

Evaluating a CONUS-wide DisALEXI Evapotranspiration product

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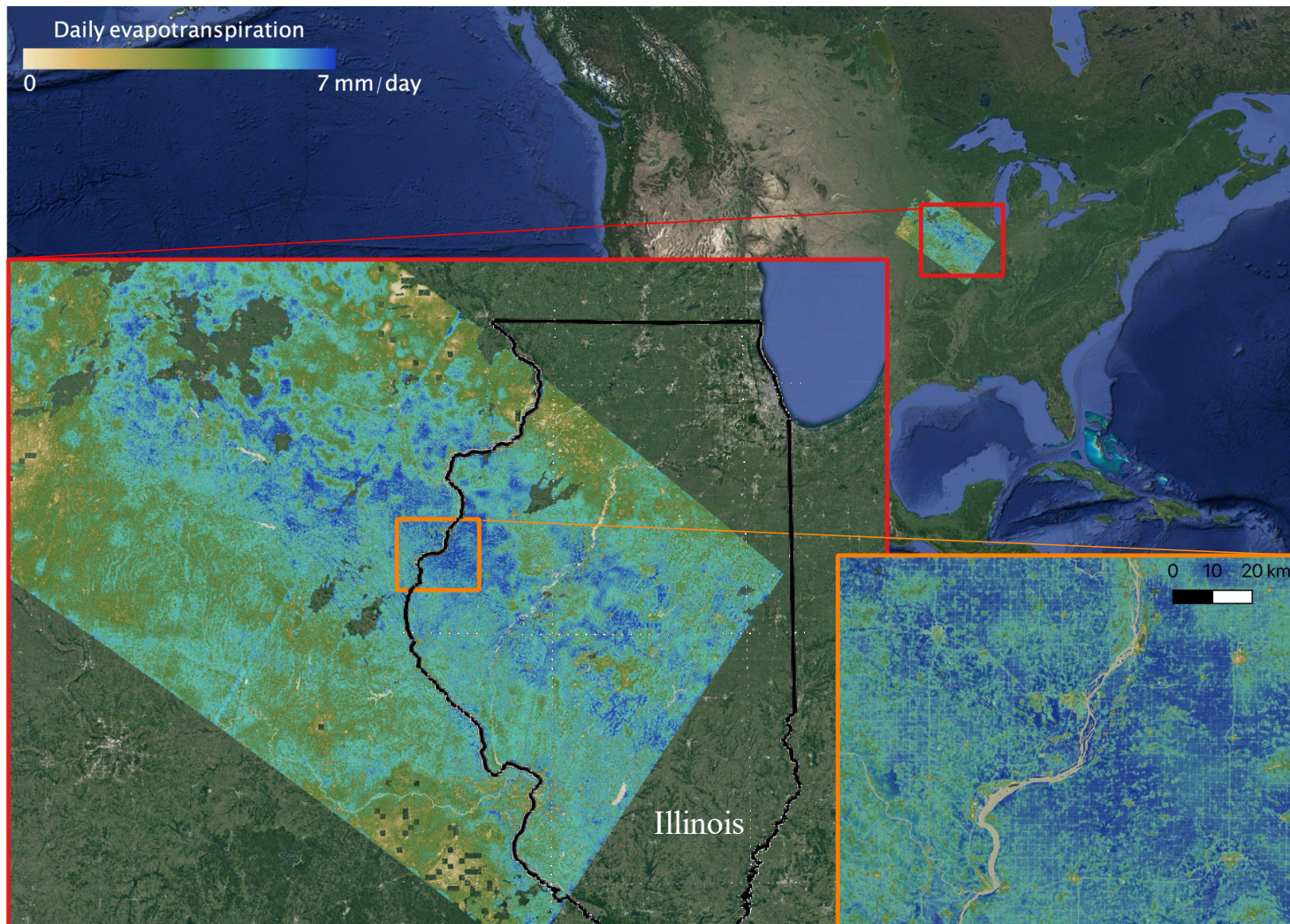


