



Food and Agriculture  
Organization of the  
United Nations

# WATER AND CLIMATE ADAPTATION IN AGRICULTURE

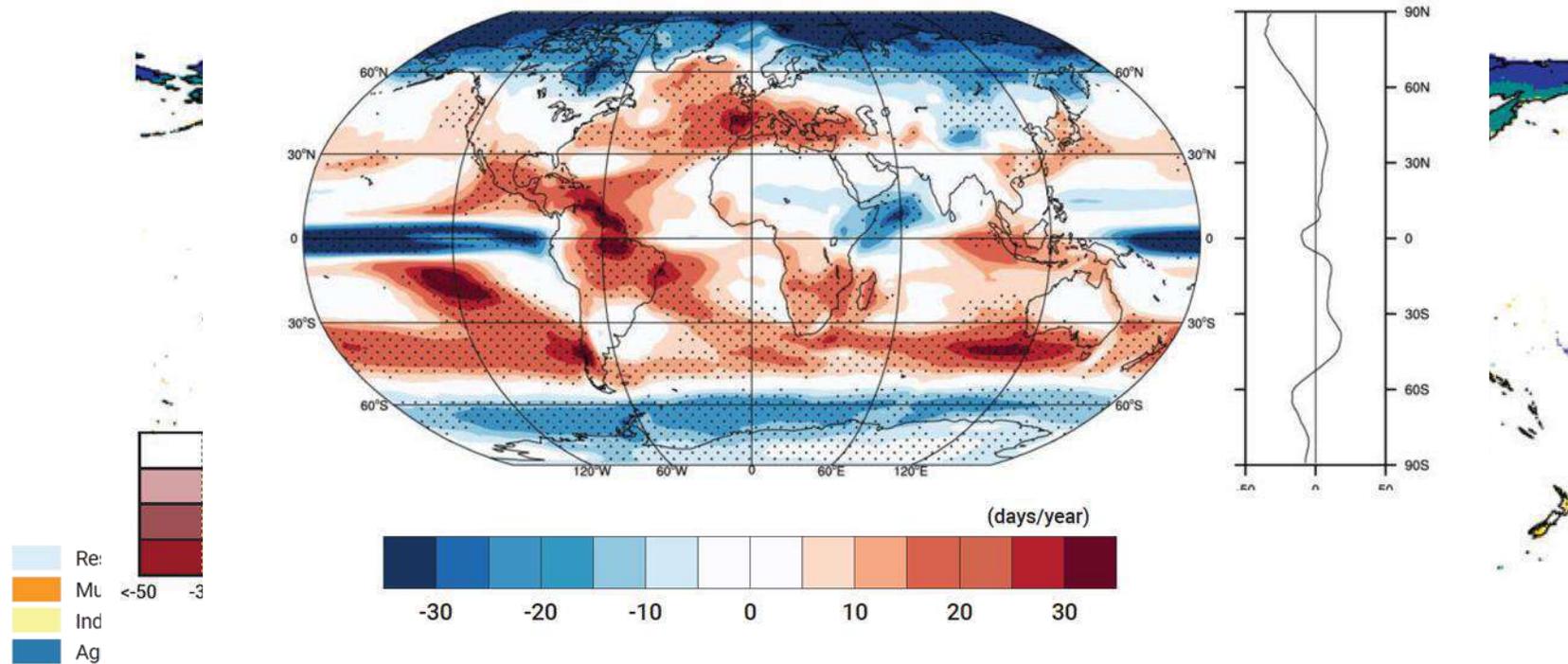
SASHA KOO OSHIMA, *DEPUTY DIRECTOR, LAND AND WATER DIVISION, FAO*

*FOR THE EU: "The role of water in the new EU Strategy on Adaptation to Climate Change"*

20 November 2020

# Impacts on Water Resources

Figure 6 CMIP5 Figure 6.10. Change in the days per year with precipitation days (days/year) by 2060–2089, relative to the historical period 1960–1989, using the RCP8.5 forcing scenario



Note: The figure depicts areas where at least 70% of the discharge is  $\geq 2^\circ\text{C}$  on the sign of the change compared with the original model RCP8.5.

