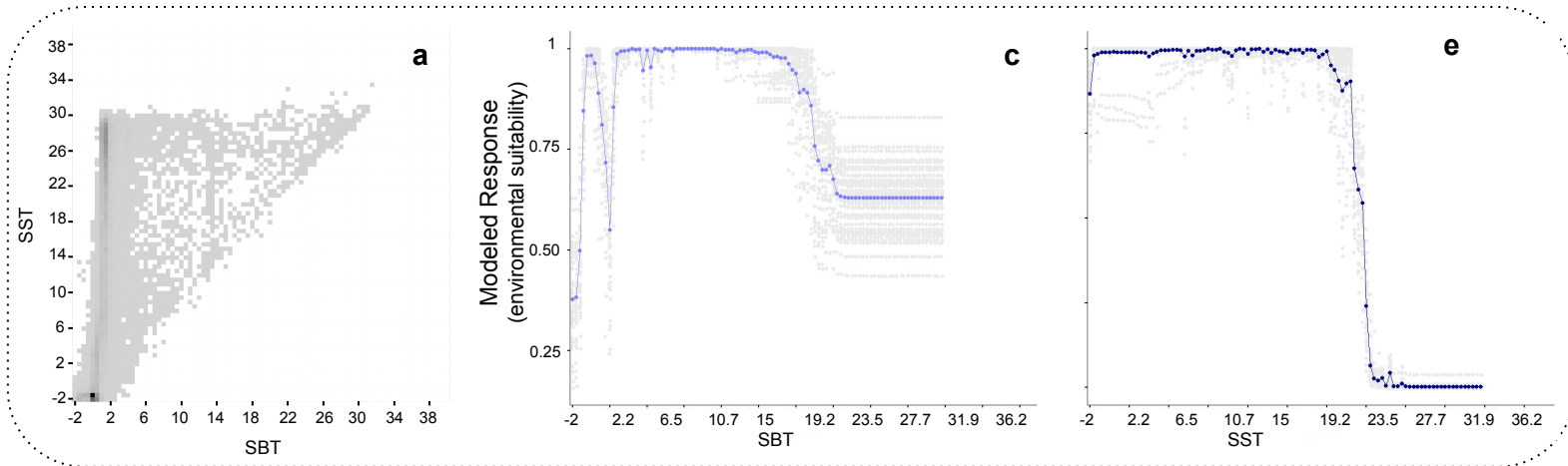


# Response curves and distribution of Atlantic cod

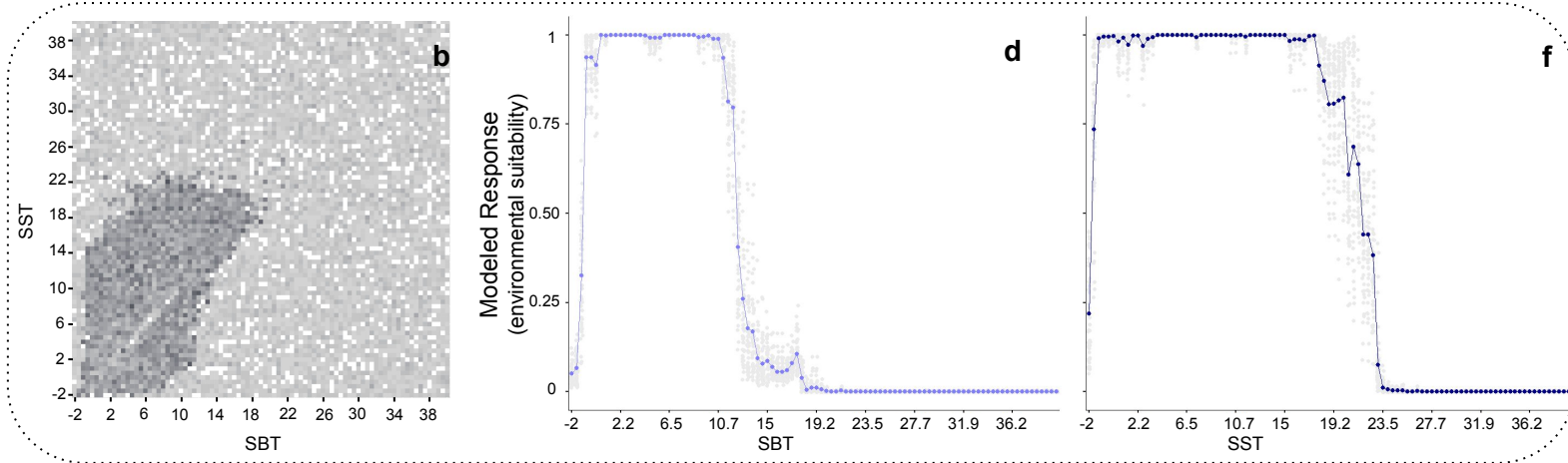
## → Geographical versus Ecological pseudo-absences



