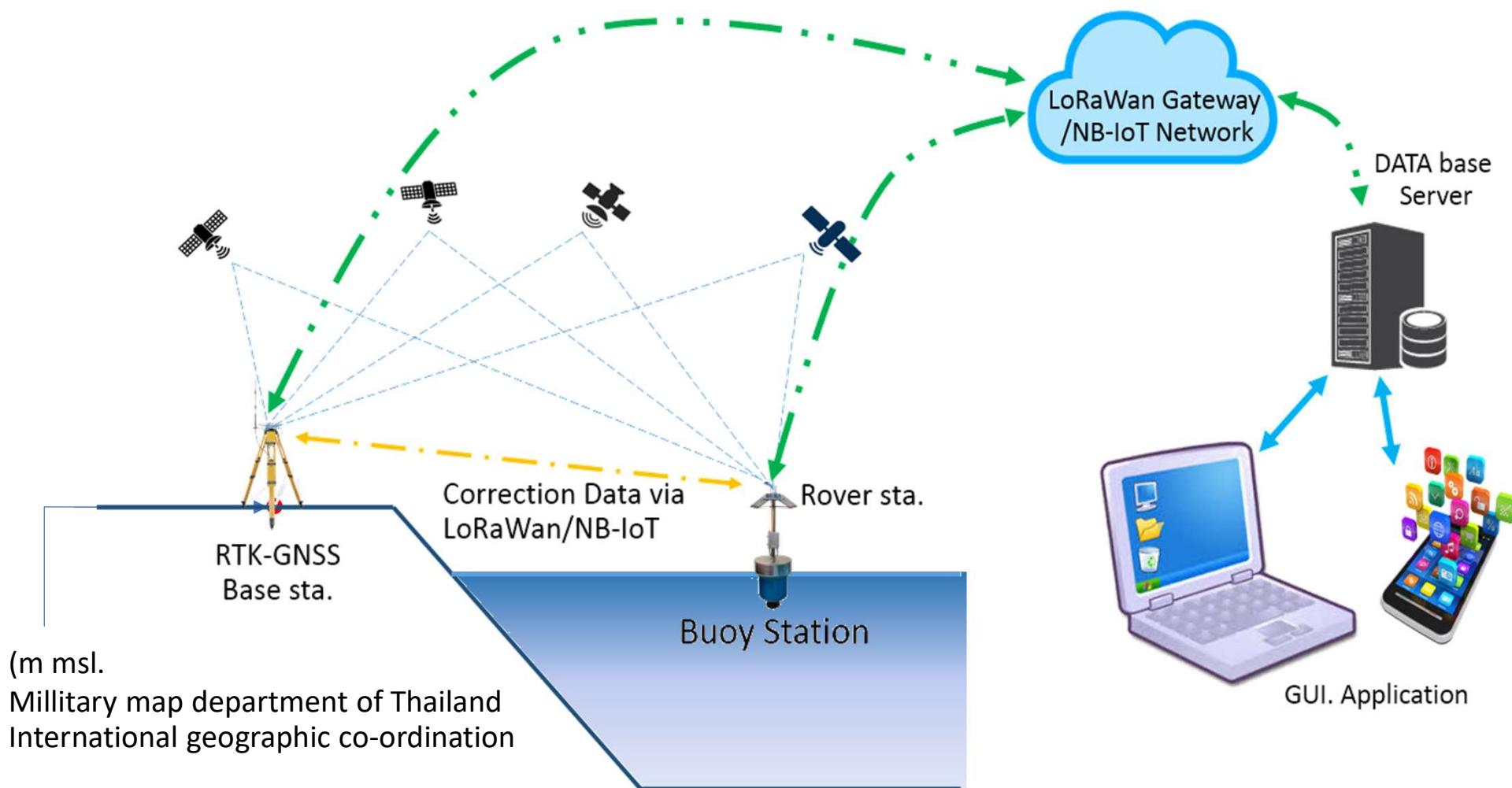


# Bouy(Rover