

Processing WaPOR data in QGIS



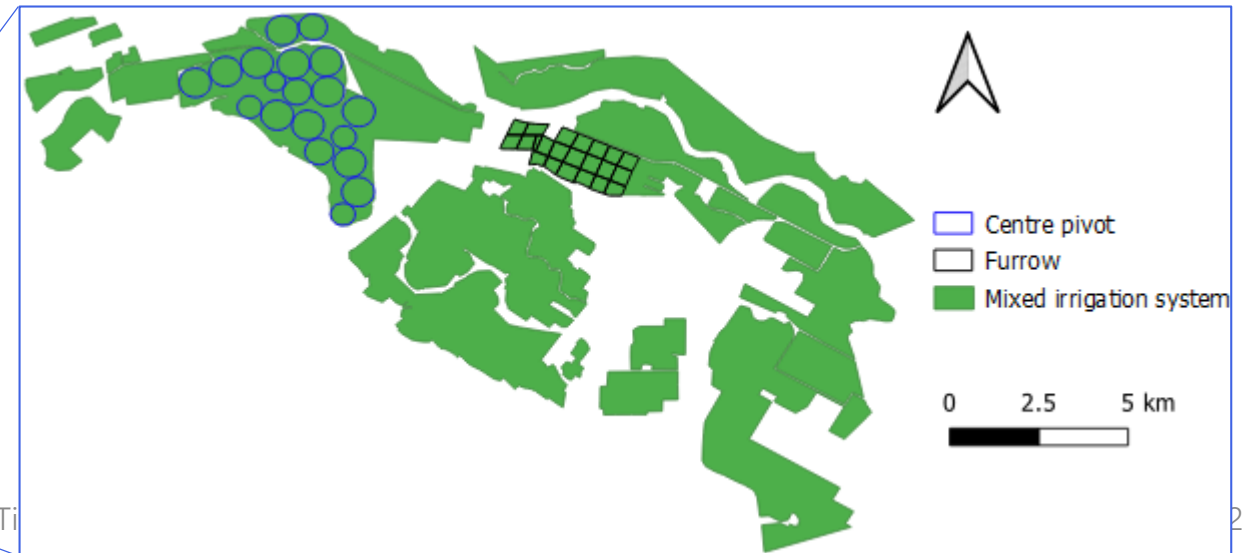
Sajid Pareeth (PhD)
(s.pareeth@un-ihe.org)

IHE Delft Institute for Water Education

12:00 -13:30 hr
17th June 2020

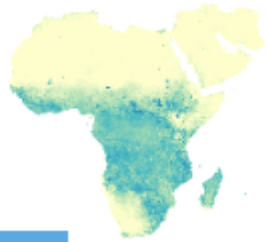
Study Area - The sugarcane scheme at Xinavane, Mozambique

Season – 12 months from September 2018 to October 2019



WaPOR data

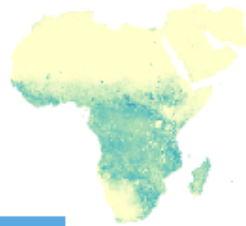
Actual EvapoTranspiration and Interception (Dekadal)



WATER

The actual EvapoTranspiration and Interception (ETIa) (dekadal, in mm/day) is the sum of the soil evaporation (E), canopy transpiration (T), and evaporation from rainfall intercepted by leaves (I).

Transpiration (Dekadal)



WATER

The transpiration (T) data component (dekadal, in mm/day) is the actual transpiration of the vegetation canopy.





































Reference EvapoTranspiration (Dekadal)







































CLIMATE

Reference EvapoTranspiration (RET) is defined as the evapotranspiration from a hypothetical reference crop and it simulates the behaviour of a well-watered grass surface.

