# Article information:

Open-source Google Earth Engine 30-m evapotranspiration rates retrieval: The SEBALIGEE system - ScienceDirect  
<https://www.sciencedirect.com/science/article/abs/pii/S1364815220309026>

# Article summary:

1. Retrieving EvapoTranspiration (ET) rates in agricultural lands is crucial for improving national food security and water productivity.

2. Remote sensing- and modeling-based methods are the most adequate option for ET retrieval, with several Surface Energy Balance (SEB) models proposed since the 1990s.

3. The SEBALIGEE system is an open-access, automated, user-friendly, and flexible 30-m ET retrieval system that enables professional and non-specialists to assess any region across the globe. It has been calibrated and validated in different climatic regions and countries across the globe, including the United States, China, Italy, Germany, and Belgium.

# Article rating:

Appears moderately imbalanced: The article provides some useful information, but is missing several important points or pieces of evidence that would be required to present the discussed topics in a balanced and reliable way. You are encouraged to seek a more balanced perspective on the presented issues by exploring the provided research topics and looking at different information sources.

# Article analysis:

The article discusses the importance of retrieving EvapoTranspiration (ET) rates in agricultural lands for improving national food security and increasing water productivity. The author highlights the limitations of ground-based approaches and emphasizes the advantages of remote sensing- and modeling-based methods. The article introduces SEBALIGEE, an open-source Google Earth Engine 30-m ET retrieval system that enables users to assess any region across the globe in an automated and user-friendly manner.

The article provides a comprehensive overview of different SEB models proposed since the 1990s, including SEBAL, METRIC, SEBI, and SEBS. The author also discusses three free-to-access ET estimation platforms: Py-SEBAL, FAO Water Productivity Open-access portal (WaPOR), and Earth Engine Evapotranspiration Flux (EEFLUX). However, the author points out that these platforms have limitations such as requiring specialized software or not allowing users to process new data or other locations.

The article presents a thorough assessment of the large California plain using SEBALIGEE. The crop water consumption at pixel-level and for the studied region was identified, classifying the available crops and providing pivotal information for future references. The author also discusses calibrations and validations performed on SEBALIGEE in different climatic regions and countries across the globe.

Overall, the article provides valuable insights into the importance of retrieving ET rates in agricultural lands and introduces a new open-source Google Earth Engine 30-m ET retrieval system. However, there are some potential biases in the article that need to be considered. For example, while discussing different free-to-access ET estimation platforms, the author only mentions their limitations but does not provide any information about their advantages or strengths. This one-sided reporting may create a biased view of these platforms.

Moreover, while discussing calibrations and validations performed on SEBALIGEE in different climatic regions and countries across the globe, there is no mention of any potential biases or limitations in these studies. This missing point of consideration may create an overestimation of the accuracy and reliability of SEBALIGEE.

Additionally, the article contains some promotional content for SEBALIGEE, such as emphasizing its user-friendliness and flexibility. While these features are undoubtedly important, it is essential to provide a balanced view of the system's strengths and weaknesses.

In conclusion, while the article provides valuable insights into the importance of retrieving ET rates in agricultural lands and introduces a new open-source Google Earth Engine 30-m ET retrieval system, there are some potential biases that need to be considered. It is essential to provide a balanced view of different free-to-access ET estimation platforms and highlight potential biases or limitations in calibrations and validations performed on SEBALIGEE.

# Topics for further research:

* Comparison of different remote sensing-based ET retrieval systems
* Advantages and limitations of ground-based ET measurement methods
* Impact of ET rates on crop yield and water productivity
* Importance of accurate ET estimation for water resource management
* Validation studies of SEB models in different climatic regions
* Integration of ET estimation with precision agriculture techniques

# Report location:

<https://www.fullpicture.app/item/a3addaee893b2cf44f12630b336e237b>