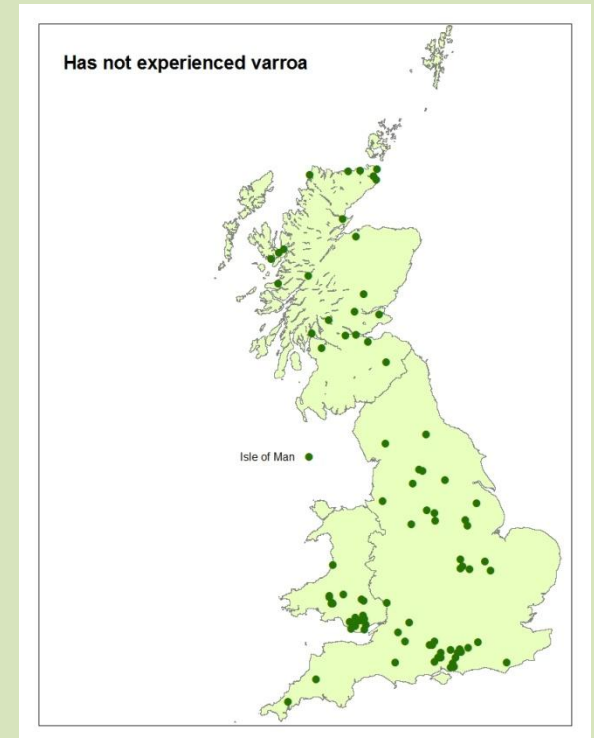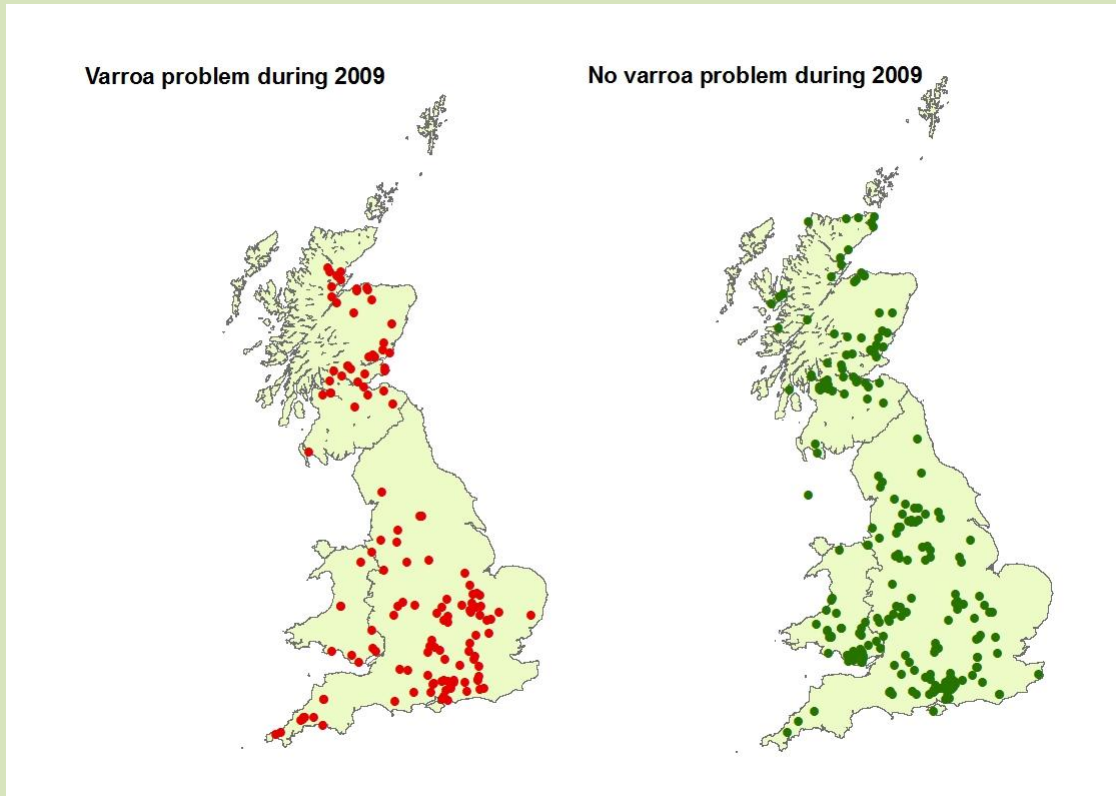# *What is GIS?*

