

# The new **SAT-2** strain on Türkiye's FMD Control Efforts

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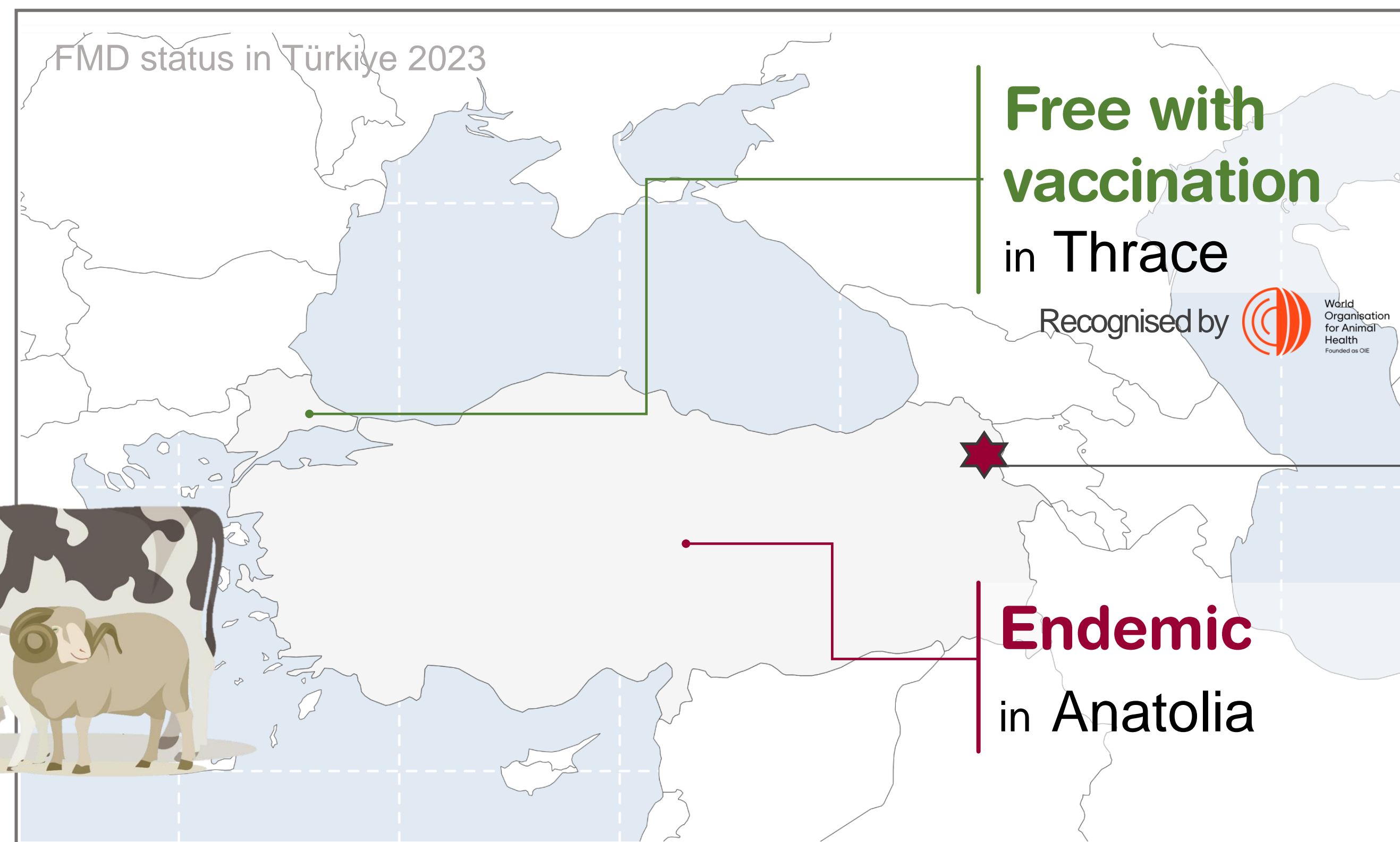
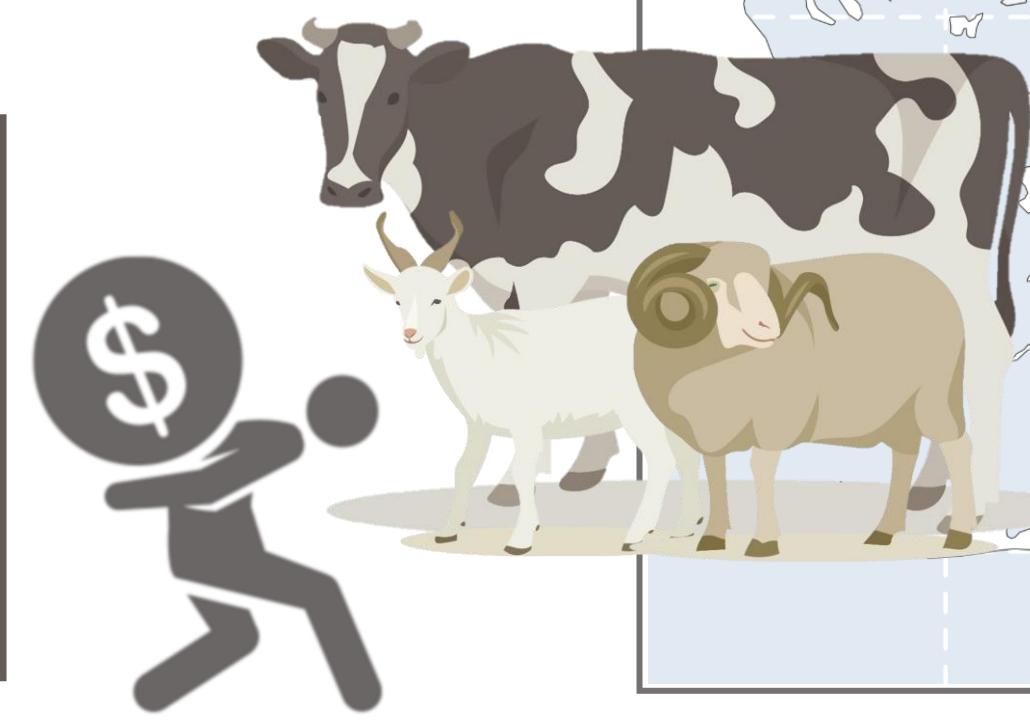
## Background