Objectives



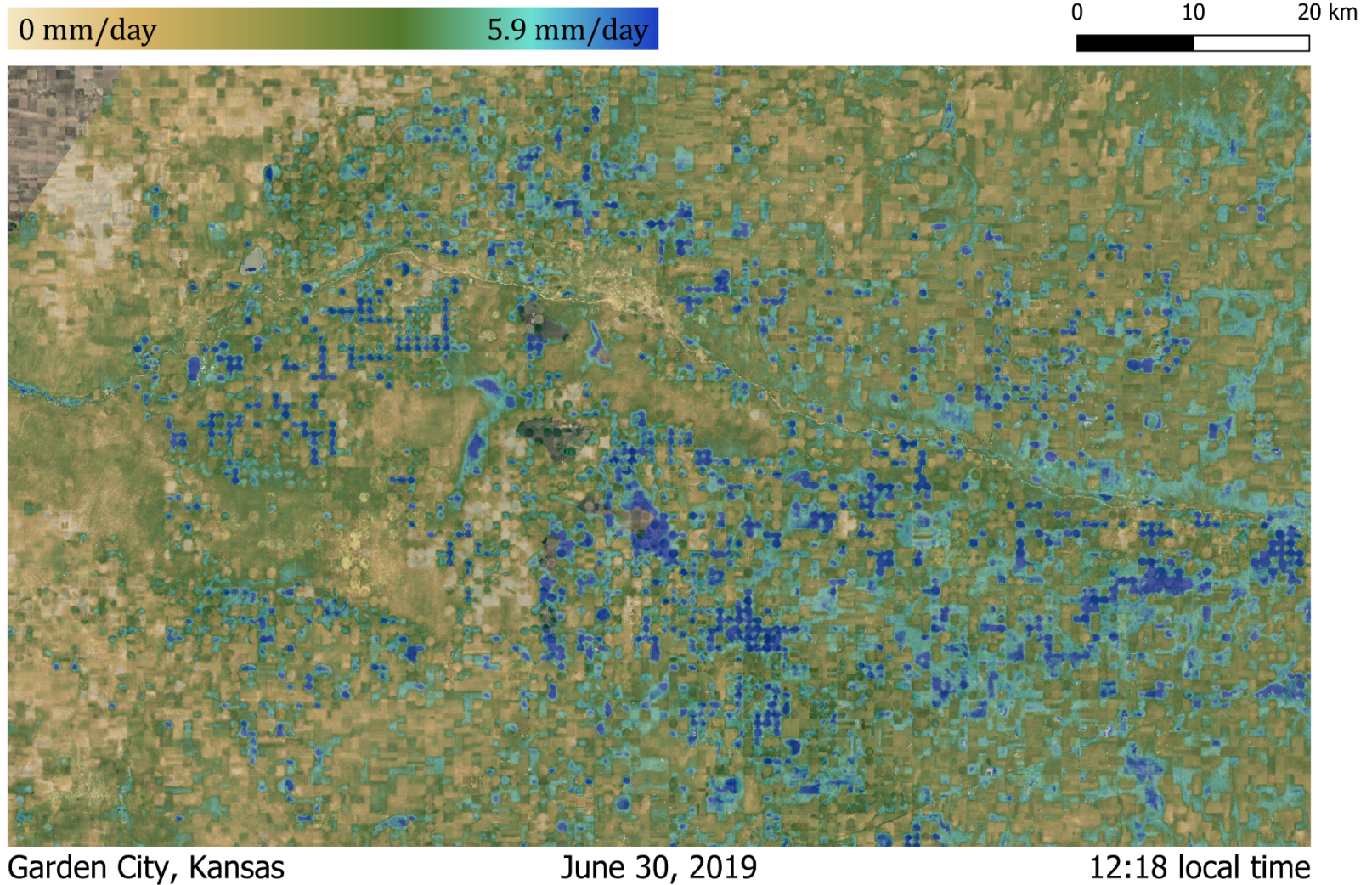
Our main goal is to **develop, validate and evaluate disALEXI ET products throughout CONUS.**

- Develop a 70m resolution disALEXI ET product for the entire CONUS.
- Evaluate the current disALEXI algorithm over agricultural field validation sites.
- Modify the algorithm if needed, especially over regions not covered by the current implementation.
- Assess its value over non-agricultural sites.
- Include an appropriate uncertainty quantification, based on leveraged existing research. Uncertainty may also be modified to reflect accuracies in different landcover types.
- Make the data publicly available through LP DAAC.

