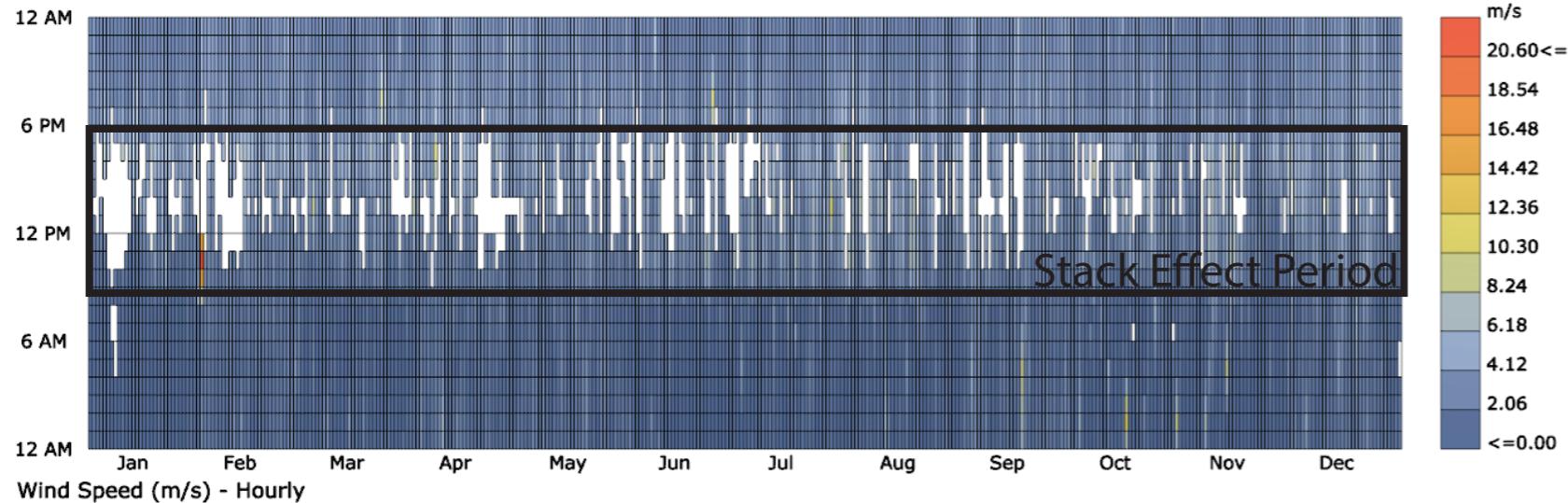
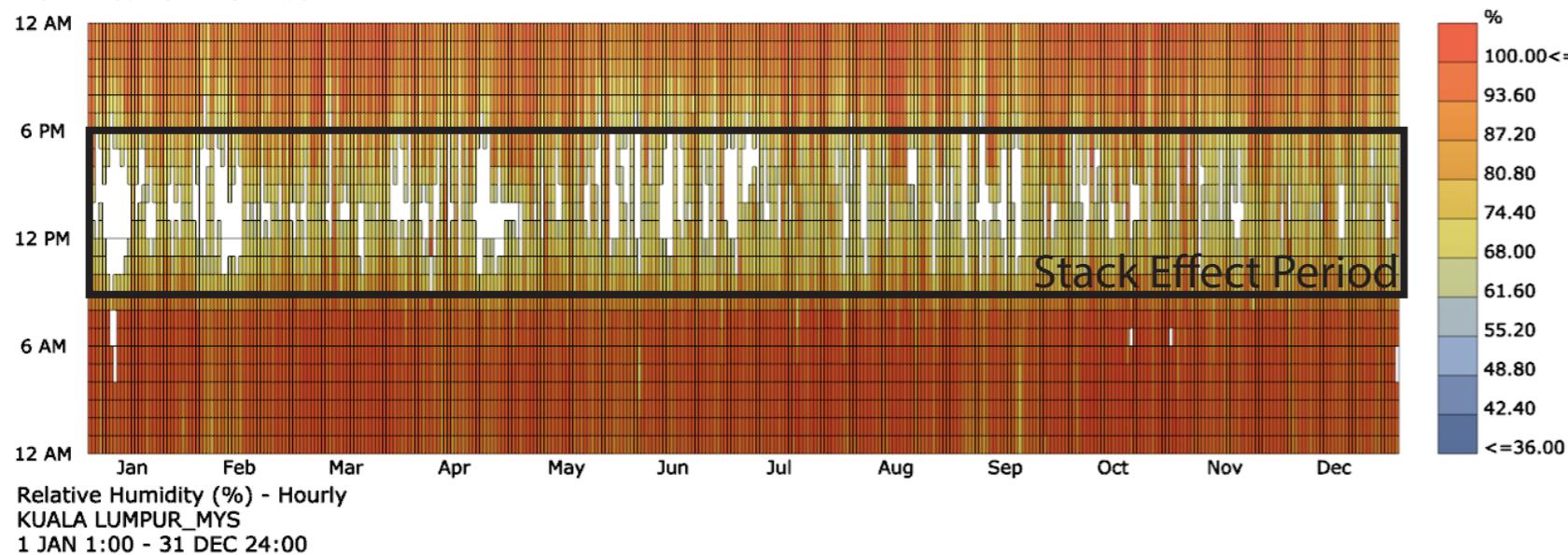
