

# MODELLING *Acacia saligna* IN MEDITERRANEAN ISLANDS, USING HIGH RESOLUTION TOPOGRAPHIC AND CLIMATIC DATA

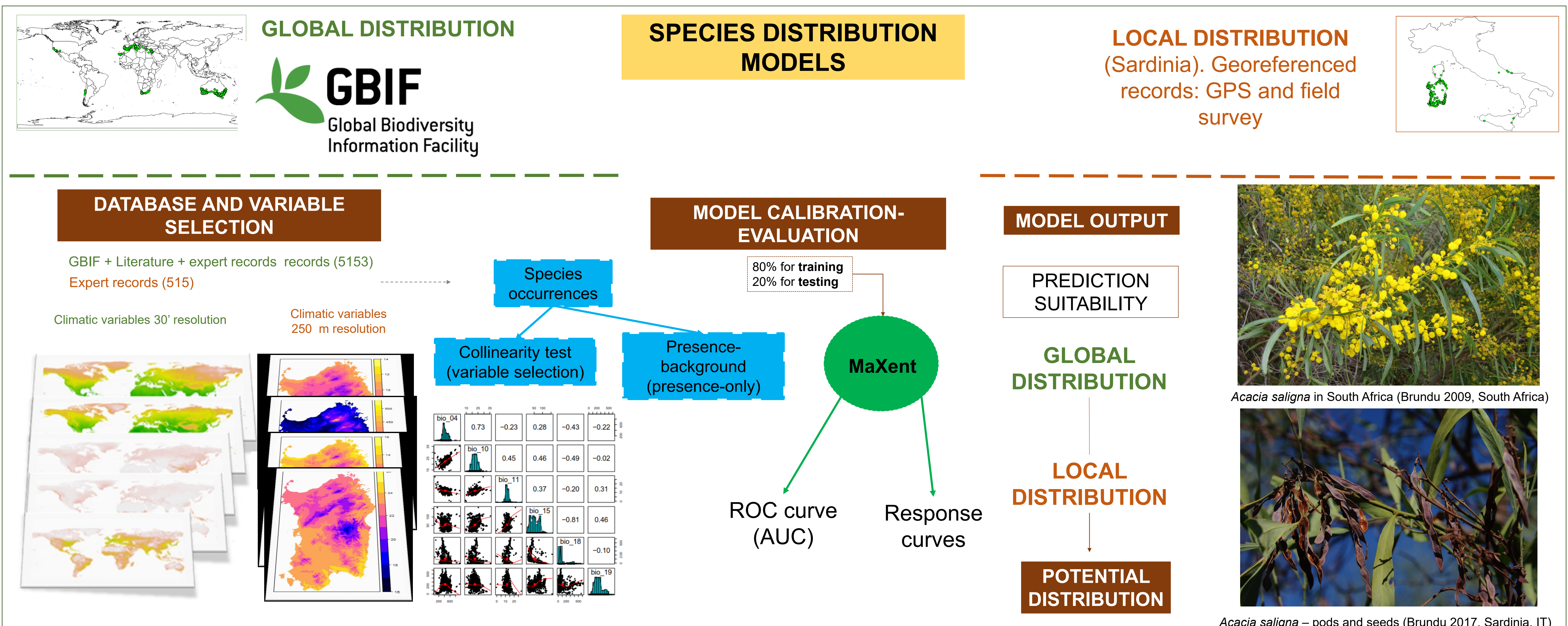
Vanessa Lozano<sup>1</sup>, Daniel Chapman<sup>2</sup>, Etienne Branquart<sup>3</sup>, Klara Dolos<sup>4</sup>, Michele Fiori<sup>5</sup>, Paolo Capece<sup>5</sup>, Giuseppe Brundu<sup>1</sup>

<sup>1</sup> Department of Agriculture, University of Sassari, Italy - <sup>2</sup> NERC Centre for Ecology & Hydrology, Edinburgh, UK - <sup>3</sup> Department of the Study of the Natural and Agricultural Environment, Public Service of Wallonia, Belgium - <sup>4</sup> Karlsruhe Institute of Technology, Institute of Geography and Geocology, Germany - <sup>5</sup> Regional Agency for the Environmental Protection of Sardinia, ARPAS, Italy.

