

Bayesian inference using the integrated nested Laplace approximation (INLA)

Master's Degree in Biostatistics

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A bit about me

- **B.Sc. in Mathematics:** University of Valencia (UV). 2008 - 2013.
- **M.Sc. in Biostatistics:** UV. 2013 - 2015.
- **Ph.D. in Statistics and Optimization:**
 - Valencian Institute for Agricultural Research (IVIA). 2014 - 2016
 - UV. 2016 - 2019
- **Postdoctoral fellow**
 - Basque Center For applied Mathematics. 2019 - 2021
- **Lecturer**
 - Departament of Applied Statistics and Operations Research and quality. Universitat Politècnica de València (UPV). 2021 -

Bayesian Spatio-temporal modeling

Applications

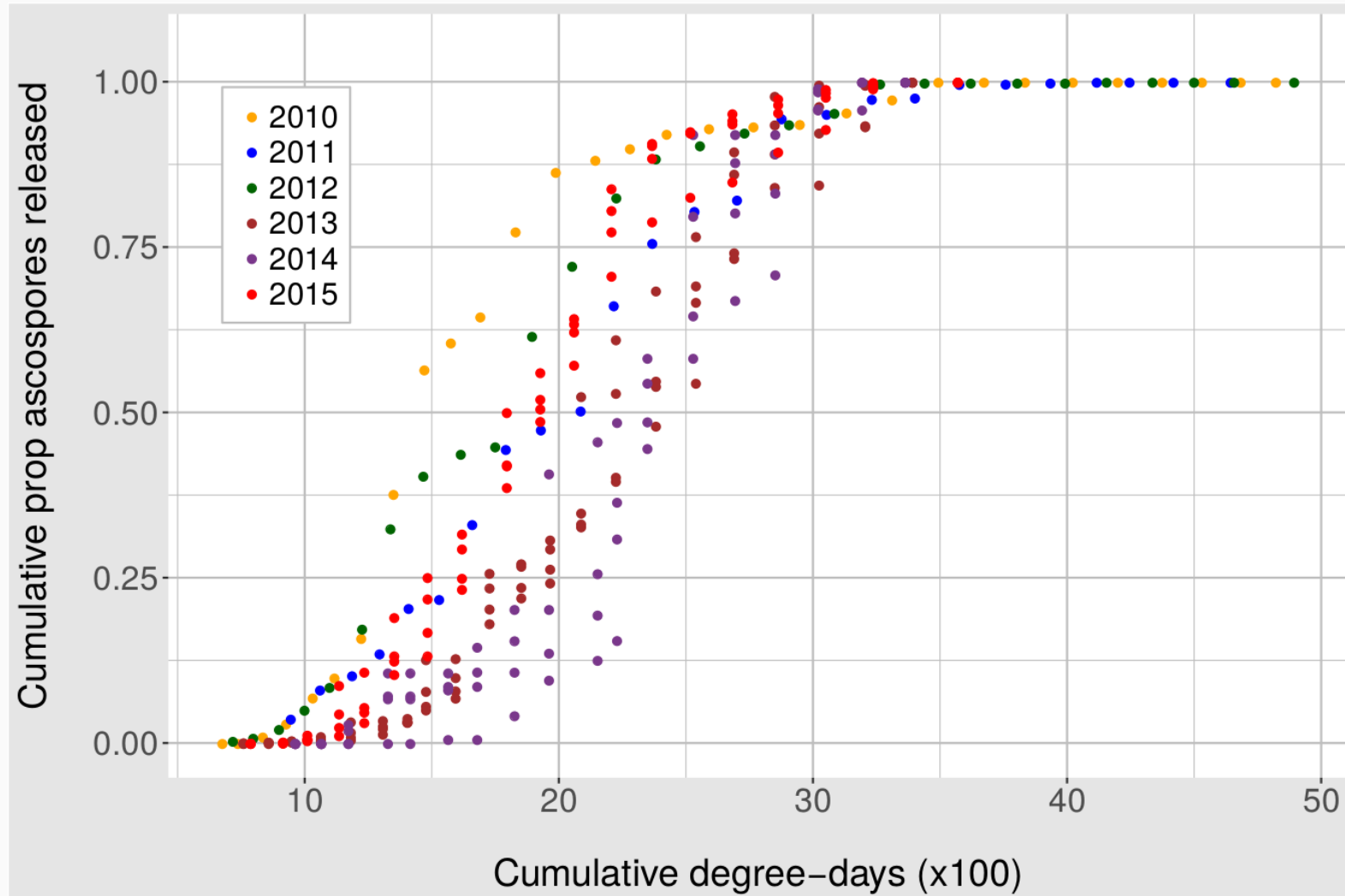


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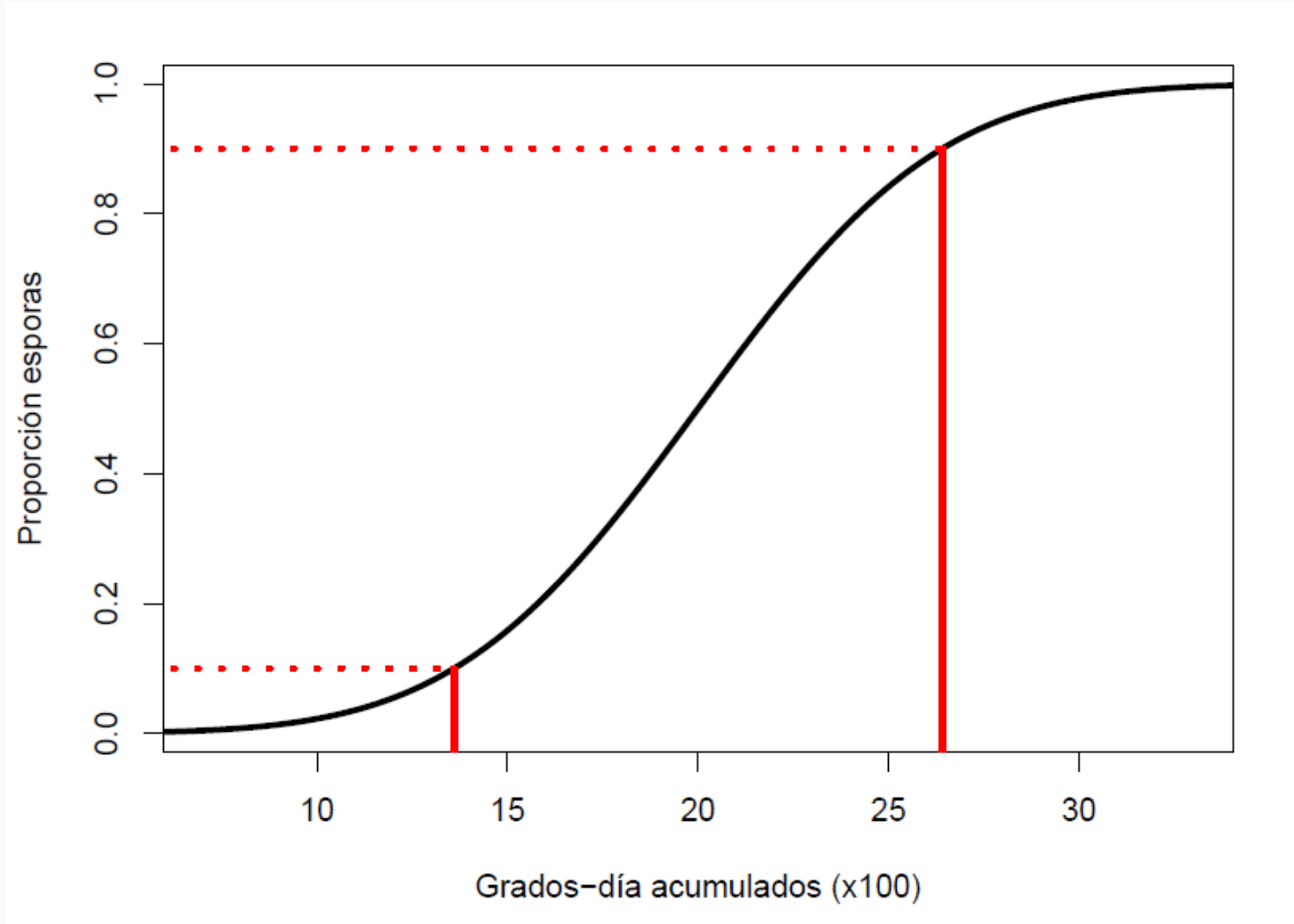
Kakhi in Valencian Community

