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INTRODUCTION

An extended BioBlitz, called BioMARathon has been implemented to enhance volunteer participation in marine biodiversity monitoring during the summer period. The BioMARathon lasts from the first weekend of May until mid October. This model has been implemented in two regions: along the Catalan coast (North-East Spain), where it has been running for the past four years under the name BioMARató (in Catalan), and in northern Portugal, where it was first introduced in 2023 through a series of pilot activities. This led to the launch of the BioMARatona Norte in an Atlantic intertidal zone. Both case studies are described in detail.

METHODS

Data has been collected through **MINKA** participatory observatory (<https://minka-sdg.org/>), including data collected during the BioMARathon years and historical data uploaded by volunteer participants. The datasets have been downloaded on January 17th 2025, including only research-grade (RG) observations. RG are those observations with a geolocated image or sound, date and time, and have been validated collaboratively reaching an agreement of 2/3rds of the community interacting with the observation, identified at a level of species or genus. Only marine observations have been considered, being those with taxons contained on the World Register of Marine Species (WoRMS).

Spatial analysis has been conducted on QGIS with 10x10km Universal Transverse Mercator (UTM) geographic projection intersecting with the Catalan and the Portuguese coastline, respectively. Per each area, the cumulative of observations aggregated per 10x10km UTM cell has been plotted (see Fig.1), resulting in a more comprehensive dataset of species occurrence. This analysis has been done separately for the two case studies, Catalonia has a larger register than Northern Portugal and a major coastline area covered.

RESULTS

The BioMARathon event has increased the observations in both case studies seasonally (see fig. 2) boosting participation throughout the year. In the Catalan coast the Community of Practice (CoP) has been growing, reaching a consolidation state. On the northern Portuguese coast, there are peaks of participation linked to the good weather conditions on the intertidal area of study.

Lists of occurrences have been generated, including,

- Threatened and sensitive species (e.g. 3 & 4)
- Non-indigenous species (NIS) and invasive alien species (IAS) (e.g. 1 & 7)
- First records (e.g. 5 & 6)

Thanks to the recorded observations, climate related impacts on species can be seen (e.g. tissue mortality on gorgonians (2), alterations on reproductive season (8), etc.).

For the 2025 season, BioMARathons are actively taking place along the entire Portuguese coastline, complemented by several BioBlitz initiatives in additional regions, these data for sure will contribute even more in the above points.

