IrriWatch

Bringing daily EcoStress Information to farmers

Wim Bastiaanssen

A farmer requires 4 golden data sets:

- When does the crop need water ? → Soil water potential
- How much water does the crop consume ? → Actual evapotranspiration
- Where should I irrigate? → Variable Rate Irrigation
- Is my crop experiencing water stress ? → Dry matter production

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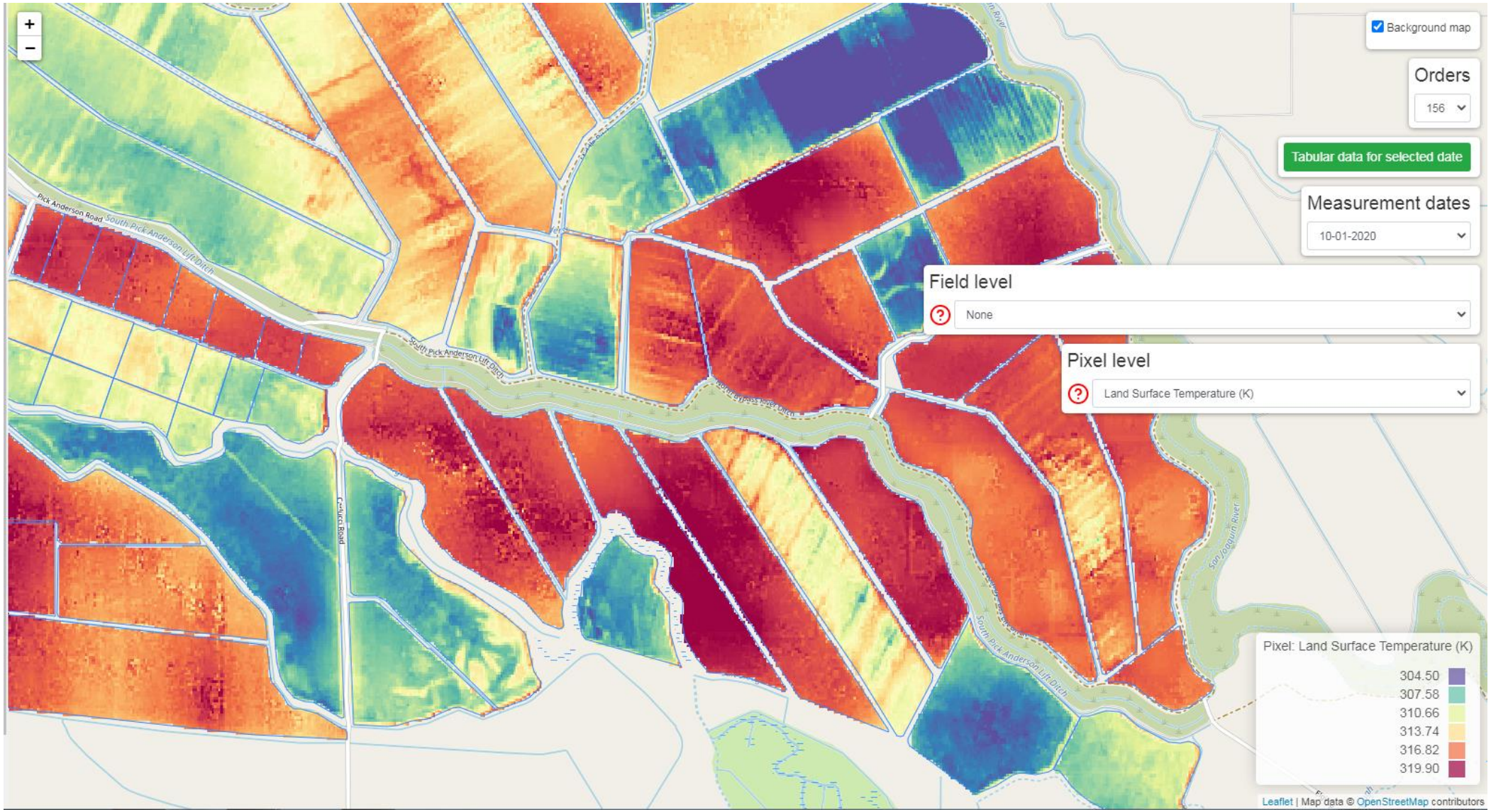
Each golden data set requires land surface temperature



Bowles Farm - California

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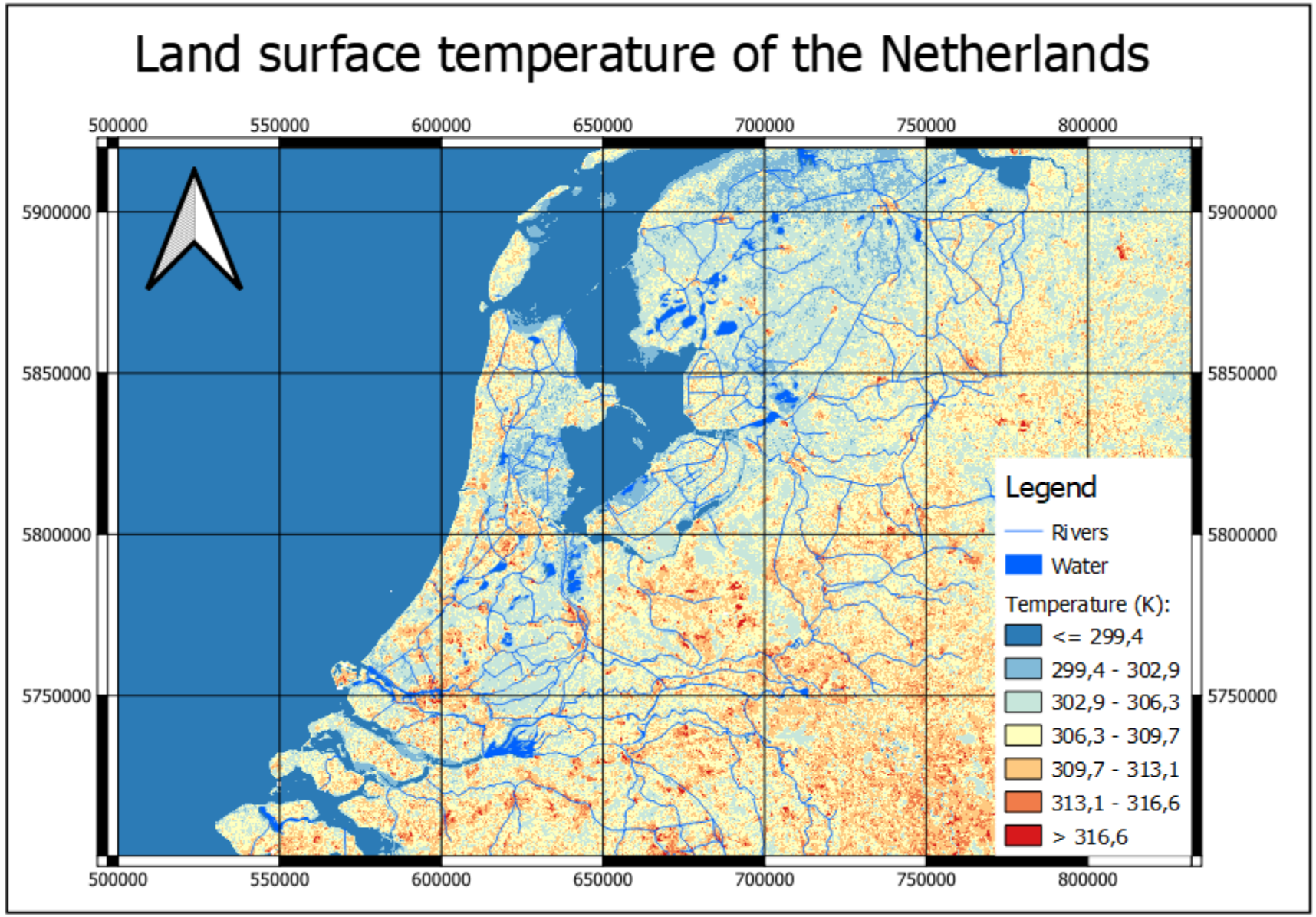
Landsat 7,8, EcoStress, VIIRS, MODIS



