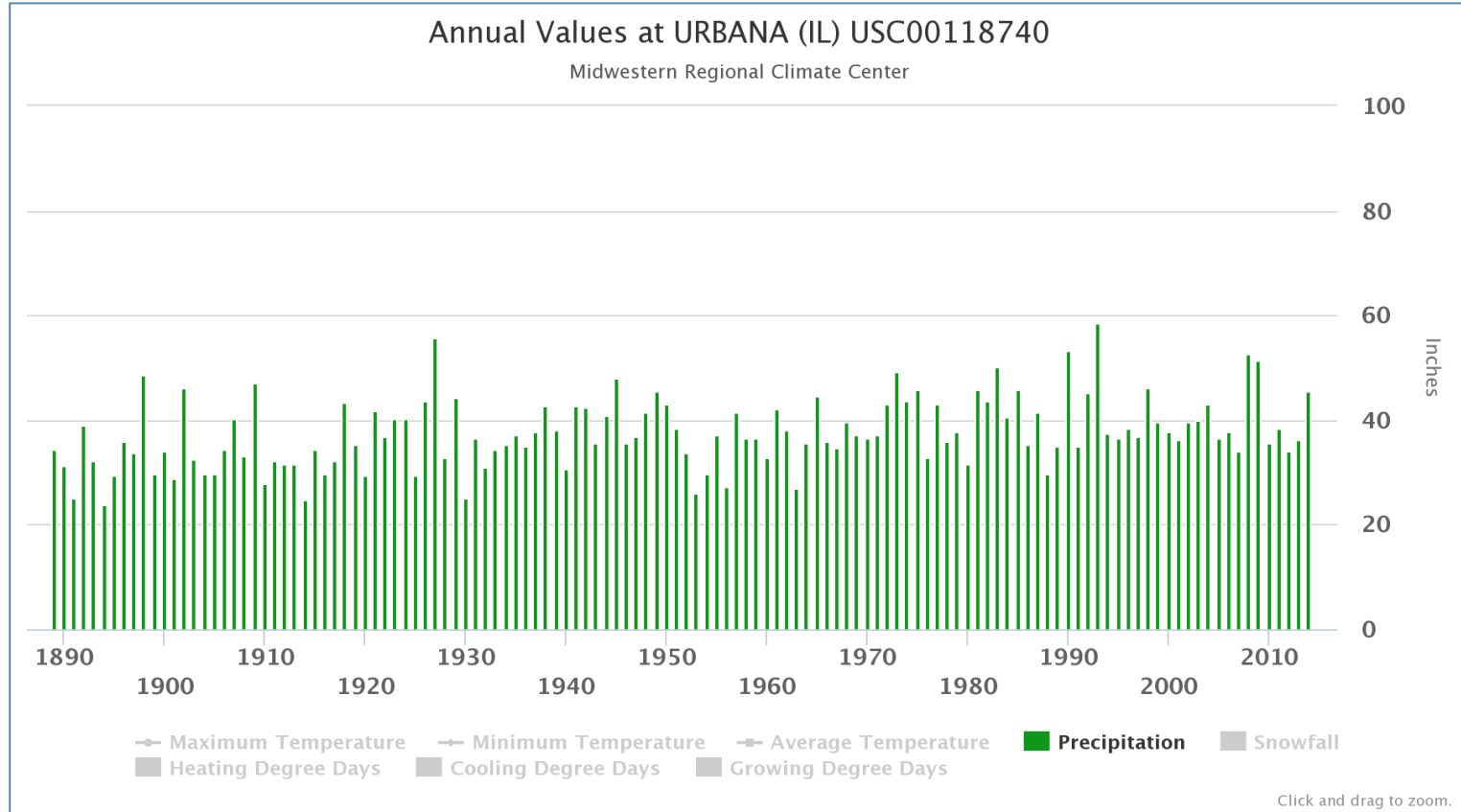


MRCC Climate-Related Data Mapping And Analysis Brainstorm



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- **Historical Station Observations**