- Collaborative work with **IVIA** (Valencian Institute for Agricultural Research) **UV** (University of Valencia)

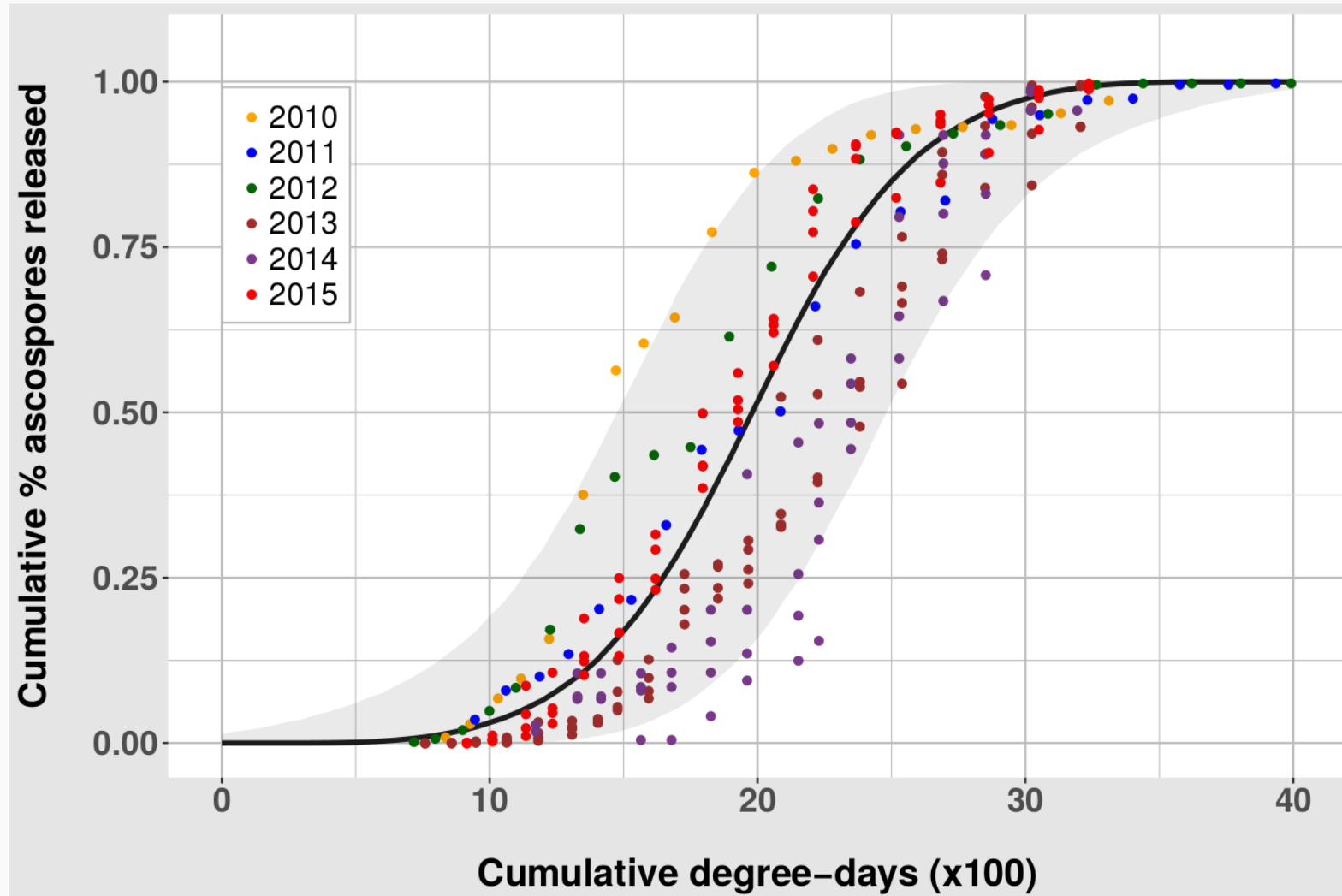
Kakhi in Valencian Community. Ascospores proportion