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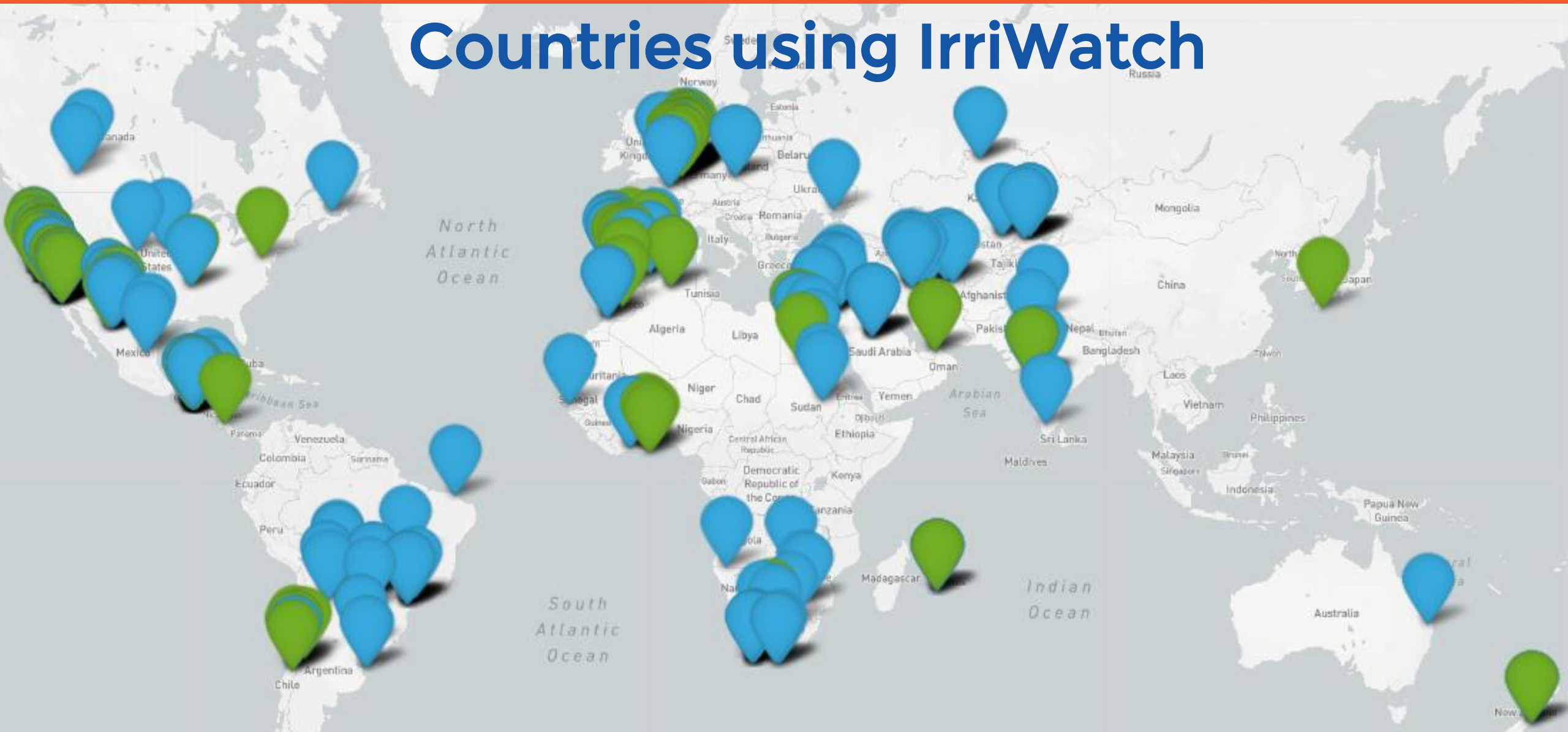
Countries using IrriWatch



