

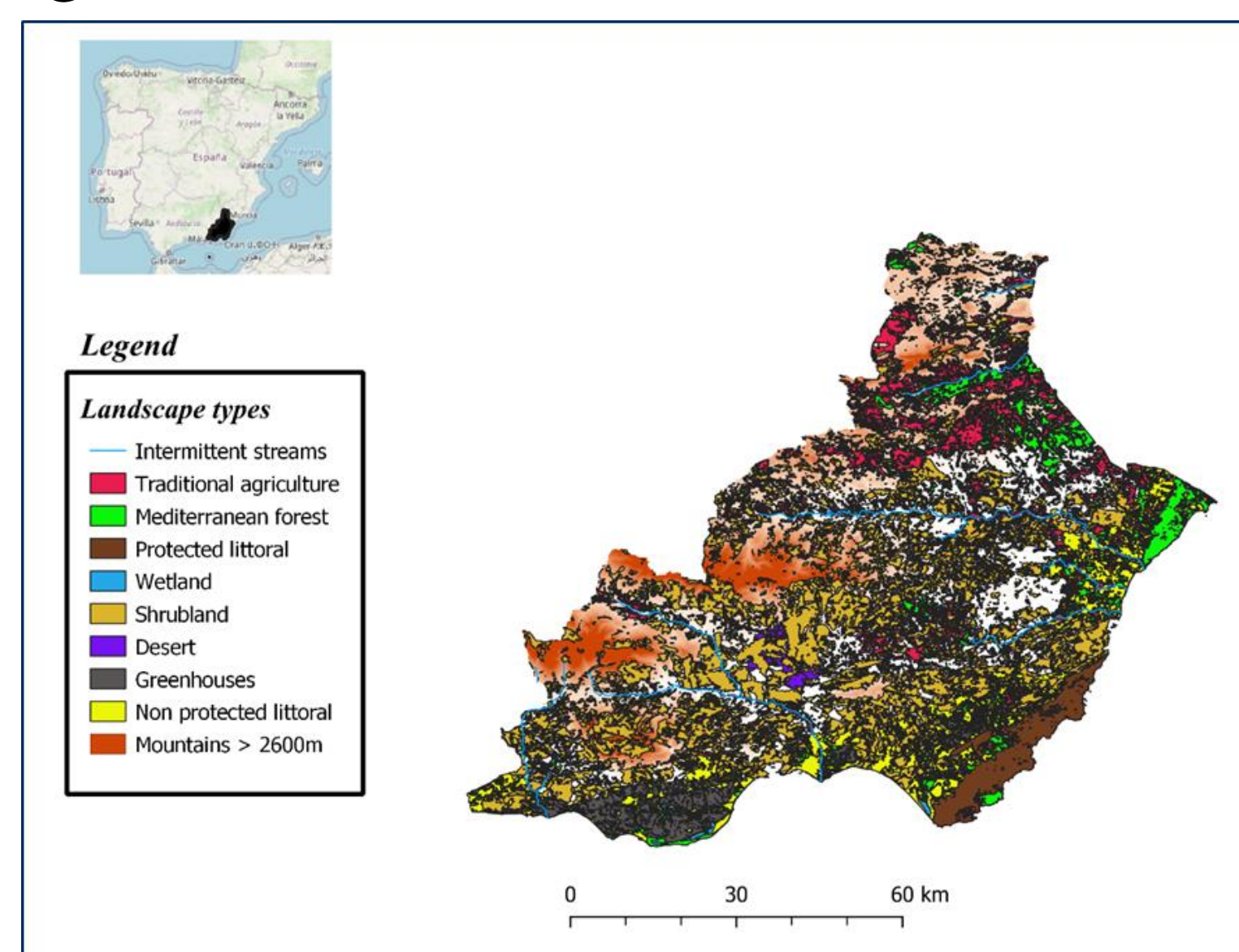
# Exploring landscape values and preferences to understand human-nature connectedness across Spanish drylands