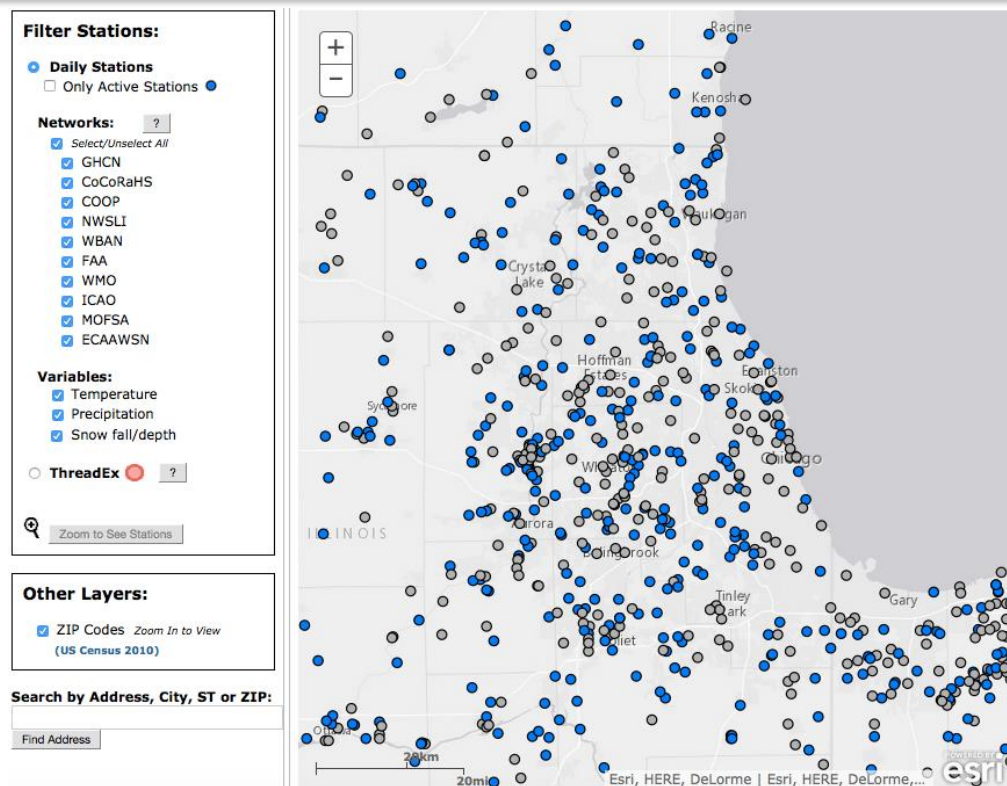
- Daily
 - *Precipitation*
 - *Snow*
 - *Temperature*
- Hourly
 - *Precip, Snow, Temp.*
 - *Winds*
 - *Solar Radiation*
 - *Pressure*

- **Gridded historical data**

- *Daily, Monthly*
 - *Precipitation (PRISM)*
 - *MPE*

- **Future Projections**

- *From North American Regional Climate Change Assessment Program (NARCCAP)*
 - *1971-2000; 2041-2070*
 - *50km spatial resolution*
 - <http://narccap.ucar.edu/about/index.html>
 - *Many common variables, including precipitation, temperature, winds, soils*



- **If any historical climate data is involved, MRCC can help!**
- **Key partners in other sectors:**
 - *Wildlife and Vegetation – DOIs Climate Science Centers (CSCs), Landscape Conservation Cooperatives (LCCs)*
 - *Streamflow, Surface, ground hydrology – USGS*
 - *Soil conditions, agriculture, forestry – USDA – NRCS*
 - *Health – NIH, University health research*
- **Radar, satellite, land-use / land cover – can get the data, but need a historical climate (atmospheric) component**

MRCC Can Do with base funding (aka “for free”)

- **Detailed precipitation data and trends from a historical, current and future standpoint**
 - *“Detailed” – define*
 - *“historical” – what time frame?*
 - *“future” – how far out? Spatial resolution?*
- ***Finer grained information on precipitation data that is tailored for public use. The public can be skeptical and having easy to understand maps that illustrate precipitation would be helpful. What is the difference between a 100-yr flood and a 100-yr rainfall?***
 - *Current funded project for Cook County*
 - *CCPN, Airport, Modeled data*
- ***Precipitation patterns and spatial trends in the region with a particular focus on the south side***
 - *“spatial trends” – of what? Exceedence of particular thresholds?*
 - *Station data? Station + Radar (MPE)? PRISM (4km gridded)?*
 - *Time period?*

