

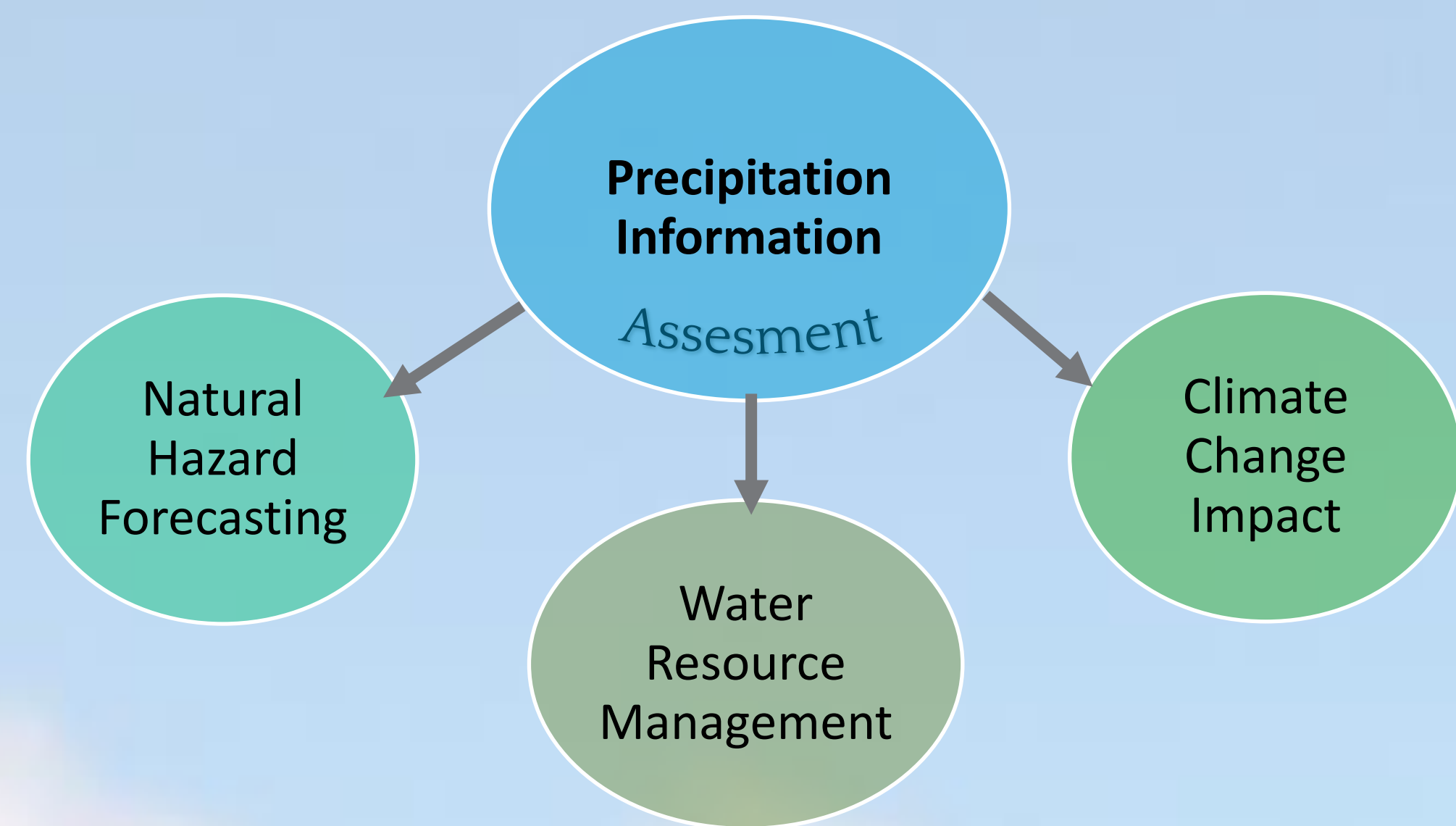
# Early Warning Precipitation Data Automatic Weather Station Over Mainland Indonesia