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## INTRODUCTION

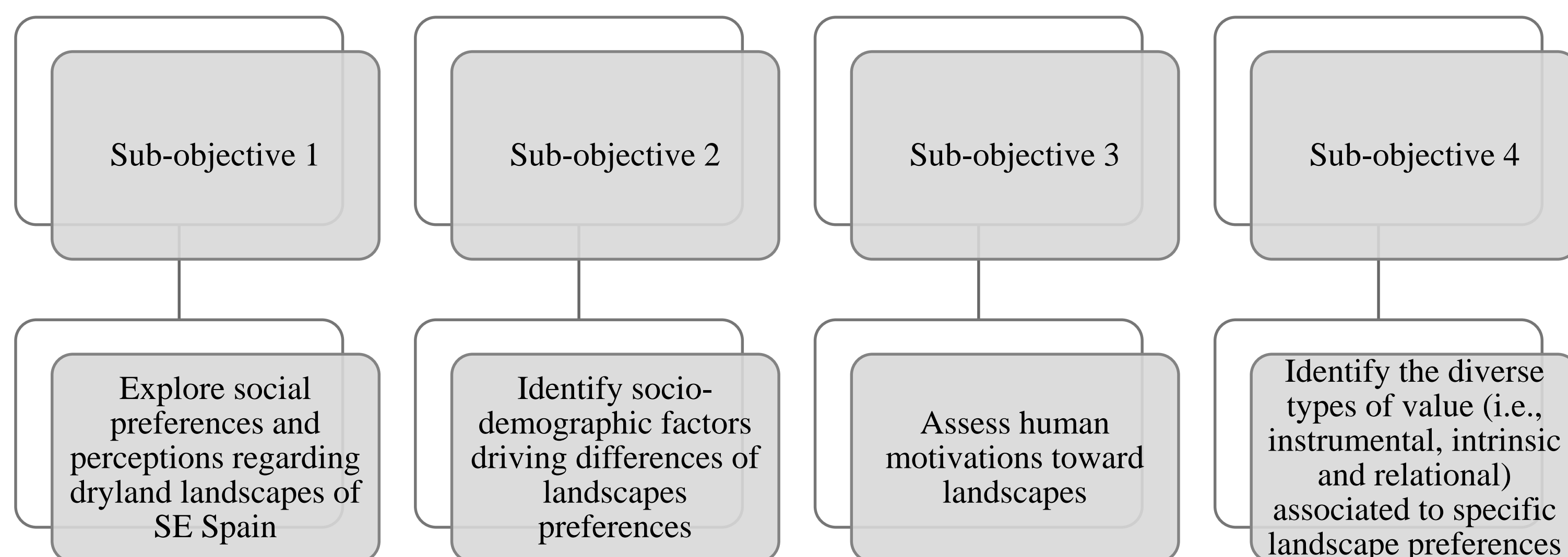
In the Mediterranean basin, changes associated to global change threatens these multifunctional landscapes that have coevolved with human development throughout recent centuries. Within this region, the arid and semi-arid landscapes in the SE of the Iberian Peninsula (Almeria province) have been especially sensitive to land use change and climate change, representing one of the most transformed regions of the world (Fig1).



**Fig 1.** Geographic location of dryland landscapes of the Almeria province in SE Spain

## OBJECTIVES

This study aims to assess human-nature connectedness across landscapes in Spanish drylands.



