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An optimal management of water for a turf irrigation system in Milan area (Italy)

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The design of an irrigation system is not just "draw", but a complex organization that takes into account of a whole range of information that are inherently contained in the graphic representation of the final plan.
The various stages that make up the activity of designing an irrigation system include: general survey of the site to be irrigated, meteorological analysis of the site and the calculation of the water requirement, development of the project with the choice and location of the components.
The use of a numerical model based on water balance in a soil-water-atmosphere system allows the evaluation of the optimal water requirement as a function of meteorological characteristics. The water saving is enabled through a smart programming of a modern automation system for irrigation.
The meteorological data analysis was conducted choosing from the series of two special years: the year 2002, particularly rainy, and the other in 2007, extraordinarily drought. The determination of the water requirements of turf was conducted on a daily scale.
The water consumption was calculated in a classic irrigation system that covers the delivery of 5 mm of water per day, interrupted only by a rain sensor.
In the second case water consumption was analysed by managing an irrigation controller based on actual water needs of turf day by day. For the two years in question water savings ranges between 13 and 27%.