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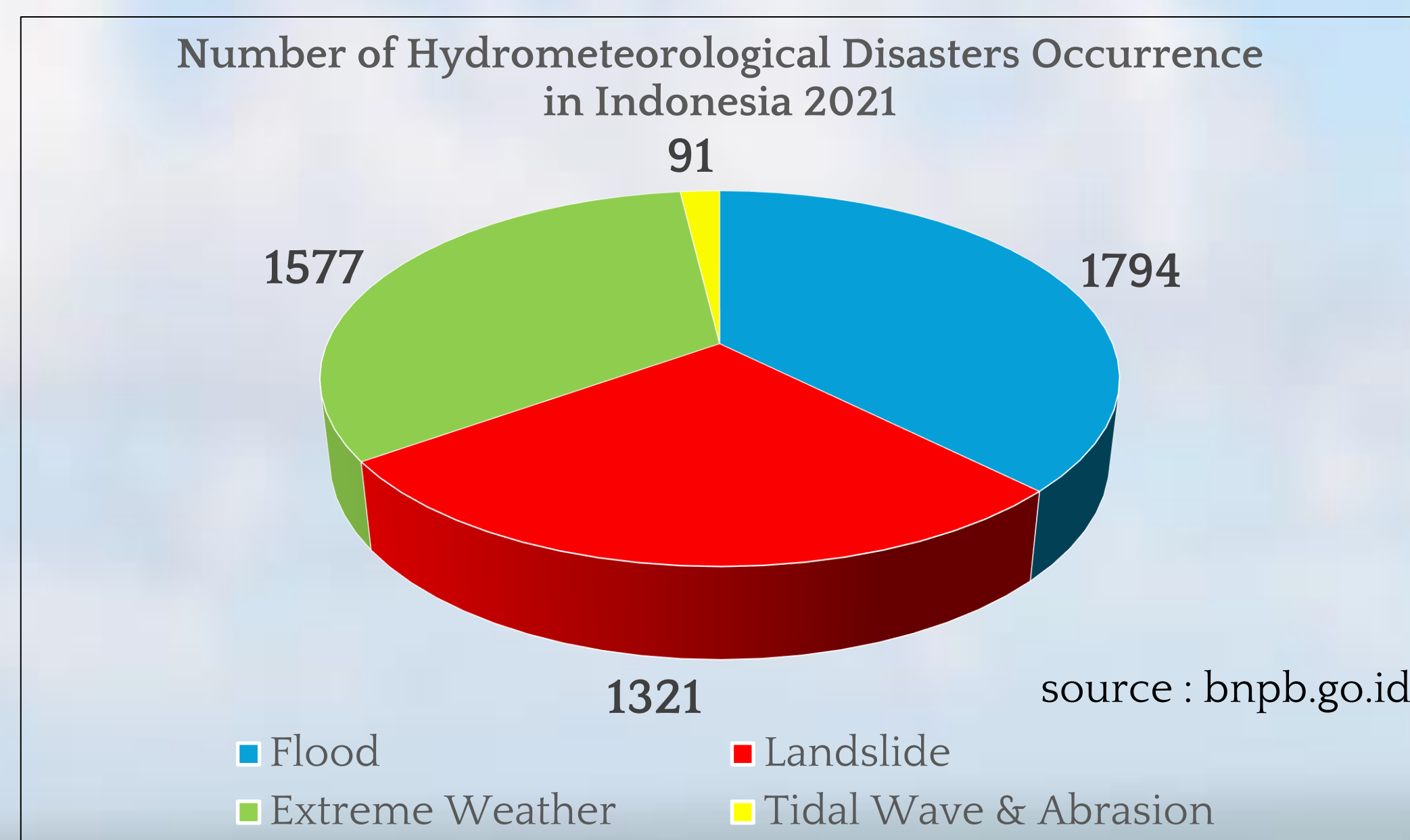
## Introduction