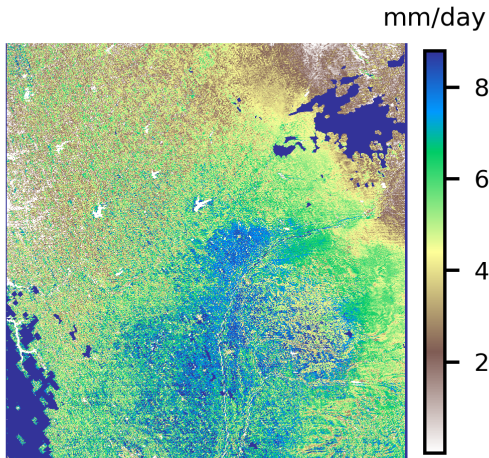




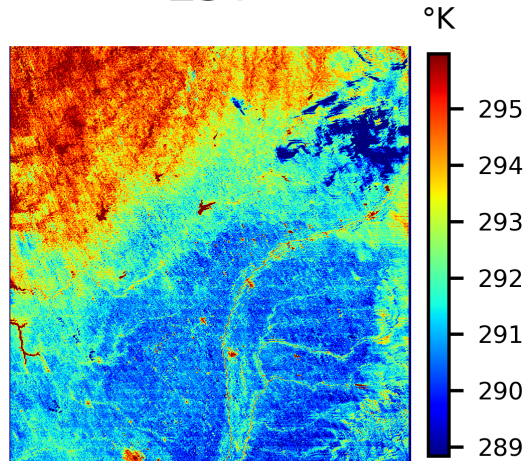
Example image



ET ALEXI



LST

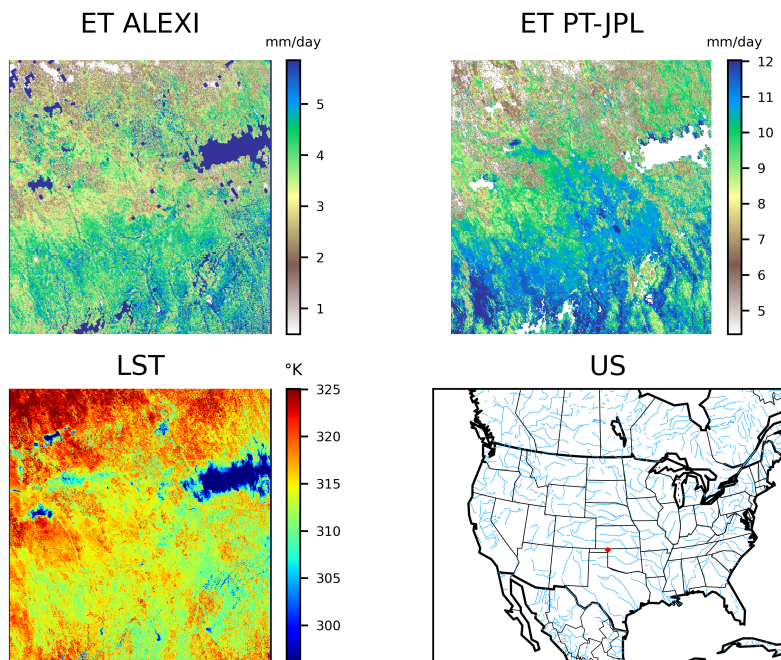


US

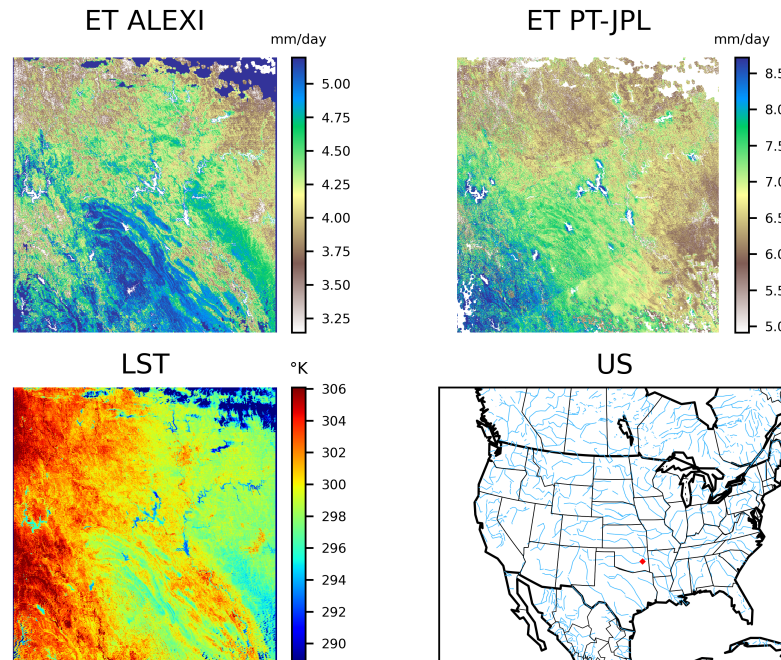


ECOSTRESS data acquired on 07-23-2019, 01:33 (UTC)