GIS = Geographical Information Systems

- *It involves plotting spatial information (ie from a known location) on a computer-based map.*

- *The maps can then be used to present information, or the information can be analysed and used in decision-making.*
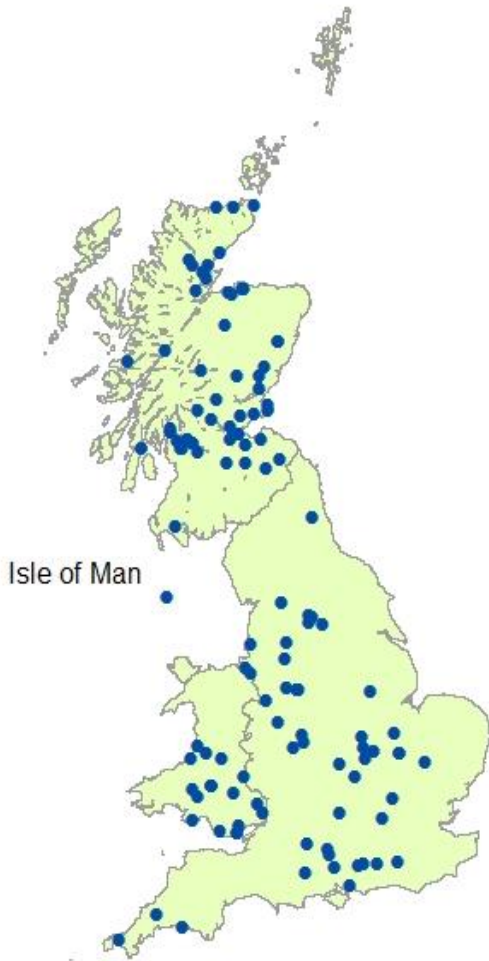
eg in a recent survey, beekeepers across the UK were asked about their experience of varroa in 2009

The survey asked beekeepers if they found varroa in their hives in 2009

Varroa problem during 2009

No varroa problem during 2009
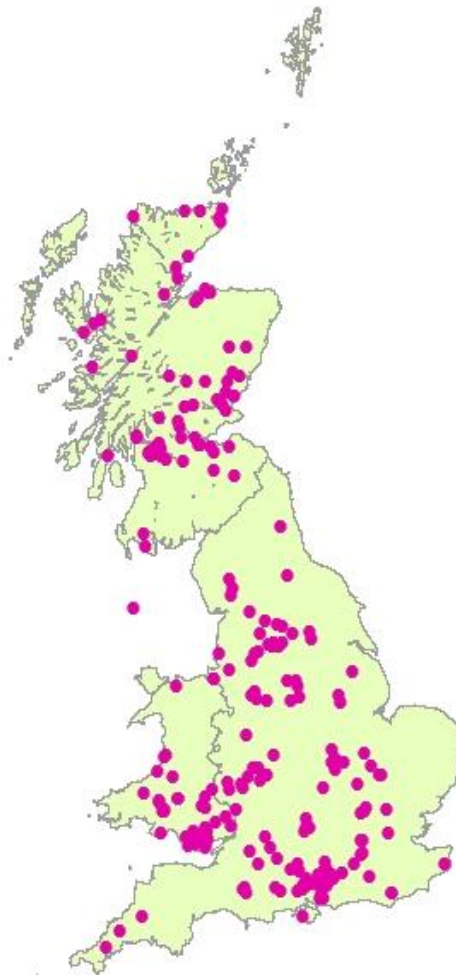
Has not experienced varroa

