



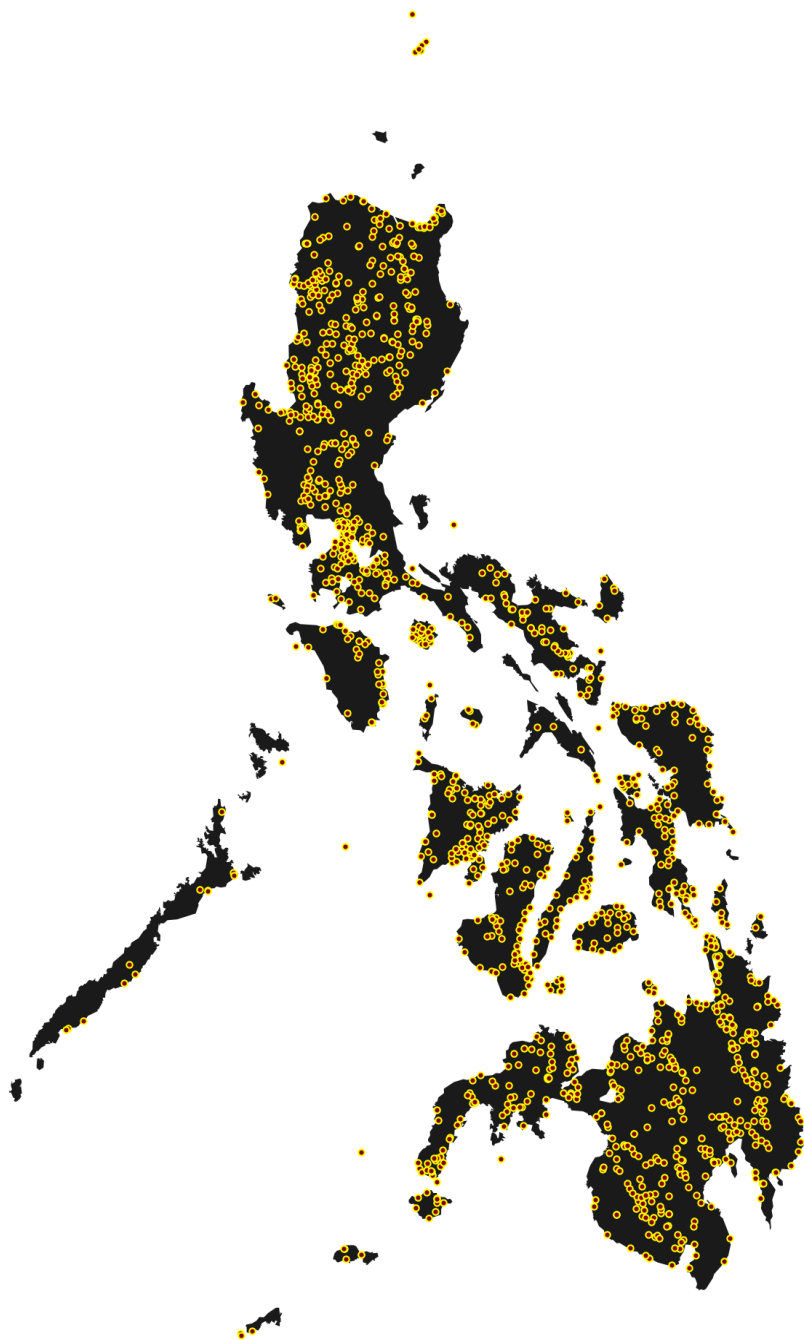
Data quality control on ASTI automated weather station (AWS) measurements

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INTRODUCTION & MOTIVATION



- **meteorological observations are vital** for scientific research, weather monitoring and weather-related decision making
- **growing demand for these data requires that quality control be performed** to ensure reliability and integrity of information

Ultimate goal:

- to provide guidance to the end-users
- aid operations in identifying and potentially predicting problems that may require immediate attention.

STAGE 1 QUALITY CONTROL PROCEDURE


Timestamp check – verify that record timestamp does not deviate far from expected timestamp

Range check - verify if the values are within the acceptable range limits

Step check – verify the rate of change (detect unrealistic jumps in values)

Persistence check - check on a minimum required variability of instantaneous values

Internal consistency check - check consistency of data based on the relation between two different measurements

	RMSE (before QC)	RMSE (after QC)	RMSE Difference
Temperature (degrees C)	1.77	1.01	0.76 
Rainfall (mm/day)	14.36	12.04	2.32 