Credit: Elena Rodriguez Chavez

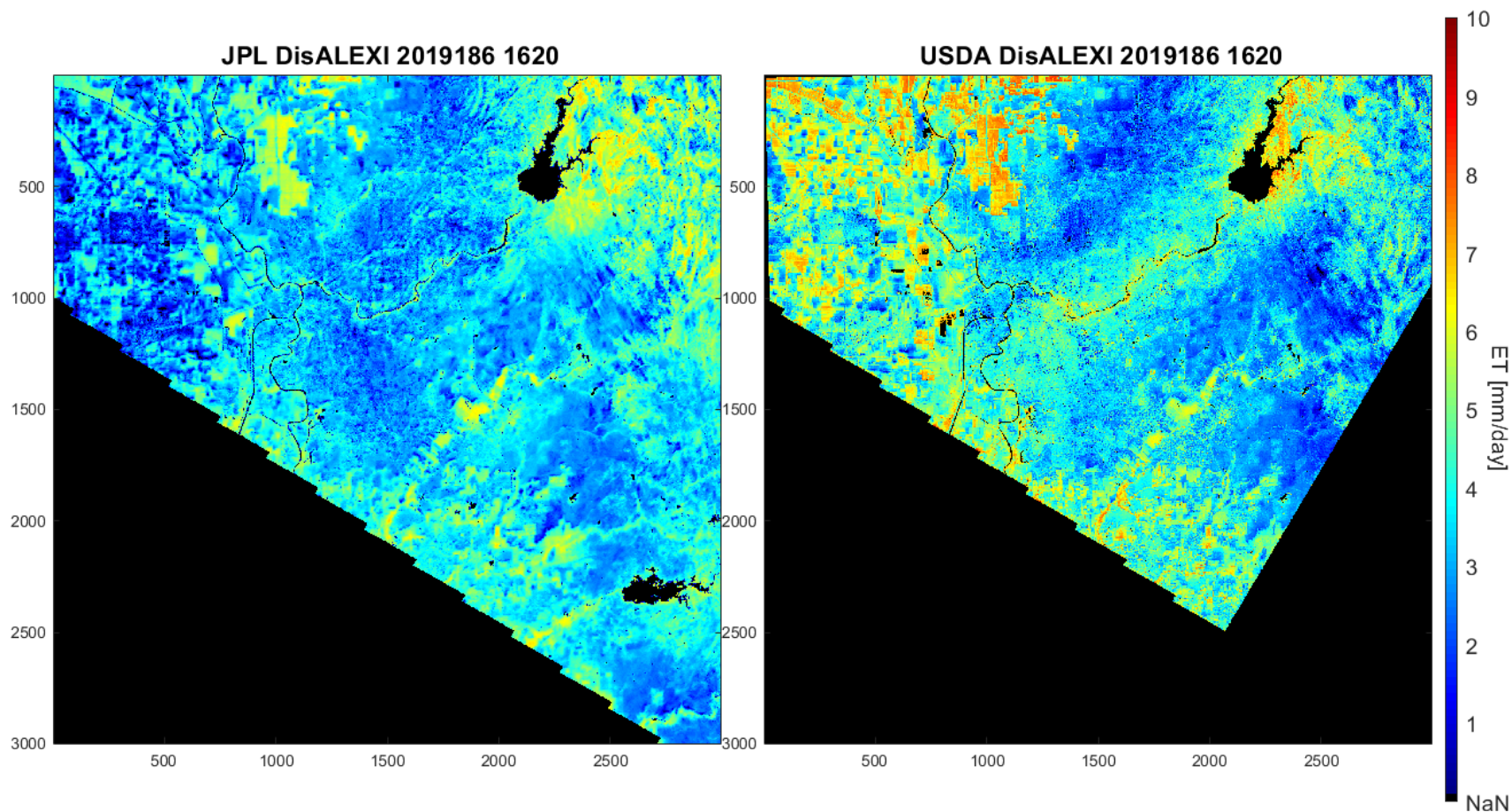


ECOSTRESS data acquired on 06-30-2019, 17:18 (UTC)



