Week7 Zhou Yuhan

Task1 Provide a summary of the main concepts that went through about solar radiation (formulas are not needed)

Solar Radiation Characteristics

The Solar radiation, which crosses the atmosphere to reach the Earth's surface, is modified (attenuation), both in spectral distribution and in total irradiance. That is due to dispersion (molecular and particle scattering) and absorption phenomena .

The Solar Radiation Density

The maximum yearly average solar radiation density is the solar constant, Gsc which is the extraterrestrial solar irradiance (solar radiation by unit of receiving surface placed out of the atmosphere and perpendicular to the Sun-Earth ray); its value is 1367 W/m2.

Atmospheric Absorption

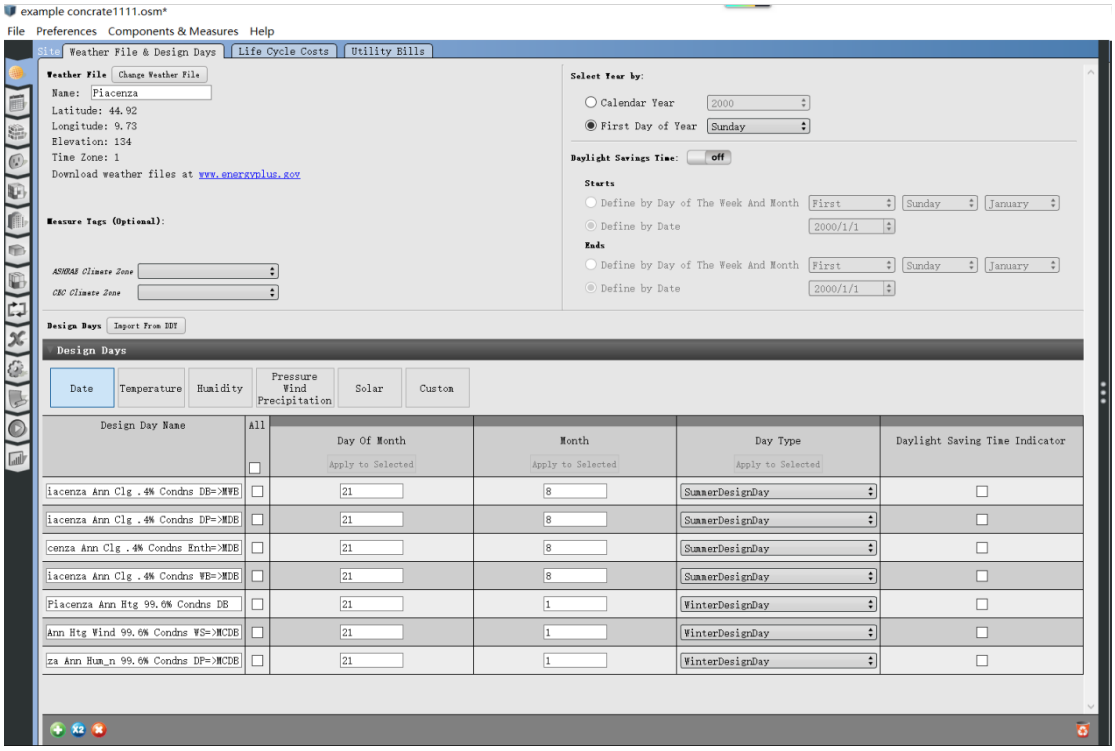
Solar radiation absorption is due to some atmospheric components, especially ozone , water and carbon, dioxide, which absorb the incident radiation in specific wavelength bands consequently modifying its energetic spectrum.