- 18,000 individual fields
- 25 countries

Green is user this winter season
Blue is user last summer season

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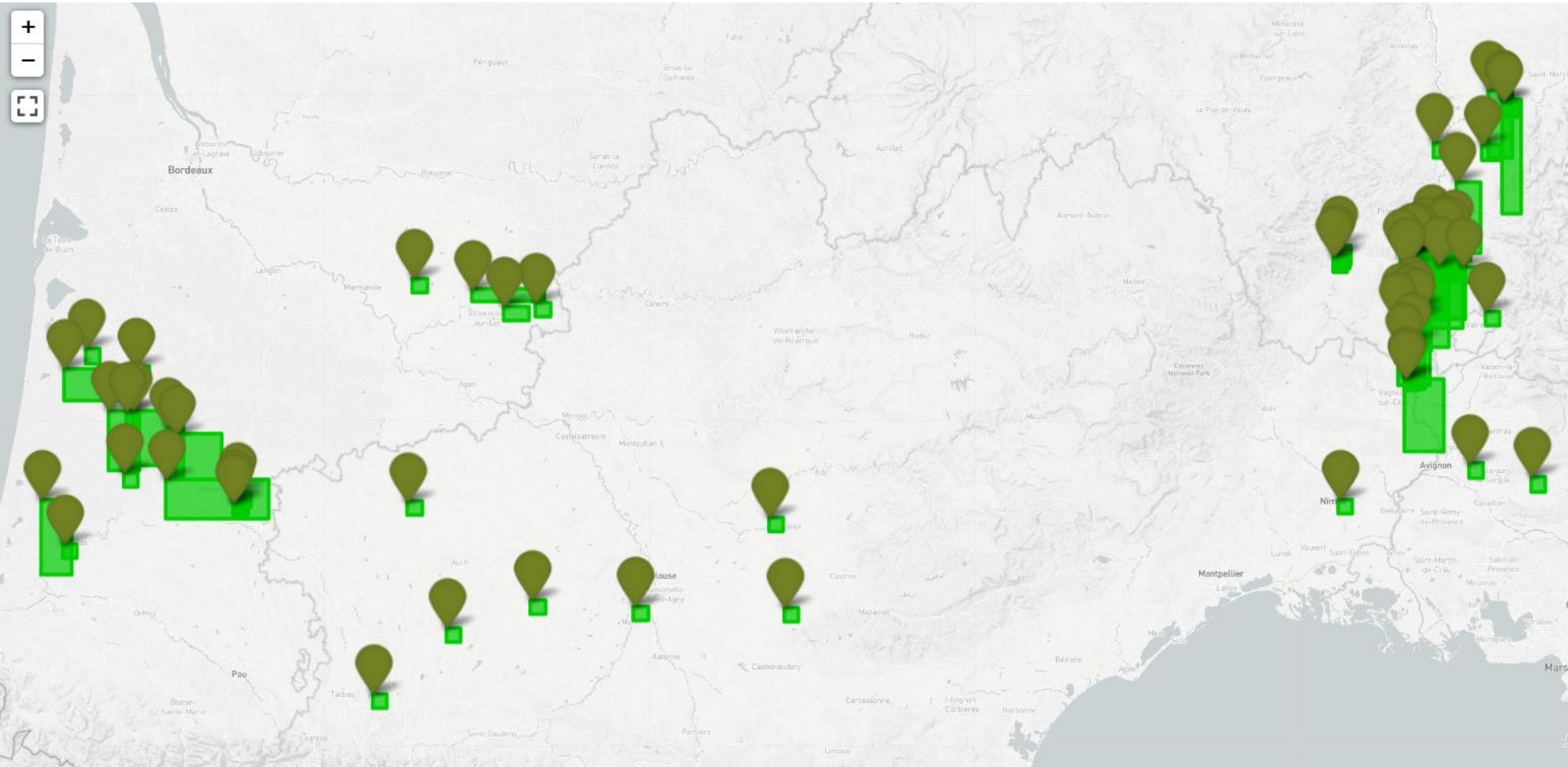
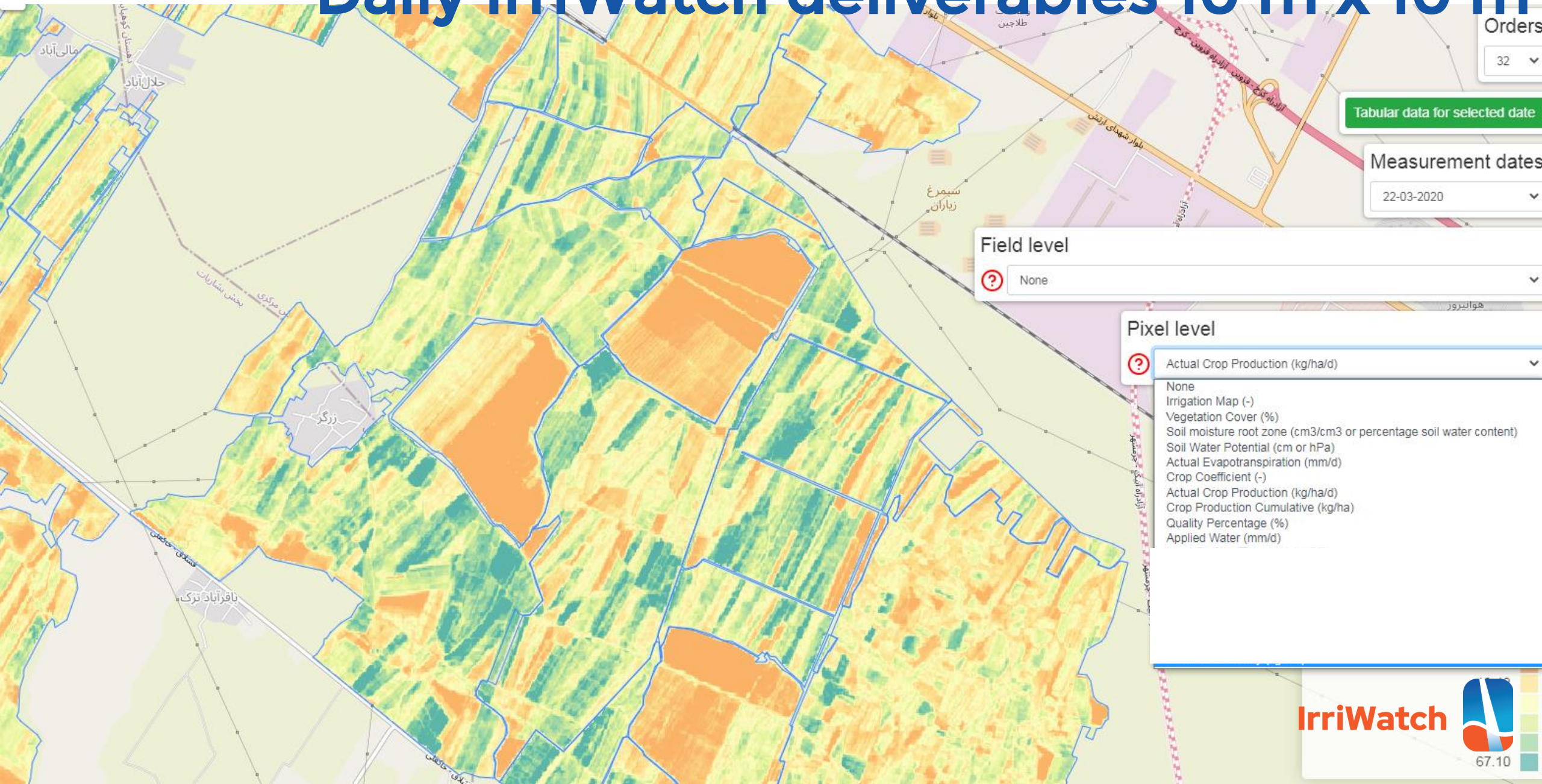
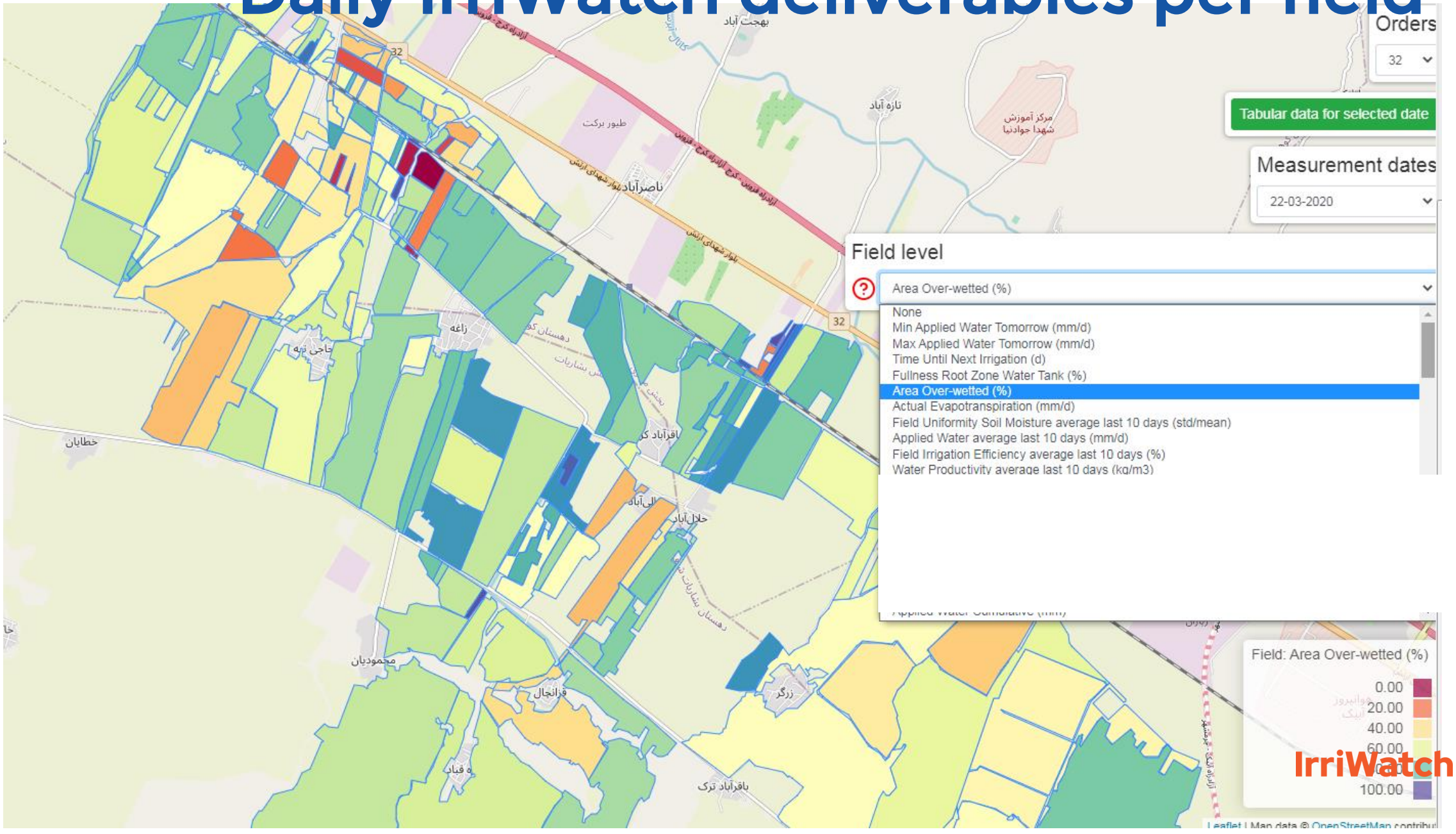
Southern France tiles



