# Article information:

Estimation of daily evapotranspiration and irrigation water efficiency at a Landsat-like scale for an arid irrigation area using multi-source remote sensing data - ScienceDirect  
<https://www.sciencedirect.com/science/article/abs/pii/S0034425718303523?via%3Dihub=>

# Article summary:

1. A scheme for estimating daily evapotranspiration (ET) and irrigation water efficiency at a Landsat-like scale was proposed using multi-source remote sensing data.

2. The input parameter fusion approach (IPFA) performed well for heterogeneous surfaces, allowing for more accurate ET estimates.

3. The use of High-Temporal Landsat-Like (HiTLL) ET facilitated the assessment of irrigation water efficiency at a finer scale in an arid irrigation area.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article titled "Estimation of daily evapotranspiration and irrigation water efficiency at a Landsat-like scale for an arid irrigation area using multi-source remote sensing data" presents a study on the estimation of daily evapotranspiration (ET) and irrigation water efficiency in an arid irrigation area using multi-source remote sensing data. The study proposes an estimation scheme for daily High-Temporal Landsat-Like (HiTLL) ET, which can facilitate the assessment of irrigation water efficiency at a finer scale.

The article provides a detailed description of the experiments conducted, data used, methods employed, and results obtained. The authors have used various sources of remote sensing data, including Landsat 8 OLI/TIRS images, MODIS products, and ground-based observations from eddy covariance systems. They have also used the input parameter fusion approach (IPFA) to account for the heterogeneity of the surface.

The article is well-written and provides valuable insights into the estimation of ET and irrigation water efficiency using multi-source remote sensing data. However, there are some potential biases and limitations that need to be considered.

Firstly, the study focuses only on one specific region - the Heihe River Basin in China. Therefore, it may not be applicable to other regions with different climatic conditions or land use patterns.

Secondly, while the authors have used multiple sources of remote sensing data to estimate ET, they have not compared their results with ground-based measurements over a long period. This could lead to uncertainties in their estimates.

Thirdly, the authors have not discussed any potential risks associated with their proposed method. For example, if their estimates are inaccurate or unreliable, it could lead to incorrect decisions regarding water management practices.

Finally, while the article provides valuable insights into estimating ET and irrigation water efficiency using multi-source remote sensing data, it does not explore any counterarguments or alternative methods that could be used for this purpose.

In conclusion, the article provides valuable insights into estimating ET and irrigation water efficiency using multi-source remote sensing data. However, it is important to consider potential biases and limitations associated with the study, as well as explore alternative methods and counterarguments.

# Topics for further research:

* Alternative methods for estimating evapotranspiration using remote sensing data
* Comparison of remote sensing-based ET estimates with ground-based measurements
* Risks and uncertainties associated with remote sensing-based ET estimation
* Application of remote sensing data for irrigation water management in other regions
* Limitations of Landsat-like remote sensing data for ET estimation
* Impact of land use change on remote sensing-based ET estimation.

# Report location:

<https://www.fullpicture.app/item/9477cbdf5bd22265e0c964fb35066c82>