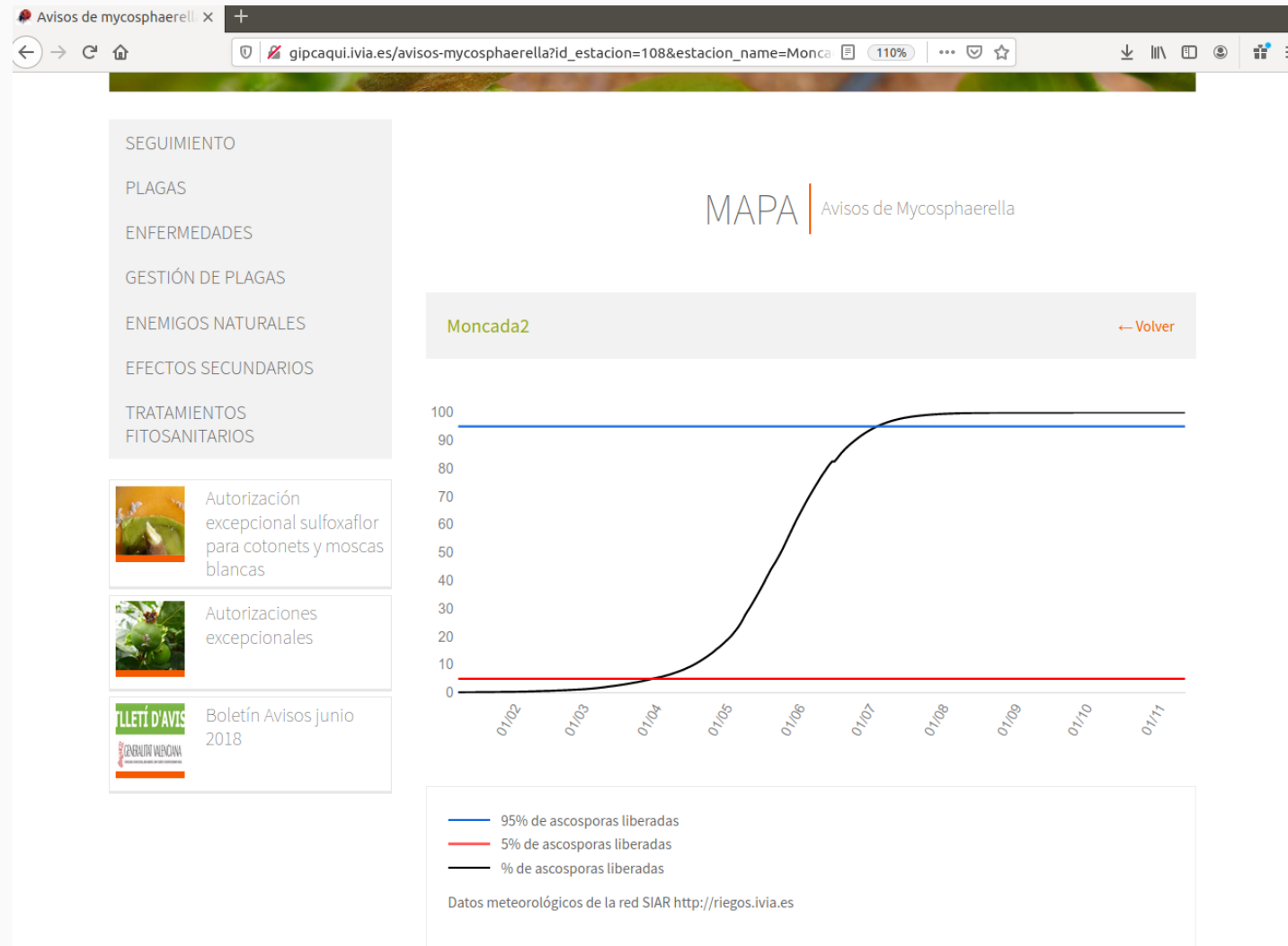
Kakhi in Valencian Community. Objective



Kakhi in Valencian Community. Model



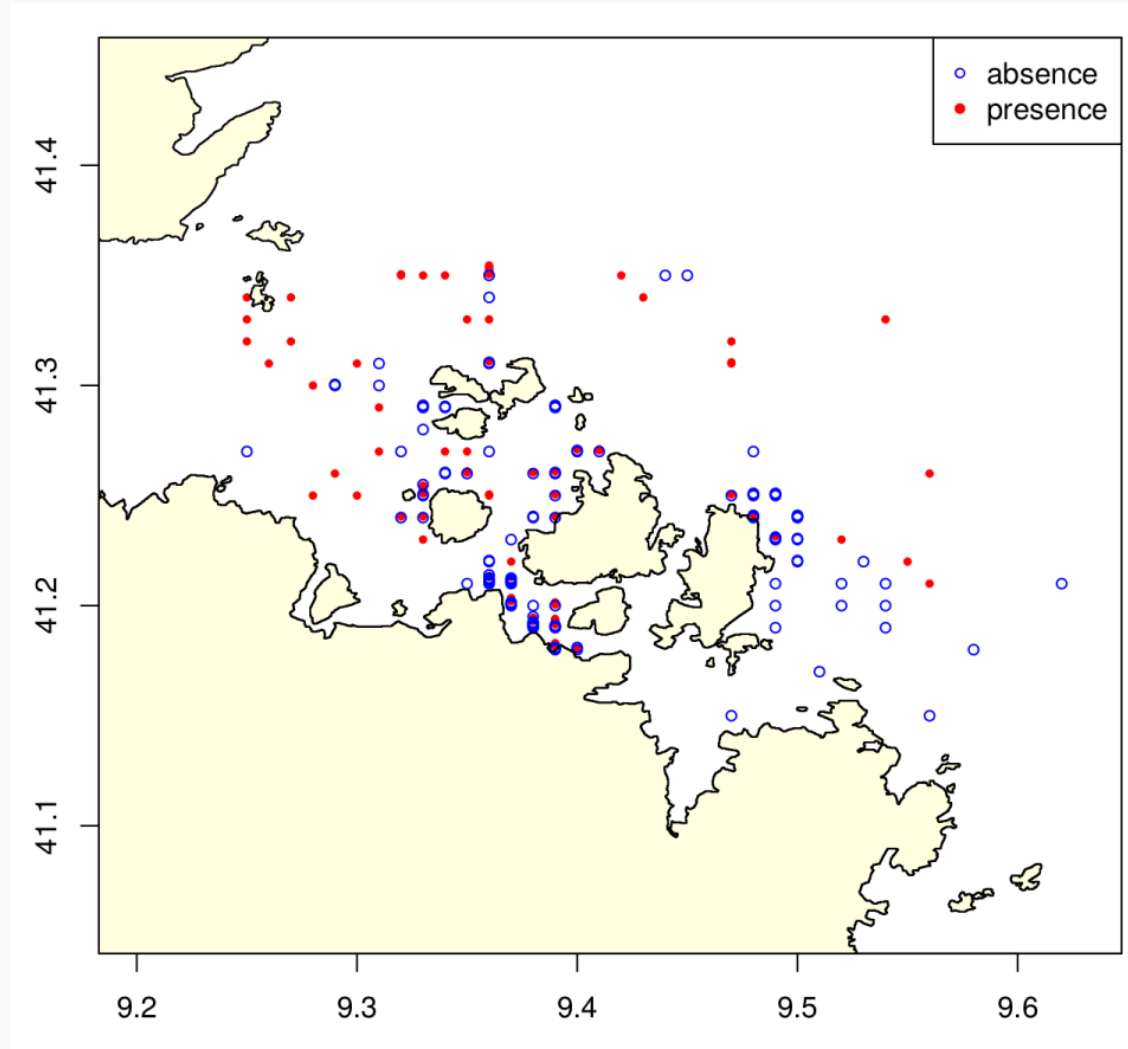
Kakhi in Valencian Community. Webpage



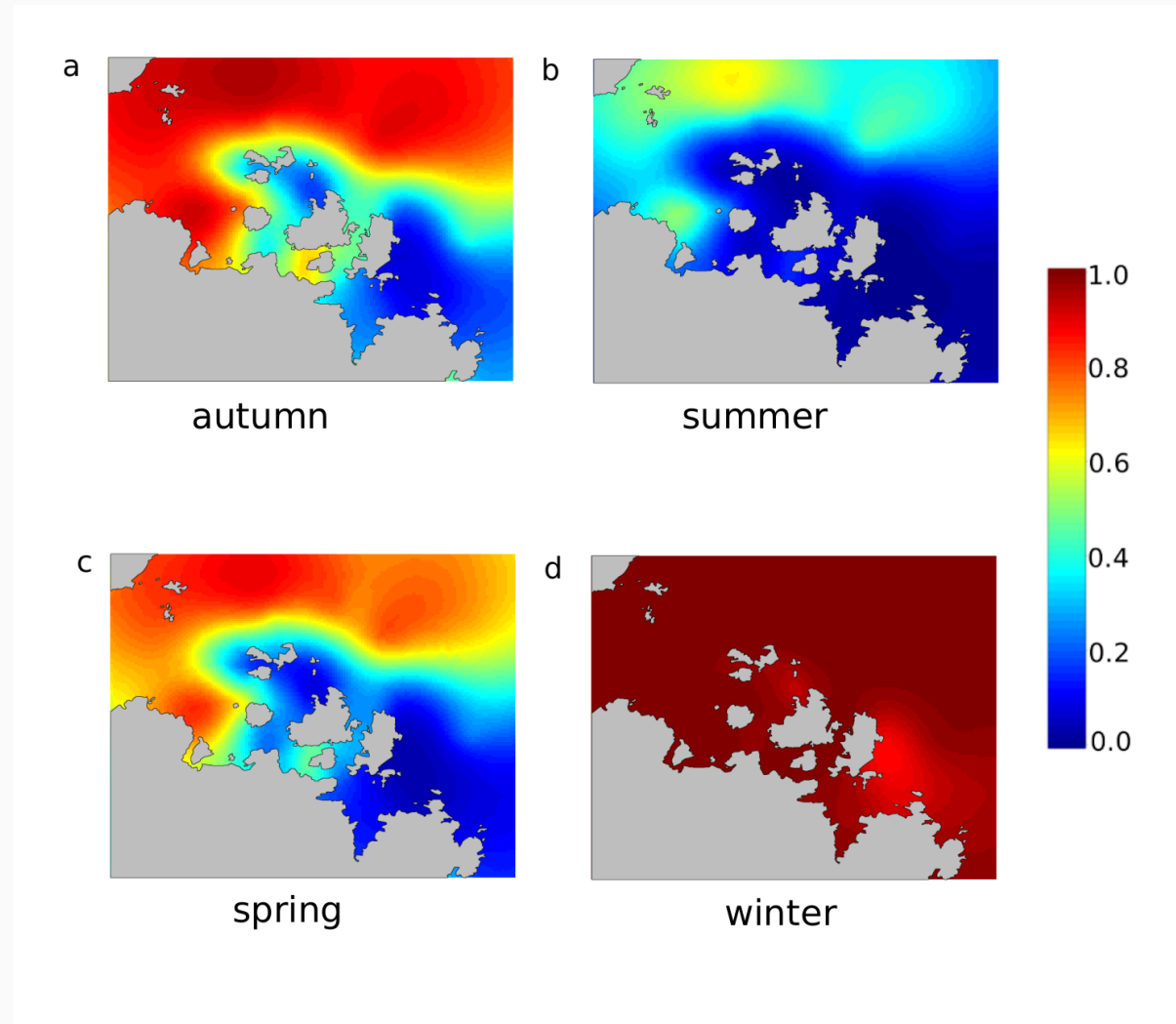