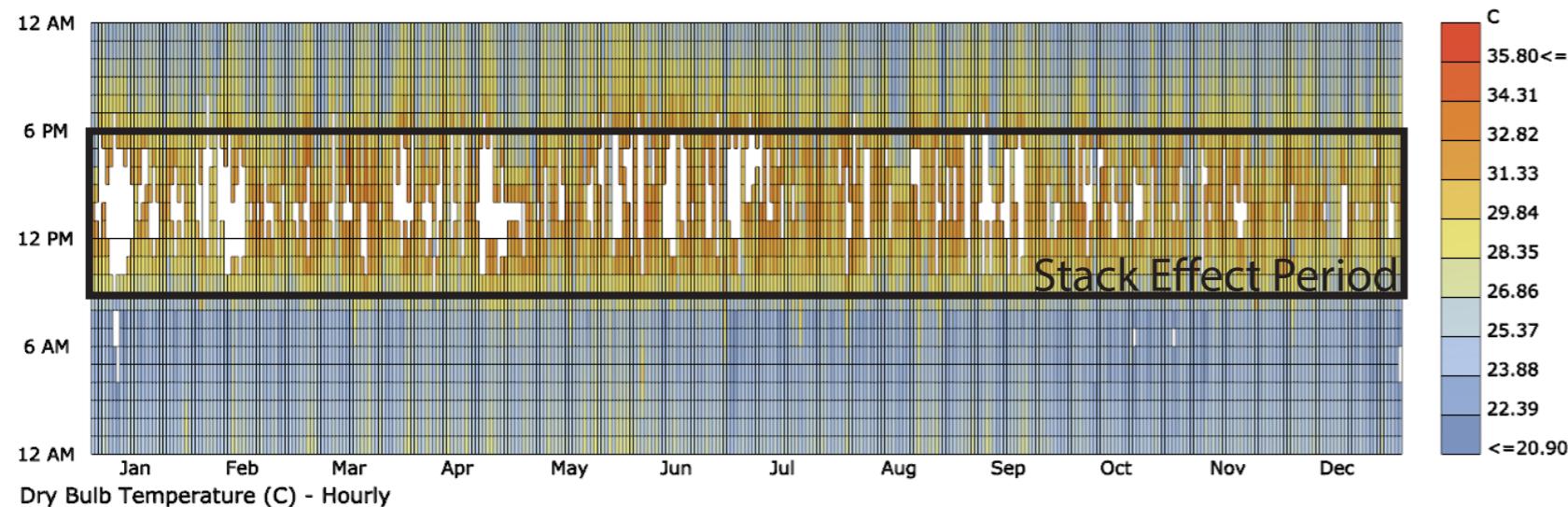