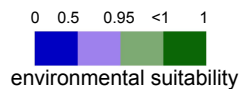
### Geographical pseudo-absences



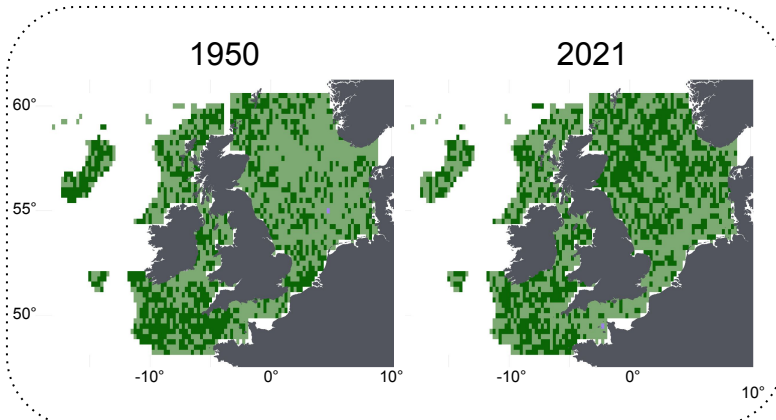
### Ecological pseudo-absences



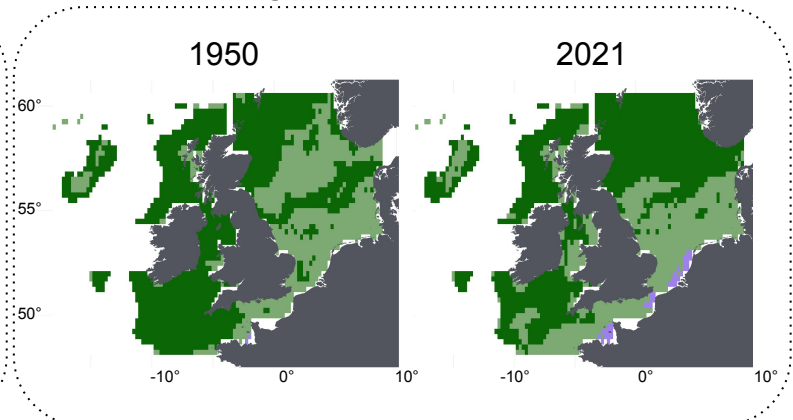
**Figure 1.** Distribution of geographical (a) and ecological (b) pseudo-absences for Atlantic cod using Sea Bottom Temperature (SBT, x-axis) and Sea Surface Temperature (SST, y-axis) with a resolution of every 0.25°C. Modeled responses (response curves) to SBT (pale blue, middle panels, c,d) and SST (dark blue, right panels, e,f) for the Atlantic cod using geographical (c,e) or ecological (d,f) pseudo-absences and processed species occurrences (see Figure 3).



### (a) Geographical pseudo-absences



### (b) Ecological pseudo-absences



**Figure 2.** Comparison of the modeled spatial distribution (environmental suitability) of the Atlantic cod in 1950 and 2021 using (a) geographical and (b) ecological pseudo-absences. For projections and both types of pseudo-absences, we selected the best Random Forest (RF) models with a pseudo-absence-to-presence ratio of 1/10. Ecological pseudo-absences (right panels) were generated using the inside/outside approach and the Freedman-Diaconis formula