Solar Energy: Availability

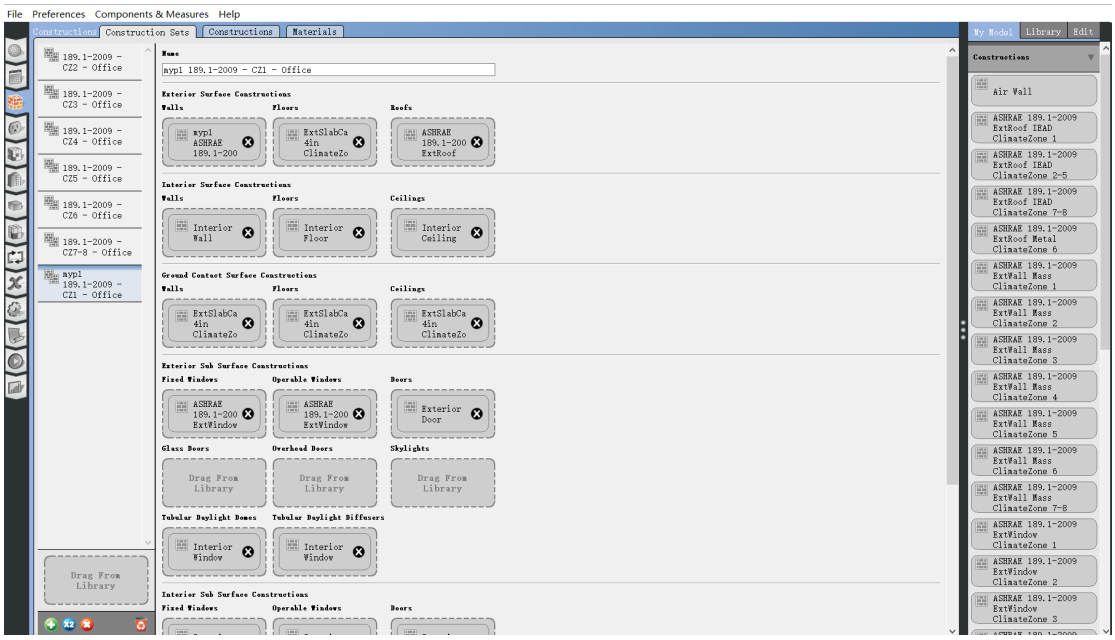
1.The sun position in the sky, which changes daily and seasonally
2.The weather condition
3.the site altitude over the sea level
4.sunshine hours

Task2 Create a pdf file with screenshots of all of the steps we went through in the second lesson on OpenStudio and explain briefly the reason behind the use of each step.

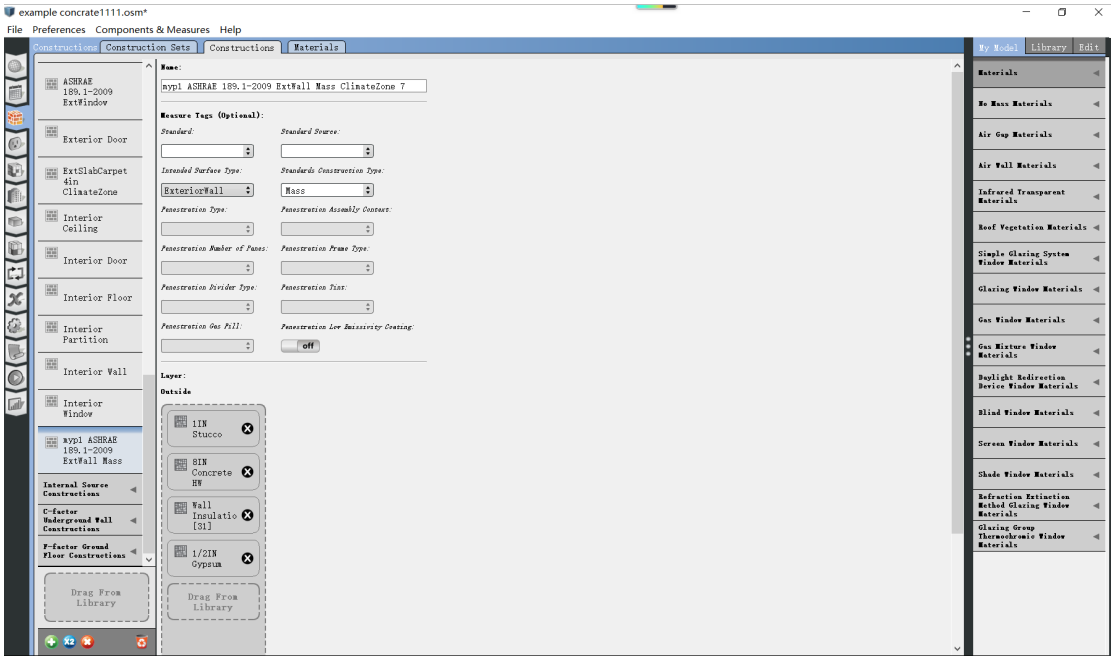
Adding the climate data of Piacenza in OpenOffice to get the right information.



