Modelling curlew sightings based on habitat preferences and climatic variables on both sides of the Irish Sea.

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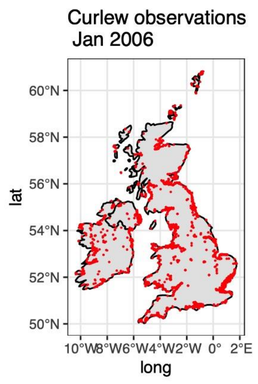
ECHOES
Effect of climate change on bird habitats around the Irish Sea
Effaith Newid Hinsawdd ar Gynefinoedd Adar o gwmpas Môr Iwerddon

The Eurasian curlew
(*Numenius arquata*)

Summary

Using curlew observation data (Jan 2003 to Feb 2019, winter months only, Britain and Ireland), we fit 66 logistic GLMs (with lasso penalisation) to establish patterns of habitat preference across broad time scales.

Model: response variables

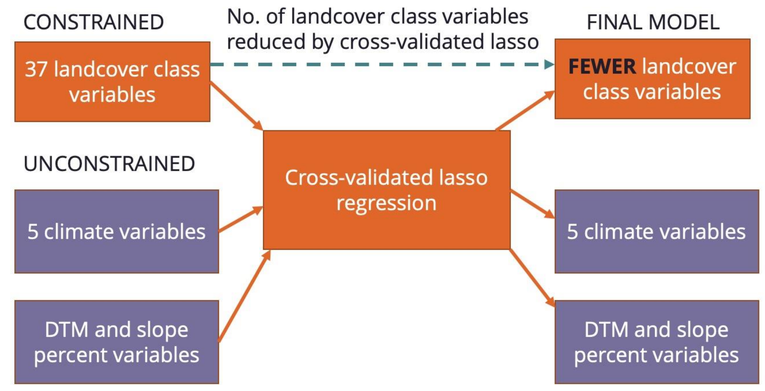


Curlew observations available monthly for 200 months, Jan 2003 to Aug 2019.

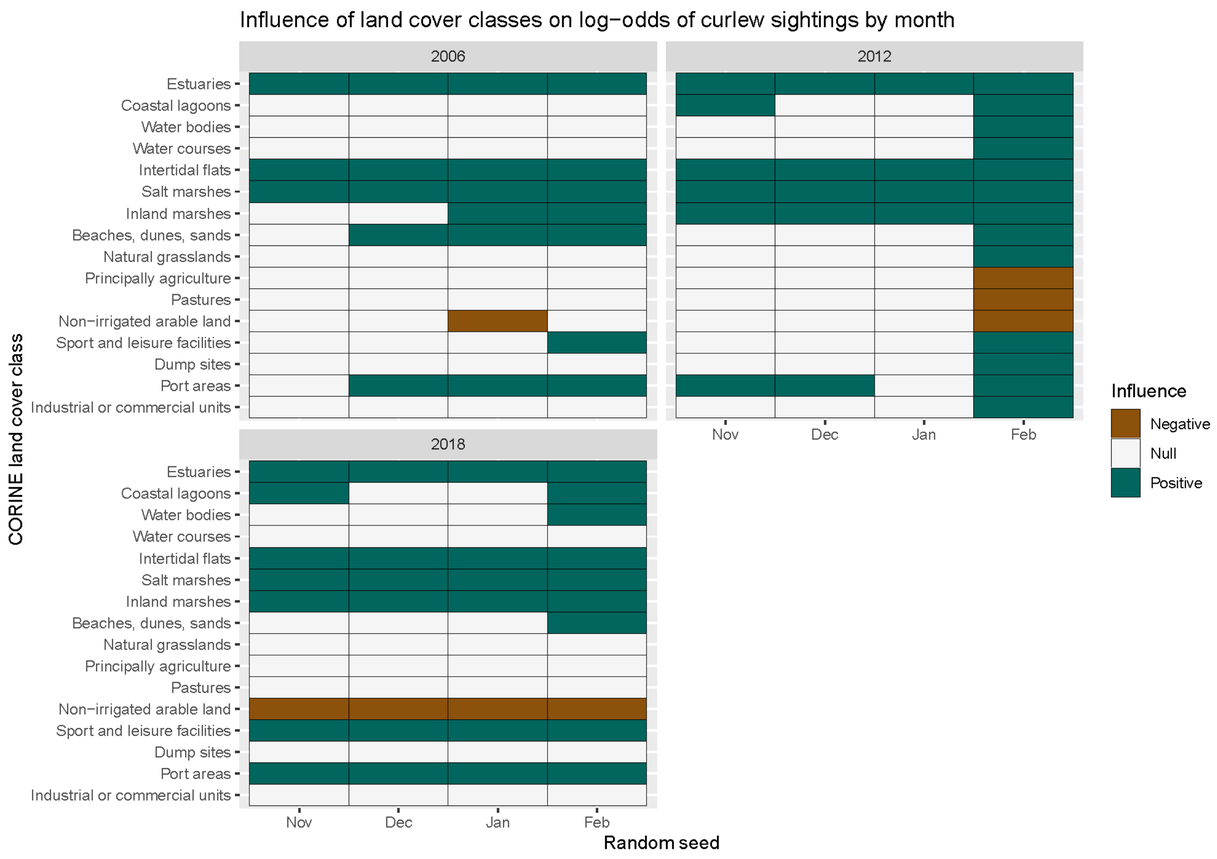
Convert coordinates of points to binary variable on 1km x 1km grid squares across Britain and Ireland.