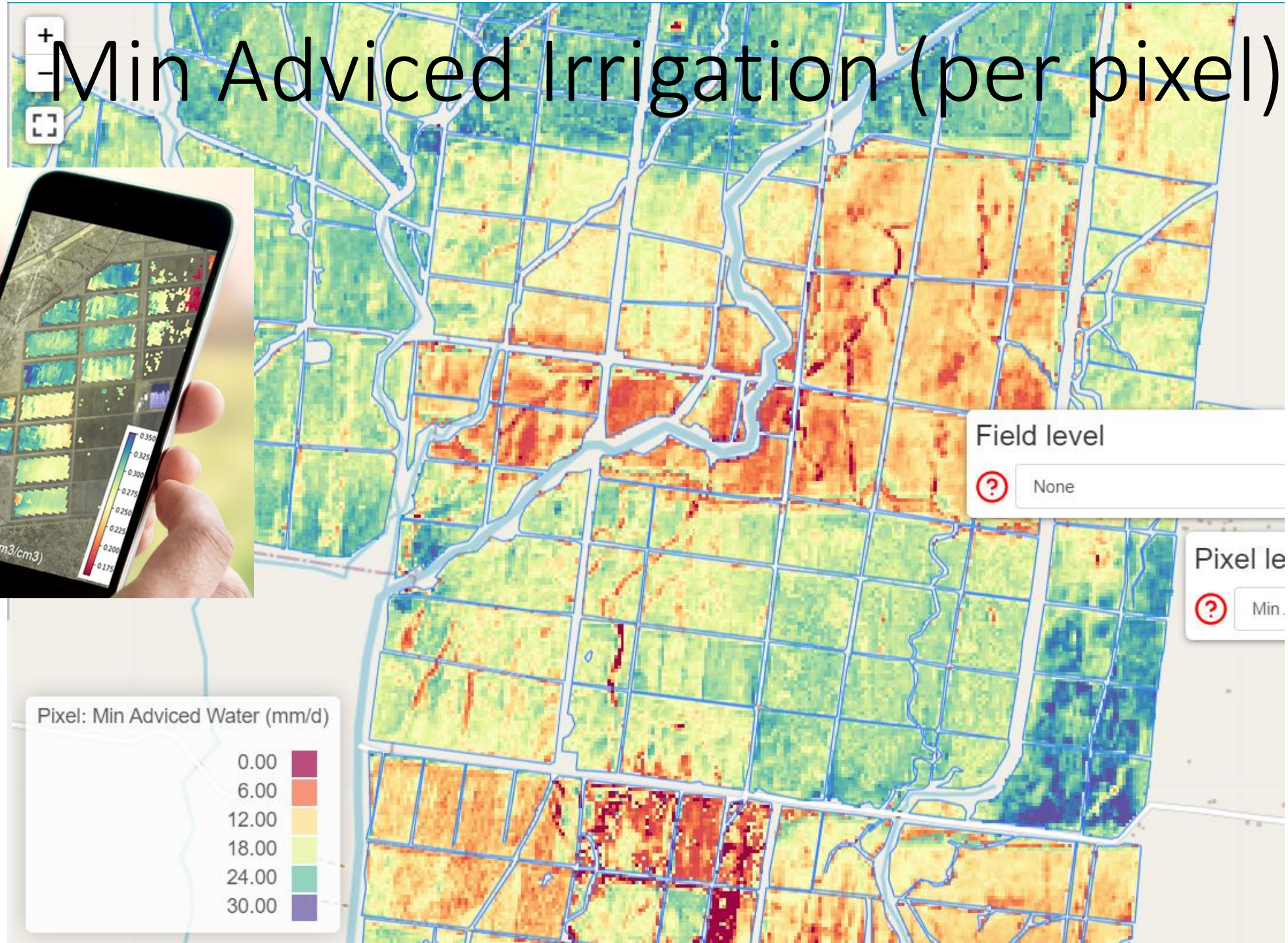
Daily IrriWatch deliverables 10 m x 10 m



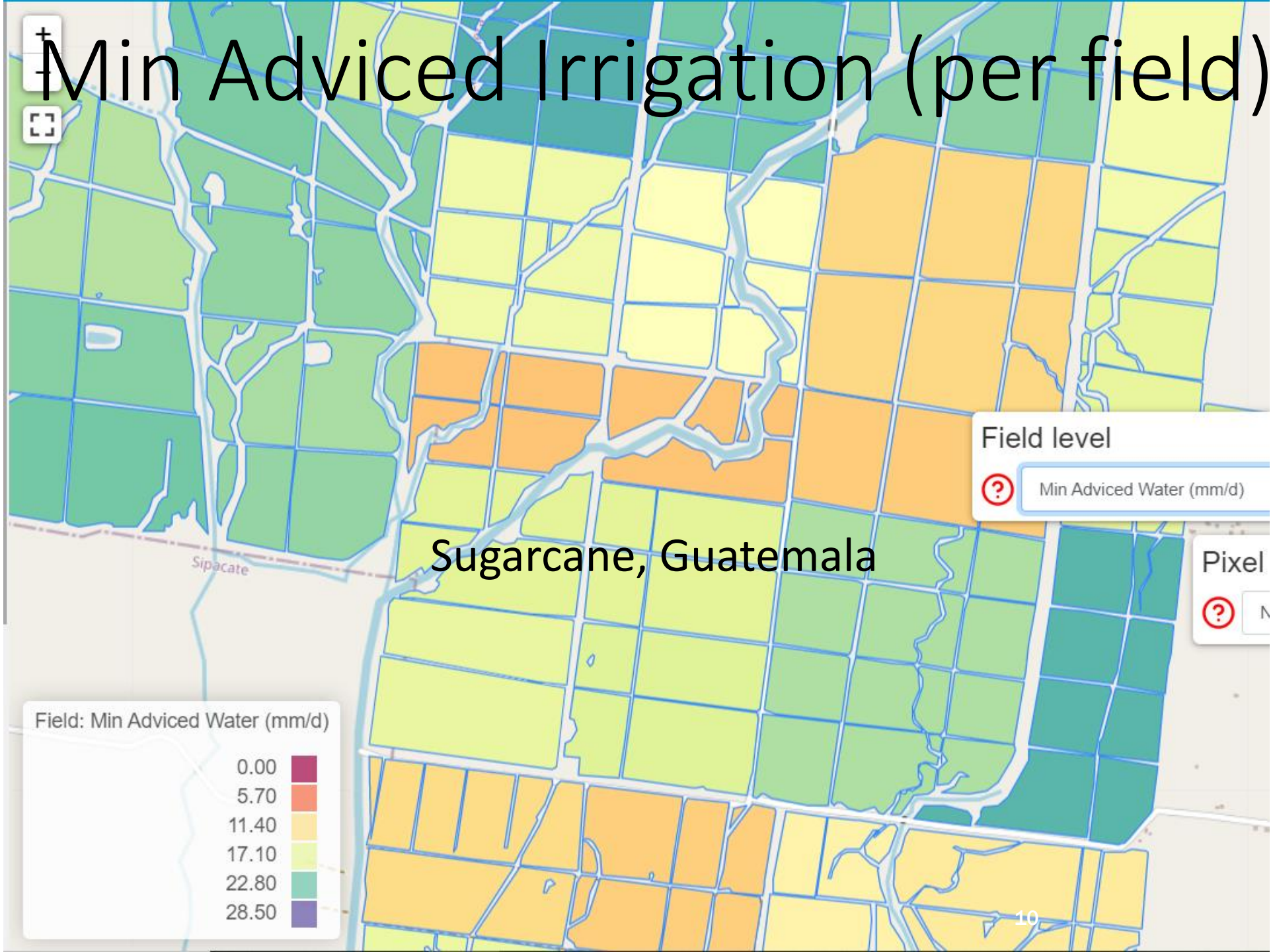
Daily IrriWatch deliverables per field



Min Adviced Irrigation (per pixel)