Kuala Lumpur



Imputing EPW file of Kuala Lumpur into Ladybug

Process:

{Condition Statement}

Conditions need for cooling energy,

DB Temperature>22, Humidity>60%

Result:

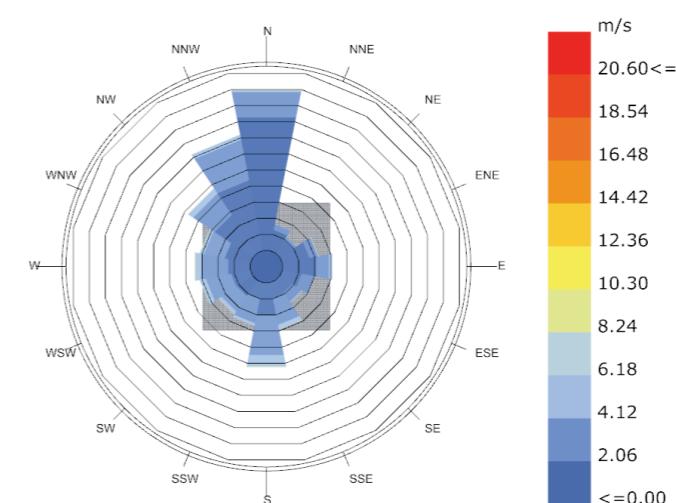
8175 out of 8760 hours annually (93%) are **uncomfortable in terms of Temperature and Humidity** and need for cooling energy.

