European Union

Copernicus Europe's eyes on Earth

EARSC European Association of Remote Sensing Companies

THE GREEN LAND

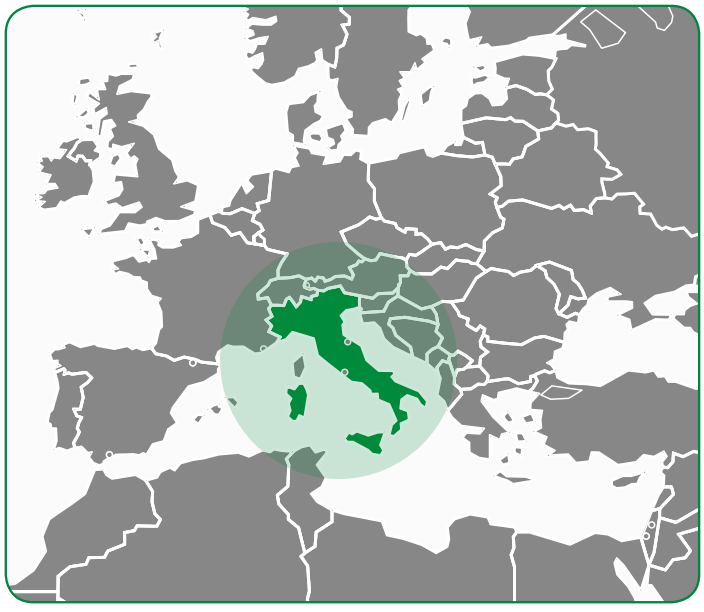
IIASA

esa

GOLF COURSE MONITORING IN ITALY

What it is about

Water is a precious and valuable, however increasingly limited resource due to several factors such as climate change, human interventions as well as close-to over-consumption having adverse impacts on the environment. In Italy, water availability is a pressing issue since most of the country is under extremely high water-stress. For this reason, Centrale Valutativa has developed the decision-support application TETHYS that makes use of Sentinel-2 data to monitor the health status of fields and grasslands. Based on the analyses, greenkeepers of golf courses, a major water consumer, can focus their attention to parts of the golf course that need their attention most as well as employ precision irrigation, saving time as well as both water and energy. This more efficient use of precious resources benefits the environment by taking away pressure from an already water-stressed region and saves considerable cost for the golf course operator.



What we found

- The use of Sentinel-2 data creates various benefits for the golf course's superintendent by providing him or her with a synoptic, frequently updated view of the photosynthetic activity of the Golf course.
- Sentinel-2 data can provide information on the health state of the turf several days before the greenkeeper`s naked eye would have observed any stress giving him extra time to initiate any mitigation measures.
- While the use of the application creates considerable financial benefits through lower water and energy consumption (c. 20%), it is in particular the timesaving that lets the superintendent direct his attention to areas that need it most as the golf course stretches over thousands of hectares.

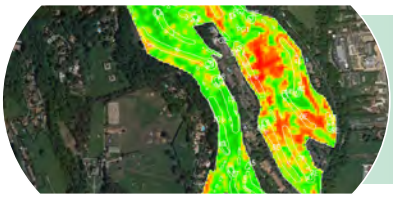
Funded by the EU and ESA

Layout by ESA EO Graphics Bureau

GOLF COURSE MONITORING IN ITALY

The Satellite Data

Copernicus Sentinel-2 provides free-of-charge frequent wide-swath, high-resolution multispectral imagery with 13 spectral bands over Italy.



The Service Provider

Rome-based data-analytics company Centrale Valutativa helps golf course greenkeepers with prioritising greening and turf maintenance decisions over the whole golf course. By analysing photosynthetic activity and water requirements, their application assists the greenkeepers in guiding them to areas of the course where their attention is needed the most.

The Primary User

Olgiata Golf Club is a first-rate 40k ha golf course near Rome. Its superintendent uses the TETHYS application to receive detailed information and analyses on the health state of the golf course. By focusing on areas in need and following irrigation recommendations, he saves time and cost thanks to lower water and energy bills (c. 20%).

Secondary Beneficiary

Both professional and recreational golf players benefit from perfect playing conditions to achieve the best possible sportive performances.

End Use Beneficiary

The general public benefits as a more efficient use of water and energy takes away pressure from an already water-stressed environment.

About the project

Through a series of case studies, EARSC aims to gather quantitative evidence that the usage of Copernicus Sentinel data provides an effective and convenient support to various market applications. These studies are undertaken in the frame of the project "Showcasing the benefits brought by the usage of Sentinels data to society, environment and economy: a bottom-up assessment based on traceable impacts along selected value chains", under an assignment from the European Space Agency (ESA) funded by the European Union as part of the Copernicus Programme.

Download the full report from the project website

http://earsc.org/sebs