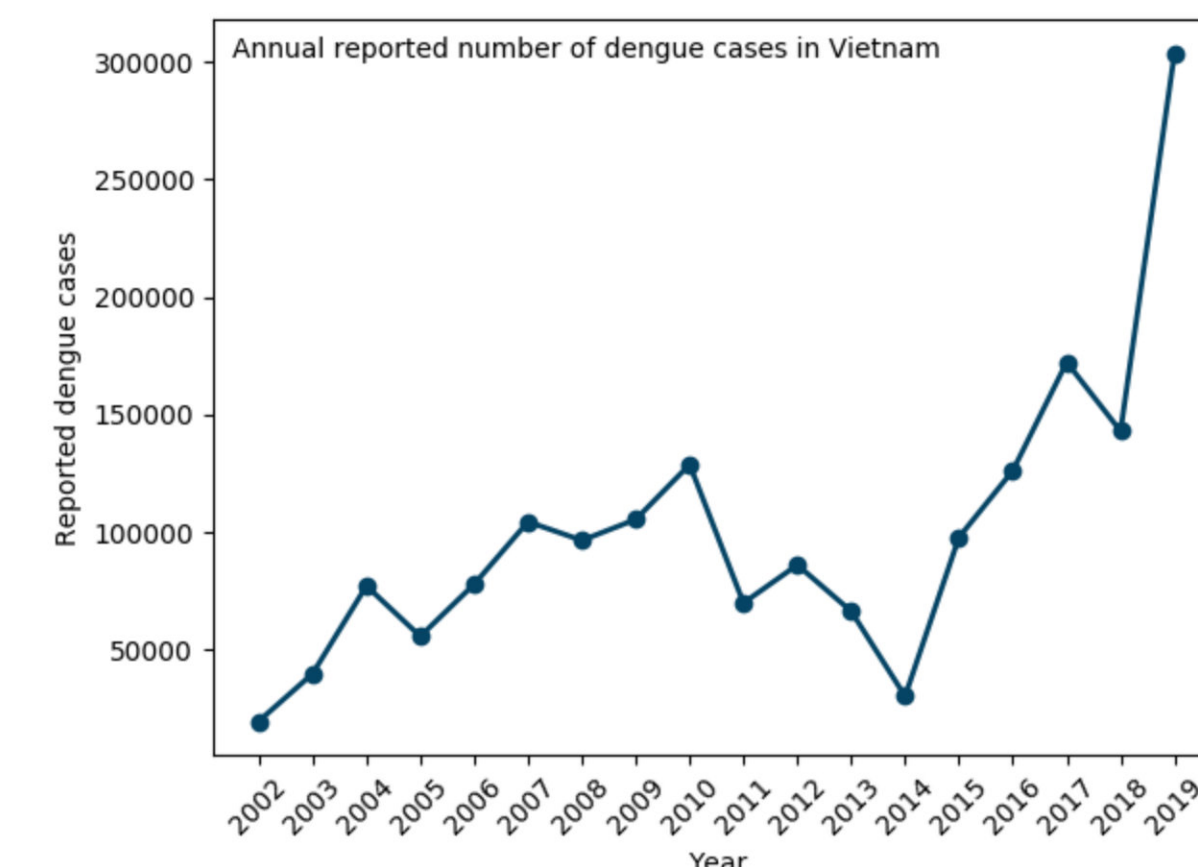


## Vietnam and dengue fever

- > Dengue common in southern parts
- > Occasional outbreaks in the northern parts
- > Mitigation approach reactive rather than proactive
- > Record number of reported dengue cases in 2019