) station setting

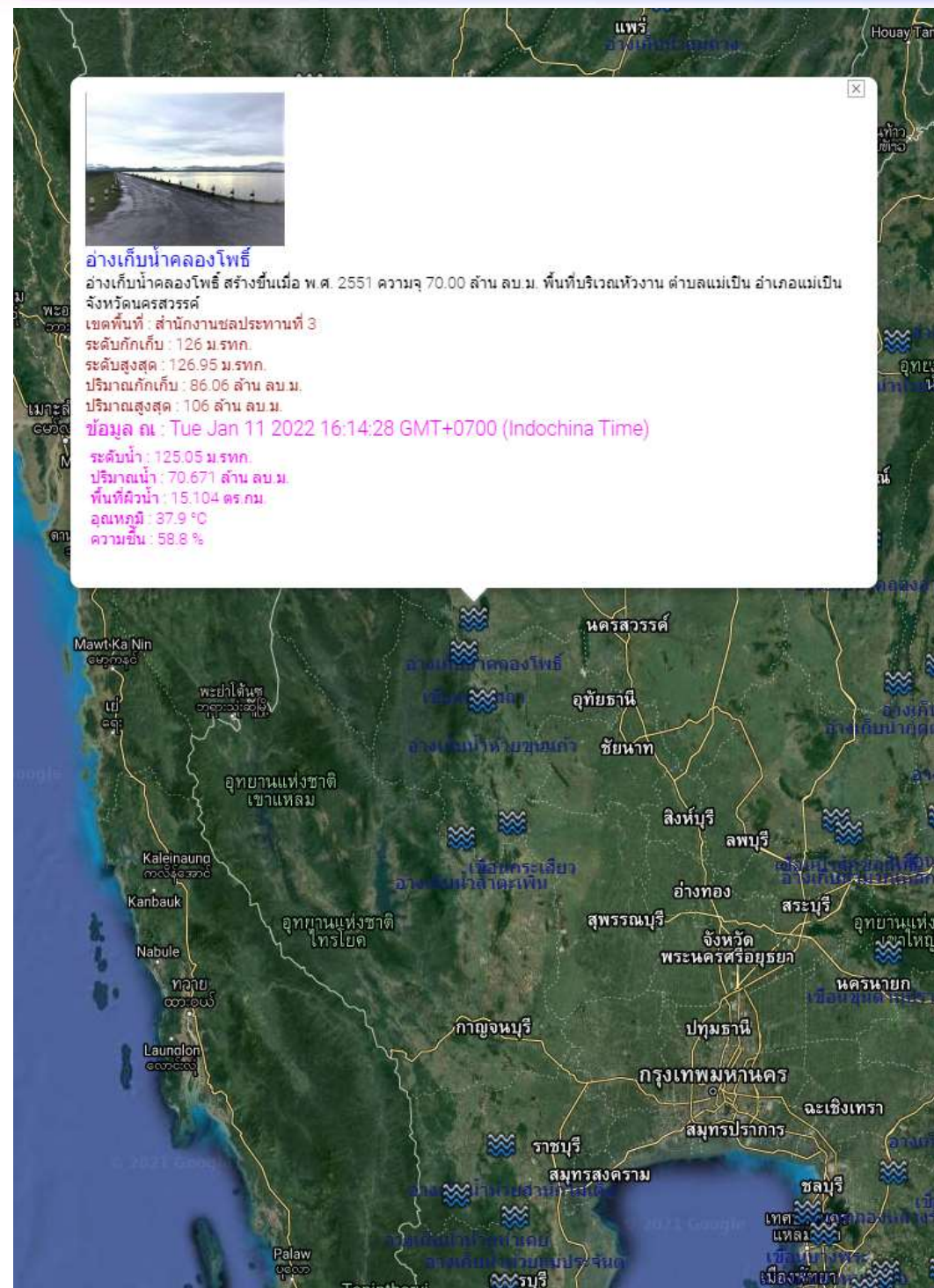