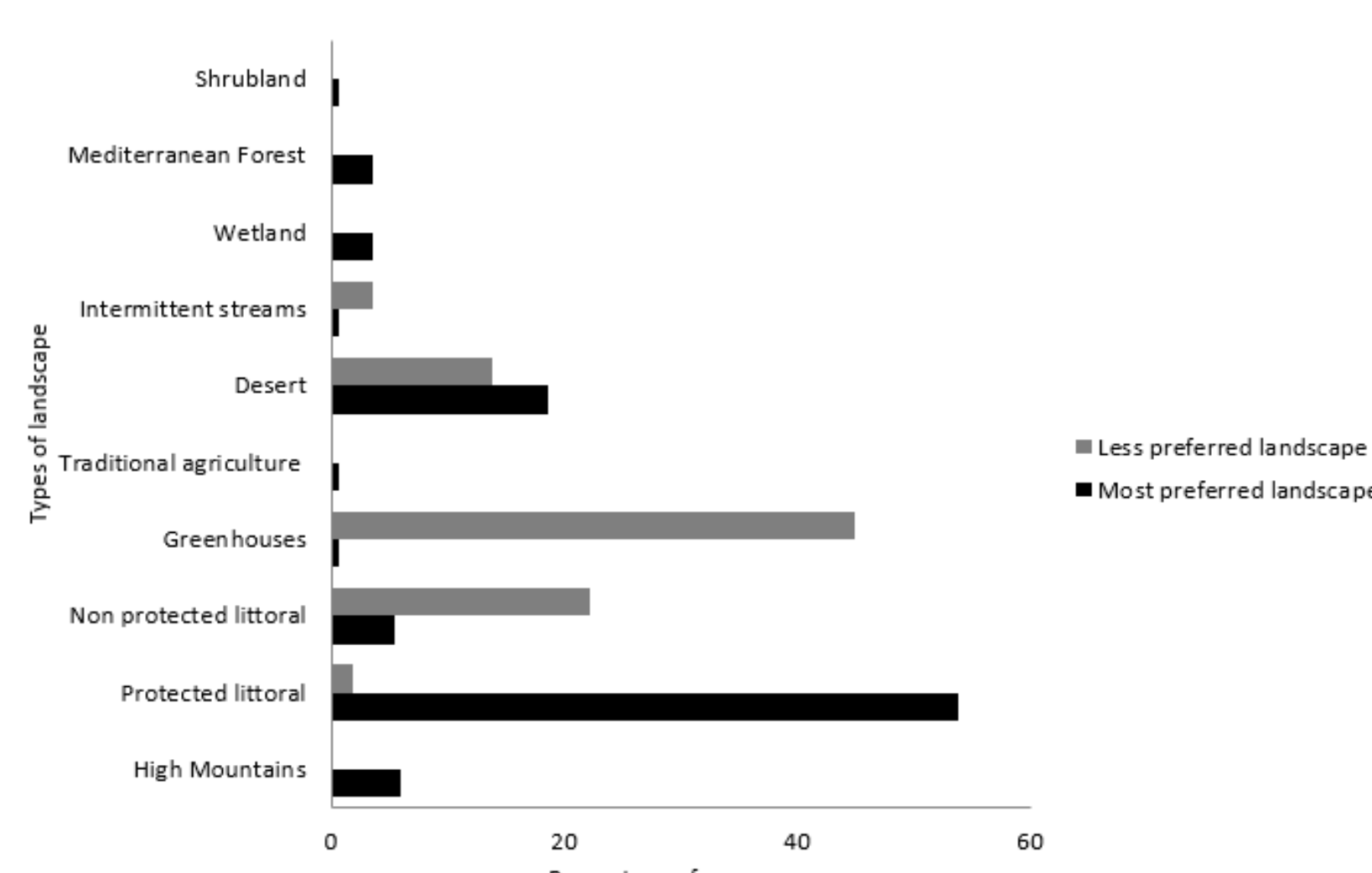
## METHODS

167 valid questionnaires were completed and used in this study. The questionnaires collected information regarding (1) people connection to nature, (2) social preferences towards landscapes, and (3) socio-demographic characterization (e.g. age, gender, sense of place, place of birth/residency, educational level).

Microsoft Excel 2016, XLSTAT 2017 and Wordle™ (<http://www.wordle.net/>) was used during this study.

## RESULTS

Among the ten landscapes analyzed, the most preferred landscape by respondents was protected littoral (53.89% of responses). On the other side, the less preferred landscape were greenhouses (44.91% of responses). Desert was identified as the most polarized landscape, being considered the most preferred and rejected at the same time. (Fig 2).