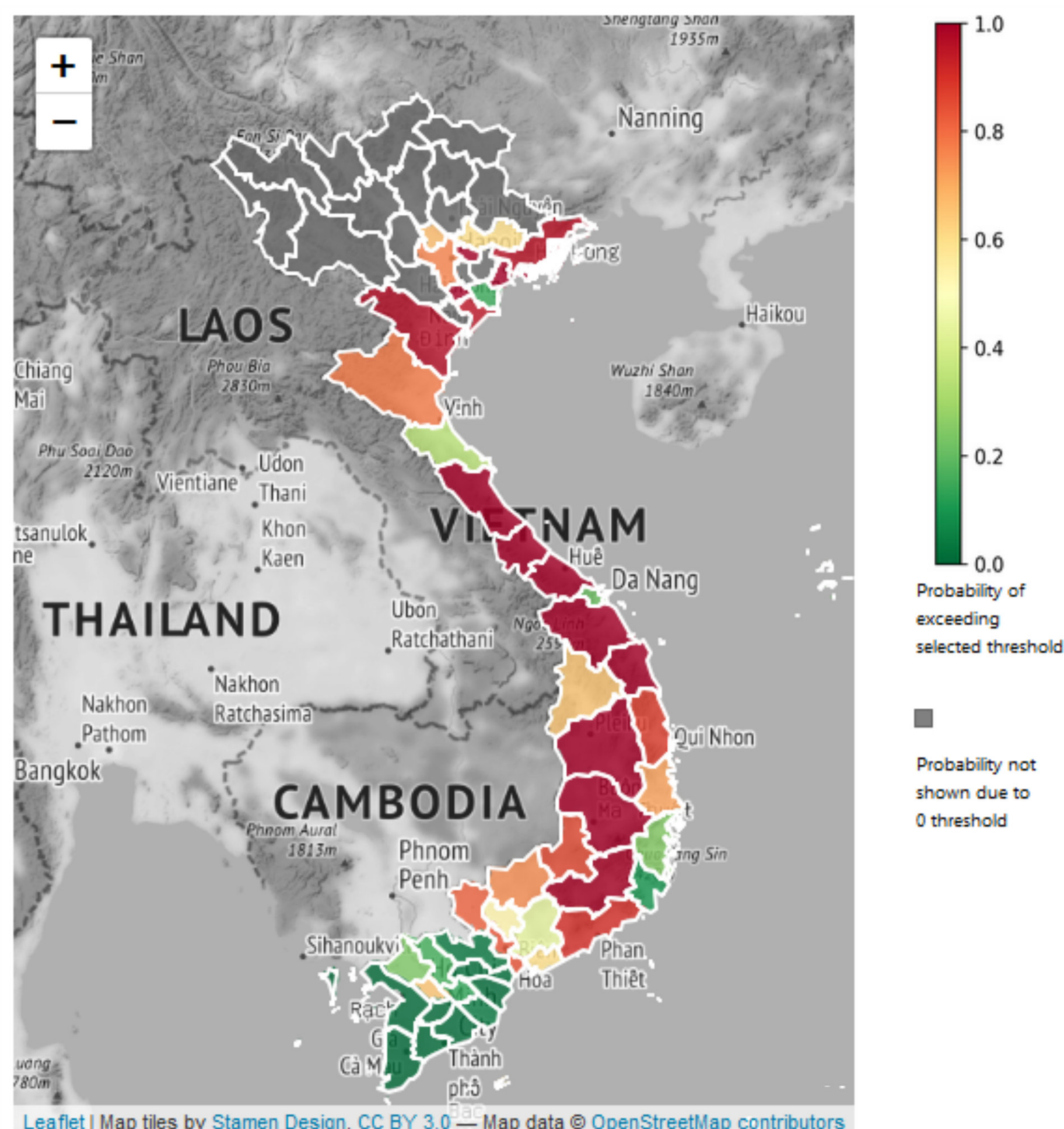


## D-MOSS - Key facts

- > Dengue forecasting Model Satellite-based System
- > Probabilistic dengue forecasting model
- > Integrates EO data and seasonal forecasts
- > Monthly 6 months forecast
- > Operational since July 2019
- > Tailored to stakeholders requirements
- > Delivered via website
- > Currently 95% automatic
- > Deployed on AWS
- > Transferable to other countries
- > See also EGU2020-18428 by E. Ainscoe et.al.