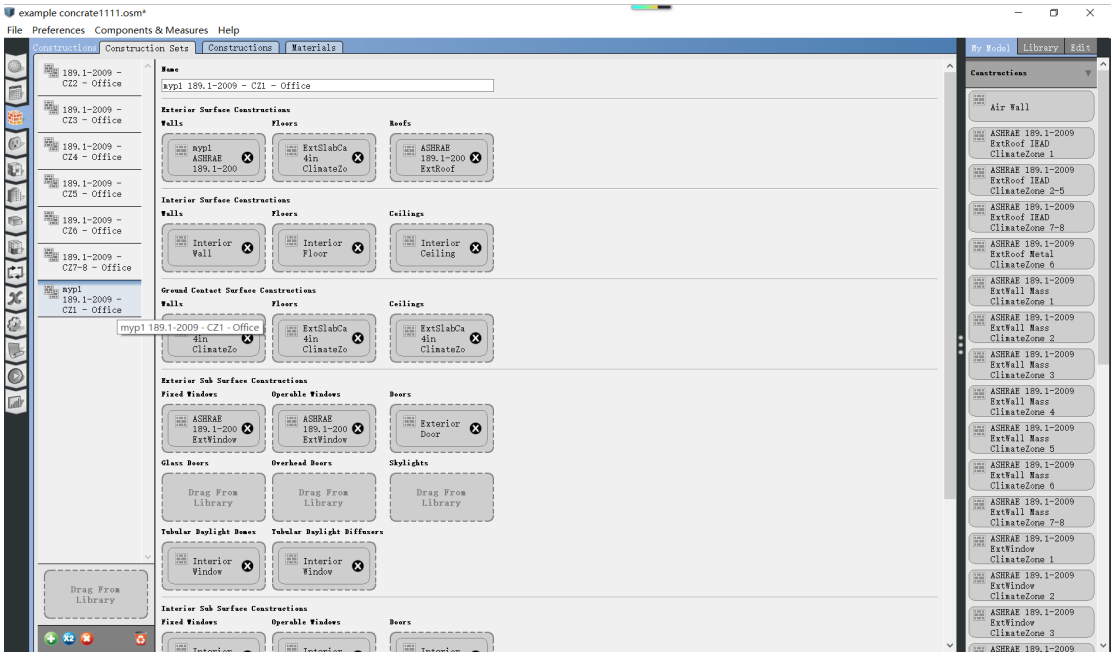
In the “construction sets”, to rename the name.



