

Local sensitivity analysis of Satellite Monitoring of Irrigation software (SAMIR) over Semi-Arid climate of Morocco

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Introduction

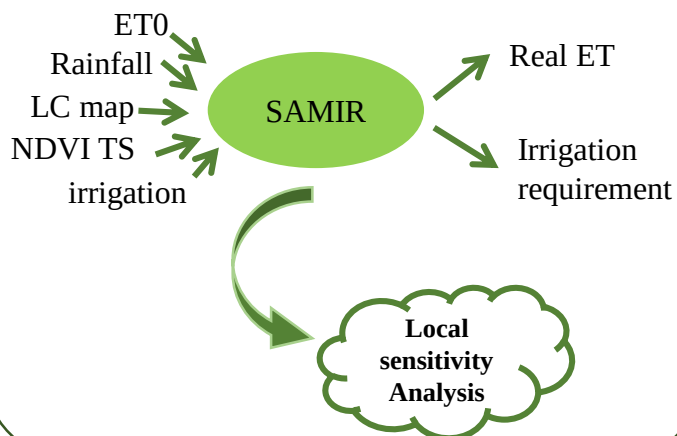
Assessment of agricultural monitoring

Good water resources management

Estimate crop water consumption

Provide irrigation requirements

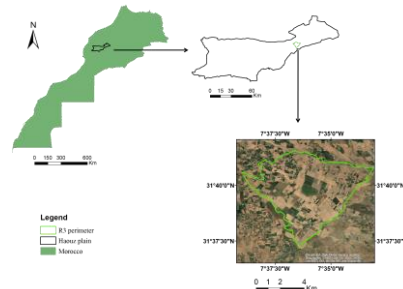
What's the Objective?



Materials & Methods

1. Study Area

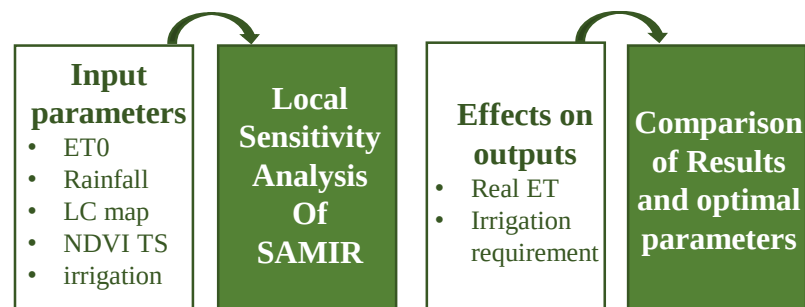
- Located in Haouz plain, Morocco
- Irrigated area
- Semi-Arid climate



2. Data 2011/2012

- Ground truth data (Olive & Cereal)
- LandSat imagery
- Precipitation data
- Fields' irrigation volumes

3. Methodology



Main obtained results

1

For climatic parameters, the effect of the ET0 is more significant

2

For soil parameters, the proportion of total available water, P, is the high sensitive parameter.

3

The simulation of real ET using automatic irrigation or real irrigation configuration offers similar values.

Conclusion

This study offers the possibility of using only automatic irrigation configuration, in case of non-availability of the real irrigation.

References

- V. Simonneaux, et al., (2006). «SAMIR», A tool for irrigation monitoring using remote sensing for landcover mapping and evapotranspiration estimates.
- A. Diarra, et al.,(2017). Performance of the two-source energy budget (TSEB) model for the monitoring of evapotranspiration over irrigated annual crops in North Africa. Agricultural water management, 193, 71-88.
- T. Lenhart, et al., (2002). Comparison of two different approaches of sensitivity analysis. Physics and Chemistry of the Earth, Parts A/B/C, 27(9-10), 645-654.