Note: \*Evaporation from artificial lakes.

Source: Schewe et al. (2014, fig. 1, p. 3246). The Attribution-ShareAlike 3.0 IGO (CC BY-SA 3.0 IGO) licence does not apply to this figure.

Source: Adapted from IPCC (2014a, fig. 2.2, p. 61).

Source: Polde et al. (2014, fig. 2).

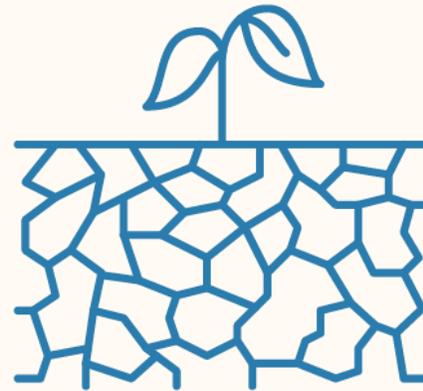
# Food and Agriculture

## Climate Smart Agriculture

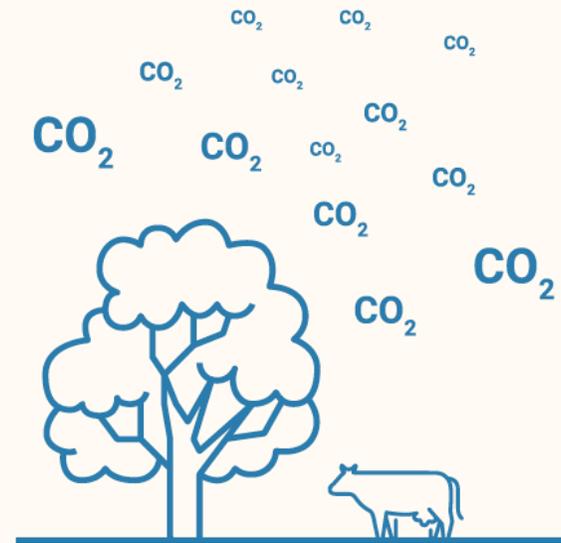
Sustainably increase agricultural productivity and incomes



