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SCOPE

This work investigates the application of the Köppen-Geiger (KG) classification system to the latest CMIP6 experiments in 3 Mediterranean environments, namely Iberia, Greece and Cyprus

Table 1. Köppen-Geiger (KG) climate classification system

BWh	Arid hot (Desert)
BSh	Semi-arid hot (Steppe)
BSk	Semi-arid cold (Steppe)
Csa	Hot-summer Mediterranean
Csb	Warm-summer Mediterranean
Cfa	Humid subtropical
Cfb	Temperate oceanic
Dwc	Monsoon-influenced subarctic

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DATA AND METHODS

- Monthly precipitation (mm), maximum, minimum, and mean temperatures (°C), with a 10-minute spatial resolution, were retrieved from the WorldClim dataset.
- Monthly averages for 1970-2000 were considered, whereas monthly averages for 2041-2060 were used under the Shared Socioeconomic Pathways (SSPs) SSP5-8.5.
- The datasets were generated by state-of-the-art Global Climate Models (GCM) within the framework of the Coupled Model Intercomparison Project (CMIP6). A 14-member ensemble of bias-corrected monthly datasets for 2041-2060 was chosen to compute the Köppen-Geiger (KG) climate classification system.
- The KG system is based on 5 major terrestrial climate types, represented by capital letters: A (tropical), B (dry), C (temperate), D (continental), E (polar); the second letter denotes the seasonal precipitation type, the third letter specifies the level of heat (Table 1)

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RESULTS

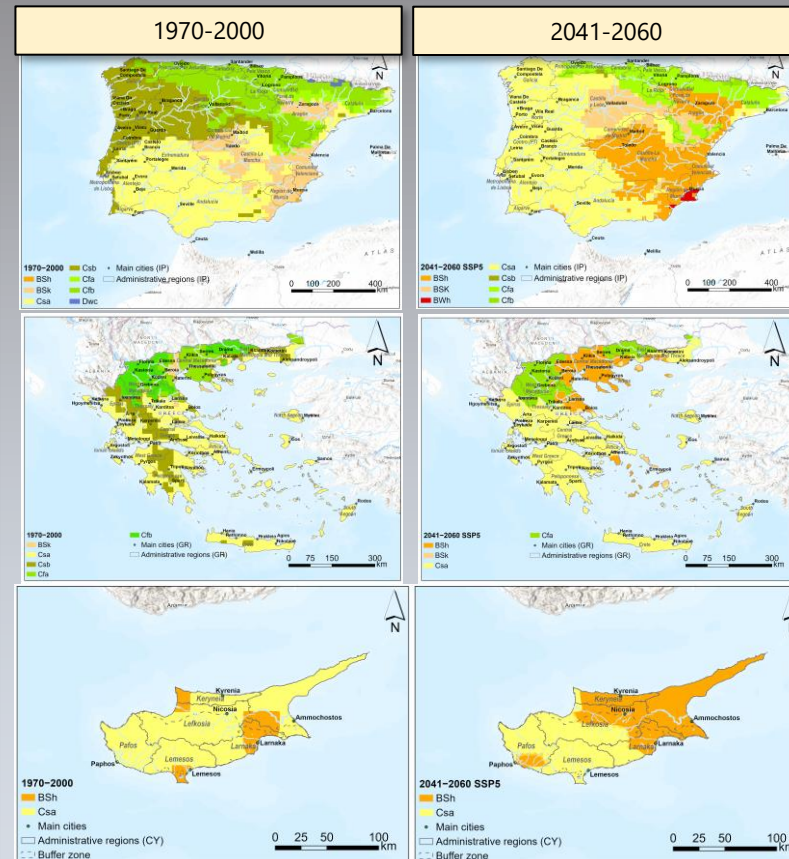


Fig. 1. Current climate condition (left) and future projections (right) for Iberia, Greece and Cyprus

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CONCLUSIONS

- Results project striking changes for the Iberian Peninsula and Cyprus; temperate (C) and arid (B) areas are expected to undergo a substantial transition from a warm summer temperature (Csb) to a hot summer climate (Csa) (Fig.1).
- Greece is also predicted to be impacted by climate change due to the transition from BSk (semi-arid cold) to BSh (semi-arid hot), loss of Cfb (Temperate oceanic), and increase of Csa (hot-summer Mediterranean) climate types (Fig. 1).

Acknowledgments: This research was funded with National Funds by FCT – Portuguese Foundation for Science and Technology, under the project UIDB/04033/2020. It was also supported by the Breath IN Erasmus+ project 2023-1-PT01-KA220_HED-00153118.