



Using a global wetland ecohydrology research network to identity priorities and interlinkages of Sustainable Development Goal (SDG) targets

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Achieving sustainable development is regarded as a complex task and the SDGs have been designed to serve as guidelines for such goal. Since wetlands provide a wide range of environmental services to humanity, focusing on these ecosystems is crucial for achieving sustainable development in the countries in which the wetlands are located. The main objectives of this research were to: 1) Understand the SDG targets that should be prioritized in order to achieve sustainable development in specific iconic wetlands around the world, 2) identify feed backs and synergies across targets from a wetland perspective and 3) illustrate how wetland research can help achieve specific SDG targets. Data was collected on 36 wetlands across 5 continents and 17 countries by means of a questionnaire answered by 40 wetland researchers of the Global Ecohydrological Network (GWEN– www.gwennetwork.se) and designed by a selected group of these researchers during a meeting held in April in Santa Marta, Colombia in April 2018. Collected data were analyzed via both one-mode undirected and bipartite directed networks to answer the first two objectives. We found that of the 33 SDG targets that are wetland-related and that were previously selected for the study, four were considered a priority by at least 20 of the researchers: the Targets being 6.3 – “Improve water quality”, 2.4 – “Ensure sustainable and resilient food production systems”, 8.4 – “Sustainable Consumption and Production” and 12.2 – “Sustainable management of resources”. Furthermore, targets 12.2, 6.3 and 2.4 resulted being the most influential by enabling and reinforcing the largest number of targets. However, target 2.4 counteracted and constrained the largest amount of targets, but at a much smaller scale than when compared to its positive influence. The network analysis resulted in the identification of four wetland groups with distinctive SDG-target bundles that researchers considered should be addressed as priority. We further illustrate for a particular iconic and degraded tropical wetland in Colombia, the Ciénaga Grande de Santa Marta, how hydrogeodesy (i.e. by Interferometric Synthetic Aperture Radar – InSAR) and ecohydrology studies can give valuable information to some of these priority SDG targets in the region.