

Data assimilation from soil-crop-climate sensor network in IRRINET DSS

Riferimenti

Tipo di progetto

Gruppo Operativo

Tematica

Risorse idriche

Information

Time frame

2016 - 2019

Durata

36 months

Partners (no.)

6

Regione

Emilia-Romagna

Comparto

Multifiliera

Localizzazione

ITH52 - Parma

ITH55 - Bologna

ITH58 - Forlì-Cesena

Costo totale

€190.377,87

Fonte di finanziamento principale

Programma di sviluppo rurale

Programma di sviluppo rurale

2014IT06RDRP003: Italy - Rural Development

Programme (Regional) - Emilia Romagna

Parole chiave

Climate and climate change

Water management

Farming equipment and machinery

Plant production and horticulture

Sito web

<https://consorziocer.it/it/ricerca-e-sperimentazione/progetti/sensori-e-irrinet...>

Project status

completed



Objectives

This Innovation plan stems from the increasing interest, from growers and producers organizations, in the adoption of sensors to monitor environmental data related to the soil-plant-air system, sometimes even without technical support. In this context, the main issues to be addressed are represented by the lack of data integration and accessibility during the process of acquisition and analysis of environmental data (soil, crop, climate), and by the consequent lack of an actual benefit for the grower in terms of water savings.

Activities

The project activities are organized within the following 3 actions:

ACTION 1: Preliminary evaluation of the quality of the monitored data and of their integration protocols within IRRINET.

ACTION 2: Development of protocols and software for the integration of the sensors data monitored within IRRINET

ACTION 3: Application and validation at farm level of the automatic integration system for the site-specific data (weather, soil, crop) within IRRINET. At this stage 4 pilot farms and about 10-15 test farms will be involved to validate the IRRINET data acquisition system, with field measurements.

Partenariato

Sensori e IRRINET: integrazione delle informazioni provenienti da reti di stazioni meteorologiche e sensori privati con il modello di bilancio idrico IRRINET

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<https://www.innovarurale.it/pei-agri/gruppi-operativi/bancadati-go-pei/sensori-e-irrinet-integrazione-delle-informazioni>

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Pratiche abstract

Description

The integration of soil, crop and environmental sensors within the IRRINET regional DSS for irrigation management will allow farmers to benefit from an increased reliability of the monitored data, to improve the availability of site-specific information, but most of all, to automatize data integration and interactions in the IRRINET portal.

Hereafter, we report the main expected results for this project:

Sensori e IRRINET: integrazione delle informazioni provenienti da reti di stazioni meteorologiche e sensori privati con il modello di bilancio idrico IRRINET

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<https://www.innovarurale.it/pei-agri/gruppi-operativi/bancadati-go-pei/sensori-e-irrinet-integrazione-delle-informazioni>

1. Possibility to integrate environmental data from private sensors and weather stations to the IRRINET DSS.
2. Creation of links between IRRINET and weather and soil sensors located in pilot farms.
3. Validation of the IRRINET irrigation scheduling advices based on the irrigation needs identified in farms using other site-specific DSSs
4. Identification of regional areas where an increase in sensor density for data acquisition could lead to an improvement in the representativeness of the collected data.
5. Development of a specific installation manual for weather stations according to WTO standards
6. Development of protocols for validation and integration in IRRINET of weather, soil humidity content, and fruit growth data collected at farm level.

Link utili

Titolo/Descrizione	Url	Tipologia
Sensori e Irrinet	https://consorziocer.it/it/ricerca-e-sperimentazione/progetti/sensori-e-irrinet...	Sito web
Consorzio Cer	http://www.consorziocer.it/it/p/progetti-in-corso	Altro
Relazione tecnica finale	https://consorziocer.it/media/documents/01._Relazione_Tecnica_5005238.pdf	Materiali utili