### Foot-and-mouth disease (FMD)

is a highly contagious viral disease. It affects ruminants and swine and impacts livestock production and trade worldwide: ↑ economic burden.

There are **7 FMDv strains** which are endemic in different world regions.

**FMD vaccination** is strain specific.



### In Türkiye,

FMD status and control & surveillance vary between the two main regions.

The FMD control programme (2021) aimed to achieve by 2025:

- FMD-free status w/o vaccination in Thrace
- FMD-free status w/ vaccination in Anatolia.

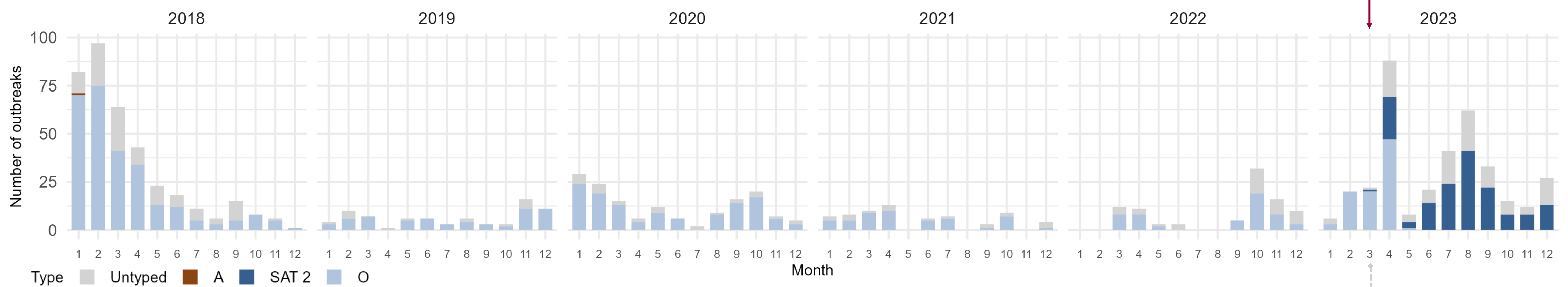
...meanwhile in March 2023...