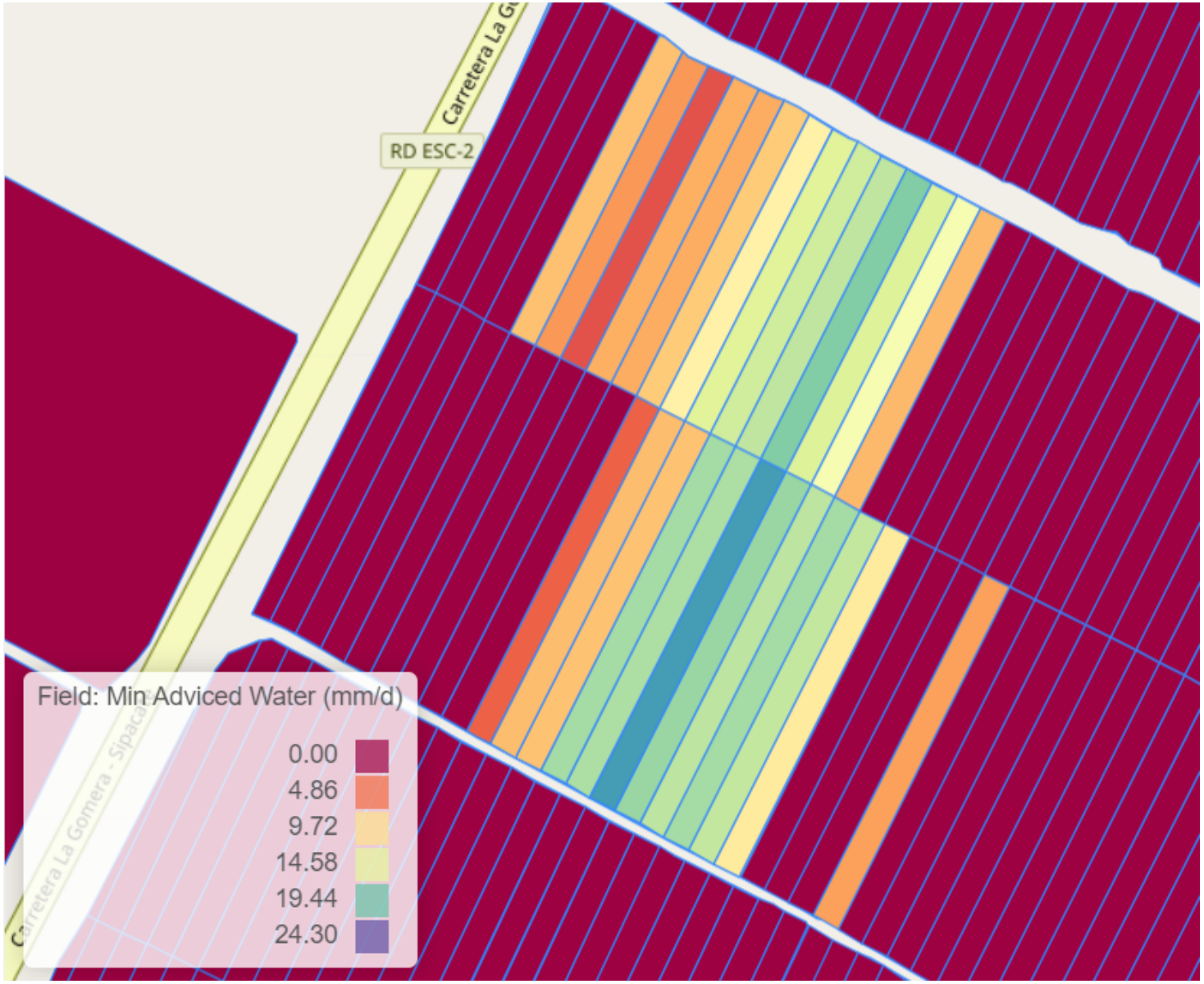


Min Adviced Irrigation (per field)



Irrigation advice per hydrant

Sugarcane, Guatemala



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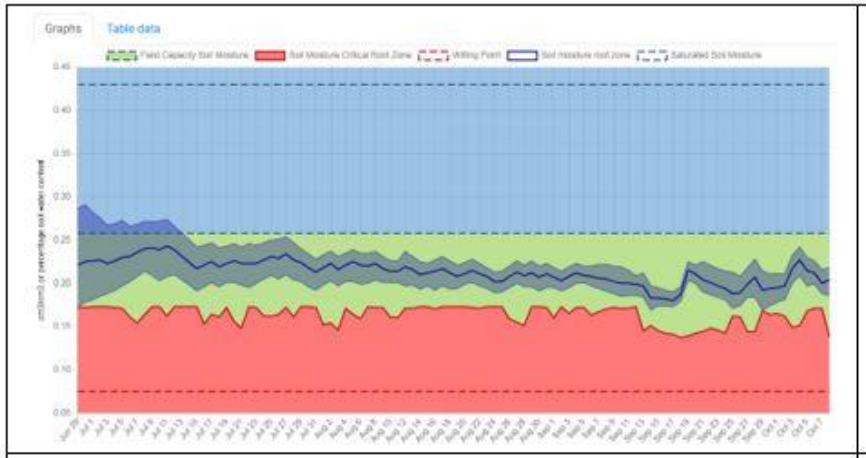
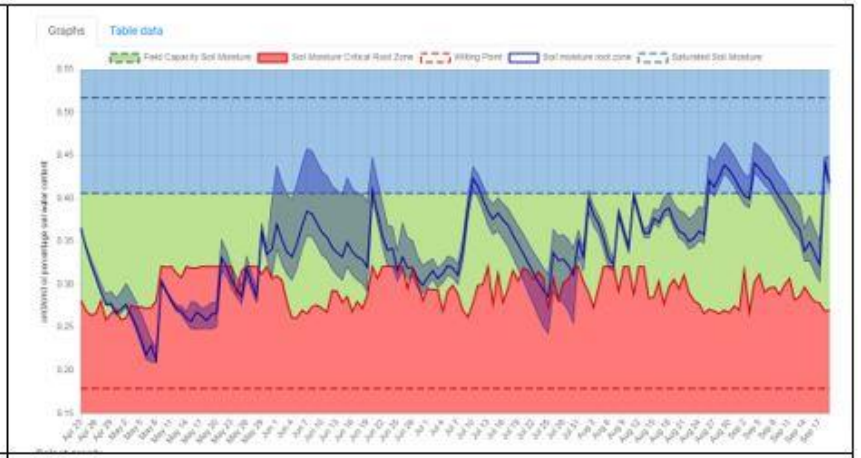
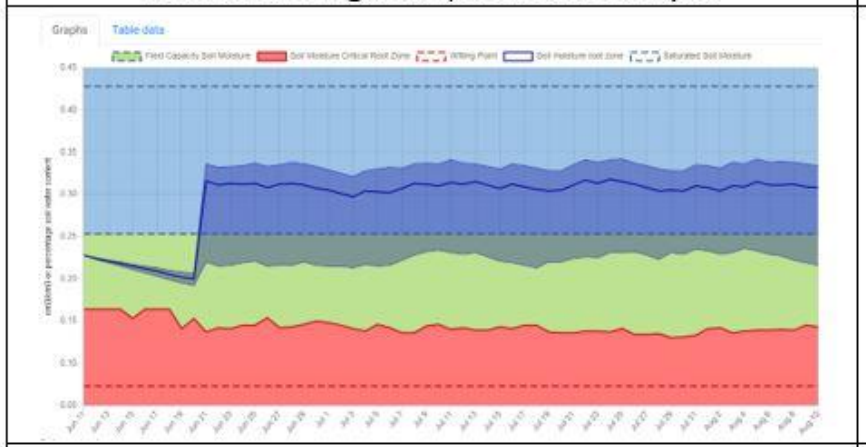
From ET and T layers towards soil moisture root zone through inverse modelling of Pm equation