Diagram on the left shows how those hours are distributed hourly during the whole year. Diagram on the bottom shows the prevailing wind direction annually.

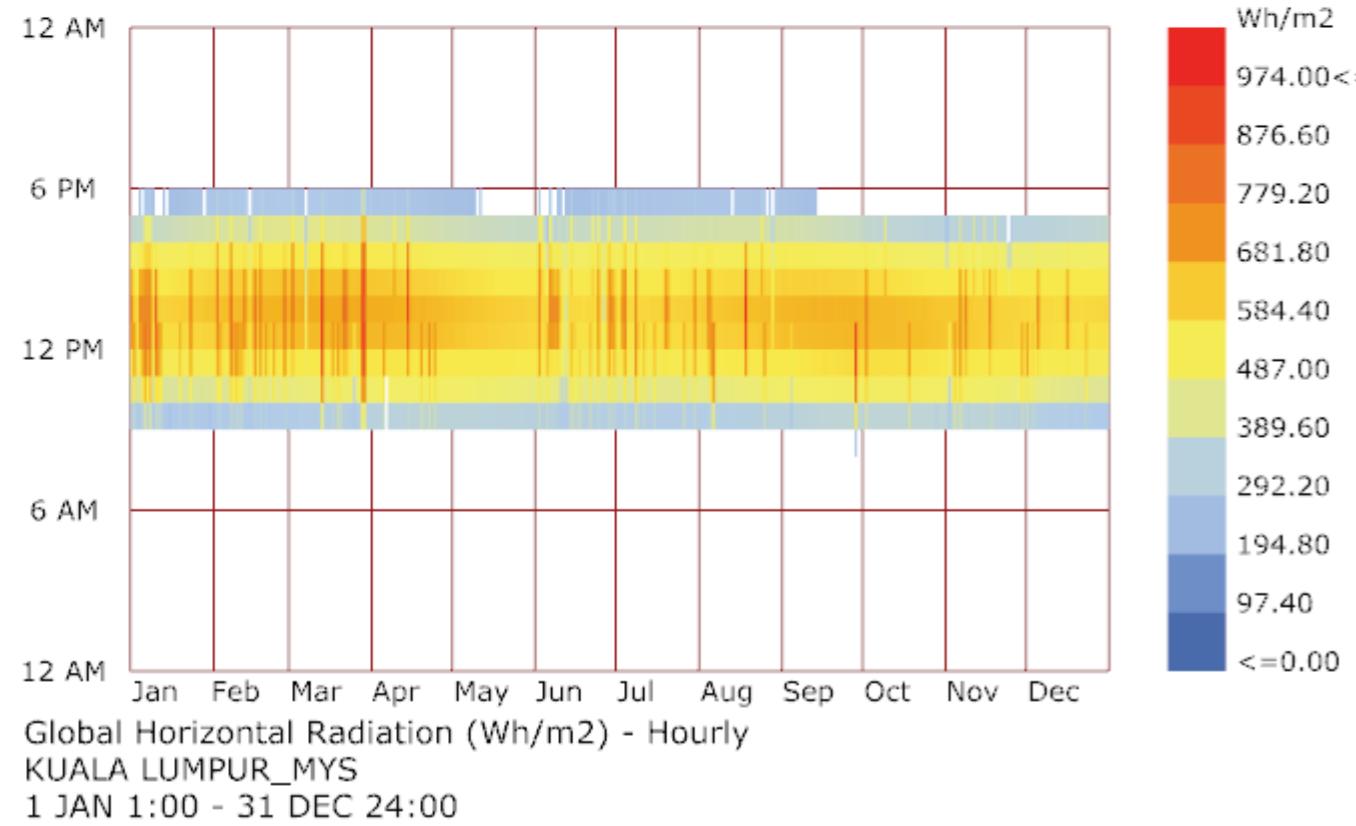
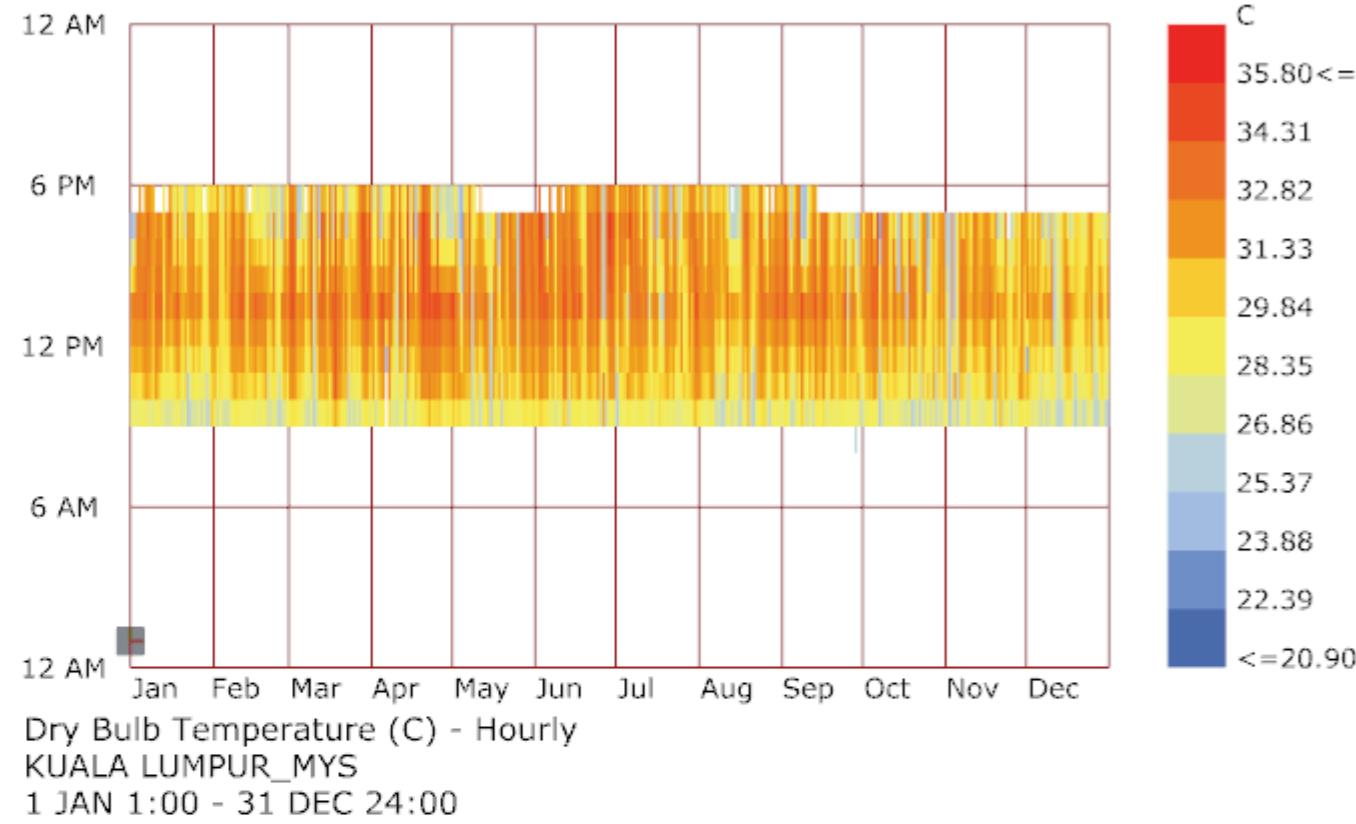
Passive Design Strategy:

Given the condition shown on the left, we need to **maximize natural ventilation ability** of the project to save more cooling energy.

To achieve this, we need to put operable windows mainly on **N and S direction**(**base on bottom diagram**) of building surface. But given the high humidity and low wind speed all around the year, we need to **more rely on Stack Effect** instead of cross ventilation.