### BACKGROUND

- Used of Precipitation Information



- Hydrometeorological Disaster in Indonesia 2021

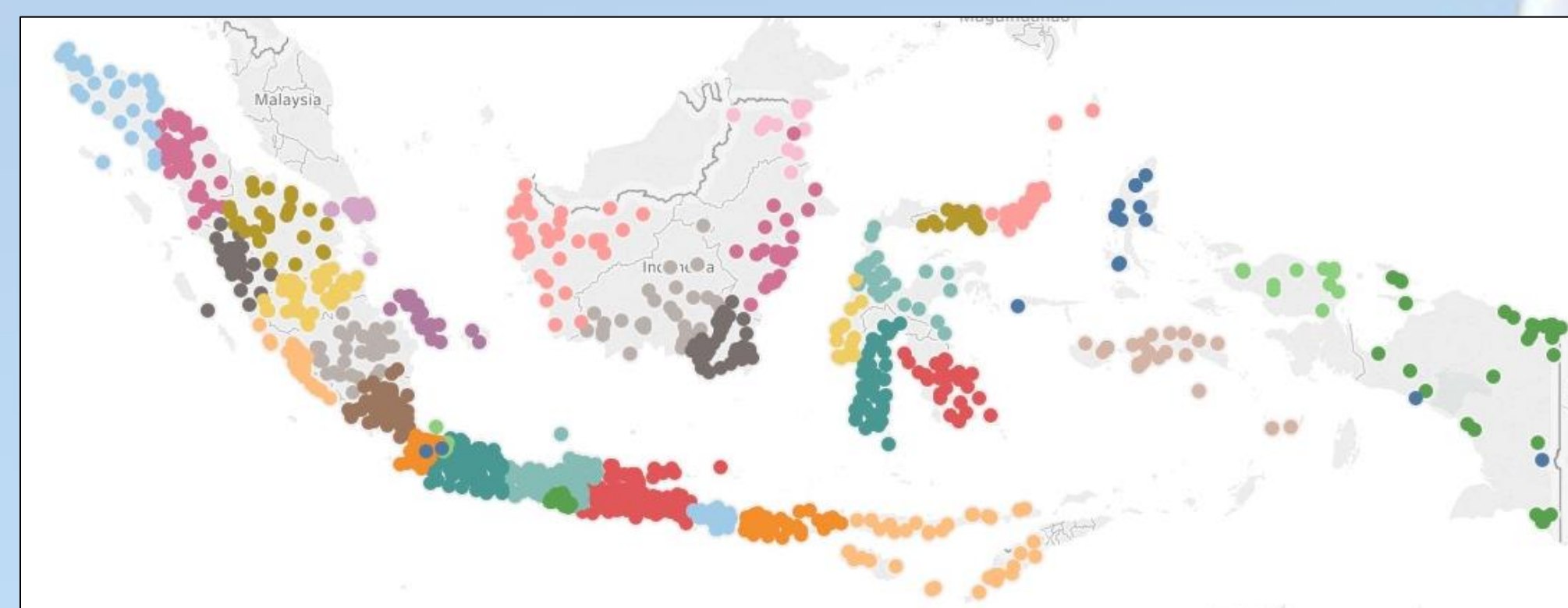


### PURPOSE

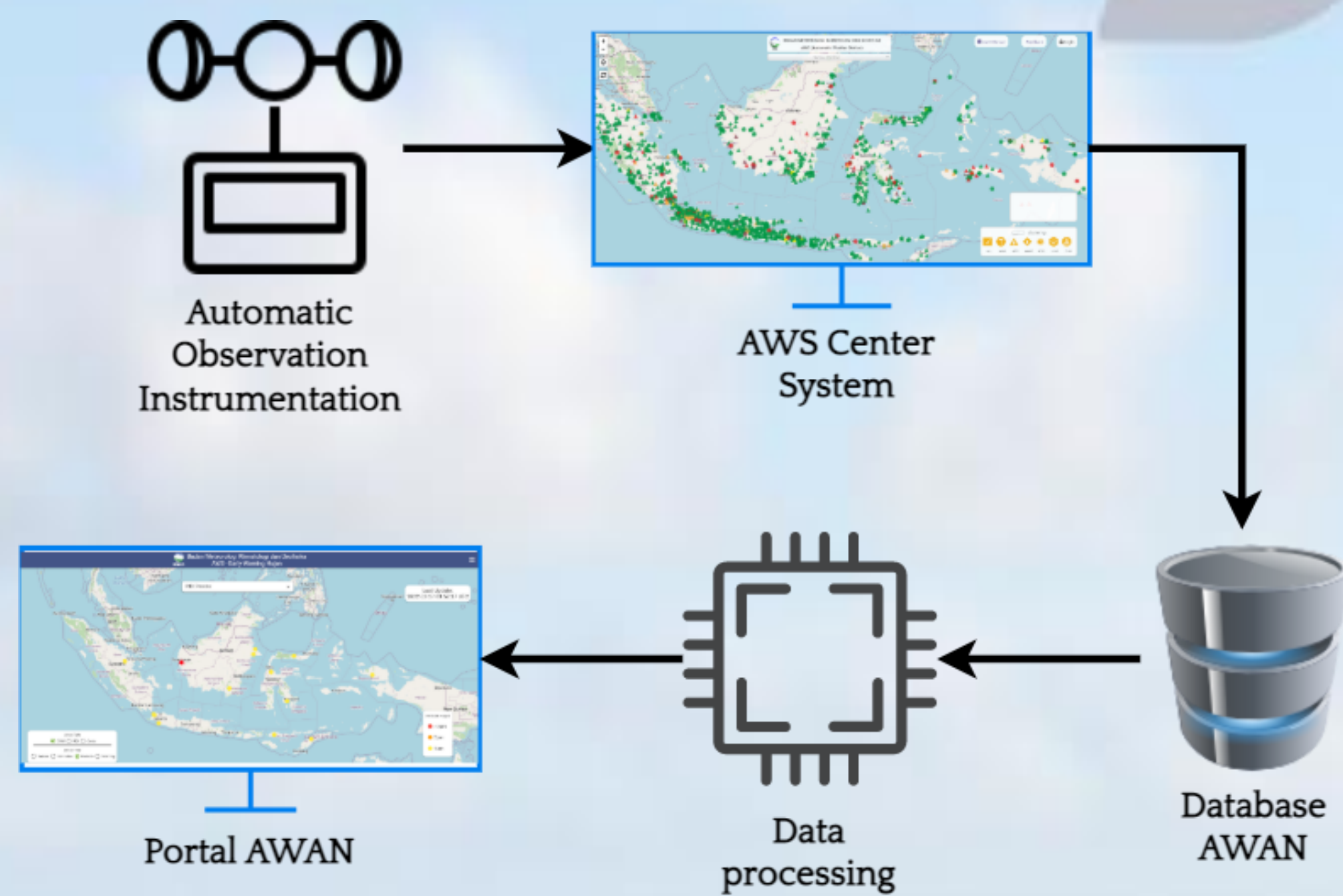
Provide early warning information of precipitation from Automatic Weather Station (AWS), presented in web and web application called "AWAN" (Aplikasi Warning Hujan) as one of Decision Support System (DSS) tools.

