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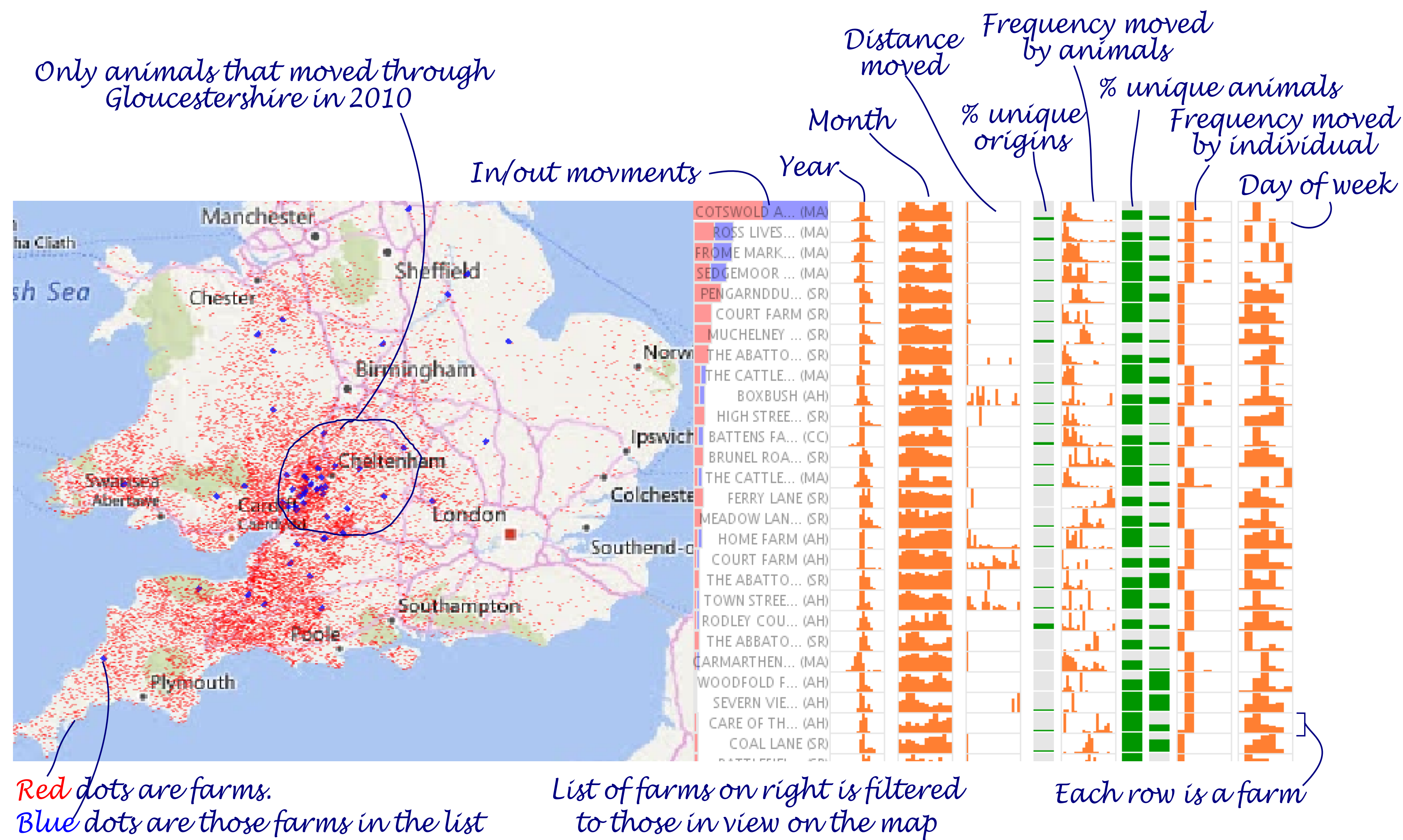
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