This is the Y-variable (response variable) in the models.

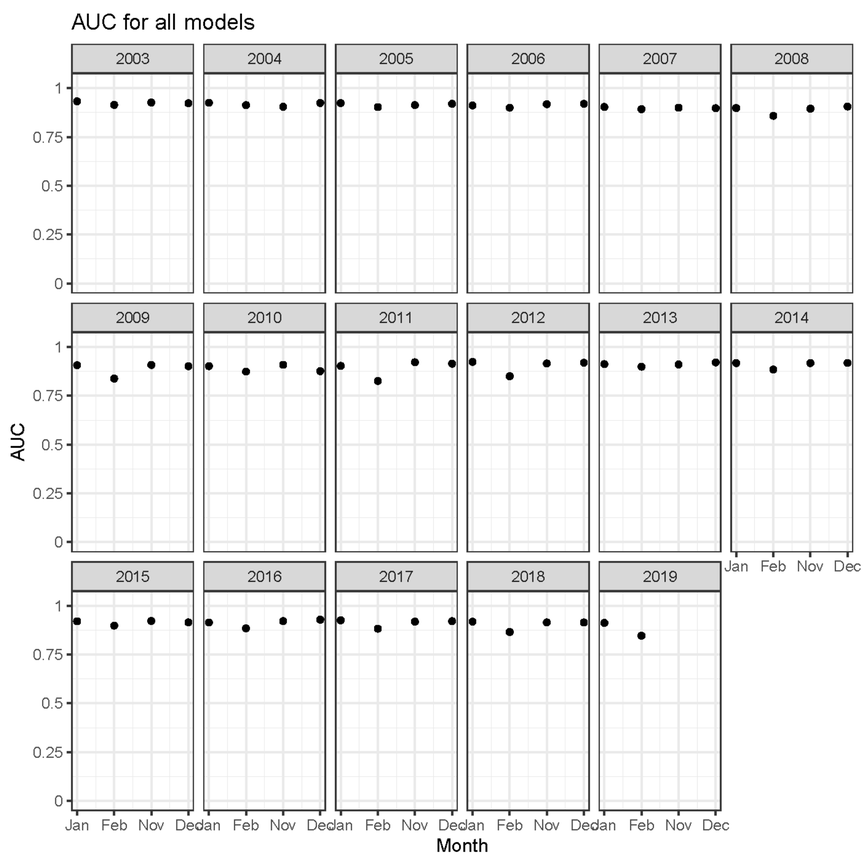
Model: explanatory variables and lasso regression filtering



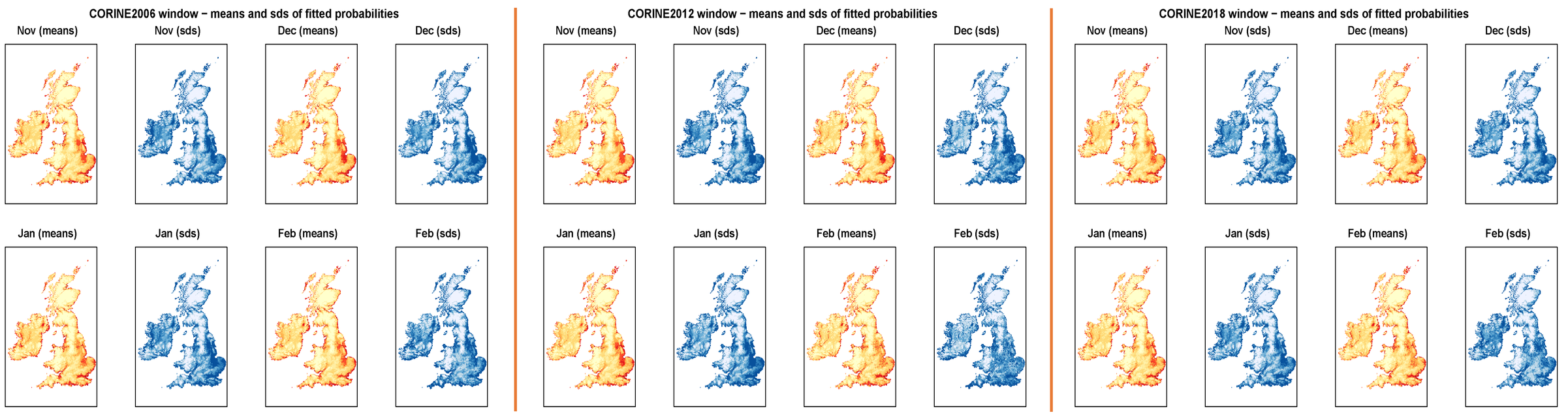
Results: land cover variables selected



Results: area under ROC curve, all models



Model predictions CORINE 2006–18: means and standard deviations



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