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
Each golden data set requires land surface temperature
Landsat 7,8, EcoStress, VIIRS, MODIS

Land surface temperature of the Netherlands
Countries using IrriWatch

• 18,000 individual fields
• 25 countries

Green is user this winter season
Blue is user last summer season
Southern France tiles
Daily IrriWatch deliverables 10 m x 10 m
Daily IrriWatch deliverables per field
Min Advised Irrigation (per pixel)
Min Advised Irrigation (per field)

Sugarcane, Guatemala
Irrigation advice per hydrant

Sugarcane, Guatemala
From ET and T layers towards soil moisture root zone through inverse modelling of Pm equation.
Increasing water use efficiency (i.e. water productivity)
Coupling carbon, energy and water balance

Crop production depends on LST
Potatoes in UK (Norwich)

Yield sensor on the potato harvester