## Dengue Fever Forecast - Layering information for maximal reach

### Country wide

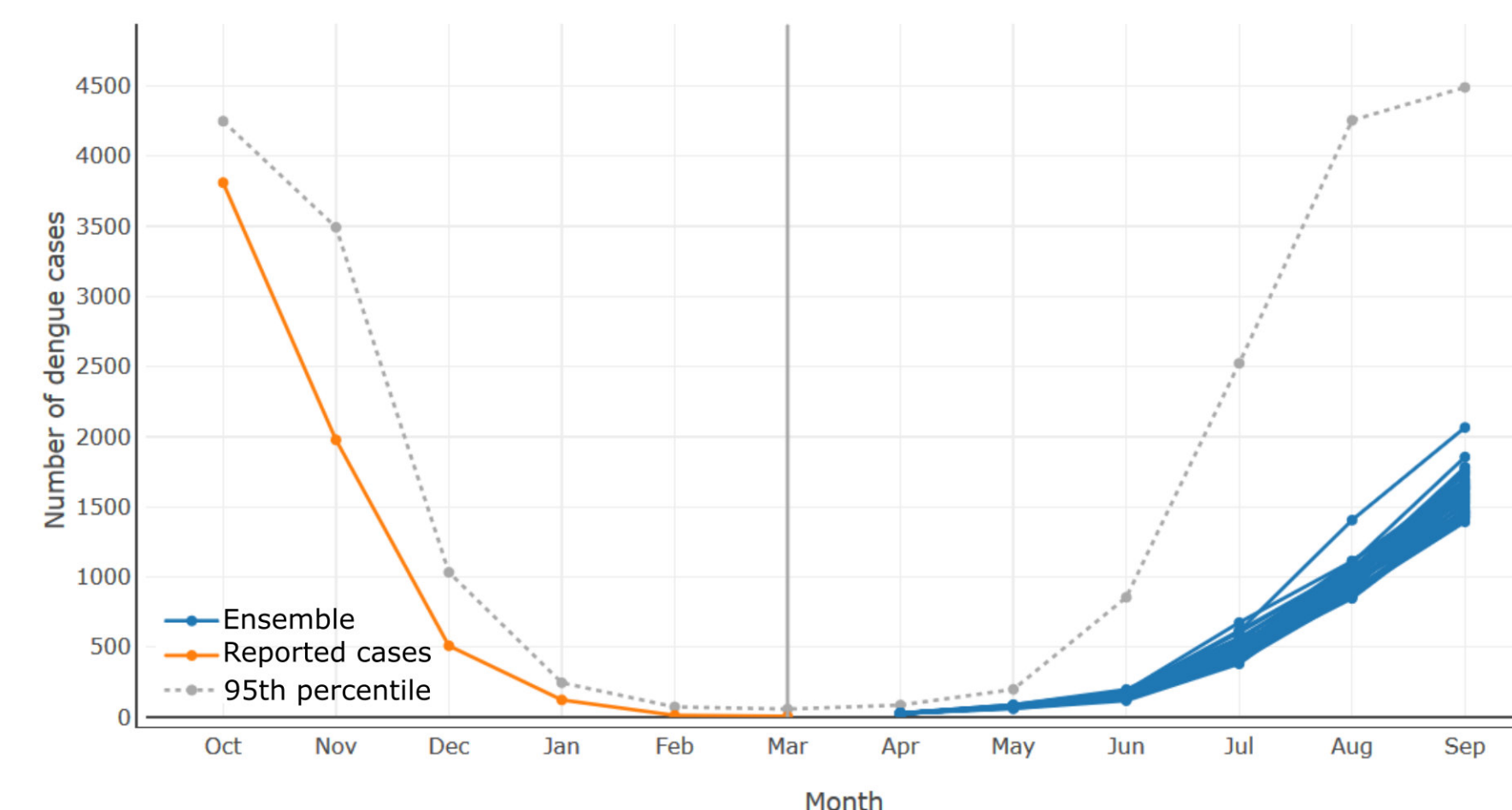


Probability of dengue cases exceeding selected threshold during forecasted month per province.