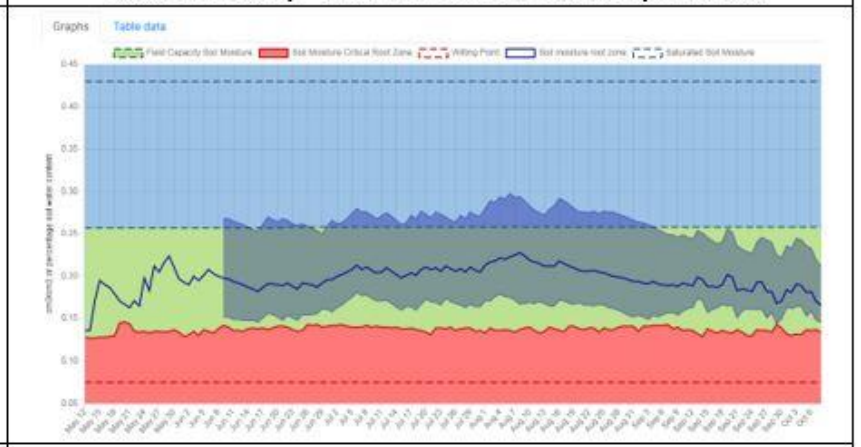
Excellent irrigation; school example



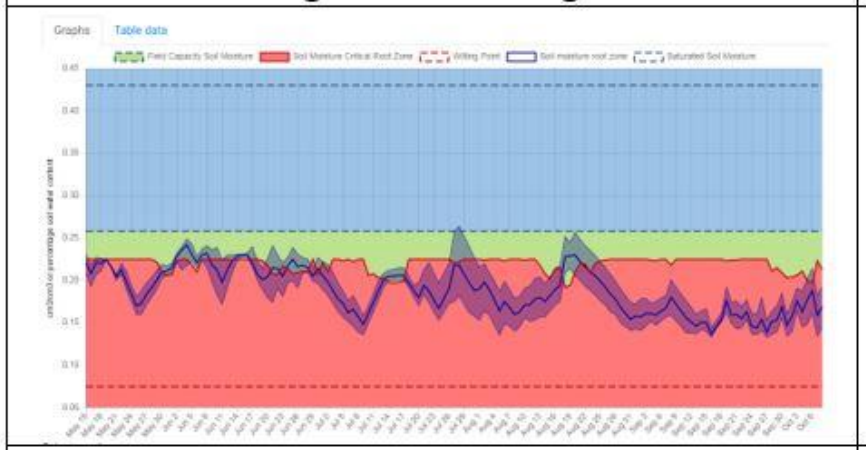
Rainfed crop with stress and wet periods

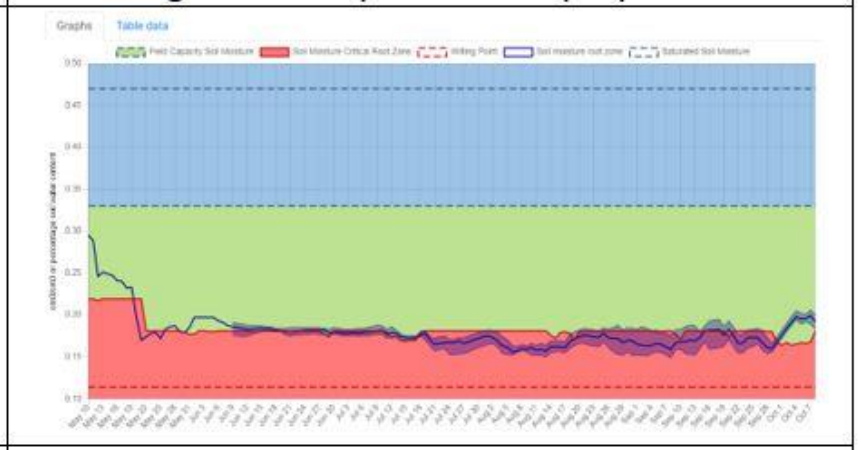


Over-leaching with saline irrigation water



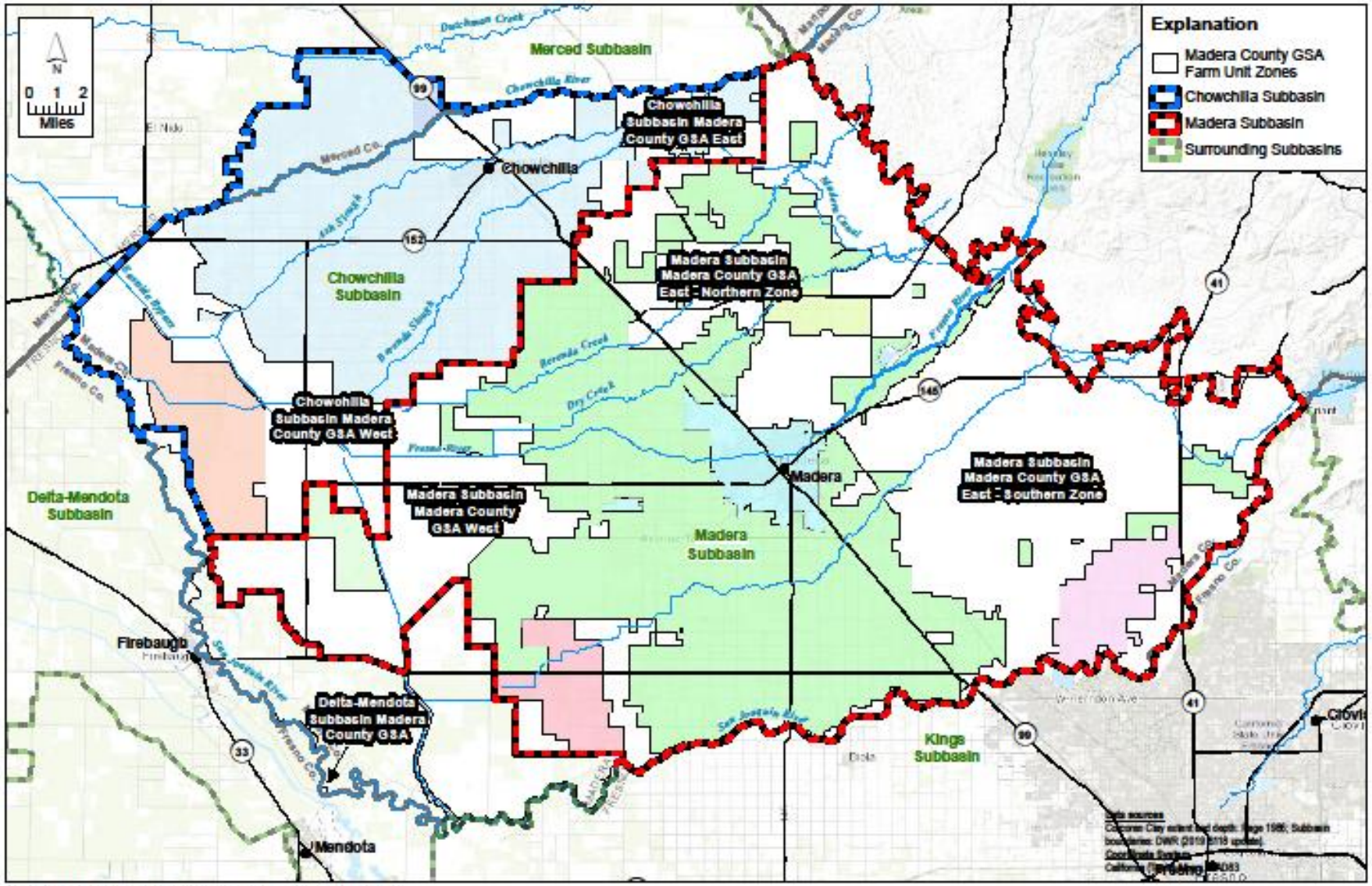
High variability due to soil properties





Increasing water use efficiency (i.e. water productivity)