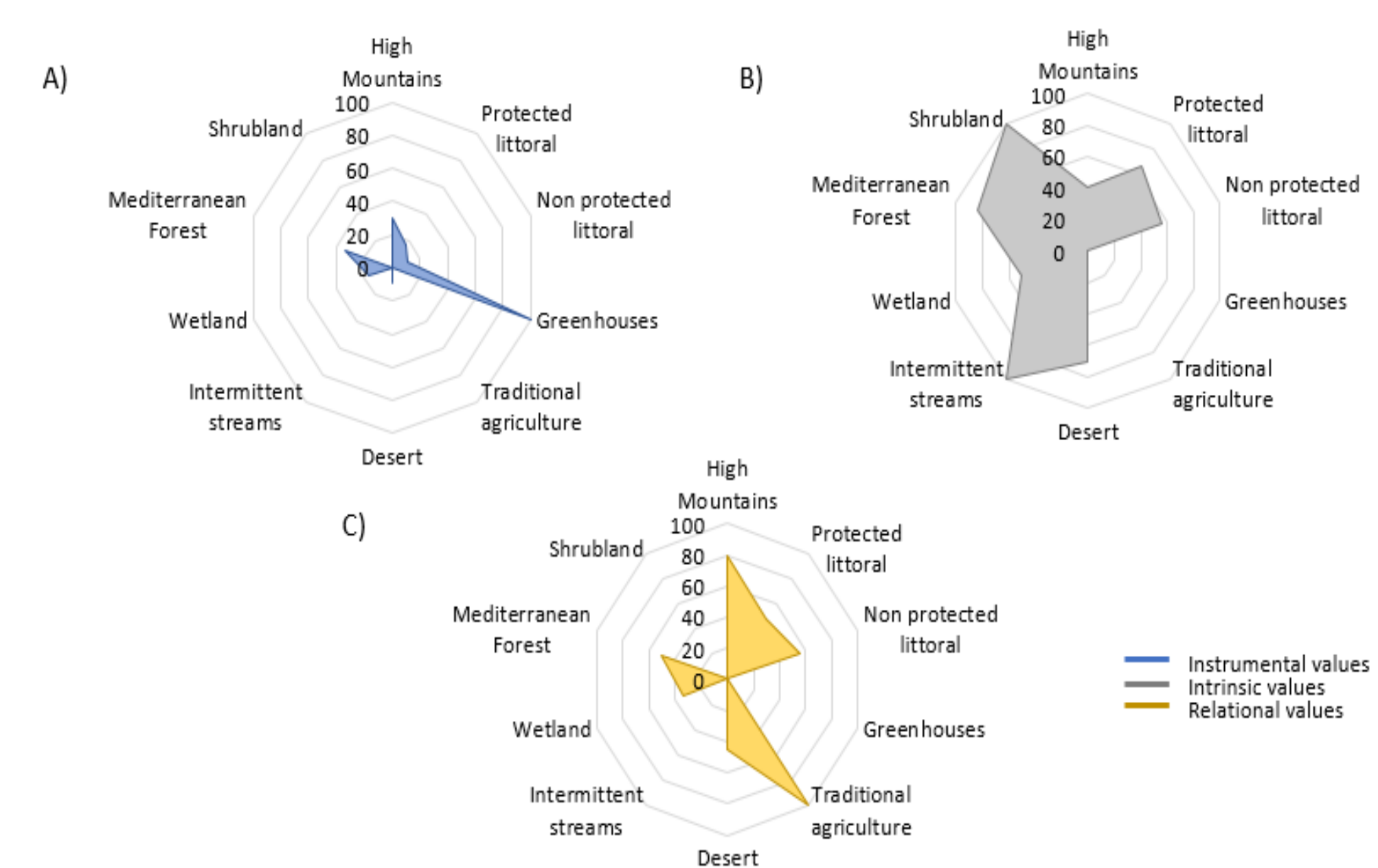
**Fig 2.** Most and less preferred landscapes of Spanish drylands.

Respondents identified words such as “tranquility” and “non-natural” to describe their relationship with protected littoral, high mountains, and greenhouses (Fig 3).



**Fig 3.** Word clouds of the reasons about landscapes preferences: A) Most preferred landscape, B) Less preferred landscape.

Our results identified intrinsic values as the type of values most linked to intermittent streams and shrublands, while relational values were linked to traditional agriculture landscapes. Additionally, people perceived instrumental values toward greenhouses (Fig 4).



**Fig 4.** Percentages of value types associated to landscapes (most preferred landscapes): A) Instrumental values, B) Intrinsic values, C) Relational values.

## CONCLUSION

- ✓ Findings showed that specific landscapes are more or less preferred by public, which suggest important implications for their management conservation.
- ✓ Desertic landscape was identified as the most polarized landscape in terms of preferences and associated values, which may provide important insights to develop new environmental education strategies that preserve these unique European ecosystems.
- ✓ Gender and educational level were found to be determinant factors for understanding landscape preferences, which might be also useful for identified public targets that needs attentions.
- ✓ Results suggest how the human-landscape assessment can be used to promote future conservation and pursue interdisciplinary research that can generate knowledge for a sustainable future described by strong connections between humanity and the biosphere.

## REFERENCES

- Martín-López, B., Oteros-Rozas, E., Cohen-Shacham, E., Santos-Martín, F., Nieto-Romero, M., Carvalho-Santos, C., González, J.A., García-Llorente, M., Klass, K., Geijzendorffer, I., Montes, C., Cramer, W., 2016. Ecosystem Services Supplied by Mediterranean Basin Ecosystems, in: Potschin, M., Haines-Young, R., Fish, R., Turner, R.K. (Eds.), Routledge Handbook of Ecosystem Services. Routledge, New York, NY: Routledge, 2016., pp. 405–414.
- Quintas-Soriano, C., Castro, A.J., Castro, H., García-Llorente, M., 2016. Impacts of land use change on ecosystem services and implications for human well-being in Spanish drylands. *Land Use Policy* 54, 534–548.
- Quintas-Soriano, Cristina, Marina García-Llorente, and Antonio J. Castro. 2018a. “What Has Ecosystem Service Science Achieved in Spanish Drylands? Evidences of Need for Transdisciplinary Science.” *Journal of Arid Environments* 159:4–10.