Multiple thresholds for stakeholders convenience:

- > 5 year mean + 1 standard deviation
- > 5 year mean + 2 standard deviation
- > 75th percentile over 20 years
- > 95th percentile over 20 years

### Per province



Forecast for individual province, showing previously reported dengue cases and forecast ensemble members as well as selected threshold.

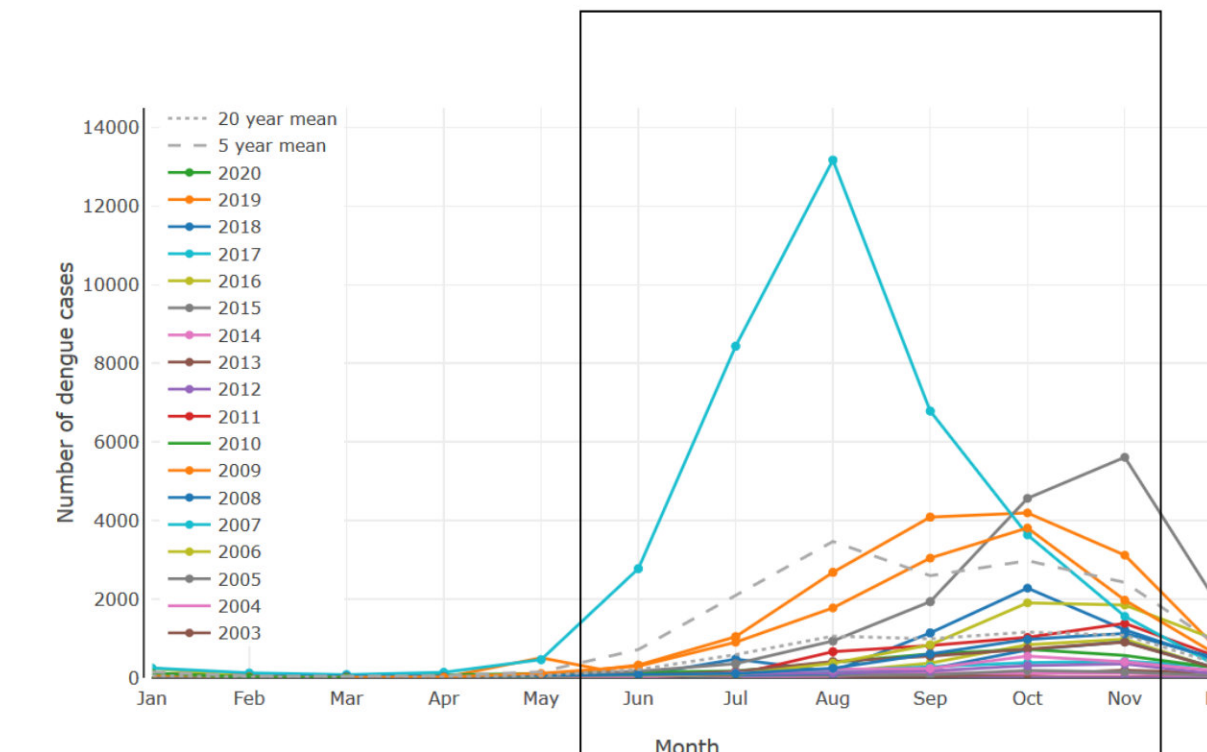
Forecast transmission months	Apr	May	Jun	Jul	Aug	Sep
✂ represents transmission months	---	---	---	---	✂	✂

Forecast of months with highest risk of dengue transmission.

