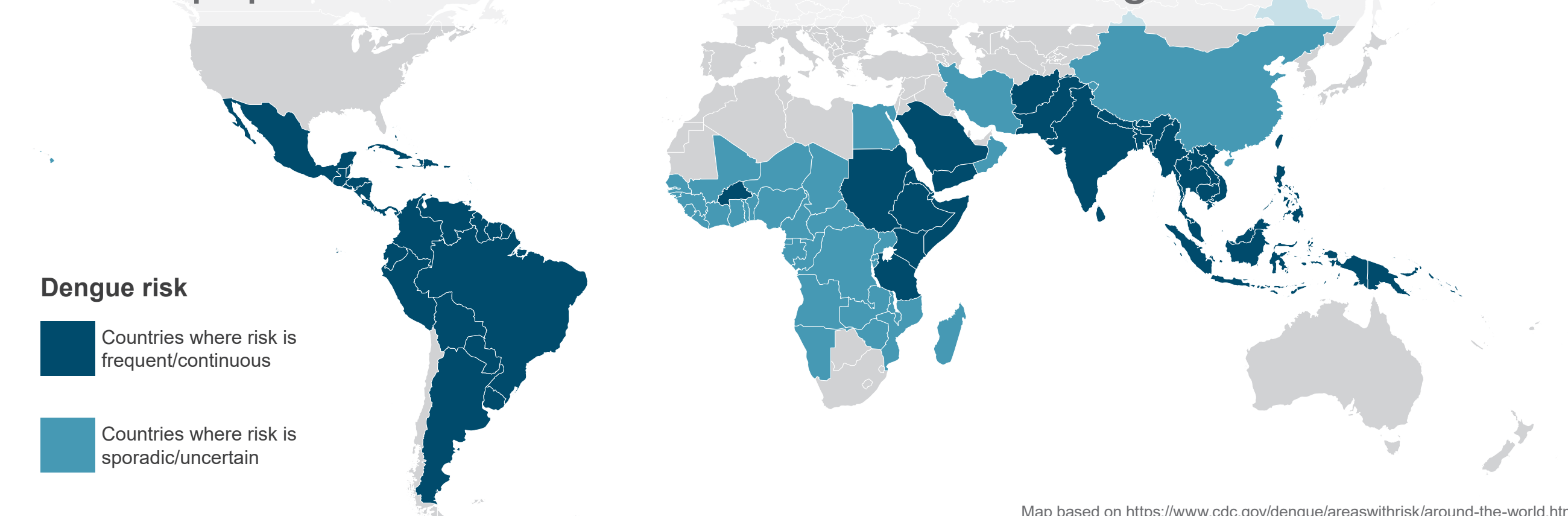


Context

Dengue is the fastest-growing mosquito-borne viral infection in the world today. It is present in over 140 countries, and approximately 40% of the world's population now live in countries where dengue is a risk*.



Aim

D-MOSS (Dengue forecasting Model Satellite-based System) is a dengue forecasting system. It incorporates data about numerous different variables, such as land surface temperature and land cover. This involves using Earth Observation (EO) data obtained with a variety of different instruments and methods.

The aim of this work was to select the most appropriate data sources and design a methodology for integrating them all into models of dengue and water availability.



Methodology – integration

The data streams are standardised to common:

- > Format
- > Extent
- > Resolution

And catalogued in a database.

The integration can involve reducing the resolution; higher resolution does not necessarily result in improved performance downstream if other key inputs or outputs are at low resolutions.

