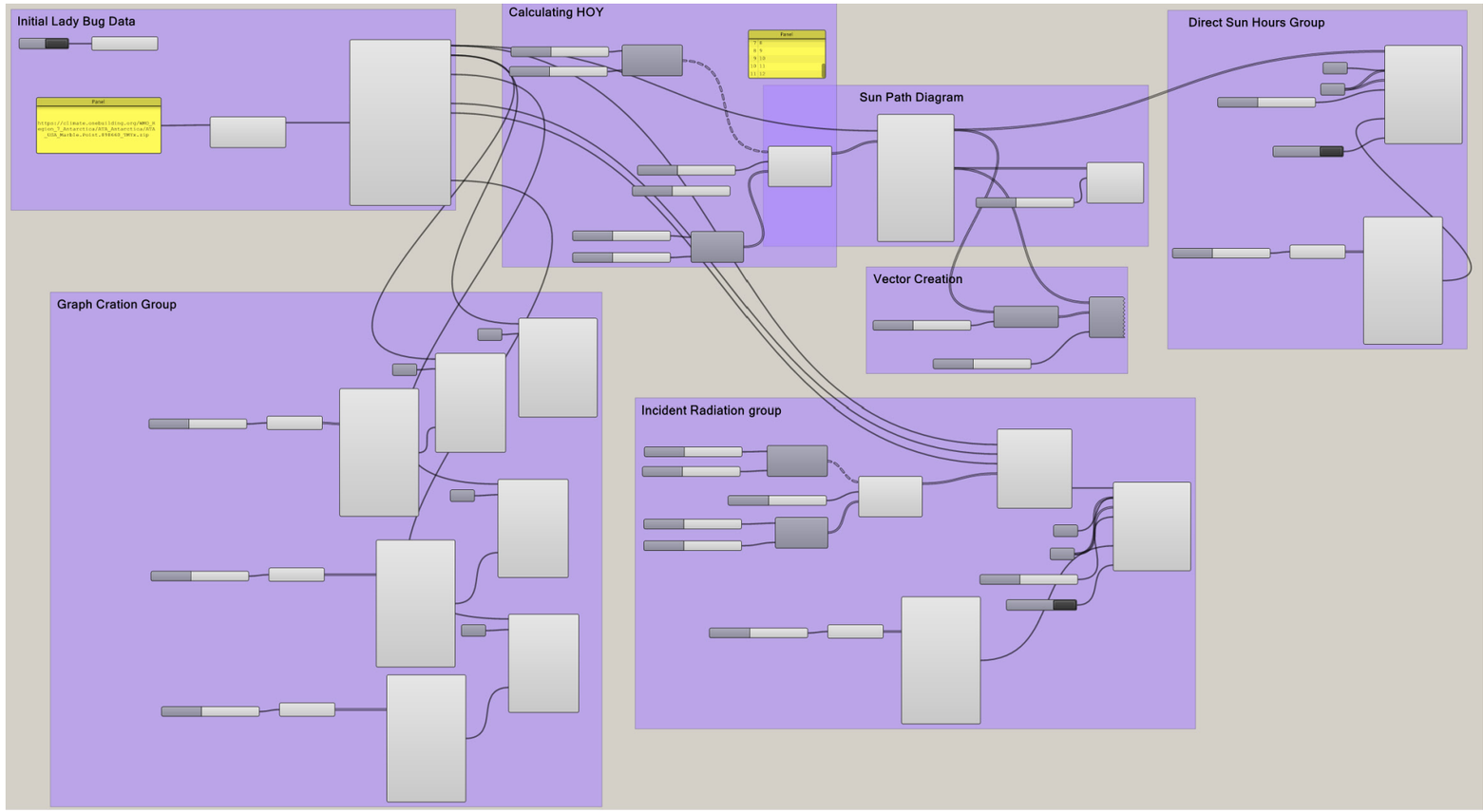
Journal 5

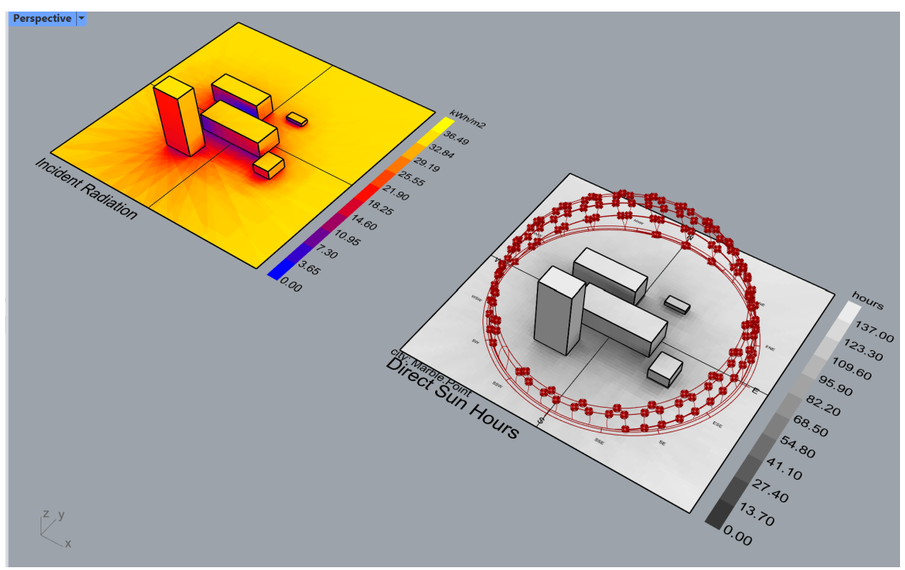
2/21/25

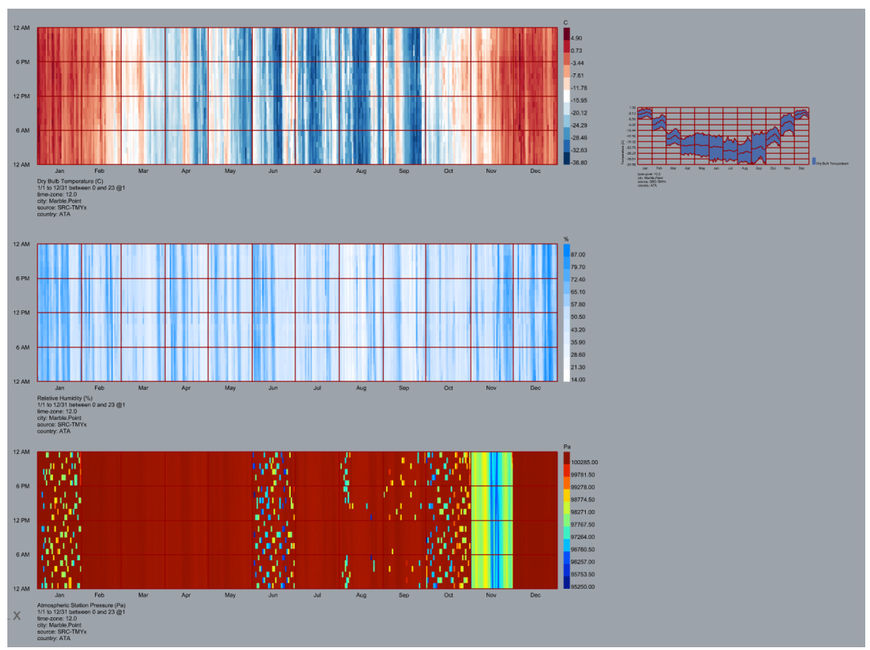
Megan Dalton

For this journal I decided to start off by fallowing the tutorial posted on @motus406. This tutorial walked through the different capacity of Ladybug in Grasshopper. For the data location I ended up using the closest data point to my site. Due to my location being in Antarctic (The McMurdo Dry Valleys) its temperature range and solar hours are vastly different than elsewhere in the world.

Getting the step by step tutorial was extremely helpful. I especially appreciated the walk though of the different tools available through Ladybug. Over the weekend I plan to really explore the different tools and their uses. I am especially looking forward to applying this knowledge to my studio project.







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Now that I know how to use Ladybug, I was curious if it would be possible to collect data from a different plant and utilize it in Ladybug. I was surprised to actually find a GitHUB post that had some data about Mars (https://github.com/the-pudding/data/tree/master/mars-weather). The file was a .csv, which allowed me to look at the given data. The most interesting thing would be the max and min temperatures. The warmest it seems to get is 10 degrees and the coldest is -90. I was interested to see the wind speed data since it was a category, there was a cavity not that stated "Note: Wind Speed data has not be transmitted to Earth since Sol 1485". This note meant that there was no wind speed data.