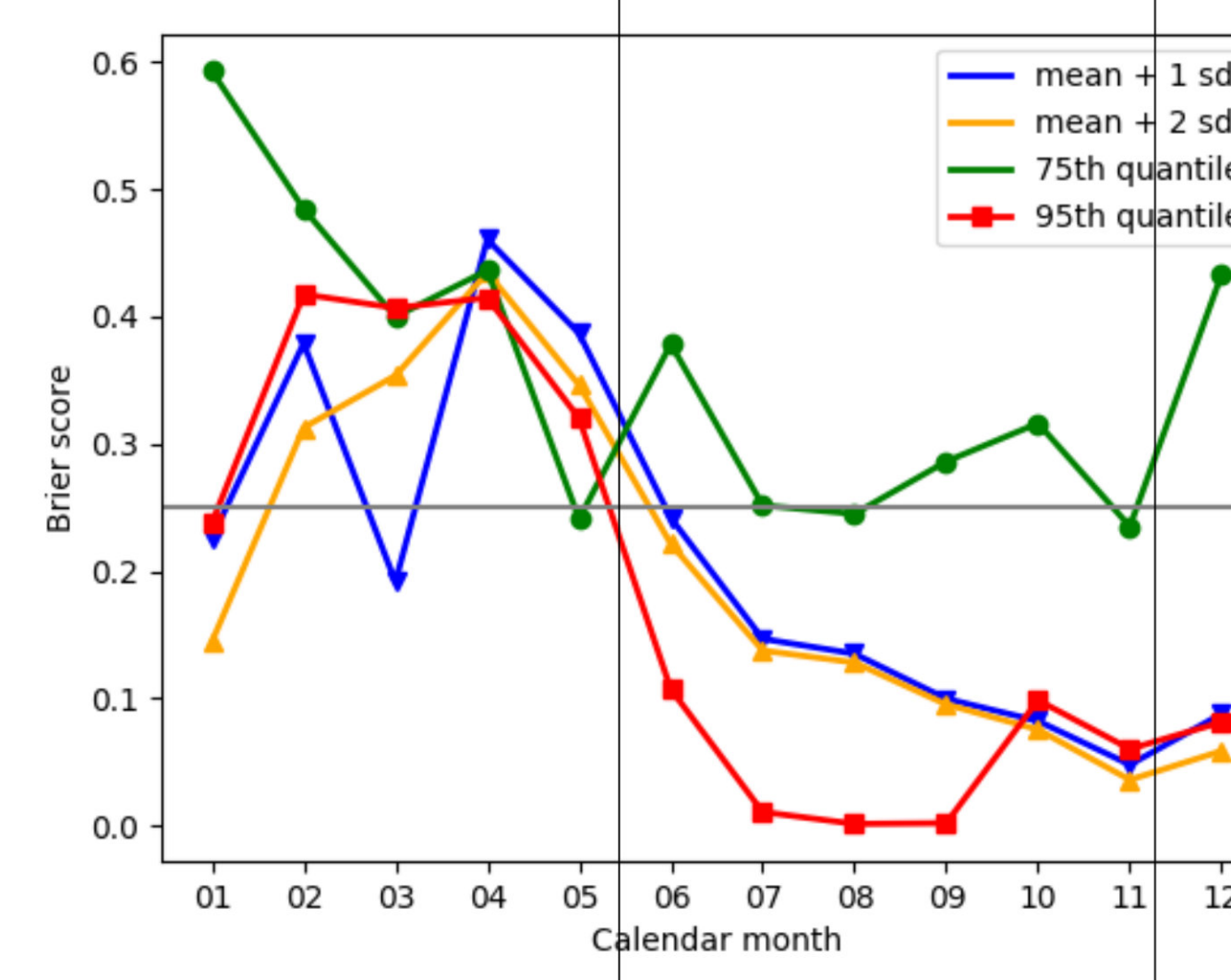
Forecast months	Apr	May	Jun	Jul	Aug	Sep
95th percentile threshold value (Cases)	86	198	855	2524	4257	4492
Probability of exceeding 95th percentile	0.0 %	0.0 %	0.0 %	1.5 %	2.3 %	6.1 %

Probability of exceeding threshold for each month in tabular form.

### Uncertainty assessment



Historical reported cases per province



Brier score to provide information about past performance per province.

Score < 0.25 indicates forecast is better than flipping a coin.

Skill during peak transmission season (box) high for this province.

Funder



Partners