The **SAT-2 FMD strain** emerged in eastern Türkiye

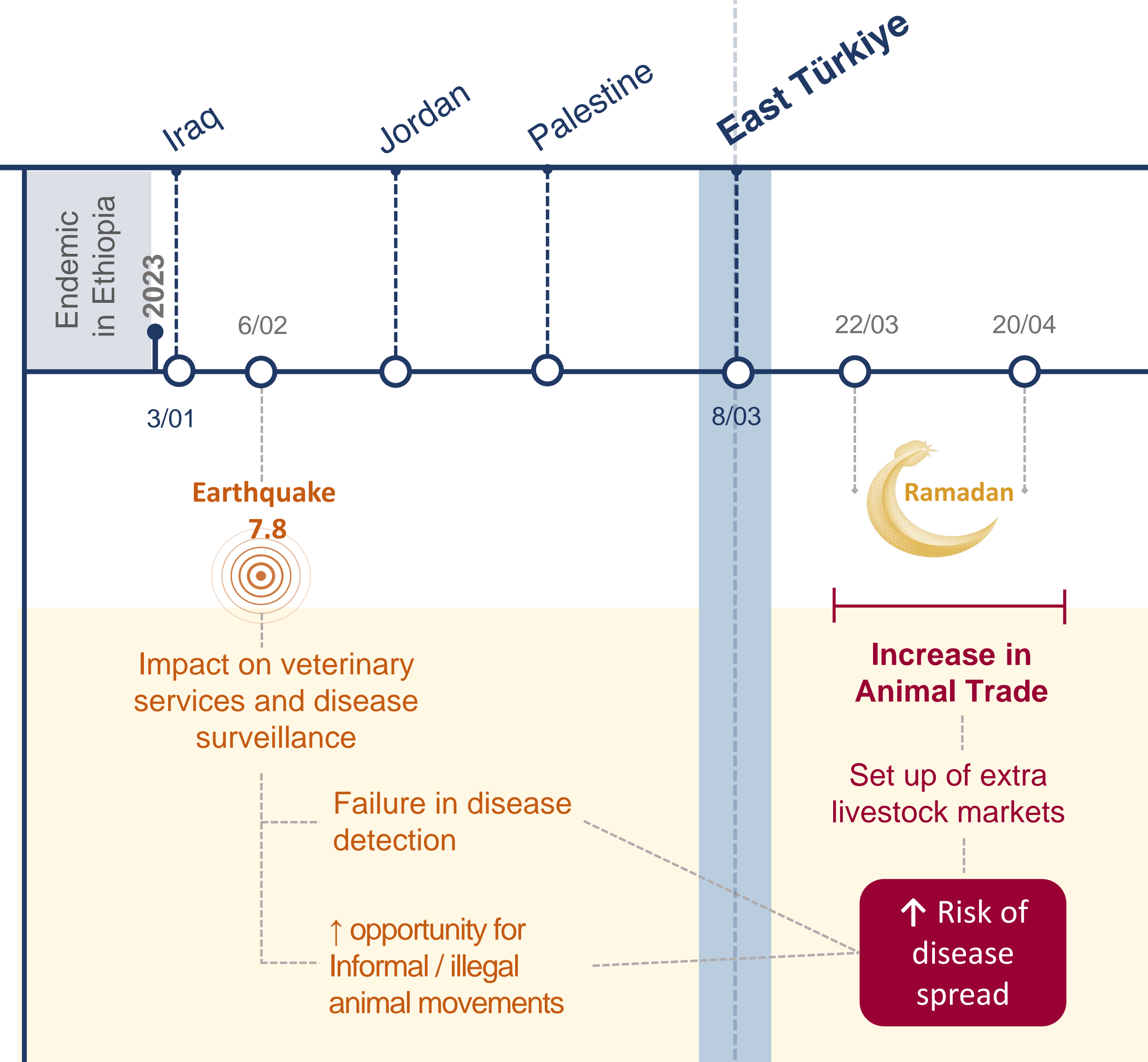
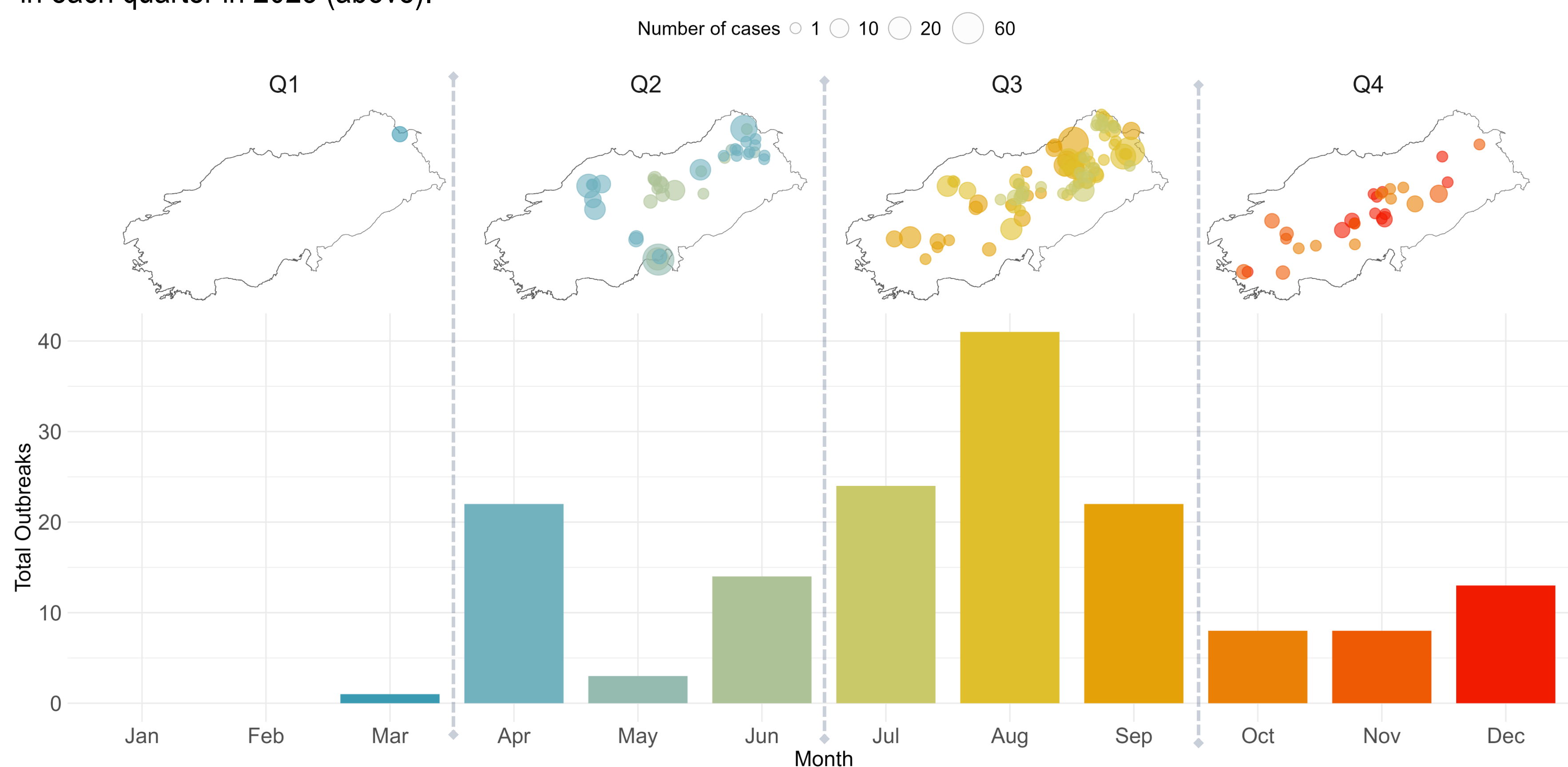
**Aim:** explore disease background, and space and time trends of SAT-2 FMD strain outbreaks in the Anatolia region.