MRCC Can Do -- likely with collaboration

- **Precipitation data – including stormwater frequency, intensity, annual volumes**
- **Mapping the connection between precipitation and future flood? Can you map where rain actually fell within a given storm, and where flooding occurs from that particular storm?**
 - *Where rain actually fell? Quite possibly (MPE, PRISM)*
 - *Tie with flooding and future modeling – need collaborations (ISWS, USGS, Corps, etc)*
- ***Mapping of Hydrology vis-à-vis groundwater re-charging? Perhaps connected to known discharge sites that can be mapped and how they affect groundwater / runoff?***
 - *Collaborations (ISWS, USGS, Corps, etc)*
- ***Map stream flow gauges to identify any correlation between increased flows and increasing development over time. Can be helpful information for public education as well***
 - *How is “development” defined? Source of data?*
 - *Source of streamflow data (USGS? Corps?)*

MRCC Can Do -- likely with collaboration

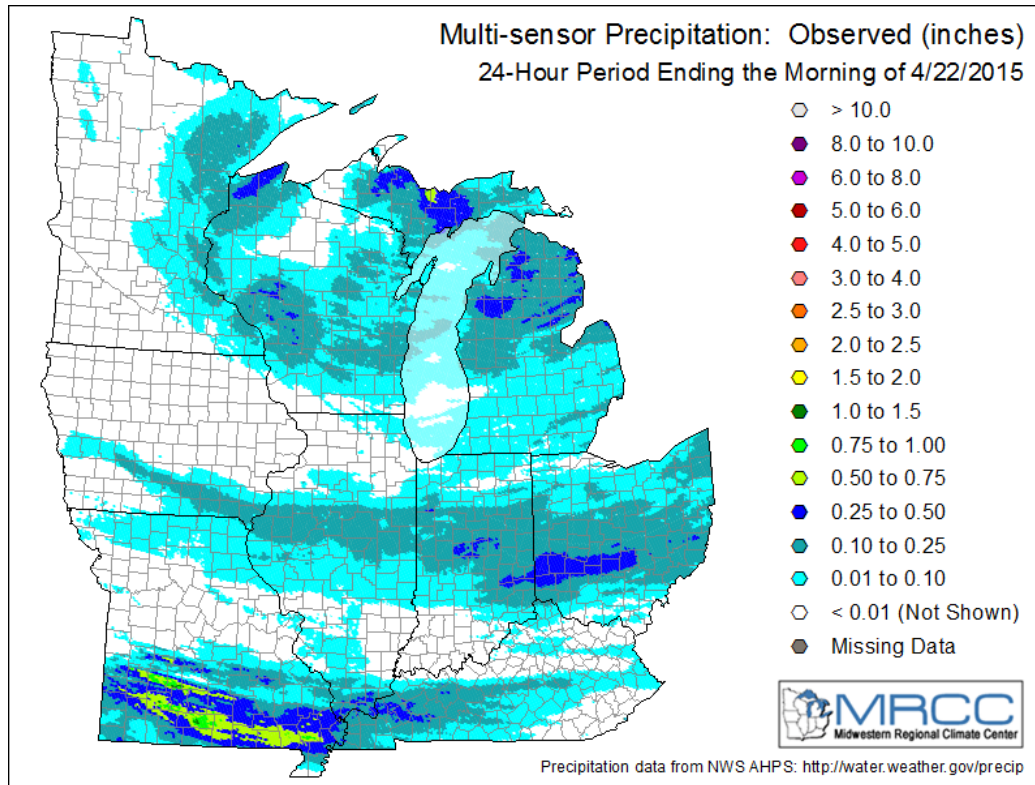
- **Heat Islands – map tree canopy and how this may overlap with regional hot spots to identify ideal green infrastructure placement**
 - *Current ISWS/UI research*
 - *NASA data?*
- **Air Quality: understanding where better air quality exists as it related to trees and plant data**
 - *Current ISWS/UI research*
 - *Data source? If NOAA, yes; If non-NOAA, collaborations needed.*
- **Green Infrastructure**
 - *Mapping the green infrastructure (SSMMA)*
 - *Mapping effectiveness of green infrastructure (delta, change over time)*
 - *Tracking green infrastructure*



Reformatting and Amalgamating Datasets

MRCC Can Do -- Need more information; possibly investment

- **Publishing data in formats that models can easily use?**
 - *What sort of data?*
 - *What sort of formats?*
- **Combine/merge MRCC precipitation data, CCPN, MWRD, ISWA, etc. data to create and addendum of recent precipitation levels for Bulletin 70**
 - *Current Bulletin 70 funding?*
 - *Proprietary data concerns*
 - *Investigate time to meet objectives*
- **Data gap analysis**
 - *Need more information – What type of gaps? Appropriate methods?*



**Thank
You!**

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