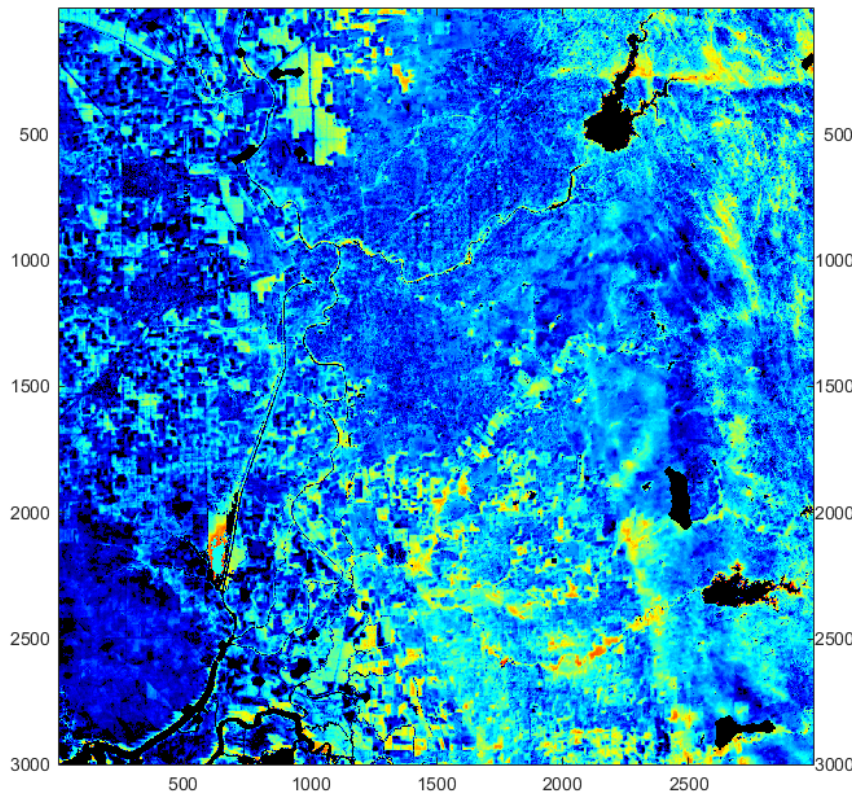
ECOSTRESS data acquired on 10-20-2019, 20:44 (UTC)