## Methodology

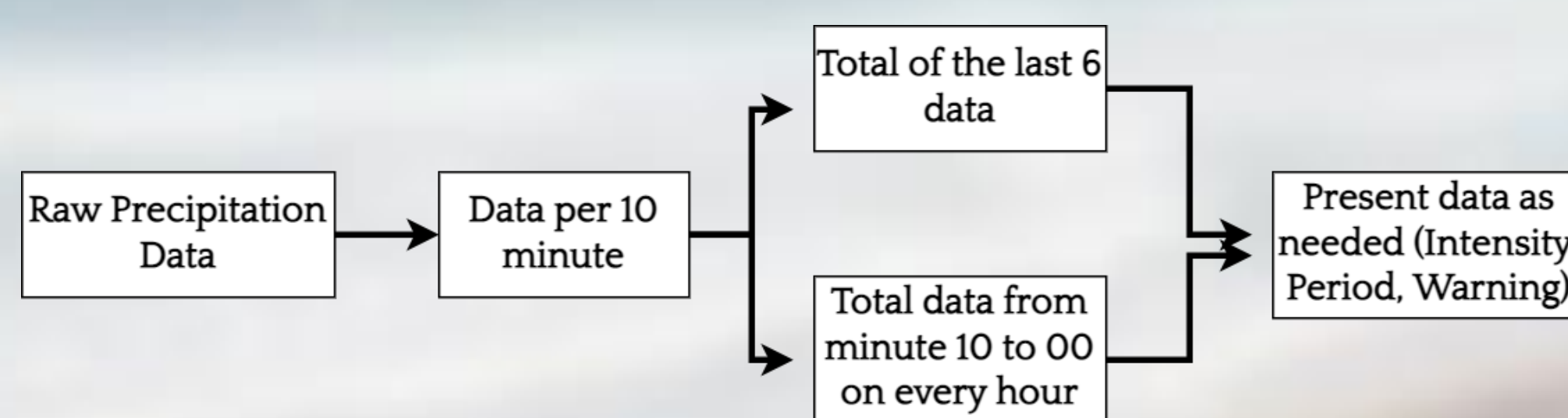
- Distribution of raingauge in Indonesia, Colors indicate provincial differences (1182 sites)



- System Flow



- Data Processing



## Results

The poster discusses the results of the development on an early warning system for precipitation in Indonesia by utilizing precipitation data from accumulative hourly automatic weather station data.