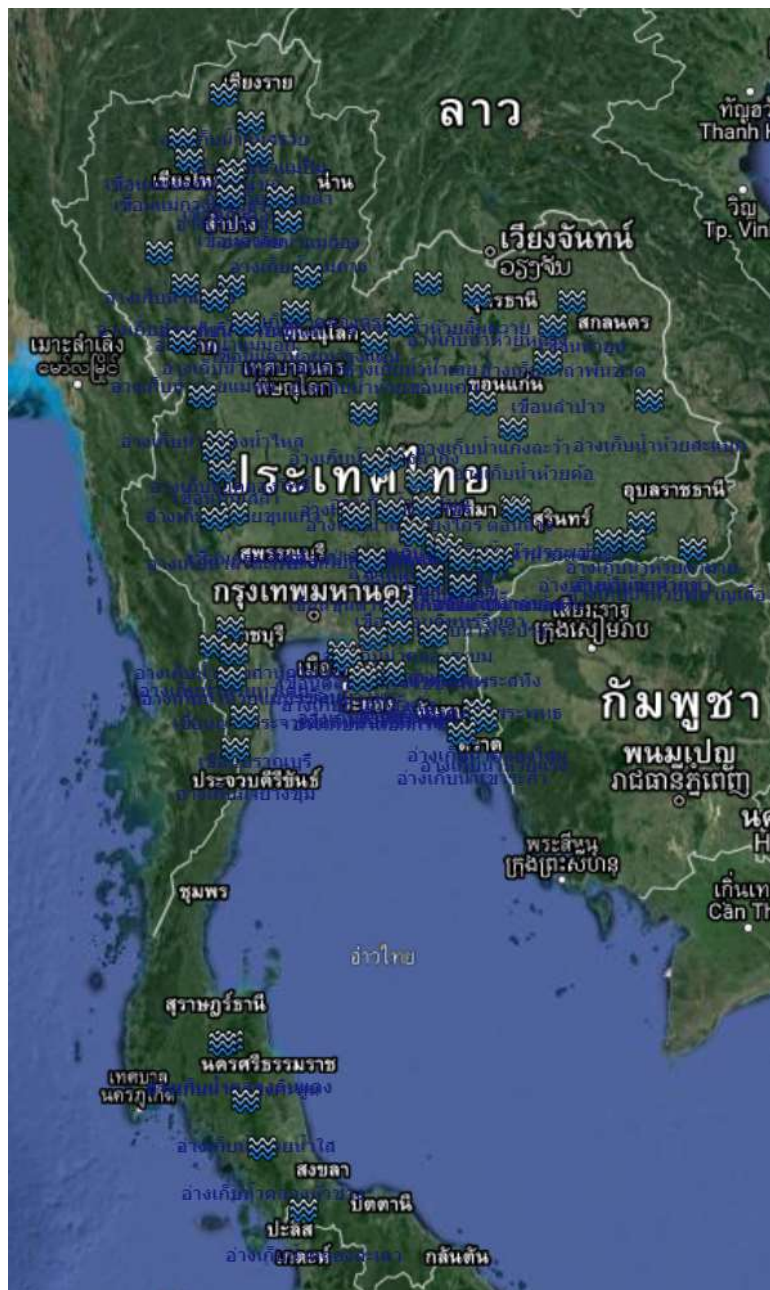