Credit: Elena Rodriguez Chavez

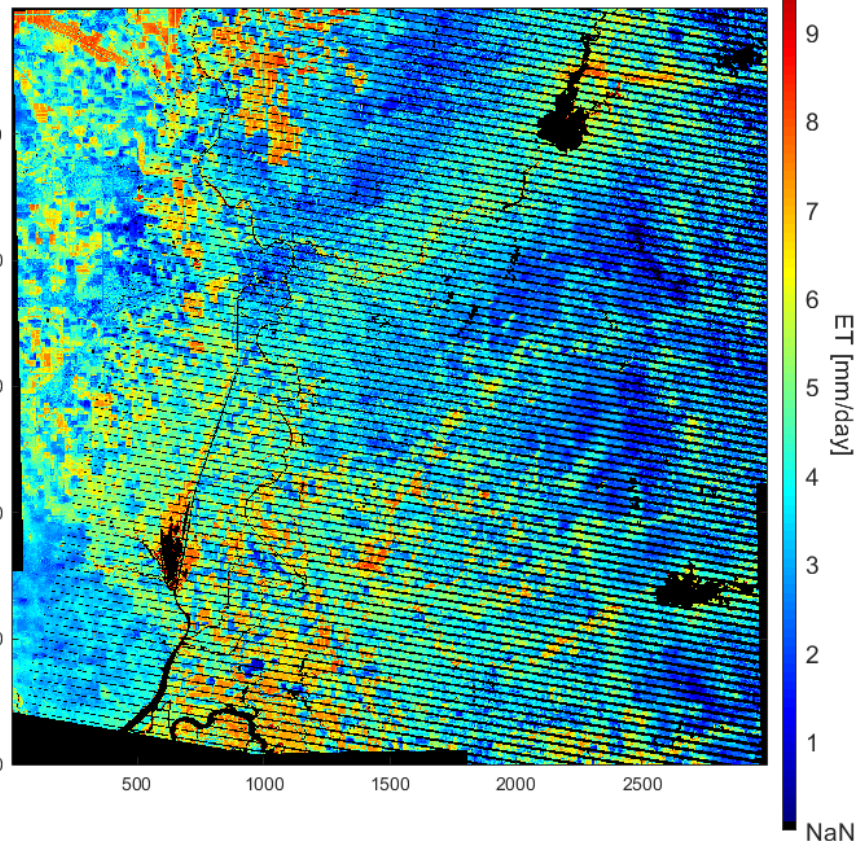


Credit: Yang Yang

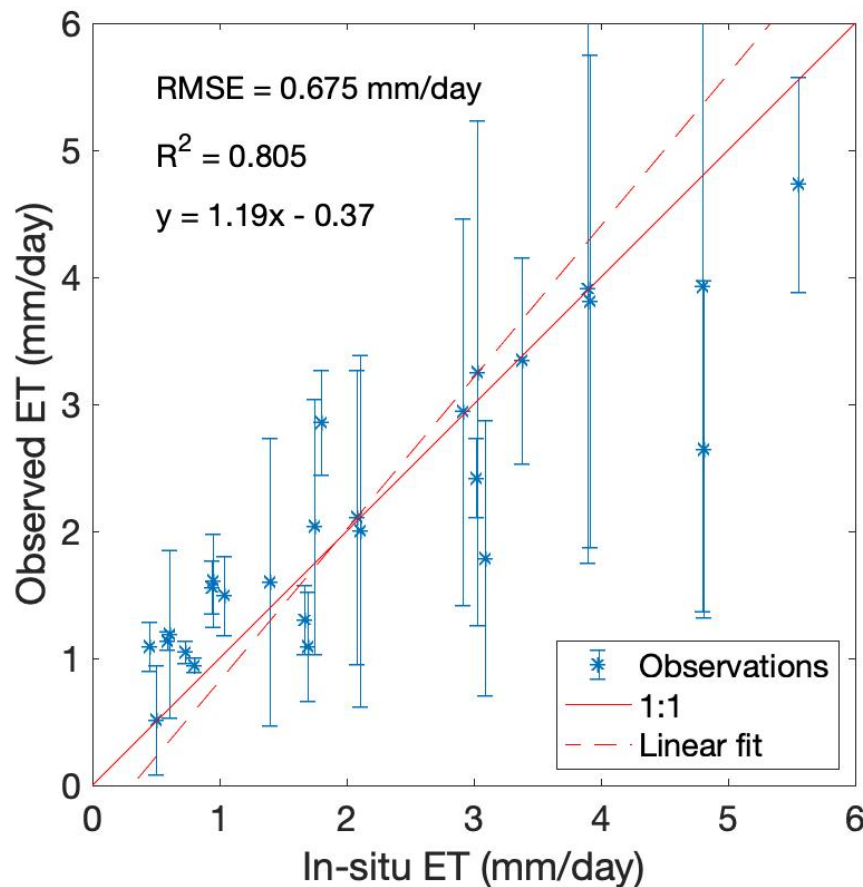
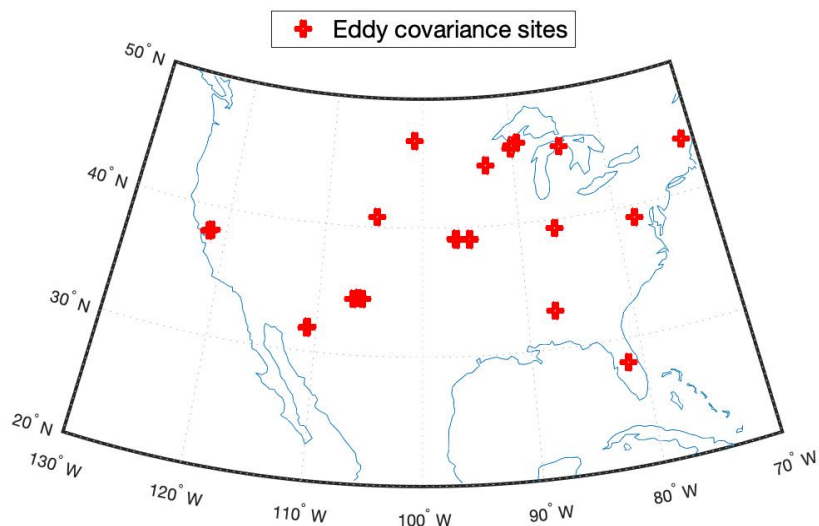
JPL DisALEXI 2019215 2204