Adapt and build resilience to climate change



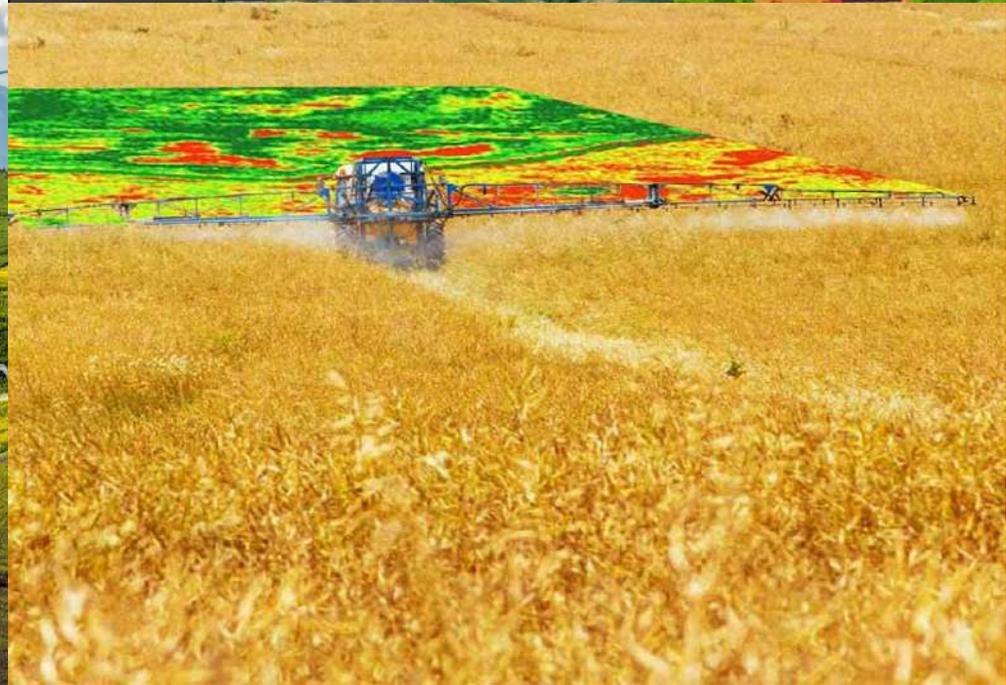
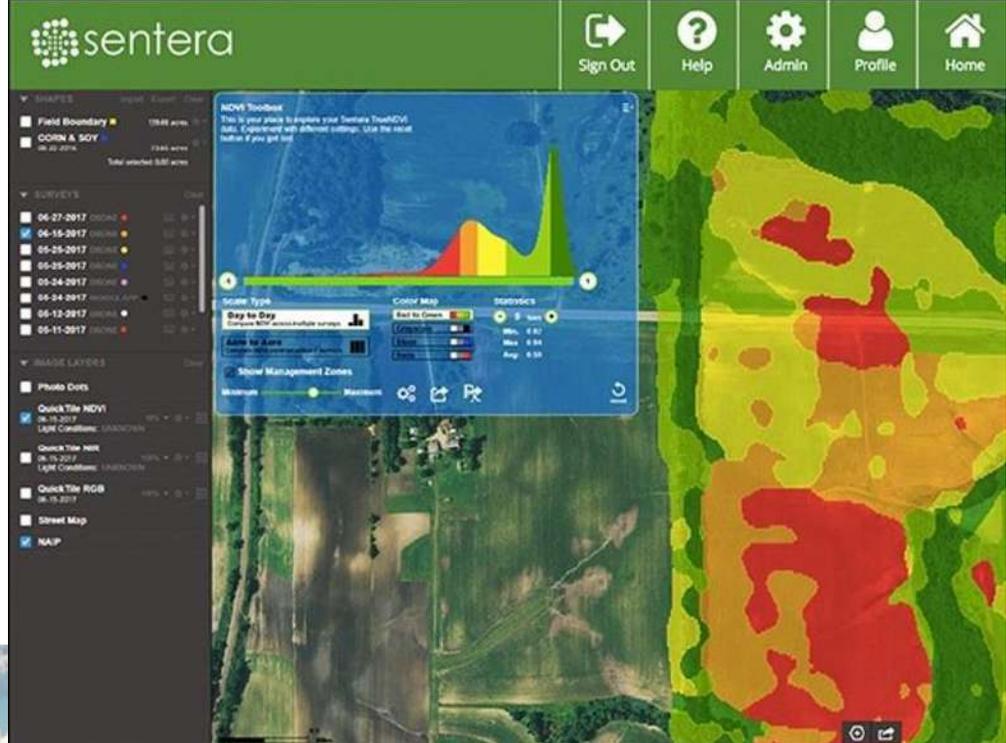
Reduce and/or remove greenhouse gas emissions where possible