Dolphins in Sardinia

- Collaborative work with **IEO** (Spanish Institute of Oceanography) and **UV**

Dolphins in Sardinia. Presence/Absence of dolphins



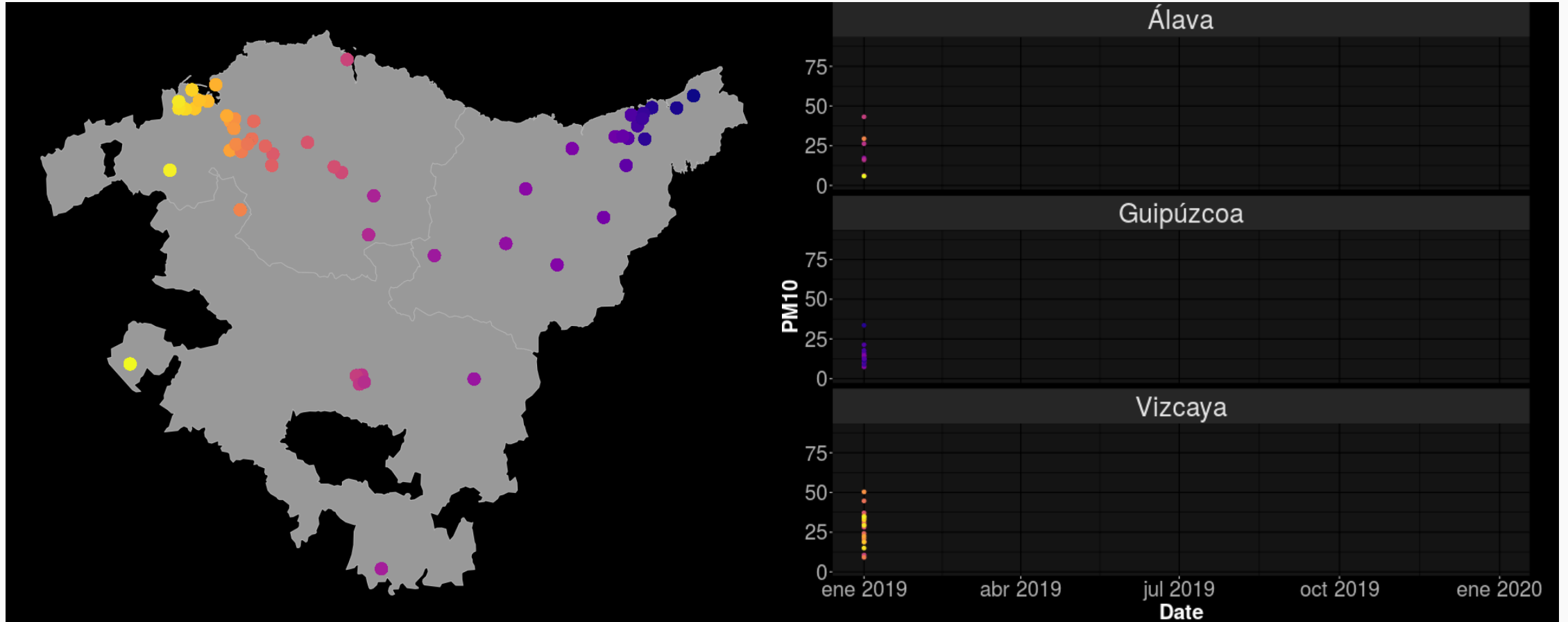
Dolphins in Sardinia. Model prediction



Pollution in the Basque Country: PM10 particles

- Collaborative work with **BCAM** (Basque Center for Applied Mathematics) and **Osakidetza**
- Projects: PID2020-115882RB-I00 and BMTF-Modelización Matemática Aplicada a Salud

Pollution in the Basque Country: PM10 particles



Bayesian Spatio-temporal modeling

Compositional data (CoDa)



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Dirichlet regression using INLA: dirinla