Downloaded Dekadal data

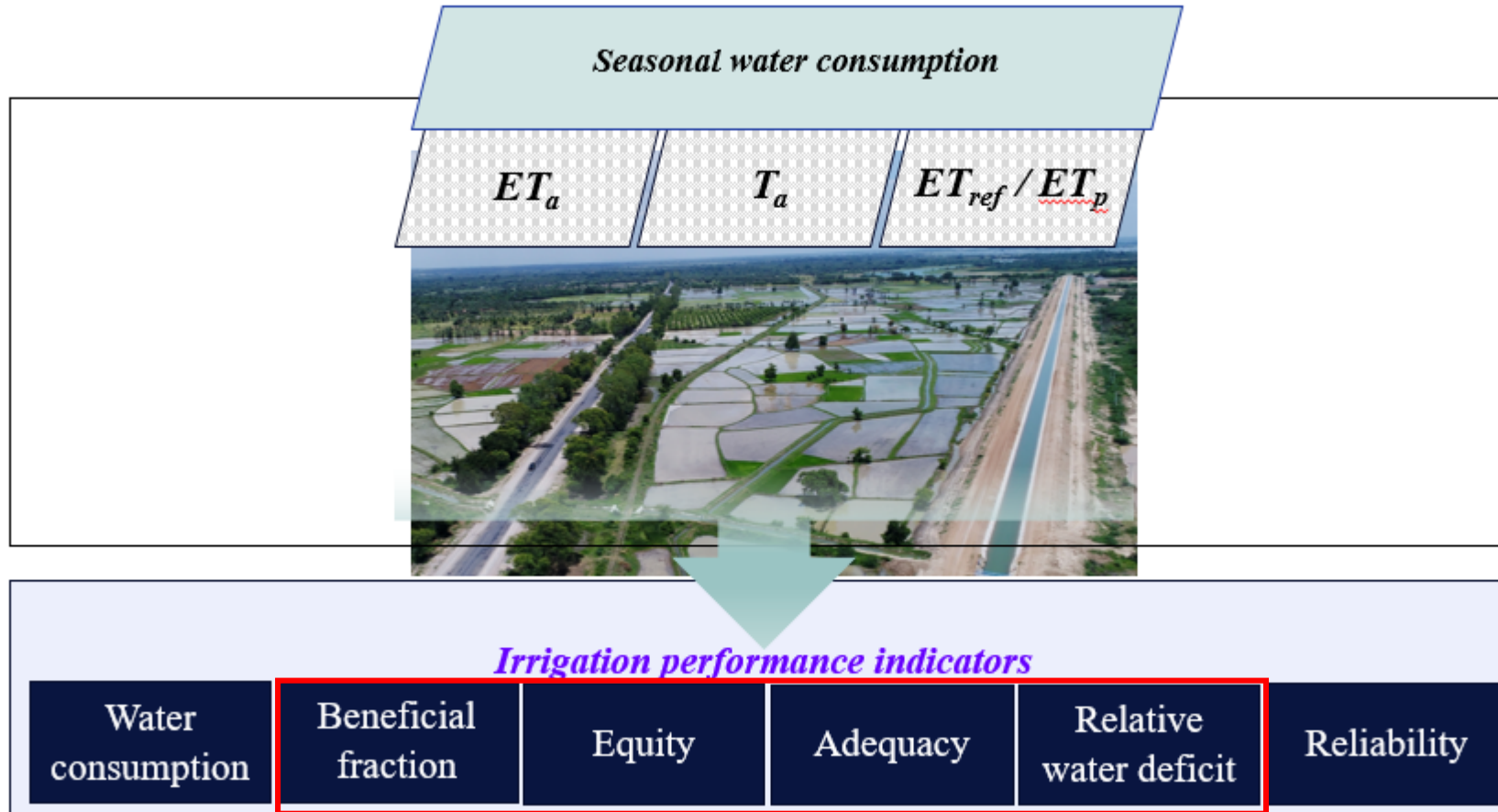
-  L2_AETI_0901
-  L2_AETI_0902
-  L2_AETI_0903
-  L2_AETI_0904
-  L2_AETI_0905
-  L2_AETI_0906
-  L2_AETI_0907
-  L2_AETI_0908
-  L2_AETI_0909
-  L2_AETI_0910
-  L2_AETI_0911
-  L2_AETI_0912
-  L2_AETI_0913
-  L2_AETI_0914
-  L2_AETI_0915
-  L2_AETI_0916
-  L2_AETI_0917
-  L2_AETI_0918
-  L2_AETI_0919
-  L2_AETI_0920
-  L2_AETI_0921
-  L2_AETI_0922
-  L2_AETI_0923
-  L2_AETI_0924
-  L2_AETI_0925
-  L2_AETI_0926
-  L2_AETI_0927
-  L2_AETI_0928
-  L2_AETI_0929
-  L2_AETI_0930
-  L2_AETI_0931
-  L2_AETI_0932
-  L2_AETI_0933
-  L2_AETI_0934
-  L2_AETI_0935
-  L2_AETI_0936