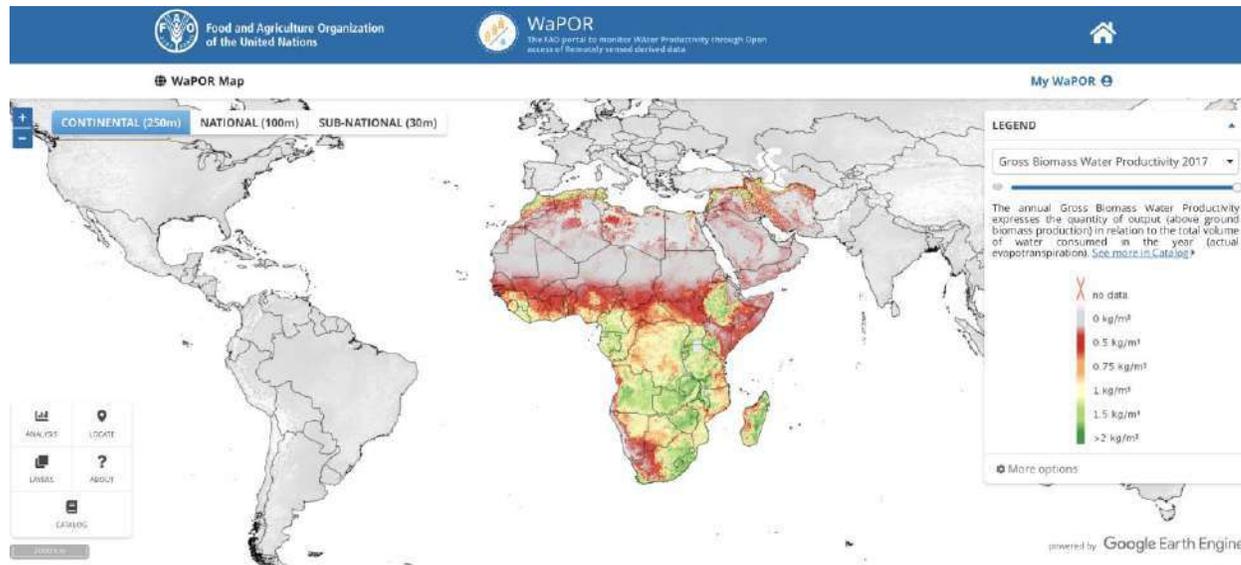
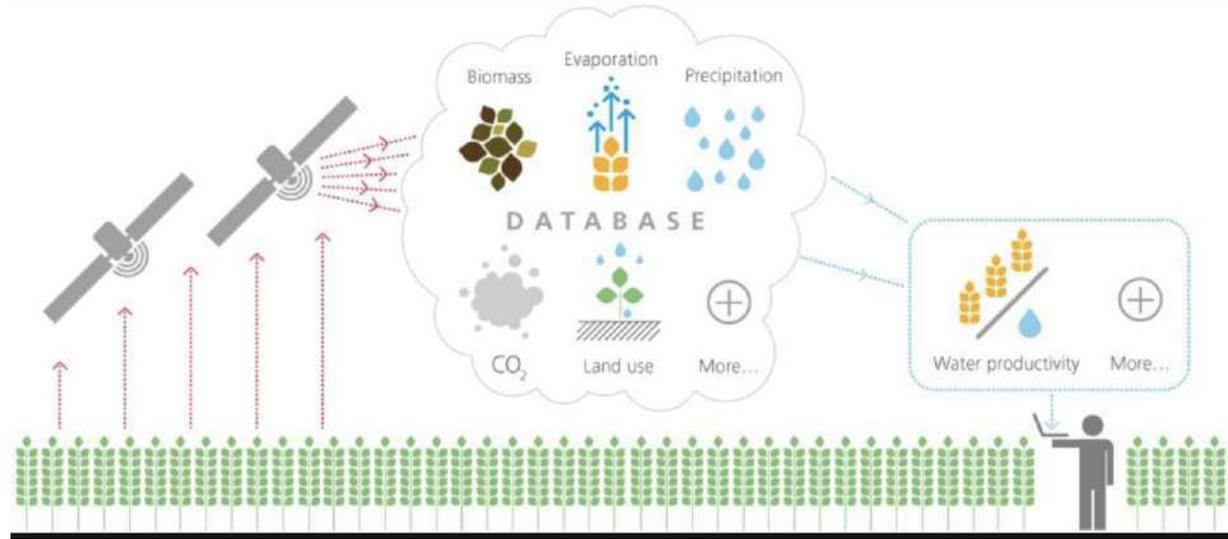
Source: Based on FAO (2017b).

# Precision Agriculture

*Using ground and aerial sensors to enable in-field, in-season decision making to maximize yields.*