Isle of Man

An analyst could then start thinking about why there might be no varroa present in a particular area: is it down to hive management, inexperience in recognising varroa....or perhaps a varroa-free pocket?
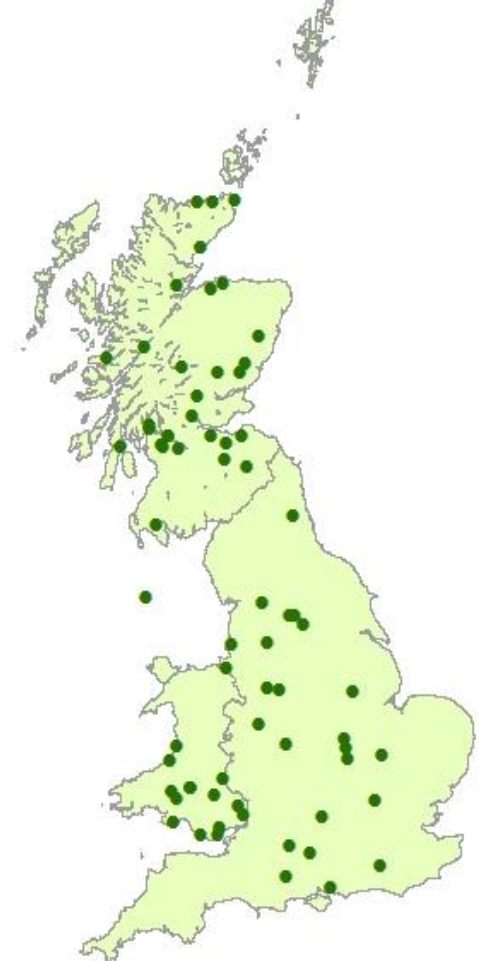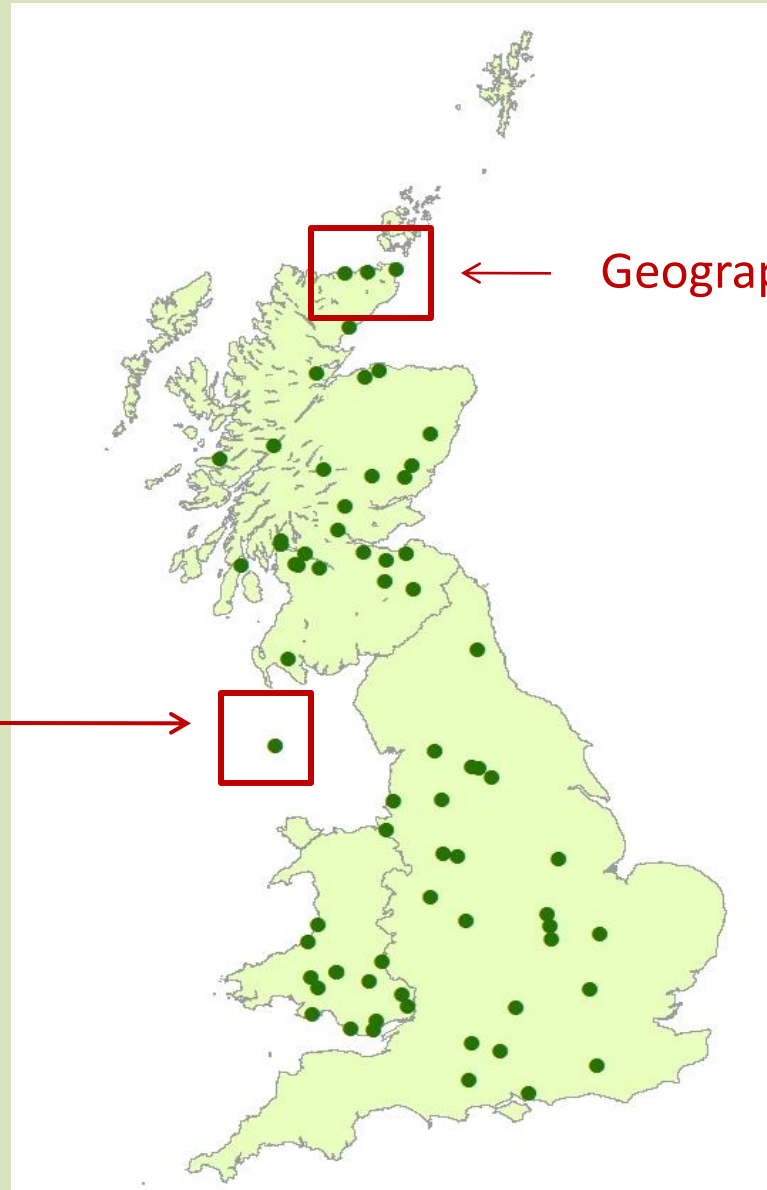
Black bees

Bees Varroa-negative in 2009

Black + Varroa-negative

Isle of Man

Beekeepers who kept 'black' bees plus those who did not find any varroa in 2009. By combining the two map layers, it is possible to isolate those who kept varroa-free black bees in 2009 – and then to start considering why.

70 colonies of Black bees were Varroa-free in 2009 – why?

Geographical isolation?

Pest management strategies?

Varroa treatments?

'Hygienic' bees?

Luck?

Isle of Man Gov has banned importation of bees; aims to capitalise on varroa-free status