- Information based on precipitation intensity



Precipitation intensity is presented by 3 classification :

- 5-10 mm/hour (show by yellow dot)
- 10-20 mm/hour (show by orange dot)
- >20 mm/hour (show by red dot)

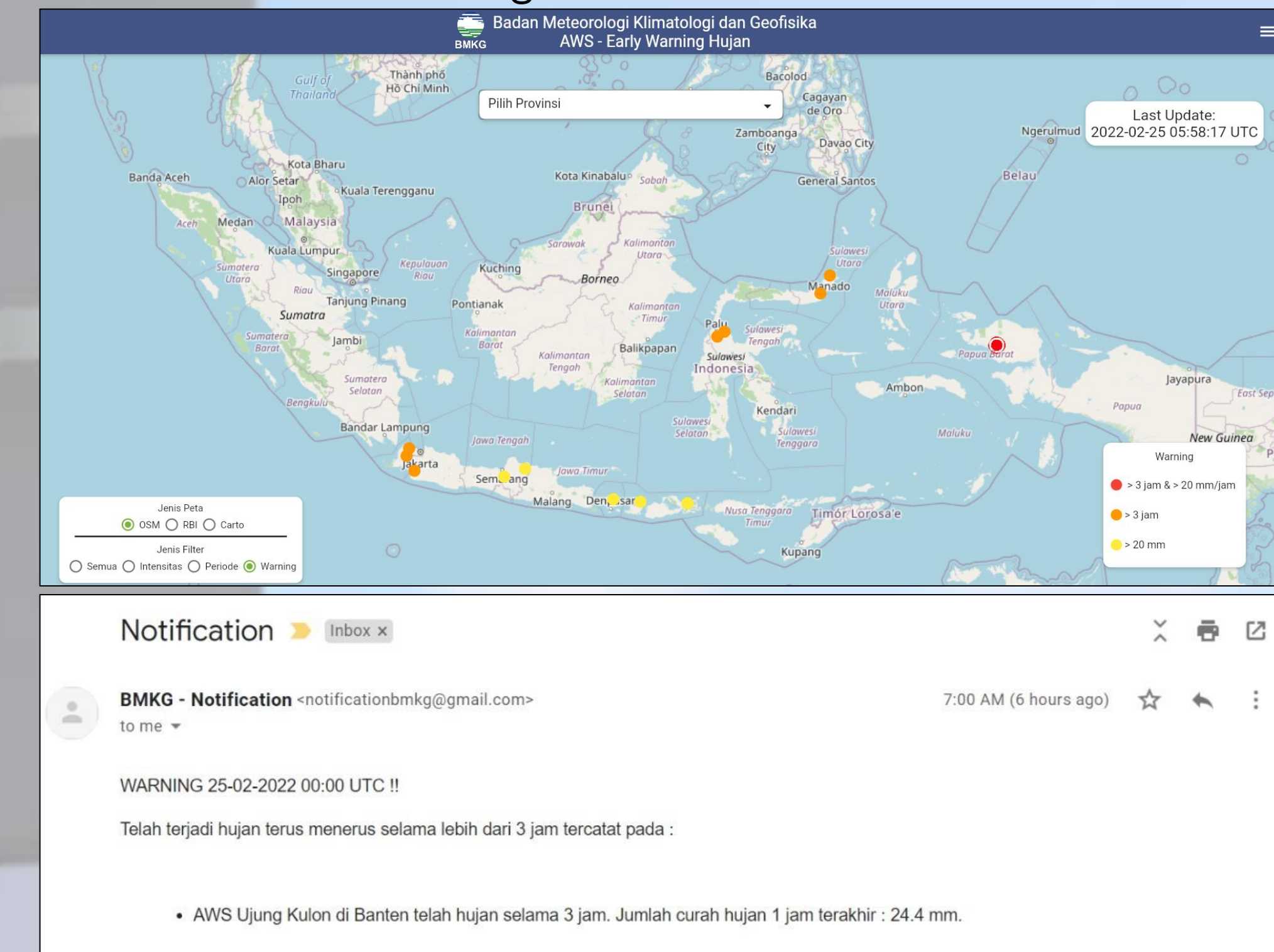
- Information based on precipitation period



Precipitation period is presented by 3 classification :

- 1 hour (show by yellow dot)
- 2 hours (show by orange dot)
- >3 hours (show by red dot)

- Information of warning



Warning criteria consist of :

- Precipitation intensity >20 mm/hour (show by yellow dot)
- Precipitation period >3 hours (show by orange dot)
- Combination of number (1) and (2) (show by red dot)

When warning condition occurred, the system send push notification to user by email

## Summary

- In the last two decades, extreme events have become common worldwide. Extreme weather events are likely to occur more frequently in the future.
- The combination of the System Development Life Cycle and The Agile Development also the configuration of period of rainfall and its intensity methodology is applied to precipitation dataset
- The monitoring results will trigger a warning alert in case of emergency status. This alert will be set up in a notification system to make it easier for the user to identify and decision natural hazard forecasting like flash flood.
- Early Warning Data Automatic Weather Station offers a solution that integrates an early warning system, notification and real time monitoring.