



Seasonal shifts in the Mediterranean type climates

Jelena Lukovic (1) and John Chiang (2)

(1) University of Belgrade, Faculty of Geography, Serbia (jlukovic@gef.bg.ac.rs), (2) University of California Berkeley, Department of Geography, USA (jch_chiang@berkeley.edu)

The Mediterranean hydroclimate is strongly seasonal and recent changes in climate trends have had considerable economic and environmental impacts. Shifts in seasonal cycles, seen in early occurrence of spring, have been mainly studied from the temperature-driven perspective. However, questions regarding precipitation-driven seasonal changes remain open despite the fact that some of the regions experiencing Mediterranean type climate will face persistent megadrought in the future. In this study we explore and compare precipitation seasonality changes of the two regions: Western US and Mediterranean basin, by analyzing trends from past decades. Western US and Mediterranean basin, by analyzing trends from past decades. Are there shifts in precipitation seasonality? What are the climate dynamics underpinning these changes? Are there changes in the onset and termination of rainy season? This study focuses on developing a fundamental understanding of hydroclimate dynamics behind precipitation seasonality shifts over the two regions with respect to the recent past. Knowing these shifts in advance can help water managers optimize reservoir operations and efficiently address competing demands, such as irrigation, environmental needs, and power generation. Due to analogies in climate between California and Mediterranean basin, a key study goal is to bridge the US and EU hydroclimate research and synergize with the European Horizon 2020 flagship initiative in Climate Action, Environment, Resource Efficiency and Raw Materials.