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Addendum: A database of optimal integration times for Lagrangian studies of atmospheric moisture sources and sinks

Raquel Nieto  & Luis GimenoAddendum to: *Scientific Data* <https://doi.org/10.1038/s41597-019-0068-8>, published online 16 May 2019

The original dataset¹ provides spatialised climatological values of the annual and monthly Optimal Integration Times (OPT) for Lagrangian Studies of Atmospheric Moisture Sources and Sinks for the period 1980–2015. The data provide more appropriate times in days to use in Lagrangian approaches for estimating the precipitation in terrestrial target regions from the moisture transported from its sources of humidity; enabling to make a distinction between precipitation originating from global terrestrial and oceanic sources².

The database provided in the original version (Version 1) can be used for general climatological studies, but has inherent limitations to higher precision analysis for any particular month. To provide a more widespread temporal coverage as required for some studies, the updated second version (Version 2) of the dataset has been calculated month-by-month for the longest period available in ERA-Interim reanalysis, from 1980 to 2018. To achieve the new individual monthly dataset, the method is the same as described in Nieto & Gimeno² but it is here adjusted to each individual month along the study period (468 months). Here we present a complete dataset with a spatial resolution of $0.25^\circ \times 0.25^\circ$ in latitude and longitude.

Both the original¹ and updated³ datasets are freely available and hosted at Zenodo under a Creative Commons Attribution 4.0 International License (CC BY). The accompanying 'Readme.pdf' file provides all the necessary information concerning the format of the data and the netCDF files content.

References

1. Nieto, R. & Gimeno, L. P. Optimal Integration Times for Lagrangian Studies of Atmospheric Moisture Sources and Sinks. *Zenodo*, <https://doi.org/10.5281/zenodo.1453842> (2018).
2. Nieto, R. & Gimeno, L. A database of optimal integration times for Lagrangian studies of atmospheric moisture sources and sinks. *Scientific Data* **6**, 1–10, <https://doi.org/10.1038/s41597-019-0068-8> (2019).
3. Nieto, R. & Gimeno, L. P. Optimal Integration Times for Lagrangian Studies of Atmospheric Moisture Sources and Sinks. *Zenodo*, <https://doi.org/10.5281/zenodo.4550857> (2021).



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