Exhibit B



DAVIDS

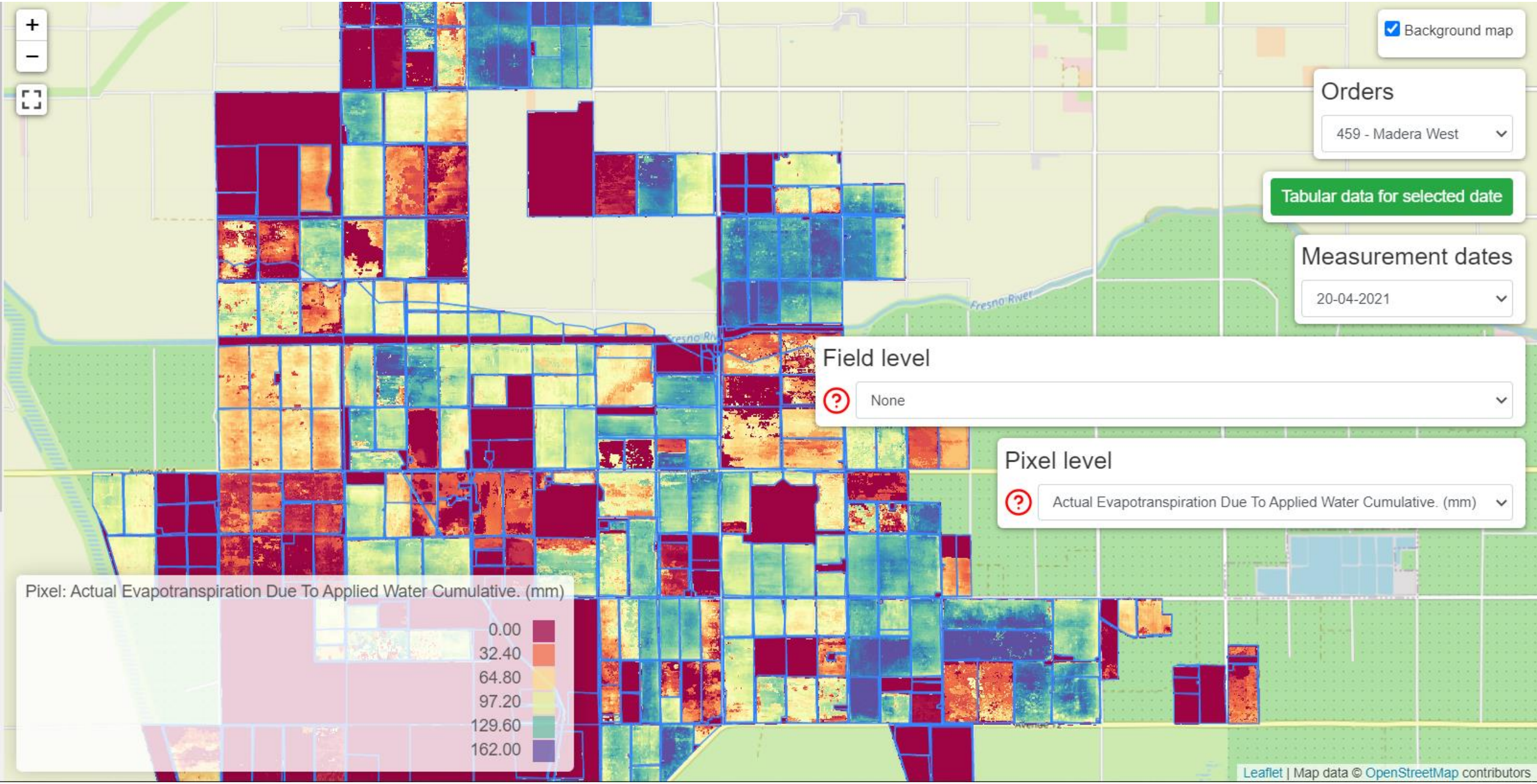
Luhdorff & Scalmanini

FIGURE 1

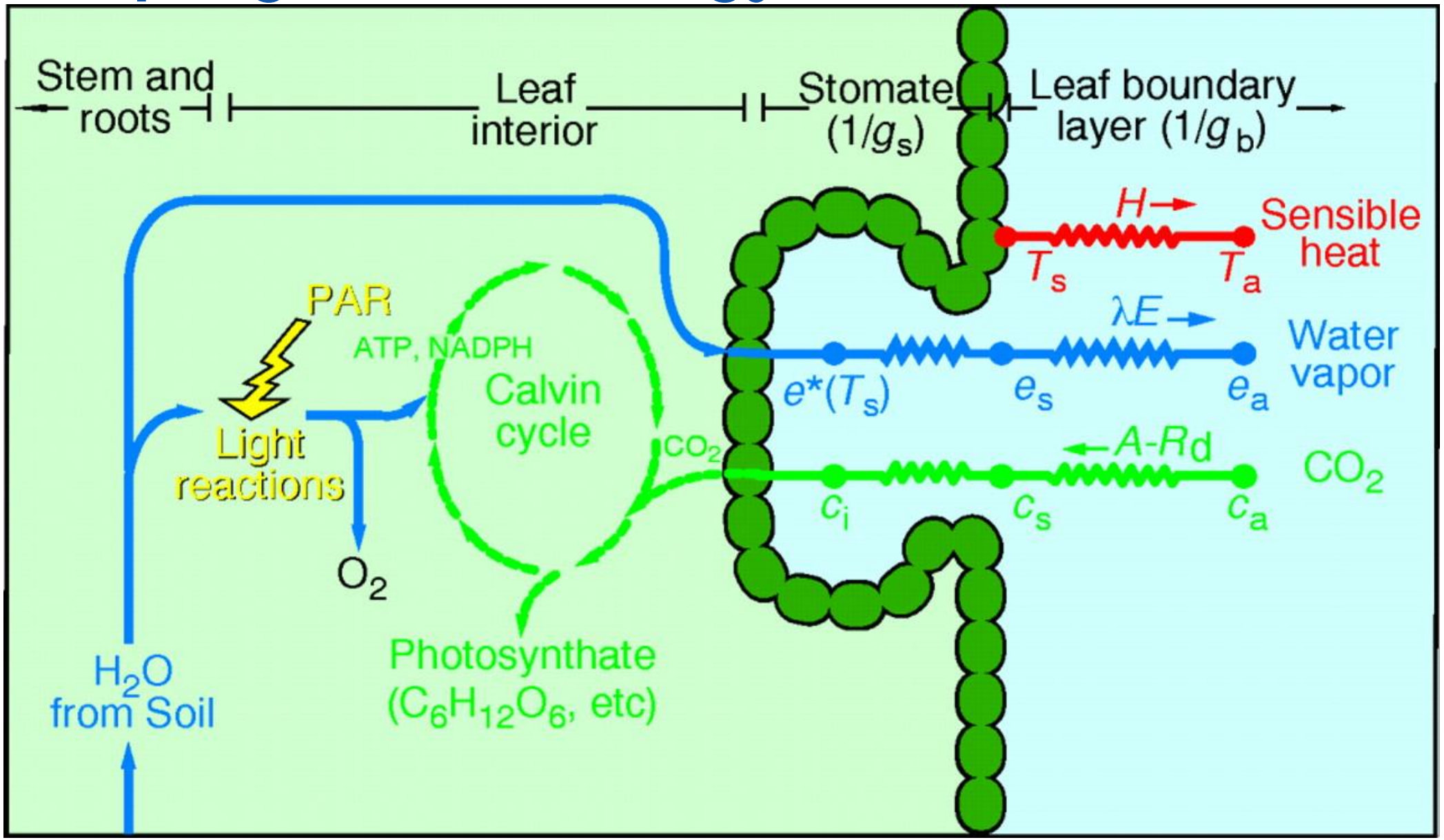
Madera County GSAs Farm Unit Zones

Madera Subbasin
Groundwater Sustainability Plan

@MADERACOUNTY
maderacounty.com


Background map
Orders
459 - Madera West
Tabular data for selected date
Measurement dates
20-04-2021
Field level
None
Pixel level
Actual Evapotranspiration Due To Applied Water Cumulative. (mm)
Pixel: Actual Evapotranspiration Due To Applied Water Cumulative. (mm)
0.00
32.40
64.80
97.20
129.60
162.00
Fresno River
Leaflet | Map data © OpenStreetMap contributors