For this submission I was unable to determine how to convert .csv files to a .epw file. I will definitly take the time to explore if this is a possibility.

id	terrestrial_date	sol	ls	month	min_temp	max_temp	pressure	wind_speed	atmo_opacity
1895	2/27/2018	1977	135	Month 5	-77	-10	727	NaN	Sunny
1893	2/26/2018	1976	135	Month 5	-77	-10	728	NaN	Sunny
1894	2/25/2018	1975	134	Month 5	-76	-16	729	NaN	Sunny
1892	2/24/2018	1974	134	Month 5	-77	-13	729	NaN	Sunny
1889	2/23/2018	1973	133	Month 5	-78	-18	730	NaN	Sunny
1891	2/22/2018	1972	133	Month 5	-78	-14	730	NaN	Sunny
1890	2/21/2018	1971	132	Month 5	-78	-13	731	NaN	Sunny
1888	2/20/2018	1970	132	Month 5	-77	-16	731	NaN	Sunny
1887	2/19/2018	1969	131	Month 5	-76	-16	732	NaN	Sunny
1886	2/18/2018	1968	131	Month 5	-76	-19	732	NaN	Sunny
1885	2/17/2018	1967	130	Month 5	-76	-15	734	NaN	Sunny
1884	2/16/2018	1966	130	Month 5	-77	-18	735	NaN	Sunny
1883	2/15/2018	1965	129	Month 5	-76	-12	735	NaN	Sunny
1882	2/14/2018	1964	129	Month 5	-76	-16	736	NaN	Sunny
1881	2/13/2018	1963	128	Month 5	-77	-14	737	NaN	Sunny
1880	2/12/2018	1962	128	Month 5	-78	-14	738	NaN	Sunny
1877	2/11/2018	1961	127	Month 5	-77	-21	740	NaN	Sunny
1876	2/9/2018	1960	127	Month 5	-78	-14	740	NaN	Sunny
1878	2/8/2018	1959	126	Month 5	-78	-15	740	NaN	Sunny
1874	2/7/2018	1958	126	Month 5	-77	-14	741	NaN	Sunny
1875	2/6/2018	1957	125	Month 5	-77	-21	742	NaN	Sunny
1879	2/5/2018	1956	125	Month 5	-79	-14	744	NaN	Sunny
1873	2/4/2018	1955	124	Month 5	-77	-21	745	NaN	Sunny
1872	2/3/2018	1954	124	Month 5	-77	-17	745	NaN	Sunny
1870	2/2/2018	1953	123	Month 5	-78	-22	747	NaN	Sunny
1871	2/1/2018	1952	123	Month 5	-80	-25	748	NaN	Sunny
1869	1/31/2018	1951	122	Month 5	-77	-23	749	NaN	Sunny
1868	1/30/2018	1950	122	Month 5	-79	-15	750	NaN	Sunny

Header	Description	Data Type
`id`	The identification number of a single transmission	number
`terrestrial_date`	The date on Earth (formatted as `month/day/year` or `m/dd/yy`).	date
`sol`	The number of elapsed sols (Martian days) since Curiosity landed on Mars.	number
`ls`	The solar longitude or the Mars-Sun angle, measured from the Northern Hemisphere. In the Northern Hemisphere, the spring equinox is when `ls = 0`. Since Curiosity is in the Southern Hemisphere, the following `ls` values are of importance: • `ls = 0`: autumnal equinox • `ls = 90`: winter solstice • `ls = 180`: spring equinox • `ls = 270`: summer solstice	number
`month`	The Martian Month. Similarly to Earth, Martian time can be divided into 12 months. Helpful information can be found here.	text
`min_temp`	The minimum temperature (in °C) observed during a single Martian sol.	number
`max_temp`	The maximum temperature (in °C) observed during a single Martian sol.	number
`pressure`	The atmospheric pressure (Pa) in Curiosity's location on Mars.	number
`wind_speed`	The average wind speed (m/s) measured in a single sol. *Note:* Wind Speed data has not be transmitted to Earth since Sol 1485. Missing values are coded as `NaN`.	number
`atmo_opacity`	Description of the overall weather conditions on Mars for a given sol based on atmospheric opacity (e.g., `Sunny`).	text