

## **Supplemental Material**

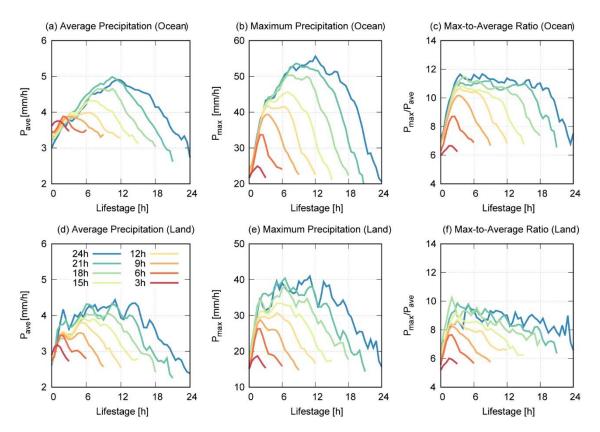
Journal of the Atmospheric Sciences

The Energetics of the Lagrangian Evolution of Tropical Convective Systems

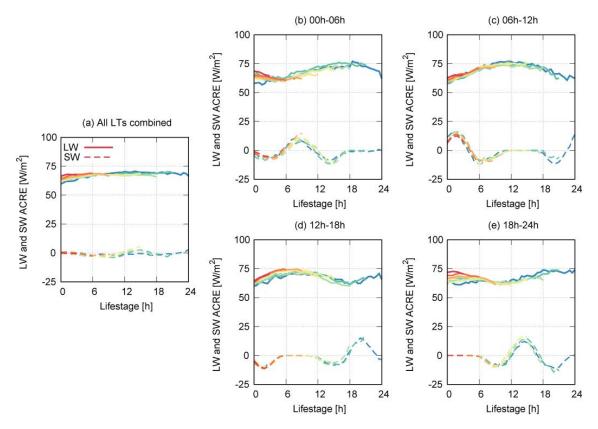
https://doi.org/10.1175/JAS-D-23-0141.1

## © Copyright 2024 American Meteorological Society (AMS)

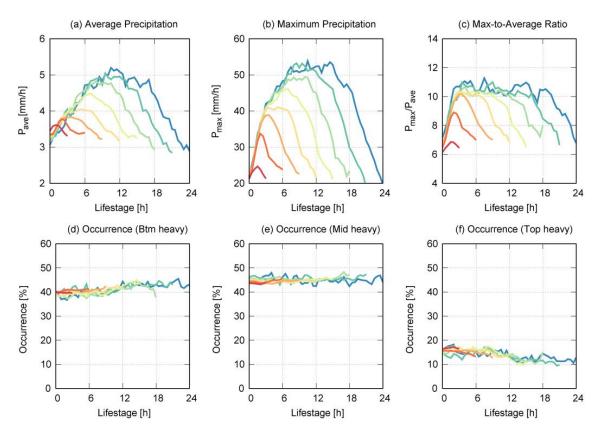
For permission to reuse any portion of this work, please contact <a href="mailto:permissions@ametsoc.org">permissions@ametsoc.org</a>. Any use of material in this work that is determined to be "fair use" under Section 107 of the U.S. Copyright Act (17 USC §107) or that satisfies the conditions specified in Section 108 of the U.S. Copyright Act (17 USC §108) does not require AMS's permission. Republication, systematic reproduction, posting in electronic form, such as on a website or in a searchable database, or other uses of this material, except as exempted by the above statement, requires written permission or a license from AMS. All AMS journals and monograph publications are registered with the Copyright Clearance Center (<a href="https://www.copyright.com">https://www.copyright.com</a>). Additional details are provided in the AMS Copyright Policy statement, available on the AMS website (<a href="https://www.ametsoc.org/PUBSCopyrightPolicy">https://www.ametsoc.org/PUBSCopyrightPolicy</a>).



**Figure S1**: As Figure 2 in the main text but for over ocean (a-c) and for over land (d-f). The PSs that travel from ocean to land or vice versa during the lifecycle are excluded.



**Figure S2**: Composite shortwave (SW) and longwave (LW) atmospheric cloud radiative effect (ACRE) as a function of lifestage. (a) All local times combined. (b-e) For the PSs initiated within a selected local-time window of (b) 0-6 h, (c) 6-12 h, (d) 12-18 h, and (e) 18-24 h.



**Figure S3**: As Figure 2 (a-c) and Figure 9 (d-f) but computed from the single-PS composite constituted exclusive of the lifestages at which only a single PS exists.