

THE CROCUS MEASUREMENT STRATEGY

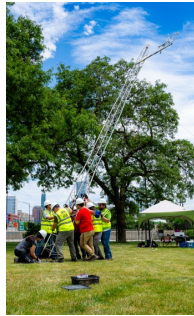
A comprehensive measurement design to understand the Chicago urban fabric.

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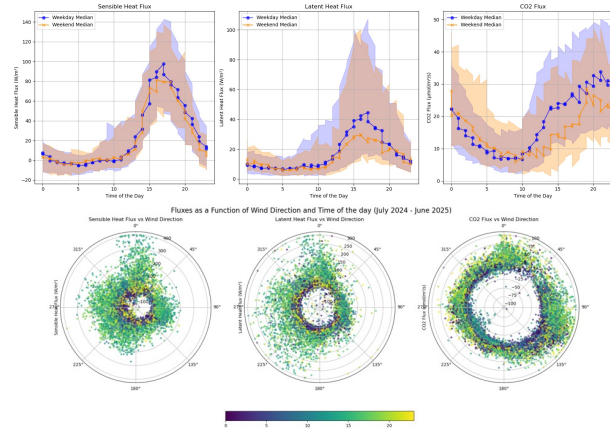
- The CROCUS Measurement Strategy consists of:
 - A network of 11 Micronet smart nodes across the city.
 - Six of which are LoRaWAN enabling allowing remote sensors including biogeochemistry.
 - Public data collection (acars, WSR-88D radar, NOAA models).
 - A series of focused field campaigns.
 - Resident led data collection.
- CROCUS MST collected novel earth science data for the three years of the CROCUS project.

<https://crocus-urban.org/data/>

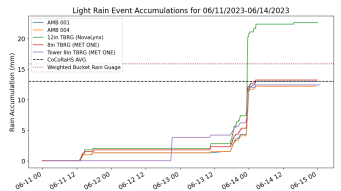
First Long-Term Flux Site in Chicago



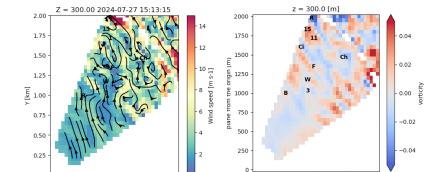
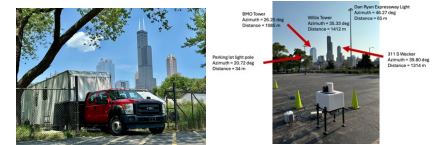
Weekday vs Weekend Differences (July 2024 - June 2025) (IOR Shaded)



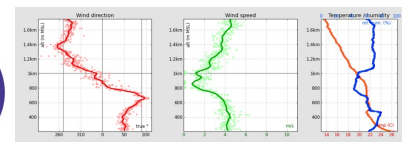
Rainfall From Consumer Sensors Perform Well



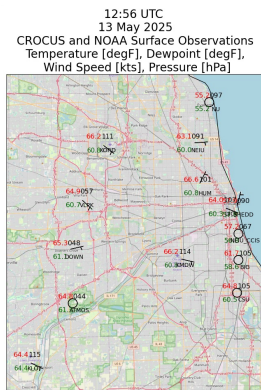
3DVAR LIDAR Winds



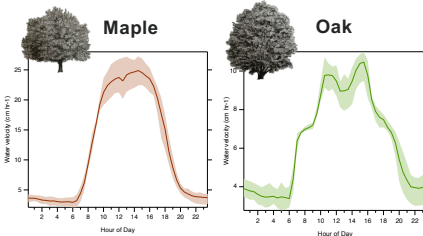
Wind Sonde



Fifteen Node Micronet



Sap Flow Data Via LoRaWAN



Curation of Existing Datasets

Community Data Collection Campaigns

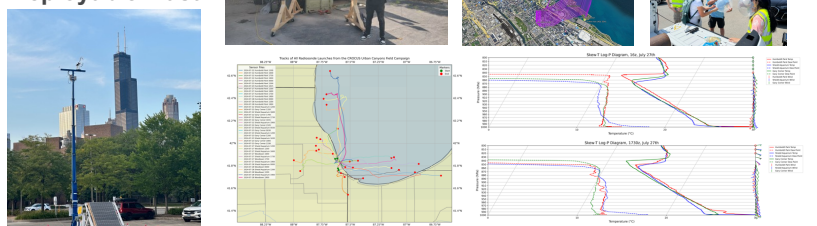


The Chicago Micronet

Field Campaigns

Edge Computing

Deployable Mast



Clear variations in low level moisture and temperature. Clear super adiabats.

Teamwork and Collaborators

Outreach and engagement has been critical. For every deployment and field campaign activity we have engaged. CROCUS' measurements strategy represents a new way of working across a DOE Laboratory and a university consortium.



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