

Wetlands are shrinking rapidly in Greece

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Wetland systems are vulnerable to changes in the quantity and quality of water supply. Even small changes in fresh water input or output can affect the water balance of wetlands such that plant communities and habitat for animals are strongly affected.

Wetlands in Greece, and the Mediterranean in general, face on-going climate impacts including 20% less rainfall in the course of the previous century. Further deteriorating of these wetlands due to climate change is expected. Projections were made for two Greek wetlands: Lake Cheimaditida and Lake Kerkini. Lake Cheimaditida is a natural lake that covers an area of 10 km² at its maximum water level. Lake Kerkini is an artificial lake fed by a river that has developed into a unique wetland ecosystem covering an area of 73.2 km².

Climate change will further disturb the water balance in both lakes by increasing evaporation, and by decreasing water input from precipitation and lake's catchment run-off.

Catchment run-off represents a considerable amount of the water inflow into the lakes. Projections indicate this run-off will reduce by one-fourth during the period 2020 - 2050 and by half during the period 2070 - 2100, compared with the reference period 1961 - 1990. In addition, lake water will be used for irrigation. Consequently, the surface area of Lake Cheimaditida may shrink by 20% during the period 2020 - 2050 and by 37% during the period 2070 - 2100; the water volume of the lake may decrease by 39 and 61%, respectively. Lake Kerkini's surface area may shrink by 5% during the period 2020 - 2050 and by 14% during the period 2070 - 2100; the water volume of the lake may decrease by 18 and 38%, respectively. In fact, these percentages may be even higher due to a possible increase in irrigation demand in the future, in a warmer and drier climate.

Source: Doulgeris et al., 2016. Regional Environmental Change 16: 1941-1950

Photo: Wenfei Tong (www.flickr.com)