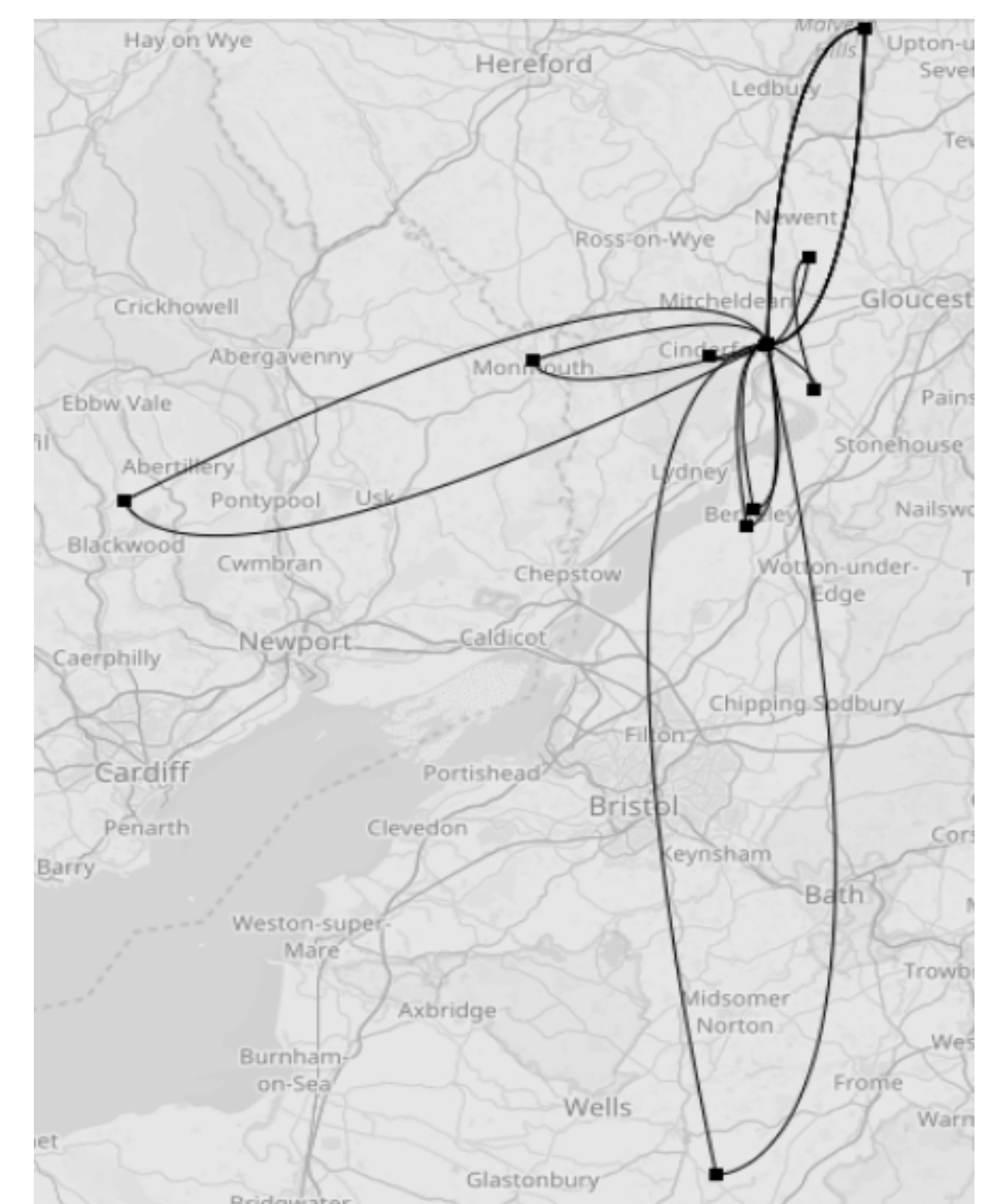
Characterising Farms by the Movement of Animals through Them