Methodology – selection of data sources

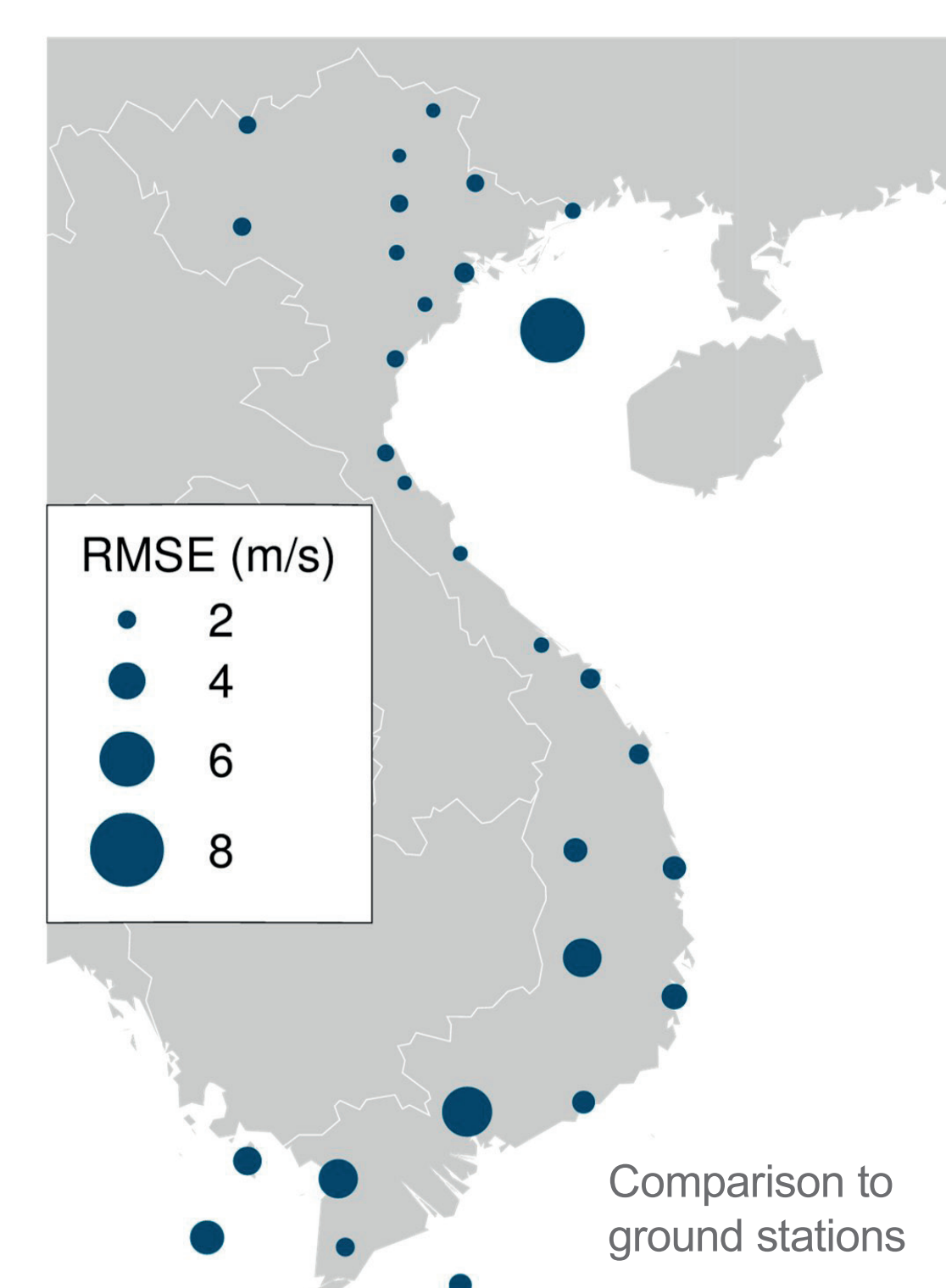
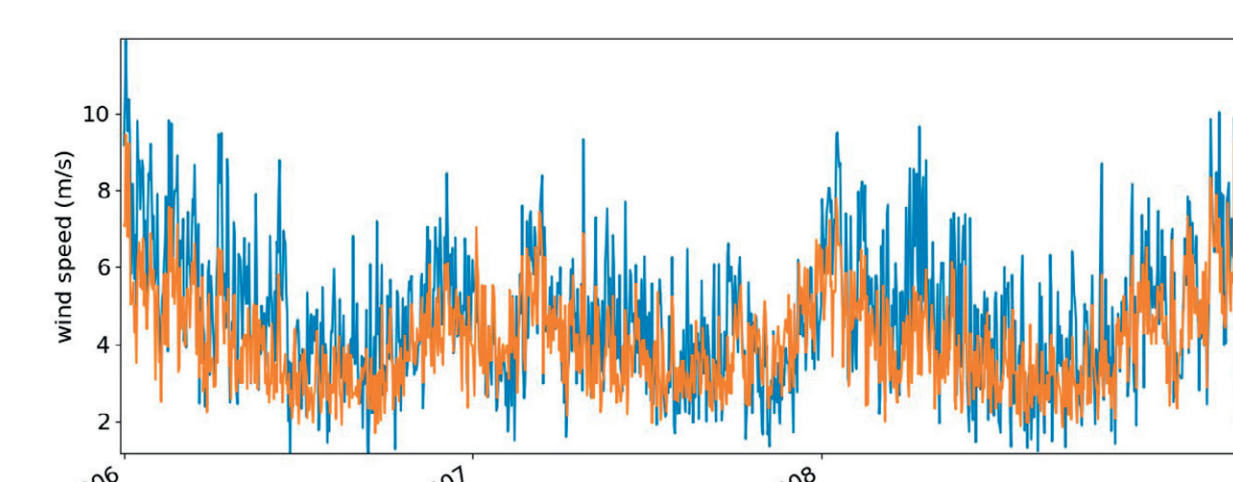
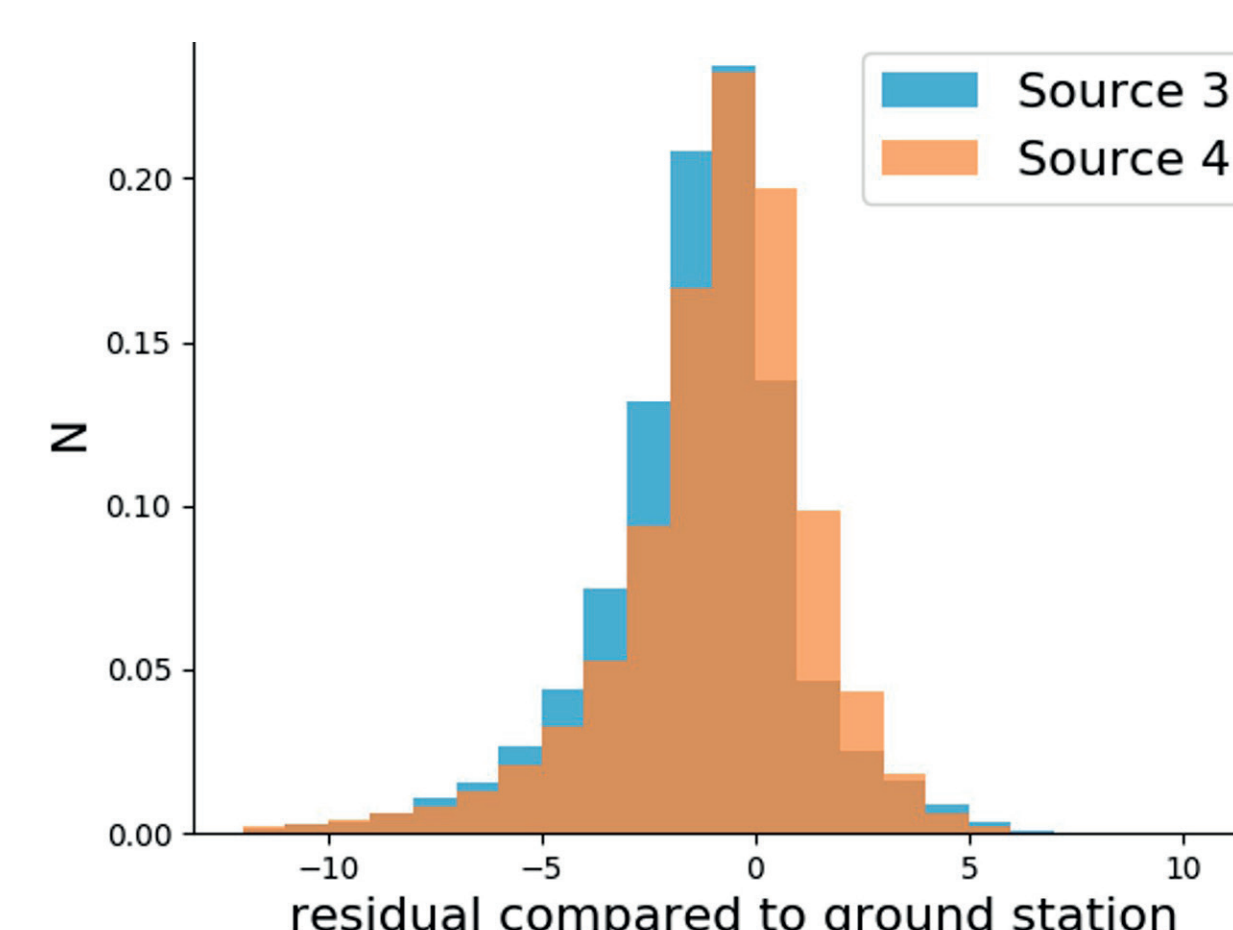
We assembled a set of essential and secondary requirements. Data sources that did not meet essential requirements would hinder basic system functioning. The secondary requirements were designed to optimise system performance. The requirements were made generic so that the same selection process was applicable to all variables.



	Source 1	Source 2	Source 3	Source 4
Metadata	~~~~	~~~~	~~~~	~~~~
Update frequency	X	✓	✓	✓
Coverage	✓	✓	✓	✓
Archive length	✓	X	✓	✓
...

Reject sources
1 and 2

Sources
3 and 4



Outcome

- > Analysis-ready data reliably delivered to an operational prototype system.
- > Easy to maintain system with standardised documentation and quality analysis.
- > The D-MOSS operational prototype is now live for Vietnam and is being extended to six more Asian countries.

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