Number of FMD outbreaks per month and FMDv strain in domestic ruminants (cattle, sheep and goats) in Anatolia (Türkiye) between 2018 and 2023.



## SAT-2 emergence in Anatolia

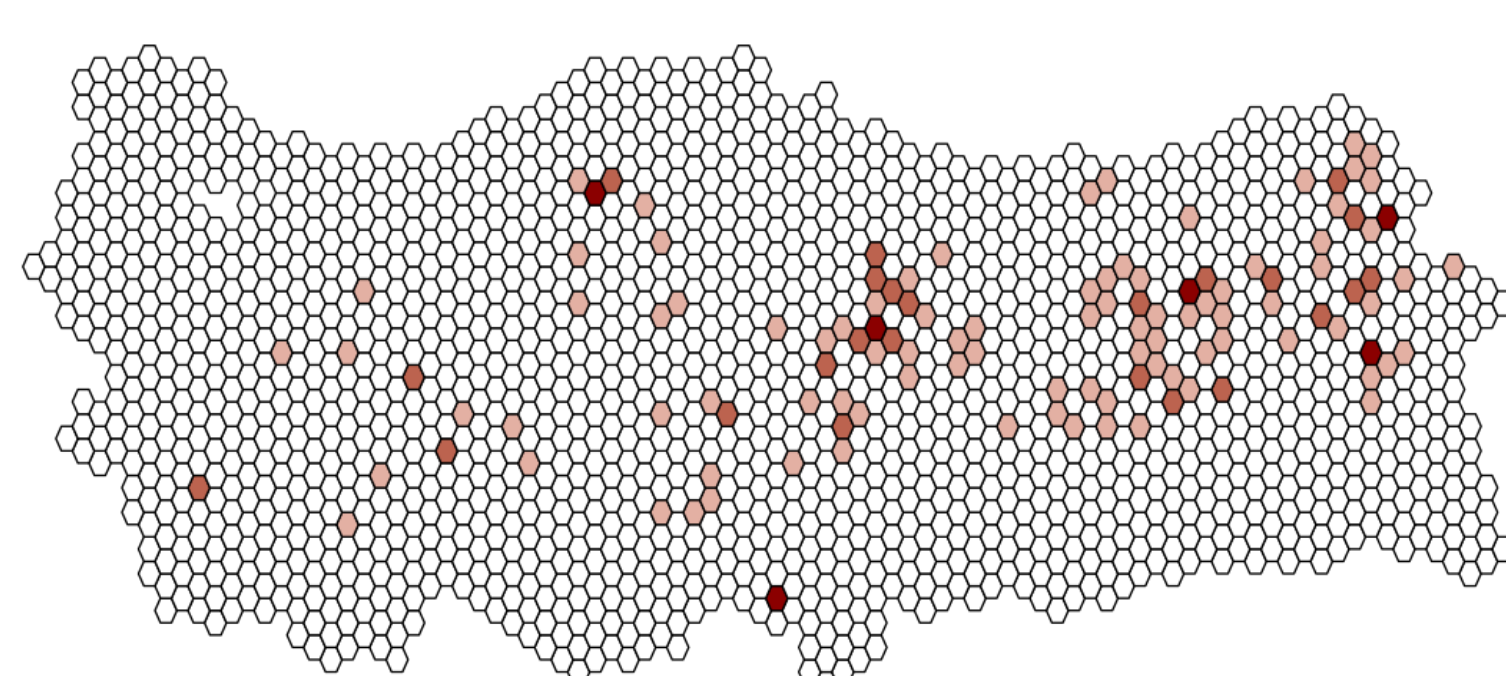
Number of SAT-2 outbreaks per month (below), and location and number of SAT-2 cases in domestic ruminants in Anatolia in each quarter in 2023 (above).