Coupling carbon, energy and water balance



Crop production depends on LST

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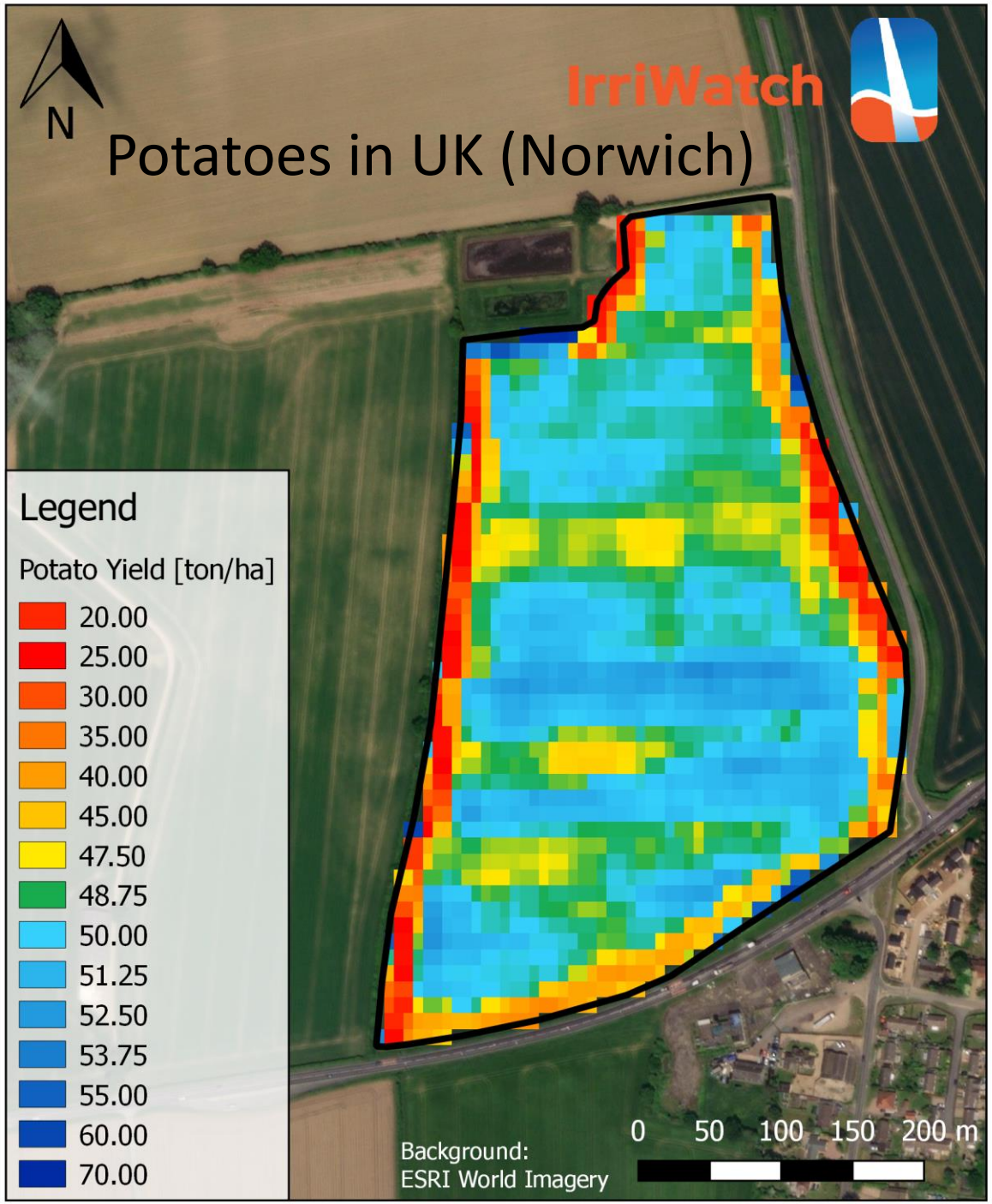

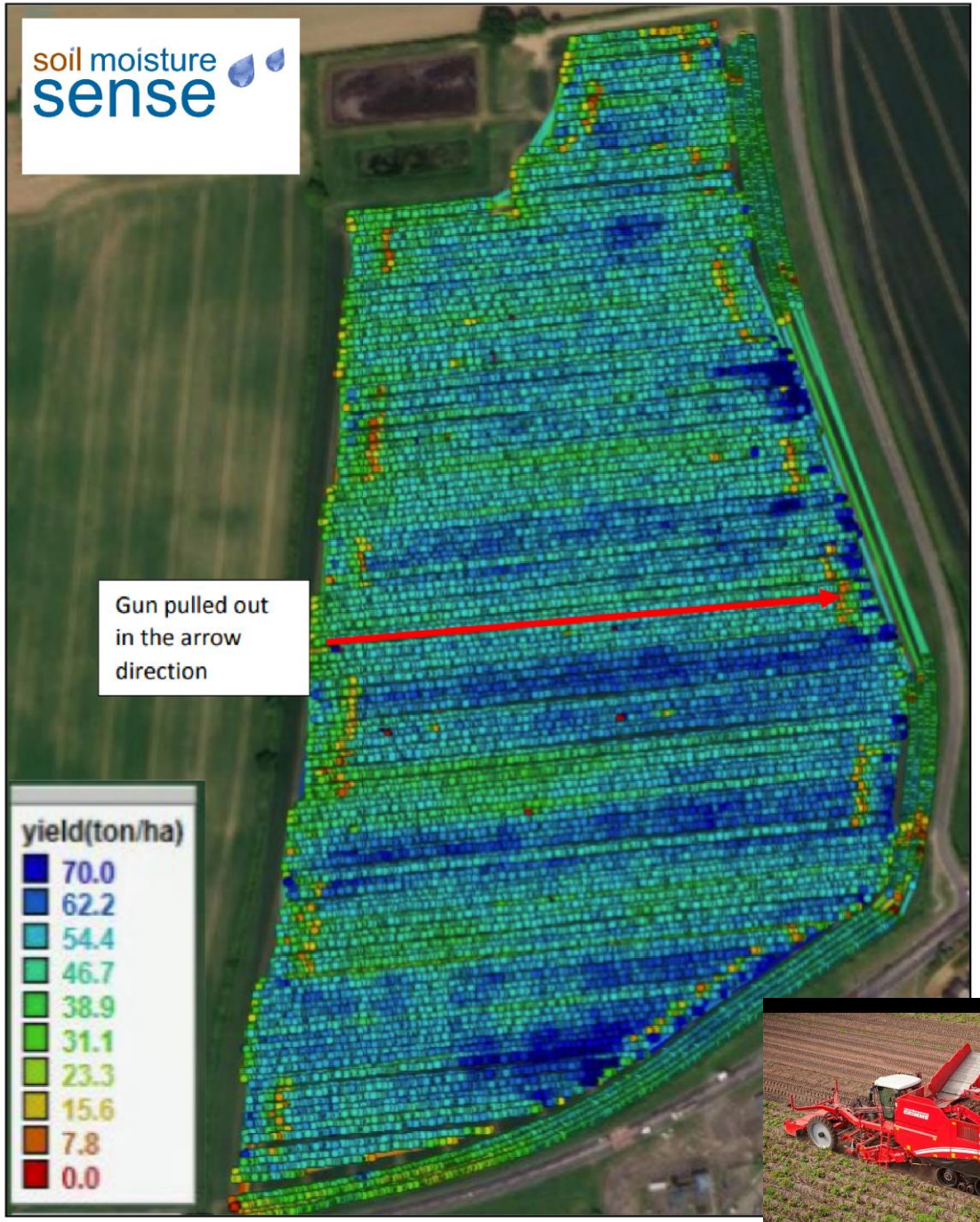

Yield sensor on the potato harvester

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www.irriwatch.com
Portal.irriwatch.com
https://www.youtube.com/results?search_query=irriwatch
https://www.linkedin.com/company/64514520/admin/

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