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The **movement** of farmed cattle between premises throughout their life is the **most important means by which disease and infection is spread**. The Animal and Plant Health Agency are responsible for monitoring animal disease and taking measures to curb its spread. We are helping analyse thousands of millions of cattle movement data to **establish risk indices** based on historical cattle movement.



Journey of a cow



The ability to see the journey of an individual animal helps interpret the aggregate statistics.

Movement-based metrics

By month of year
Bimodal spring/autumn distribution in most cases.

By duration spent at premises before moving on
Most move on half a year. It's those who move on within a short time that are worrying.

% unique origins of all movements
Whether the cattle come from a small or large pool of premises.

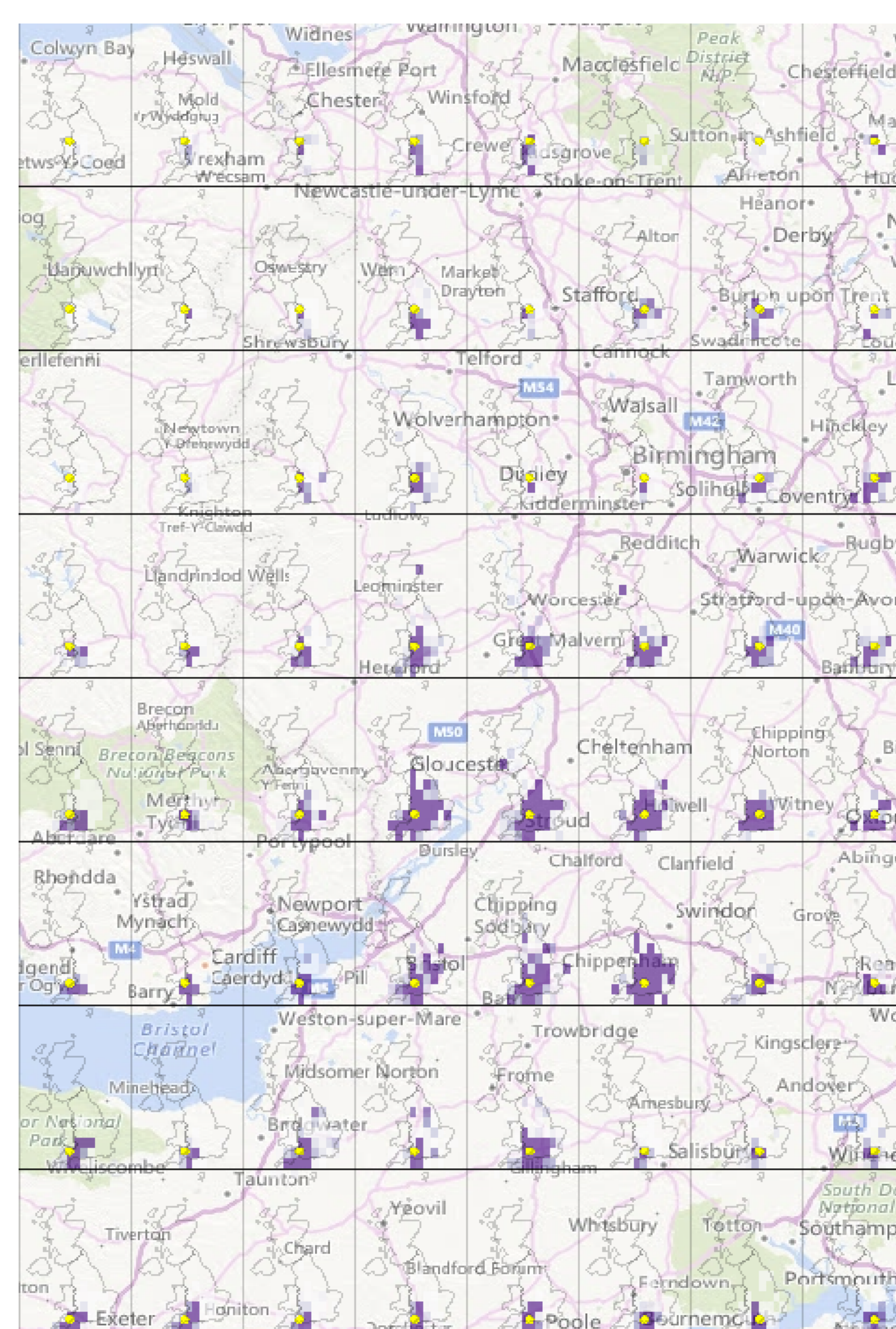
By distance moved
Premises whose animals come from or to distant locations carries a risk of moving disease a long way.

% unique animals
The extent animals revisit the premises.

By frequency moved by individuals
Premises that receive the same animals regularly move may be at higher risk as they are exposed to more places.

By day of week
Indicates routine behaviours that correspond to markets, abattoirs, and other types of premises.

Origin/destination



These OD maps are used to study the destinations of cattle from the premises in each grid square. This is the riskiest area in England in terms of Bovine TB and it helps identify areas for which there needs to be more monitoring.

Next steps

The next steps are to establish whether the metrics calculated by farms based on the movement of animals that move through them can be the basis for generating useful risk indices and to identify associations between types of farm that would usefully help inform monitoring strategies.



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