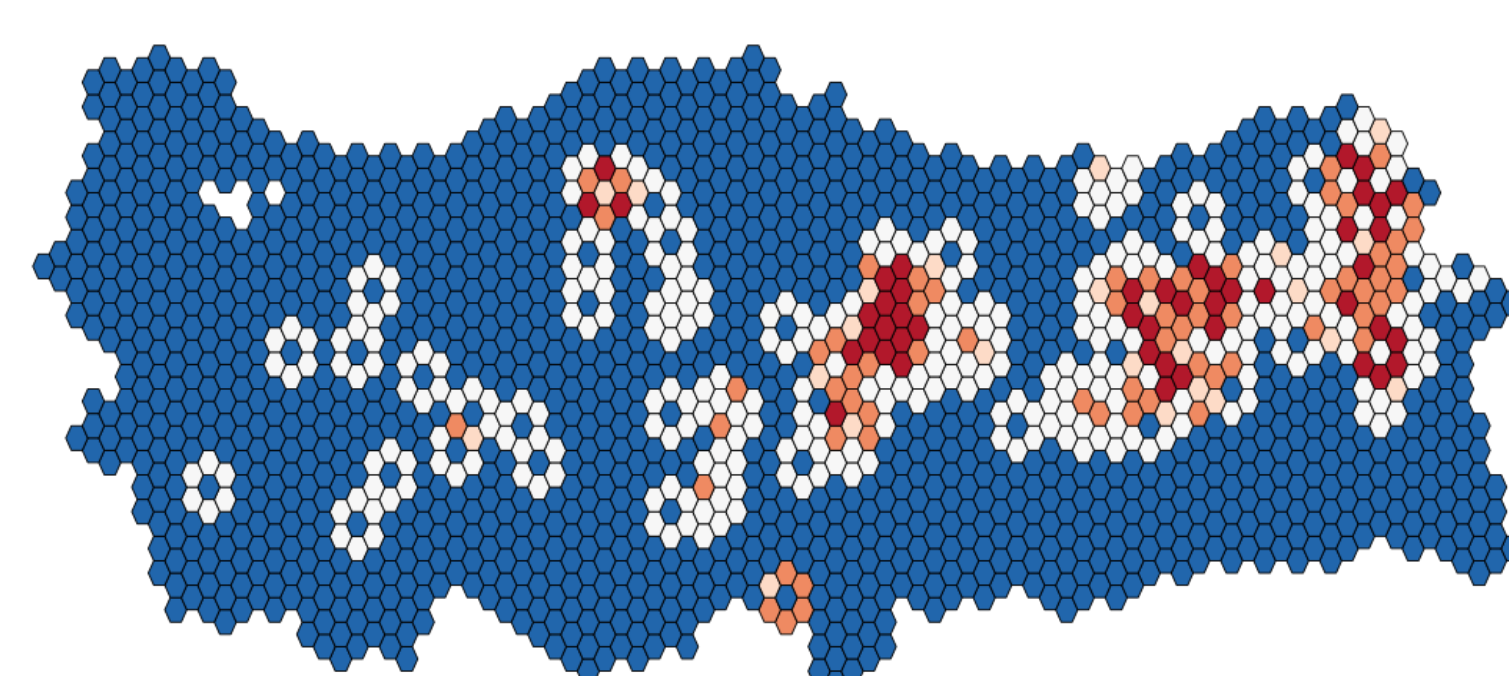
## Local Hotspot analysis

Based on Getis-Ord Gi\* statistic  
→ calculated for each grid unit, based on neighbouring features.

Total number of SAT-2 FMD outbreaks in domestic ruminants per unit grid in 2023.



Local HotSpot analysis of SAT-2 FMD outbreaks in domestic ruminants per unit grid in 2023.



## Next steps:

1. Explore and visualize space-time clusters through an emerging hotspot analysis.
2. Analyse SAT-2 vaccination coverage alongside disease incidence.
3. Study potential risk factors for SAT-2 FMD spread in Anatolia including ruminant demographics, livestock movements (e.g.: trade, seasonal pastures) and economic indicators.
4. Any additional ideas?