# “Telemetry for irrigation System”



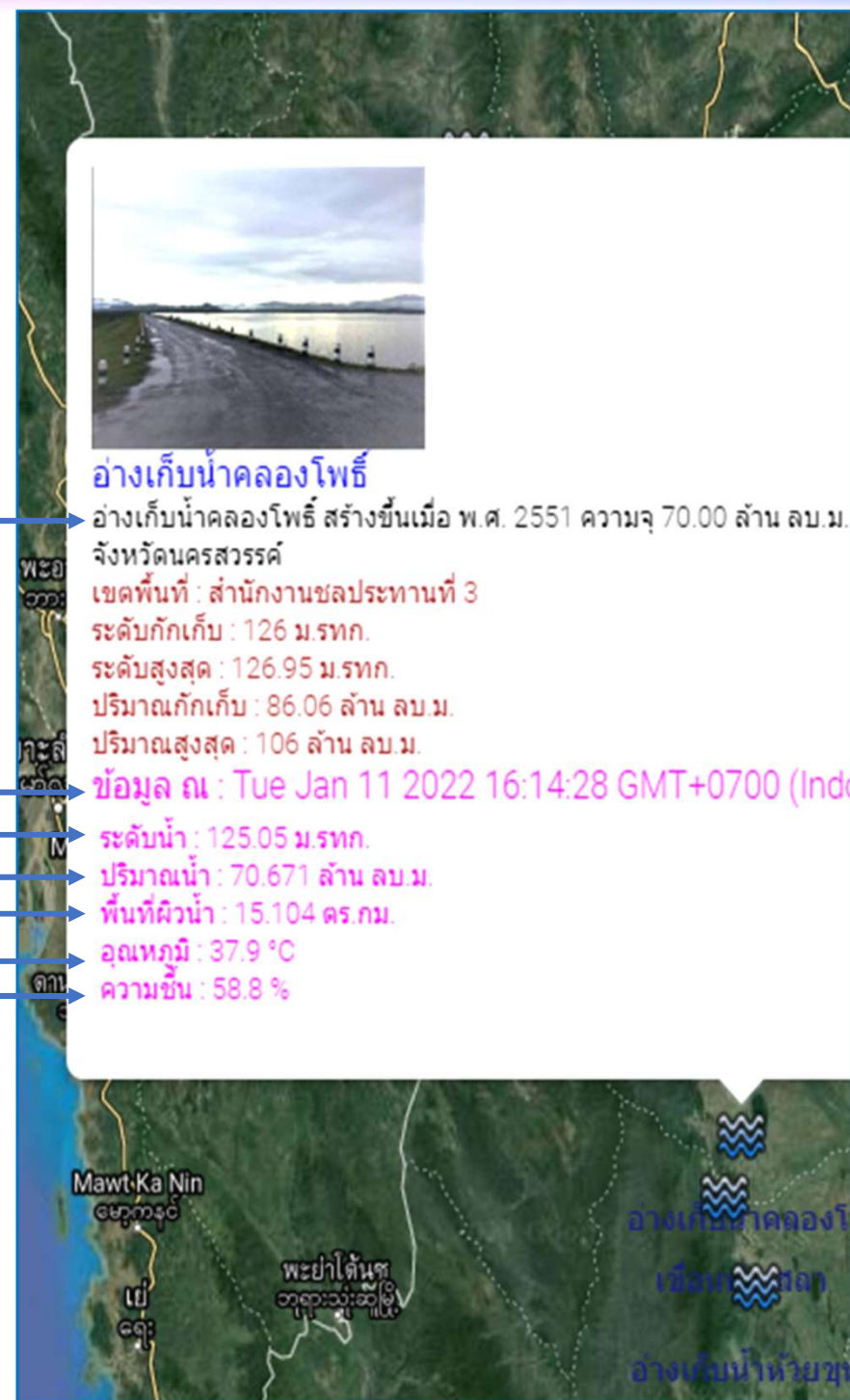
# Information on mobile screen





## Information on mobile screen

- Location & Reservoir data
- Date & Time
- Elevation of water surface at storage level.(Meter above mean sea level ;m-msl.)
- Water Volume at storage level (Million cubic meter)
- Water Surface area at storage level (Square kilometer)
- Temperature (Degree Celsius)
- Moisture content (%)





## **Planning (BETGS.)**

- **Install the other types of sensor in the same telemetry.**
- **Set up "Telemetry for Irrigation" to most reservoirs under the responsibility of the RID. (Installed 82 set,update@2021 )**
- **Link processed data to the Smart Water Operation Centre (SWOC.) at RID. head office.**
- **Developing the next versions (Update & Practical versatile)**

## “Telemetry for Irrigation”

- The innovation enhances for RID. water management system



Thank you