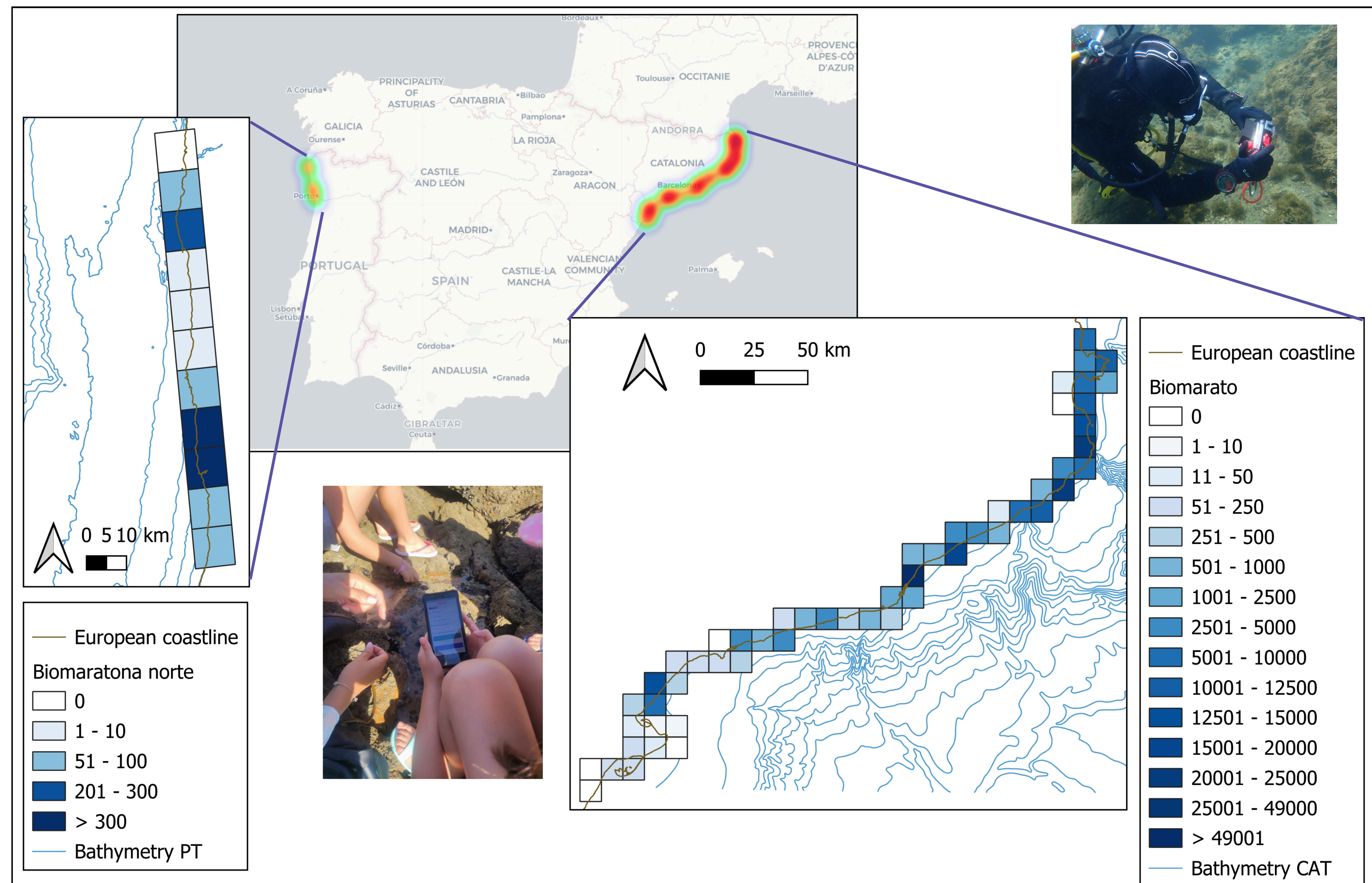
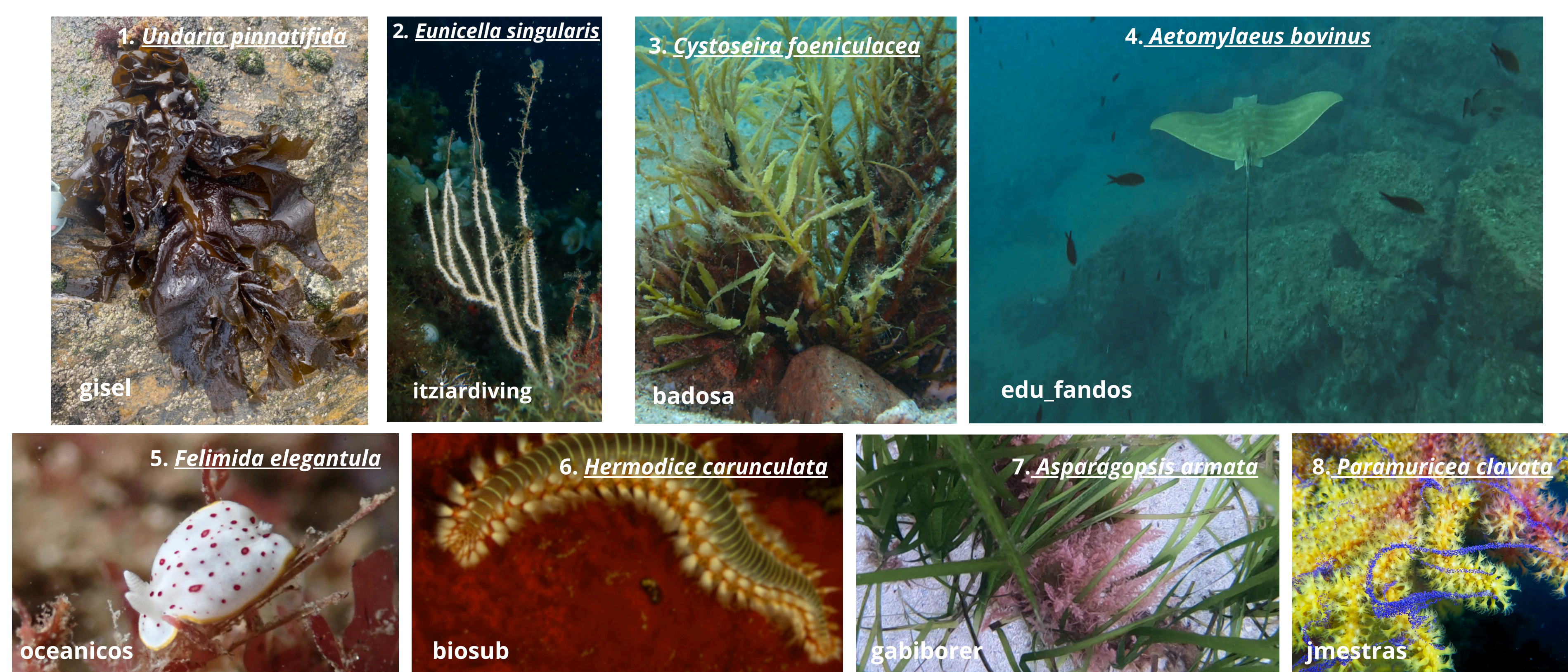