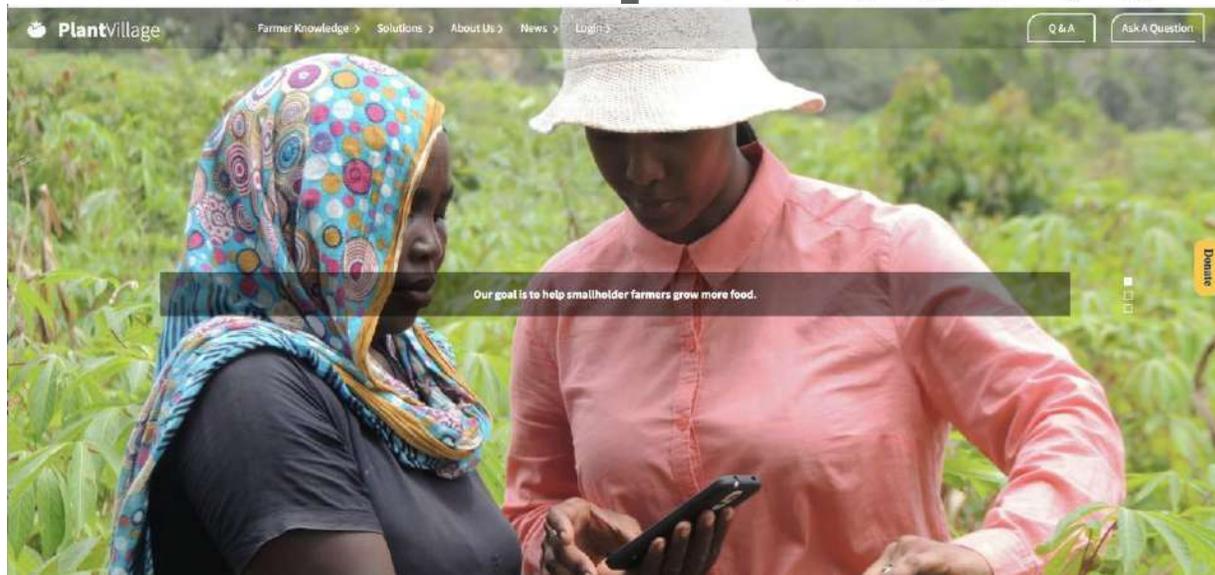
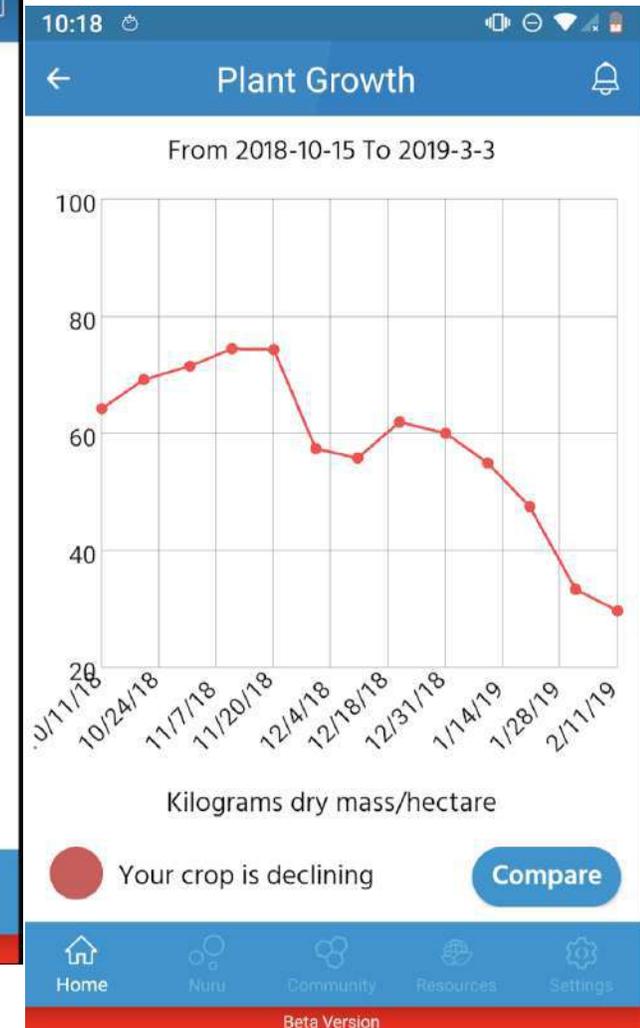
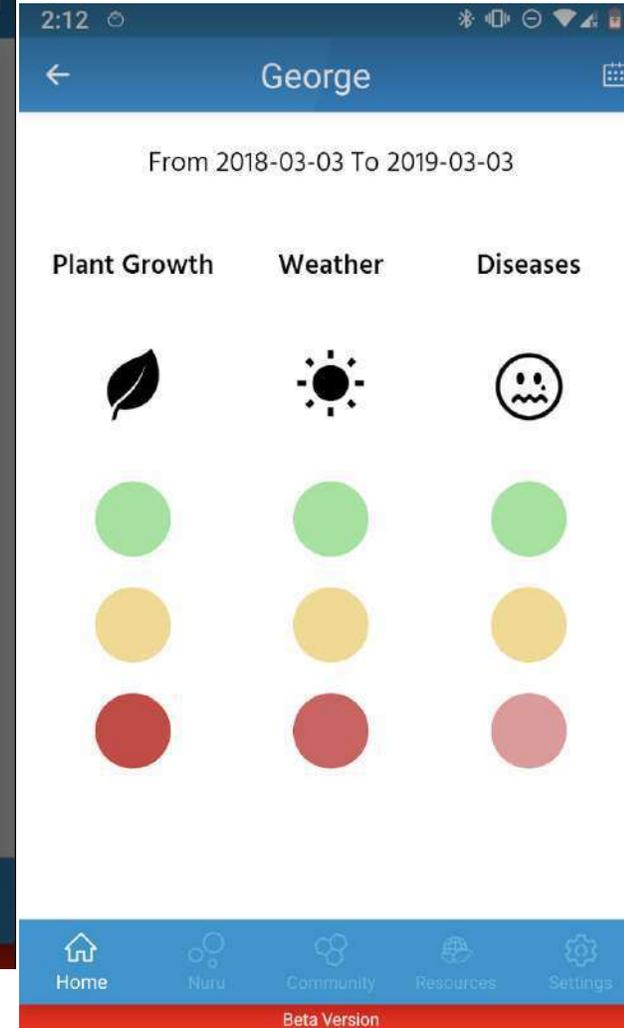
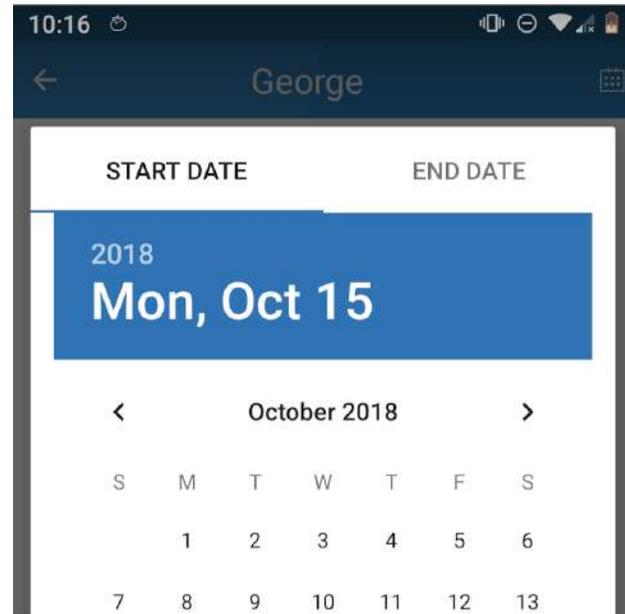
# Big Data: WaPOR measures how well your crop is growing & your water use



$$WP = \frac{\text{(Crop icon with upward arrow)}}{\text{(Water drop icon with downward arrow)}}$$

Netherlands  
Funding

# Delivered into the phone and available offline



# GIEWS – GLOBAL INFORMATION AND EARLY WARNING SYSTEM

- GIEWS monitors food supply and demand and other indicators to assess food security situation in all countries of the world.
- It issues **regular** analytical and objective **reports** on prevailing conditions
- It provides **EW of impending food crises** at country or regional level.
- If requested, GIEWS supports countries in **gathering evidence for policy decisions or planning** by development partners, through its Crop and Food Security Assessment Missions (CFSAMs, FAO-WFP).
- It **strengthens national capacities** in managing food security related information

