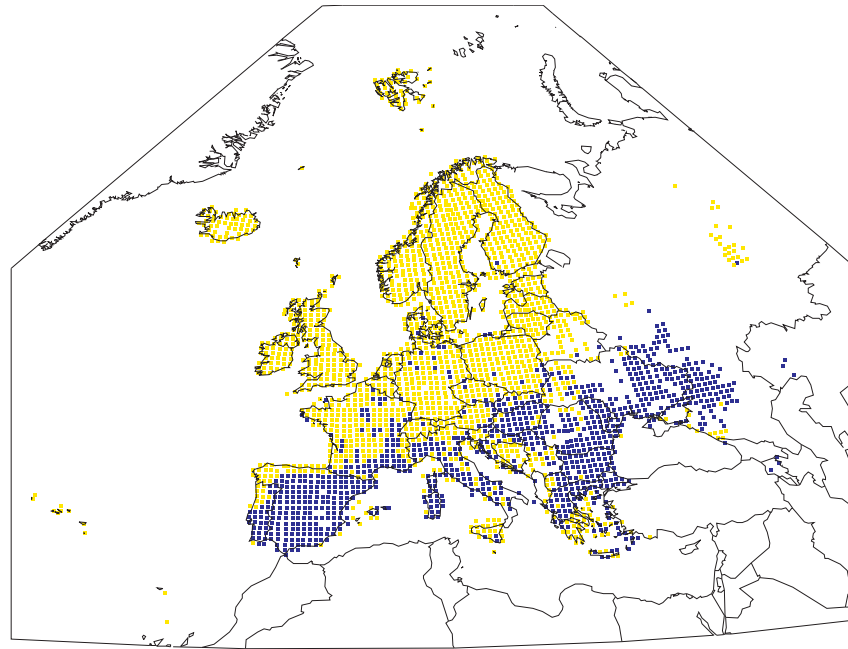
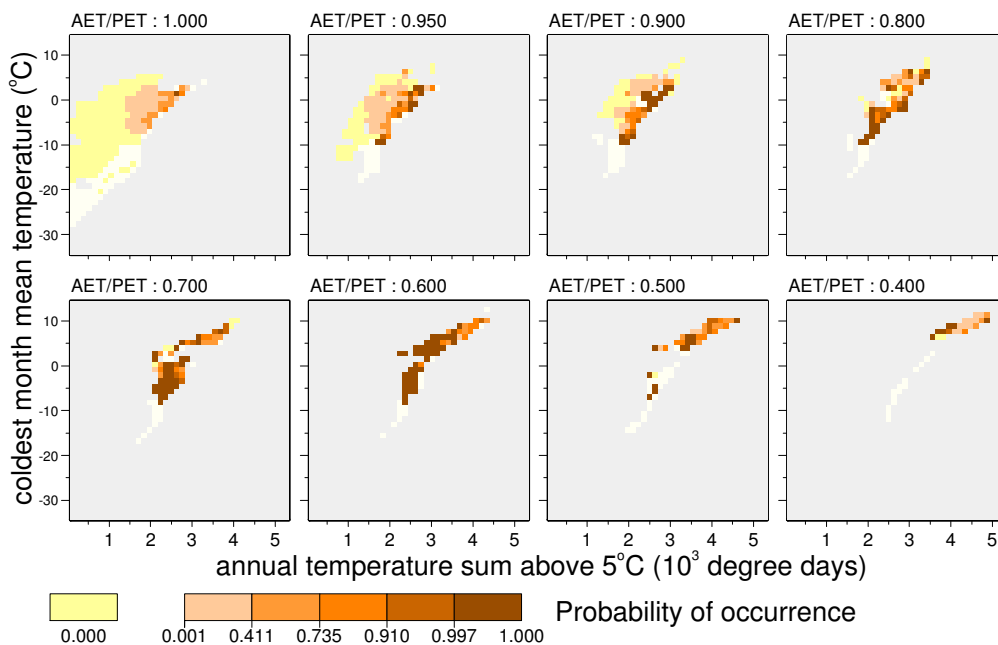