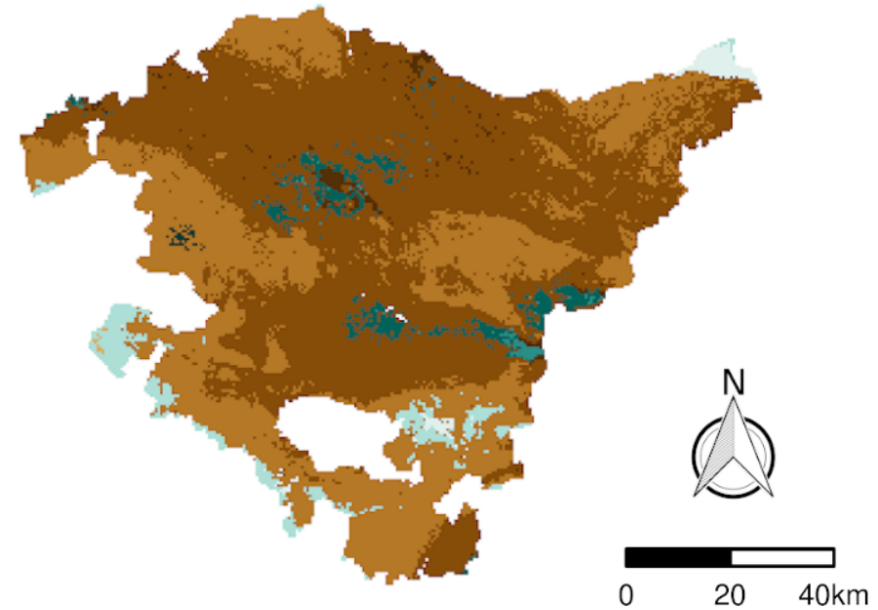
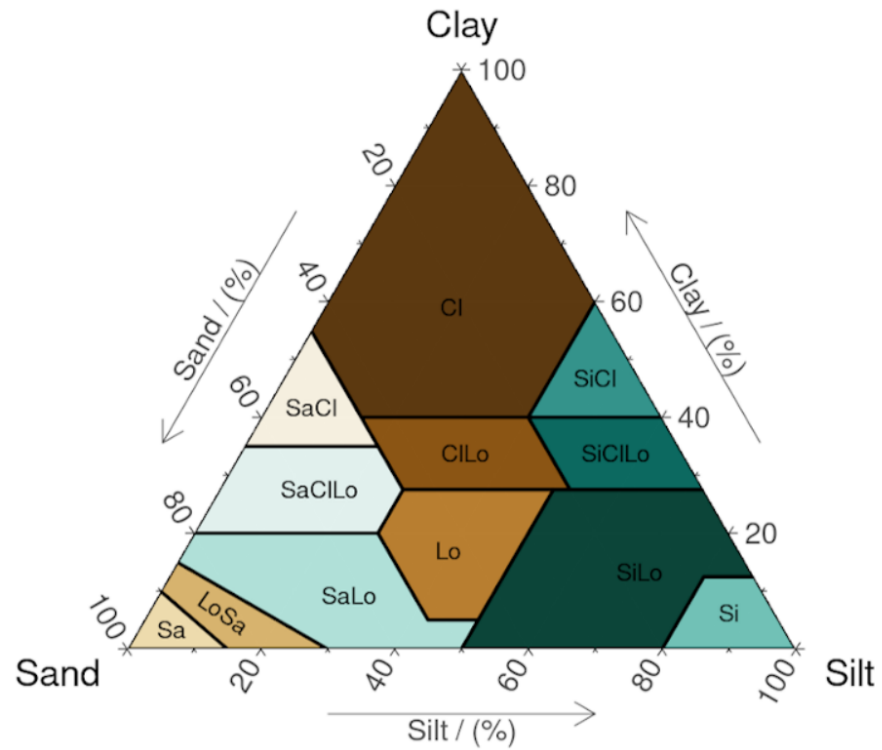
- Collaborative work with **University of Edinburgh** and **UV**

CoDa using stan

- Collaborative work with **BCAM**. Project: PID2020-115882RB-I00

CoDa using stan

USDA Textural Classification



CoDa using INLA



- Collaborative work with **KAUST** (King Abdullah University of Science and Technology)

Bayesian Spatio-temporal modeling

Metamodels



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Metamodels in Climate Change

- Collaborative work with **BCAM** and **UV**. `BayesVarSel`

Let's go!



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