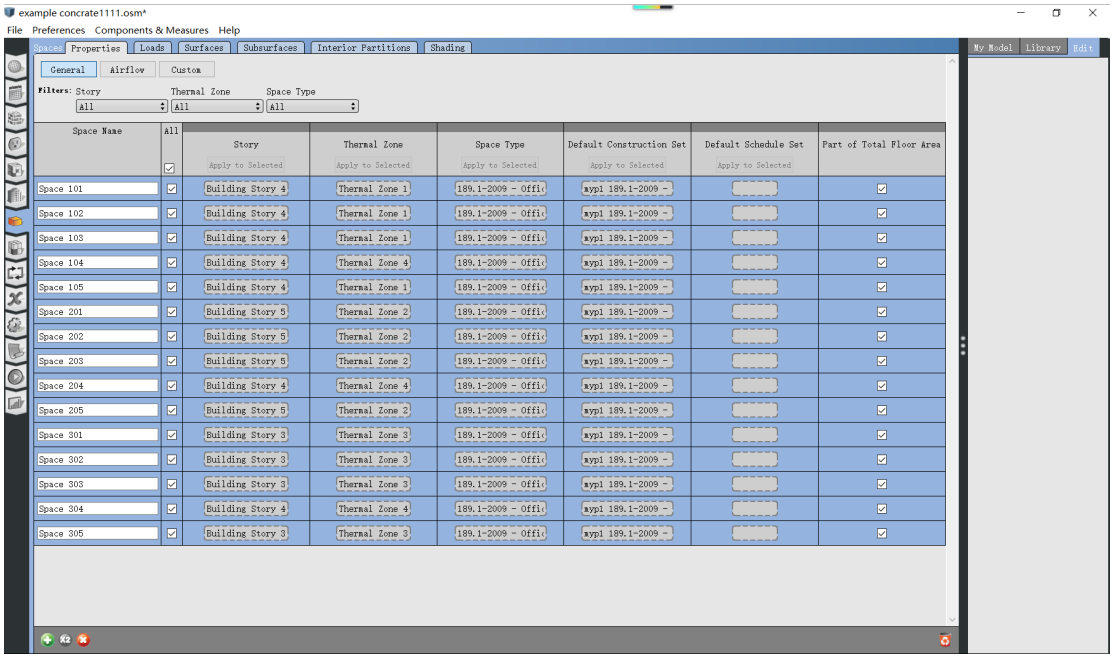
Start customizing the wall package in the "Constructions "



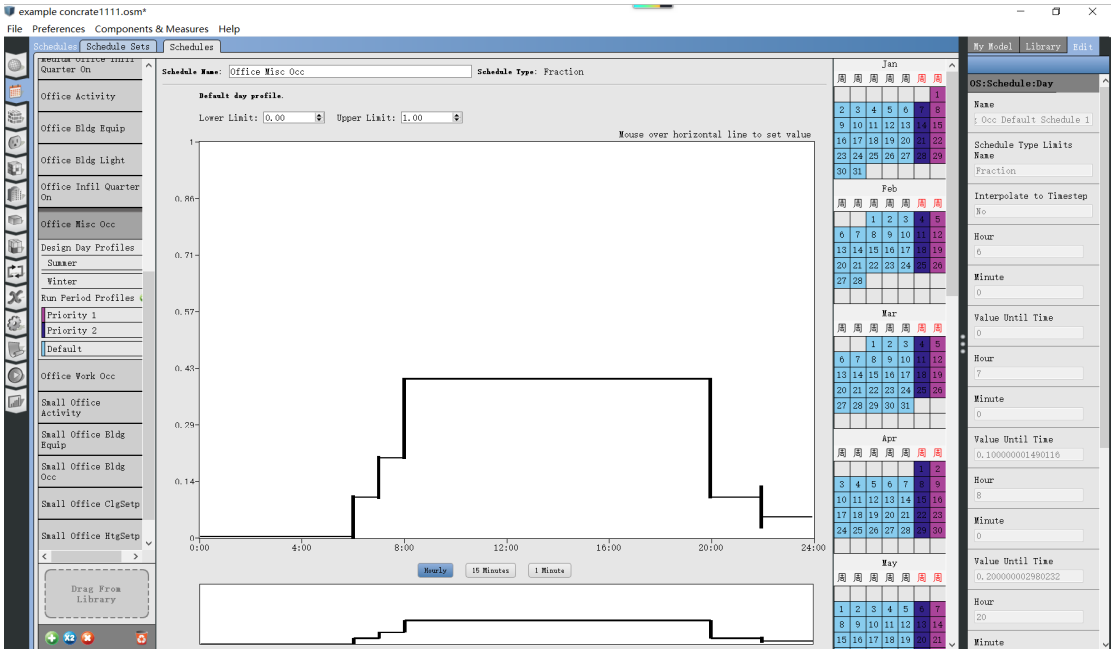
Insert the wall in the building data.



Go to the "properties" window and insert the project layer, applying it to the whole building.



In "schedules", entering all the information relating to activities, equipment, etc and their schedules.



Go to the "loads"command to change other specifications, like people, light, electricity, etc.