Merops apiaster

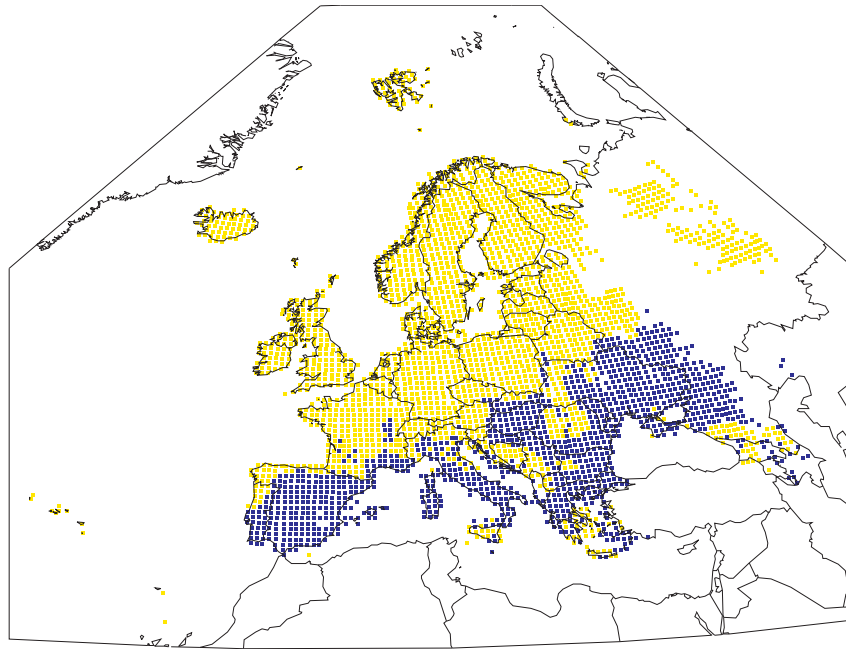


Present recorded distribution

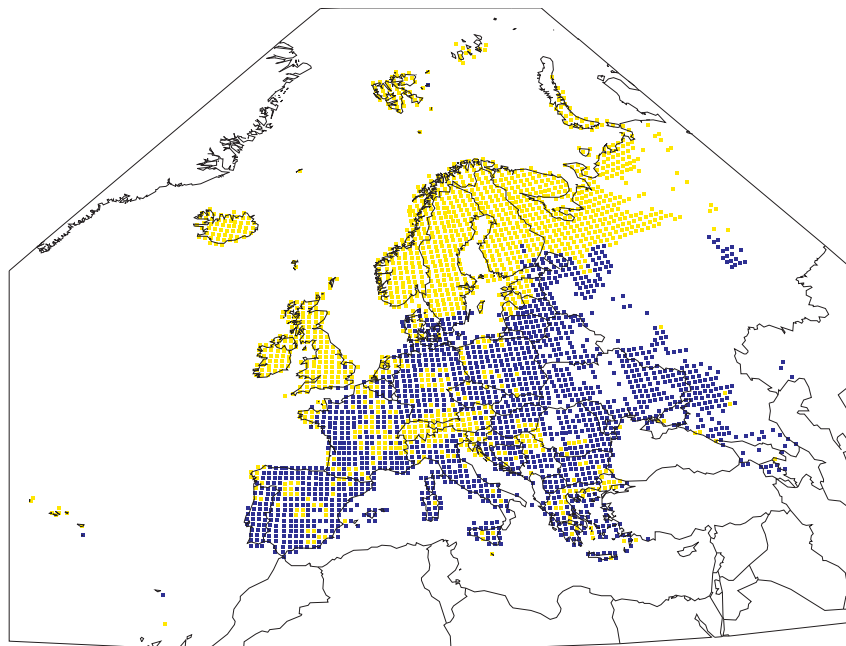


Climate response surface

The Bee-eater breeds in Europe mainly in the Mediterranean, sub-Mediterranean and steppe zones of the south and east, although extending also to scattered localities in the nemoral zone north to northern France, Germany and Poland. Small numbers occasionally breed even further north (e.g. Great Britain, Sweden, Finland). Outside Europe, it breeds in north-west Africa, Turkey, the Middle East, east through central Asia to Kazakhstan and south to the Persian Gulf and Oman; it also has a disjunct breeding area in South Africa and southern Namibia. It uses a variety of habitats, especially sheltered valleys, steppe plains, marshy terrain and warm open landscapes with scattered trees. Its principal requirement is for an abundance of flying insects which it hunts, often gregariously, from perches on vantage points. In Europe it preys particularly upon *Bombus* spp. (Bumblebees) and *Apis mellifera* (Honey Bee). It usually breeds colonially and requires suitable slopes or sandy banks into which it can excavate its nest burrows. Migratory, birds from western Europe wintering in tropical west Africa, those from eastern Europe in south-east Africa.



Simulated present distribution (AUC = 0.968; κ = 0.814)



Simulated late 21st century distribution (R = 1.45; O = 0.71)

This species breeds mainly where annual temperature sum exceeds *ca.* 1750 degree days above 5°C, coldest month mean temperature is above *ca.* -10°C, and there is at least slight seasonal moisture deficiency (AET/PET \leq 0.95), although it also extends sparsely to moister areas. Its avoidance of oceanic areas is reflected also by a coldest month mean temperature upper limit that varies with annual temperature sum, from *ca.* -5°C at *ca.* 2000 degree days to *ca.* 5°C at *ca.* 2500 degree days.

The response surface model has a 'very good' fit. Minor deficiencies include failure to simulate scattered northern breeding localities, and too many simulated occurrences in Italy. Simulated occurrences in Transcaucasia fall within the breeding area as mapped by BWP. The simulated future potential distribution is expanded north-westwards, areas as far north as south-east England, southernmost Fennoscandia and Russia to *ca.* 62° N being simulated as suitable. Suitable conditions are simulated to become more patchy in central and southern Europe, however.