

DOES MALAGA CITY HAVE GREEN AND BLUE INFRASTRUCTURES? ANALYSIS OF THEIR ECOLOGICAL CONNECTIVITY, POPULATION ACCESIBILITY AND POTENTIAL ECOSYSTEM SERVICES

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Ecosystem services (ES) are defined as “benefits people obtain from ecosystems”, and classified as provisioning, regulation and maintenance, and cultural services. Nowadays, there is continuous search for incrementing wellbeing, besides a higher concern for environment. Accordingly, ES contribute positively to decrease these concerns.

Green and blue infrastructures (GBI) play an important role in the regulation of natural cycles in urban and periurban areas, providing a number of ES, not always considered in planning and decision making process. GBI may be designed to reduce the ecological footprint, reduce natural hazards, and improve the quality of urban living environment (e.g air quality, water quality, noise, climate, aesthetics). GBI provide space for relaxation and restoration as well as exercise and leisure activities, promote new green services and jobs, and therefore increase the resilience of cities facing the Global Change.

Many Mediterranean cities present few spaces considered as GBI. In our case study, does Málaga city have GBI providing ES to its population? Málaga is a Mediterranean city of importance in southern Europe due to its strategic location and good communications. It has a population of almost 600.000 people plus the great amount of tourist throughout the year. Thus, it would be rather important to have GBI improving urban quality life and well-being.

The objectives are to assess the presence or absence of GBI in Málaga, and analyse the connectivity and accessibility of the population as well as the potential ES provided. To do this, image analysis and GIS techniques were applied to IKONOS satellite images (spatial resolution 0.5x0.5 m; date: 22/06/2017) in order to obtain the green areas map. These green areas were evaluated whether they responded to GBI definition. Finally, ecological connectivity and population accessibility for those selected GBI were determined, as well as the potential ES using the expert criteria.

Key words: ecosystem services, green and blue infrastructures, ecological connectivity, population accessibility, mapping.