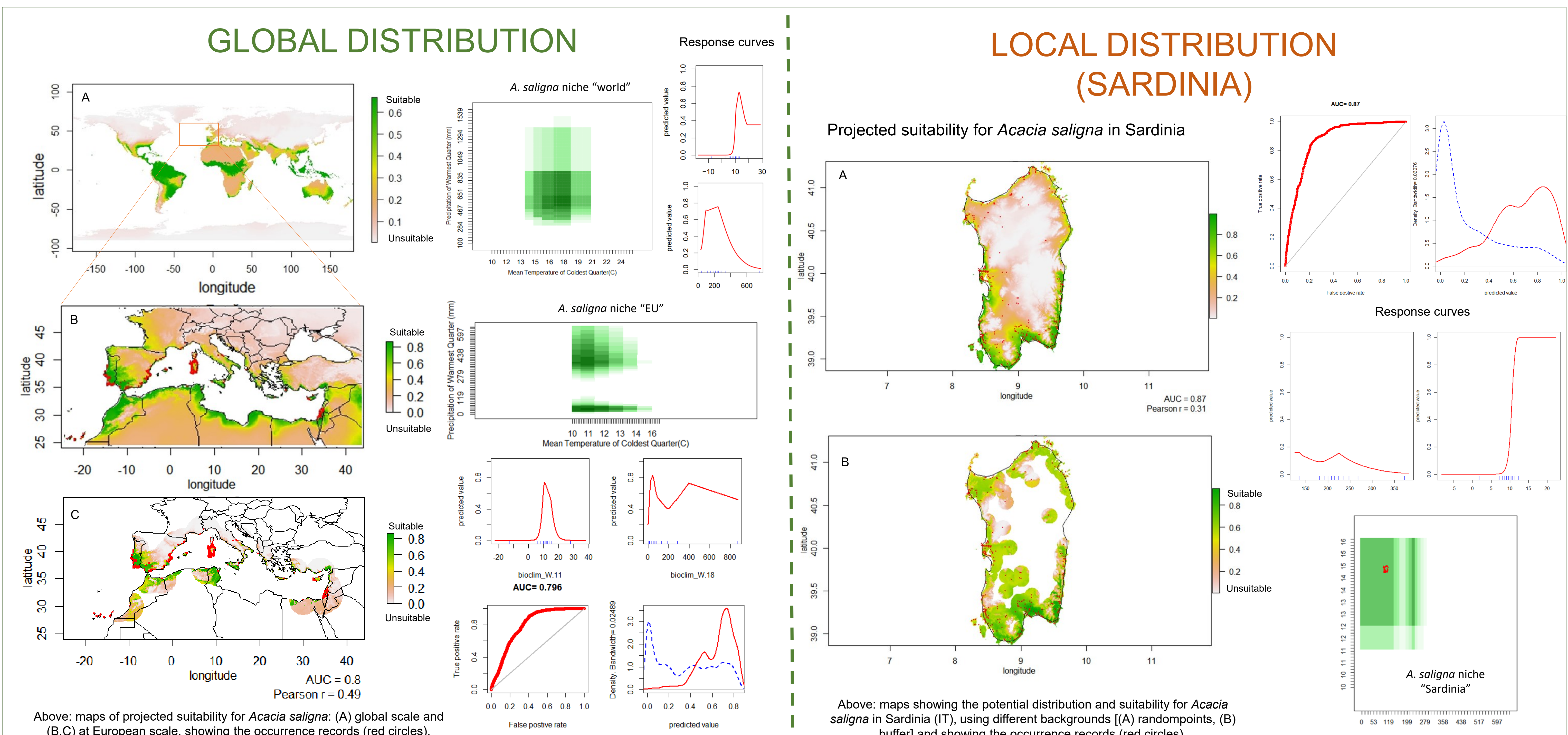
## INTRODUCTION

Invasion by non-native tree species is an environmental challenge requiring adequate predictive tools to assess invasion dynamics and inform decision makers and land managers. Thus, the identification of the areas exposed to the highest risk of invasion represents a priority. The frequent scale discrepancy between informative thematic layers and executive action plans, might limit the suitability of modeling for invasion management. This study aims to assess the reliability and advantages of species distribution models (SDMs) with high-resolution thematic layers (HRTLs) for the invasive tree *Acacia saligna* in Sardinia. The study is conducted in the framework of the international project “ALIEM” (PO Marittimo, Action pour Limiter les risques de diffusion des espèces Introduites Envahissantes en Méditerranée) among Mediterranean regions of France and Italy.

## METHODOLOGY



## RESULTS



A combination of models at different scale help to overcome their limitations. Fine-scale spatial-explicit estimation of invasion success combining SDM predictions with high resolution invasion mapping, this might mitigate scale discrepancy between predictions of invasion dynamics and help conservation decision making for invasion management.