Figure 1. Iberian peninsula showing the two case studies areas, Catalonia and northern Portugal coastline. (a) Catalan coastline (NE of Spain) has 54 10x10km UTM cells. (b) Northern Portuguese coastline (N of Portugal) has 11 10x10km UTM cells. In Catalonia, for the four BioMARató years, obtaining maps with the distribution of observations on each cell for every year. As per Northern Portugal, the analysis has been done for the past two years.



CONCLUSIONS

The promotion of BioMARathons,

- Enhance volunteer engagement by simultaneously increasing participation and ensuring long-term consistency in the collection of biodiversity observations
- Sustain the involvement to the consolidation of a Community of Practice (CoP)

- Focus the volunteer engagement toward on marine biodiversity monitoring approach.

The **accumulation of observations** results in a more comprehensive dataset of species occurrences, thereby:

- Improving the understanding of species distributions,
- Enabling the registration of first records,
- Supporting the occurrence and, in the long term, the follow up for species under regulations with the specific local focus, e.g NIS and IAS.

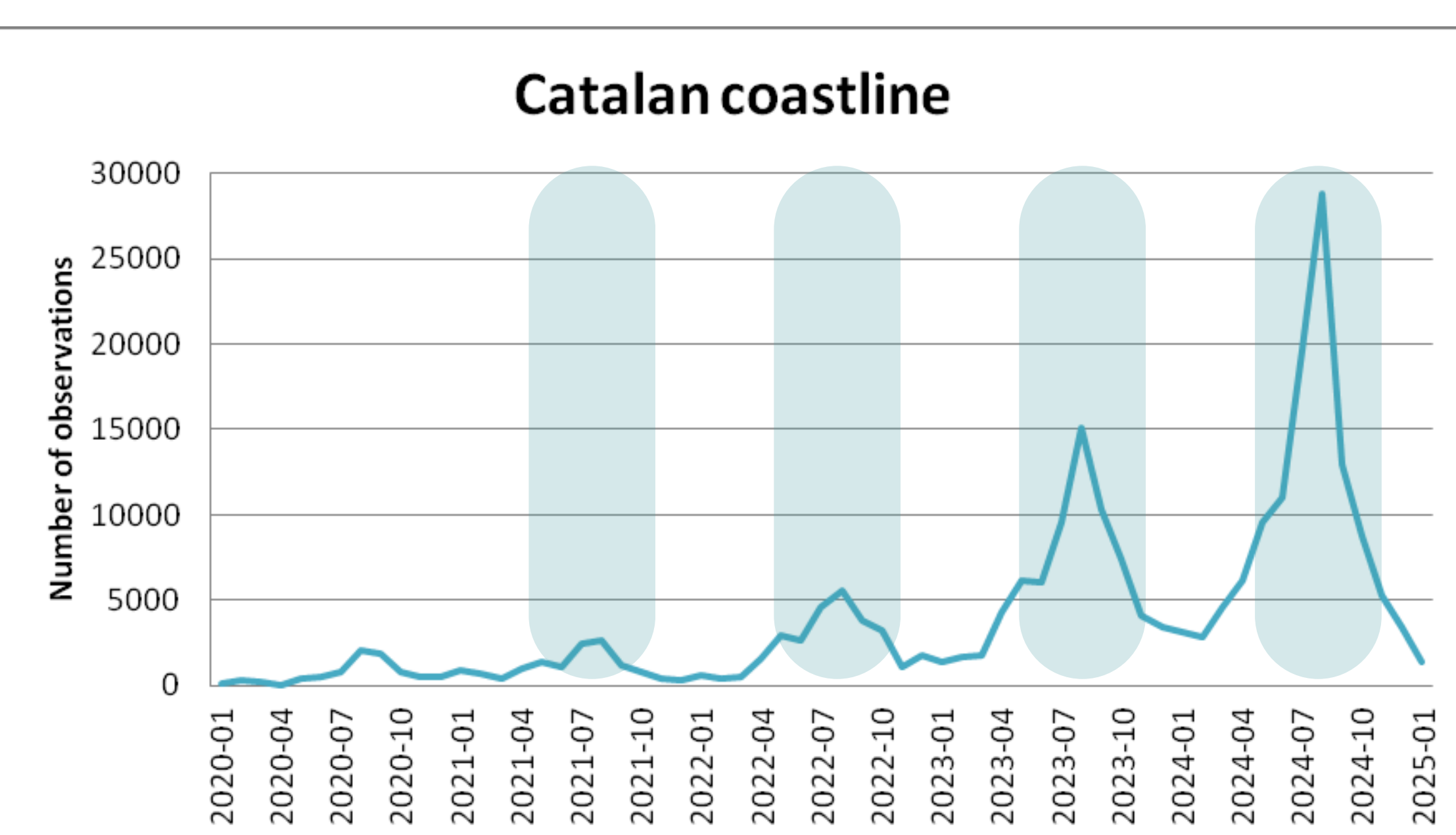
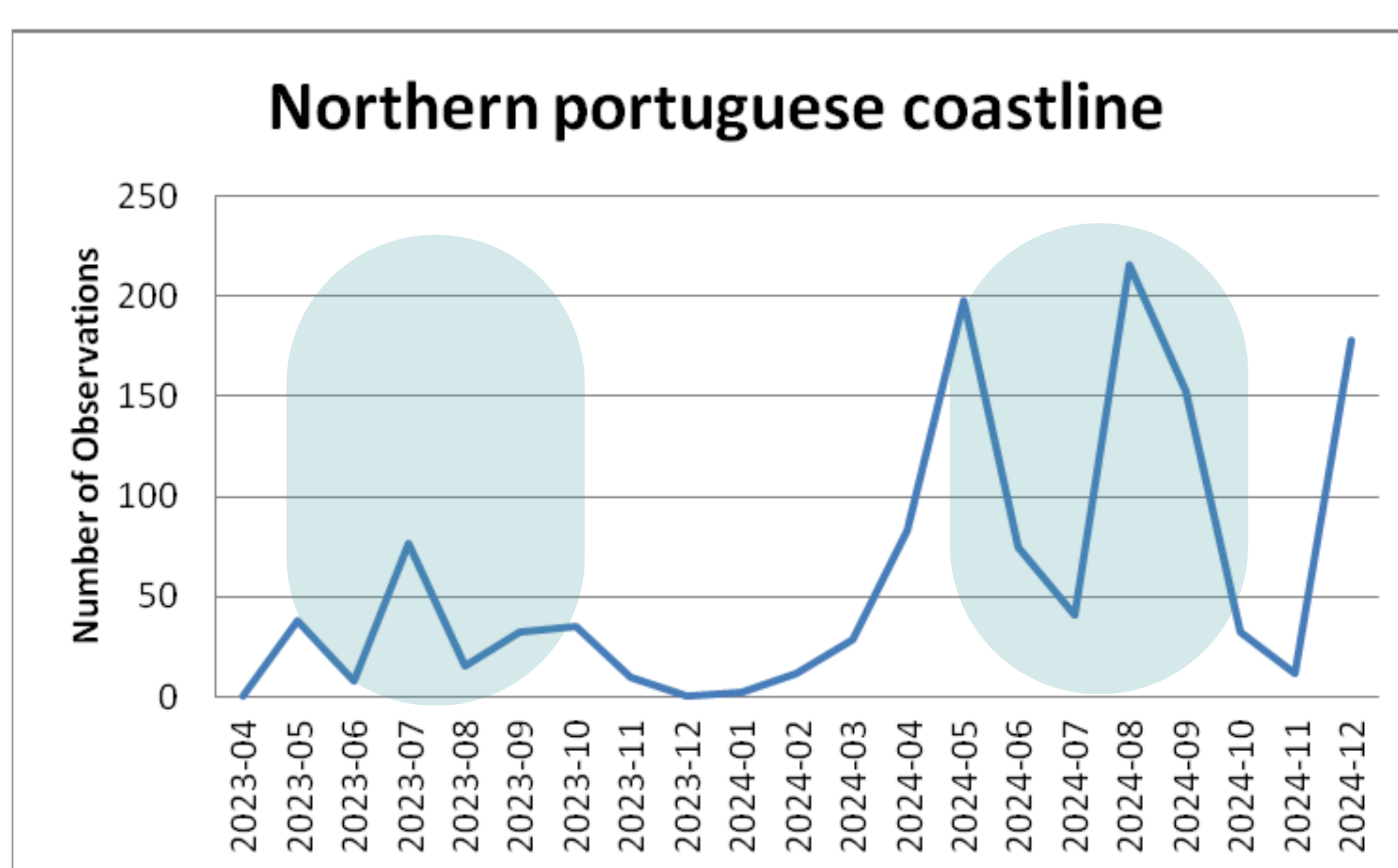


Figure 2. Evolution on the number of observations per month. Left: Catalan coastline, from January 2020 to January 2025. Right: Northern Portuguese coastline, from April 2023 to December 2024. BioMARathon period highlighted in blue vertical bars.



ACKNOWLEDGEMENT

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