-  L2_AETI_1828
-  L2_AETI_1829
-  L2_AETI_1830
-  L2_AETI_1831
-  L2_AETI_1832
-  L2_AETI_1833
-  L2_AETI_1834
-  L2_AETI_1835
-  L2_AETI_1836
-  L2_AETI_1901
-  L2_AETI_1902
-  L2_AETI_1903
-  L2_AETI_1904
-  L2_AETI_1905
-  L2_AETI_1906
-  L2_AETI_1907
-  L2_AETI_1908
-  L2_AETI_1909
-  L2_AETI_1910
-  L2_AETI_1911
-  L2_AETI_1912
-  L2_AETI_1913
-  L2_AETI_1914
-  L2_AETI_1915
-  L2_AETI_1916
-  L2_AETI_1917
-  L2_AETI_1918
-  L2_AETI_1919
-  L2_AETI_1920
-  L2_AETI_1921
-  L2_AETI_1922
-  L2_AETI_1923
-  L2_AETI_1924
-  L2_AETI_1925
-  L2_AETI_1926
-  L2_AETI_1927

2009 ETa Tif files after download

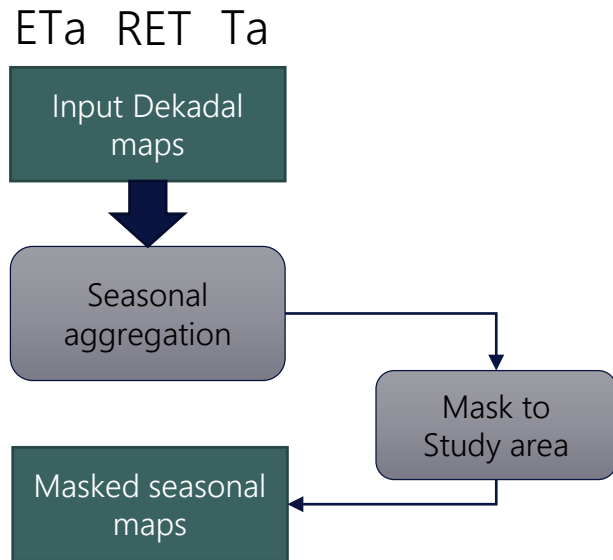
2018/19 maps covering sugarcane season
from October 2018 to September 2019

Computing Irrig. Performance indicators in QGIS



Workflow in QGIS

Example: Let us compute for the year 2018/19 !



- 1. Equity
- 2. Beneficial Fraction
- 3. Adequacy
- 4. RWD

1 Equity = coefficients of variation (CV) of seasonal ETa in the area of interest

2 $Beneficial\ fraction = \frac{T_a}{ET_a}$

3 $Adequacy = \frac{ET_a}{ET_p}$
 $ET_p = Average K_c * RET$
 Kc = 1.045

4 $RWD = 1 - \frac{ET_a}{ET_x}$
 $ET_x = \text{Maximum crop ET}$
 ETx = 99 percentile of ETa

WaterPIP

Water Productivity Improvement in Practice

This presentation is supported by the Water Productivity Improvement in Practice (WaterPIP) project, which is supported by the Directorate-General for International Cooperation (DGIS) of the Ministry of Foreign Affairs of the Netherlands under the DGIS UNESCO-IHE Programmatic Cooperation (DUPC).

Project activities are led by:



[Title of the presentation]

