Impact of Urban Weather on Energy Use

Recent advances in multi-scale coupling of models have started to provide unique insights into how interdependent processes affect one another. The effect of these processes is uniquely observable in urban environments.

This data set comprises of three elements:

   a. High resolution, 90-meter simulated weather data for one month at 15-minute intervals (with known gaps towards the end of each month). These files are in netcdf file format and about 45 GB in size.
   b. A mapping of individual buildings with individual IDs, their lat/lon location, their 2D footprint, and height. (Excel file)
   c. Energy simulation output of these individual buildings, at 15-minute intervals for a whole year.

The questions that are of interest for this challenge are:

   1. Are there interesting variations in the weather and building energy use data for the geographic area?
   2. Which buildings in the study have their energy use impacted the most by external factors including, including the weather?
   3. Are there any interesting visualizations that illustrate the changing dynamics of the simulated urban environment?

Participants are welcome to bring in additional datasets and fuse with the provided data to create meaningful insights.