USDA DisALEXI 2019215 2204



Credit: Yang Yang



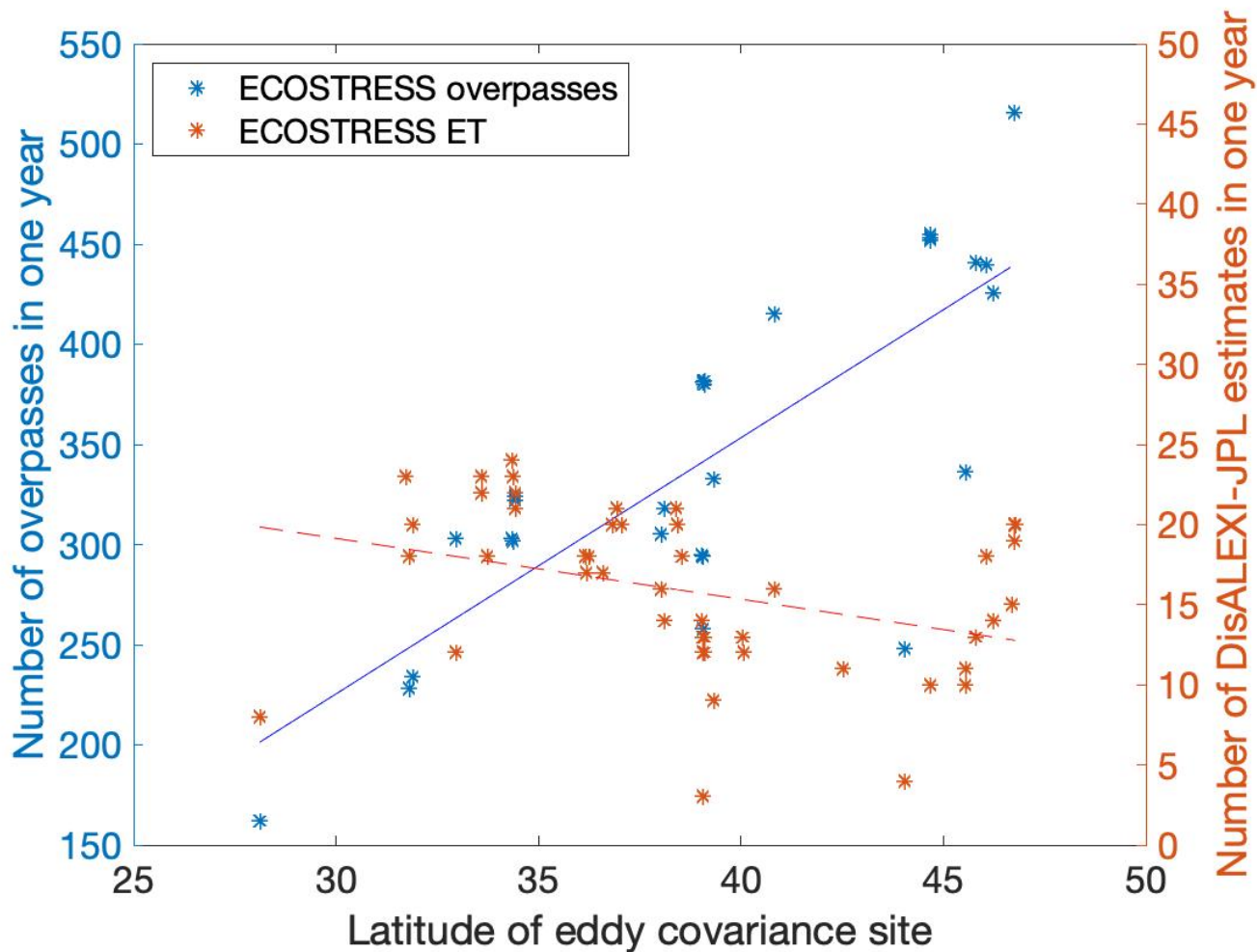


In summary

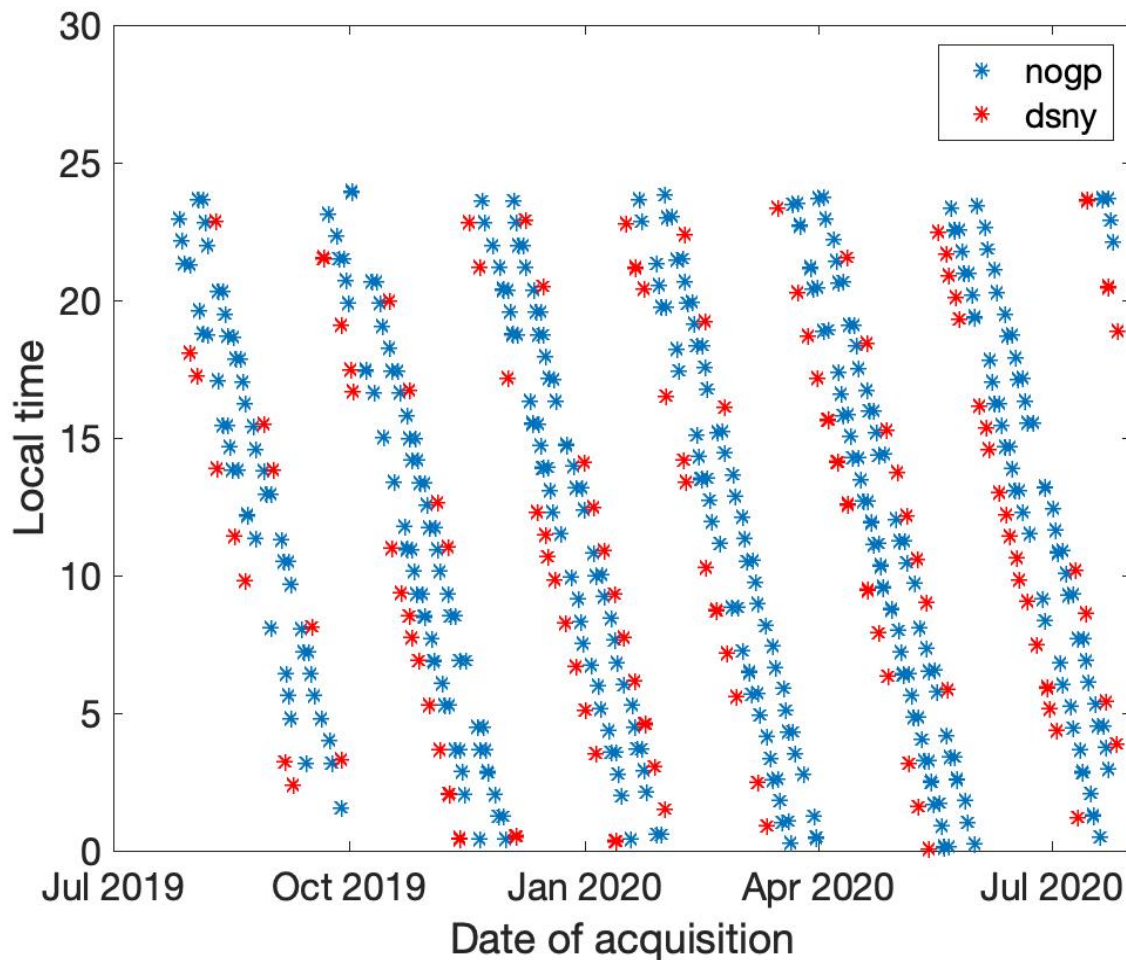


- DisALEXI-JPL shows reasonably good visual correlation with ECOSTRESS LST and PT-JPL
- DisALEXI-JPL shows good visual correlation with DisALEXI-USDA, although the JPL product sometimes underestimates ET, likely due to the LAI input and/or the USDA sharpening
- DisALEXI-JPL matched field measurements well, with an RMSE = 0.675 mm/day
- A beta product is available at LP DAAC for a closed community – contact me for access. Soon to be available on AppEEARS!

Some useful ECOSTRESS facts



Some useful ECOSTRESS facts



Northern-most site (nogp; 46.8° latitude) and the southern-most site (dsny; 28.1° latitude)



Jet Propulsion Laboratory

California Institute of Technology

jpl.nasa.gov