The work aims at developing an **operational tool for real-time forecast of irrigation water requirements** to support parsimonious water management providing real-time and forecasted soil moisture behavior at high spatial and temporal resolutions with forecast horizons from few up to thirty days. The system will be a prototype version of a **world wide web platform**, that will support users in parsimonious irrigation water management **from water authorities to single farmer**.

The system combines **satellite** monitoring of soil moisture and of evaporative fluxes, quantitative **meteorological forecast** and detailed distributed **hydrological modelling** of soil water balance and crop water needs. **Economic impacts** at basin scale of the developed technology will be evaluated starting from single farm to larger irrigation districts considering not only the role of water and energy saved in financial terms, but also the environmental benefit due to a parsimonious use of the water.

The proposed methodology will be applied in different case studies in **Italy, in the Netherlands, in China and Spain**, characterized by different climatic conditions, water availability, crop types and irrigation schemes.

www.sim.polimi.it

Partners

POLITECNICO MILANO 1863

UNIVERSITAS STUDIORUM TUSCIAE VITERBIUM MCMLXIX

RADI

EPSON METEO CLIMA E AMBIENTE

TU Delft
Delft University of Technology

UIB Universitat de les Illes Balears

Waterschap Aa en Maas

Universitat de València

ANBI

MMI Modellistica e Monitoraggio Idrologico

SIM project

SMART IRRIGATION FROM SOIL MOISTURE FORECAST USING SATELLITE AND HYDRO –METEOROLOGICAL MODELLING

mid-term meeting

24-25 October 2017

ANBI conference room
Via Di S. Teresa, 23
Rome (Italy)

Patronage of

MINISTERO DELL'AMBIENTE E DELLA TUTELA DEL TERRITORIO E DEL MARE

Funded by

Water Works 2014

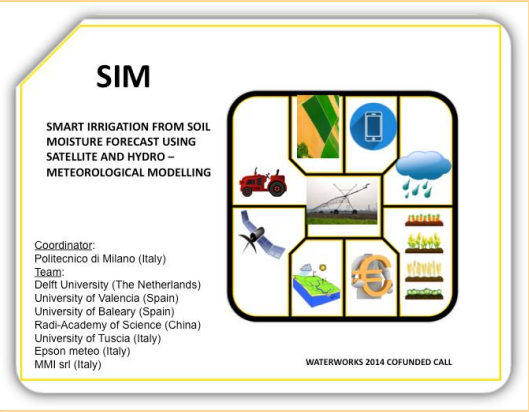
GOBIERNO DE ESPAÑA · MINISTERIO DE ECONOMÍA Y COMPETITIVIDAD

NWO Netherlands Organisation for Scientific Research

MIUR
MINISTERO DELL' ISTRUZIONE, DELL'UNIVERSITÀ E DELLA RICERCA

Program
SIM scientific report

24 October 2017



hour 9:15

Partners/advisory board introduction by *Marco Mancini*

hour 9:20

Greetings
- *Francesco Vincenzi / Massimo Gargano*, ANBI: Italian National association of irrigation

hour 9:30

SIM: state of the project (WP, deliverables, milestone, problems, reports, meetings, end-users) by the project coordinator
- *Marco Mancini*, Politecnico di Milano

hour 9:55

POLIMI results and discussion water balance model, satellite model interaction, and real time web dashboard

hour 10:30

UNITUS results and discussion on SIM impact on environmental and farm costs

11:10-11:30 coffee break

hour 11:30

UNIVES results and discussion satellite data retrieval for hydrological modelling

hour 12:00

DELFT results and discussion on land surface temperature downscaling using different sensors

hour 12:30

MMI results and discussion on irrigation schemes

12:50-14:30 buffet lunch

hour 14:30

RADI CAS results and discussion on water balance and remote sensing on Heihe basin

hour 15:05

UNIBAL results and discussion on meteorological forecasts using WRF

hour 15:35

MOPI results and discussion on meteorological forecasts using WRF

16:00-16:30 coffee break

hour 16:30 – 17:45

Advisory Board Comments (E.F. Wood, A. Massarutto, S. McMillan)

hour 17:45 – 18:00

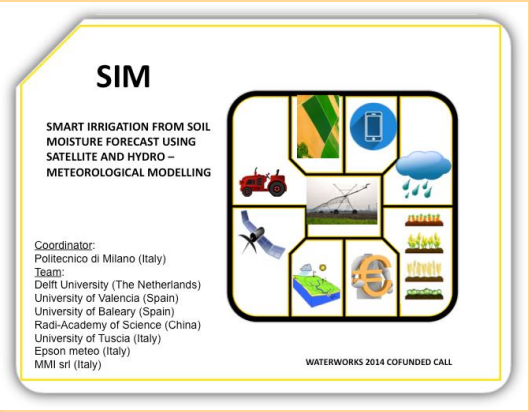
Final recap by Marco Mancini

20:00 dinner

Program

SIM interaction with stakeholders

25 October 2017



hour 9:30

ANBI: welcome and expectation from SIM project
- *Francesco Vincenzi / Massimo Gargano*, ANBI

hour 9:40

SIM introduction: objectives and expected results on the case studies
- *Marco Mancini*, Politecnico di Milano

hour 10:00

Parsimonious irrigation in Italian agricultural economy
- *Raffaella Zucaro*, CREA

hour 10:15

The World Bank vision in the field of parsimonious irrigation and satellite control of irrigation water needs -*Shelley McMillan*, World Bank

hour 10:35

Perspective of satellite use in parsimonious irrigation
-*Eric Wood*, Princeton University

hour 10:50

Capitanata irrigation consortium: irrigation system and possible use of SIM at consortium scale (Santoro, Nardella) and farm level (De Filippo, Guzzetti)

hour 11:05

Chiese and lake Idro consortium: irrigation system and possible use of SIM for irrigation and lake regulation scale (Bignotti/ Mille)

11:20-11:40 coffee break

hour 11:40

AA & MAAS water authority: irrigation system and possible use of SIM at consortium scale (Moorman, Peters)

hour 12:00

Heihe irrigation consortium: irrigation system and possible use of SIM at consortium scale (Li Jia)

hour 12:20

Discussion and conclusions

13:00-14:30 buffet lunch