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Imputing EPW file of Kula Lumpa into Ladybug
Process:

{Condition Statement}

Potential for Overheating,

Temperature>22, Global Horizontal Radiation>200Wh/m²

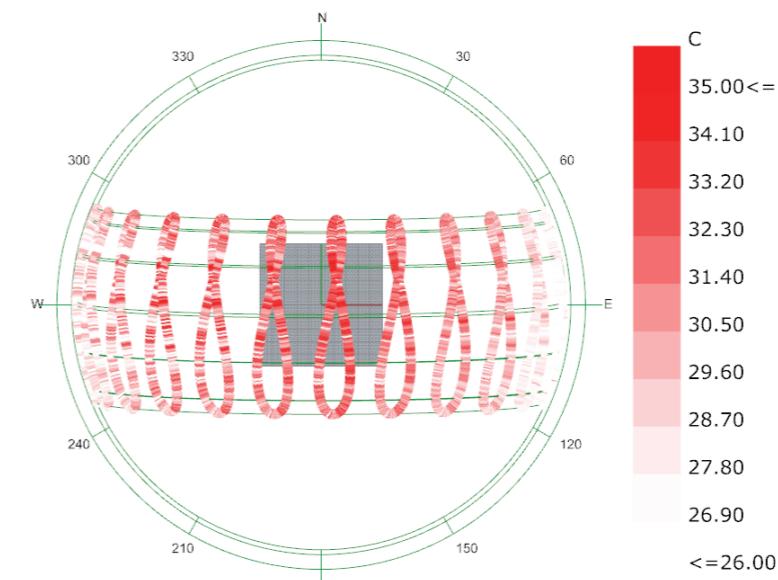
Result:

3139 out of 8760 hours annually (36%) have overheating potential.
Diagram on the left shows how those hours are distributed hourly
during whole year. Diagram on the bottom shows all the location
of suns which are hotter than 22C.

Passive Design Strategy:

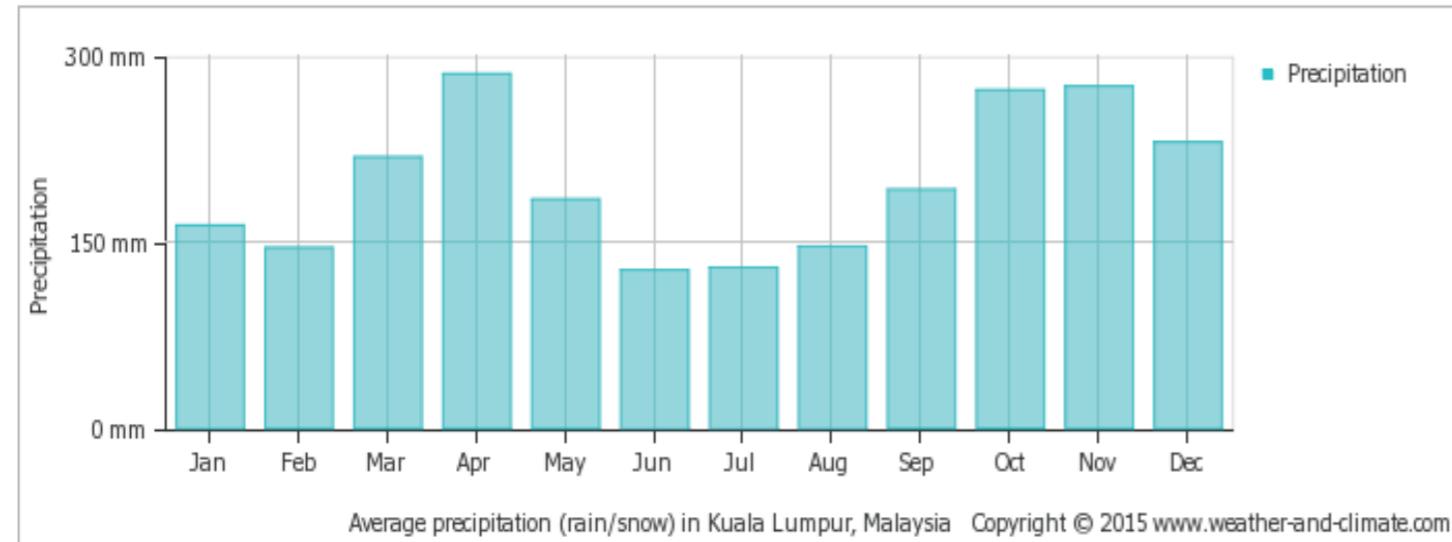
Given the diagram shown on left and bottom, we recommend to use shading for all openings in all direction. Since the bottom diagram shows an outstanding high sun angle, we should choose **horizontal shading fins** over vertical fins in order to improve shading ability.

Based on the wind rose and sun pass diagram, we think the project should be **South facing**.



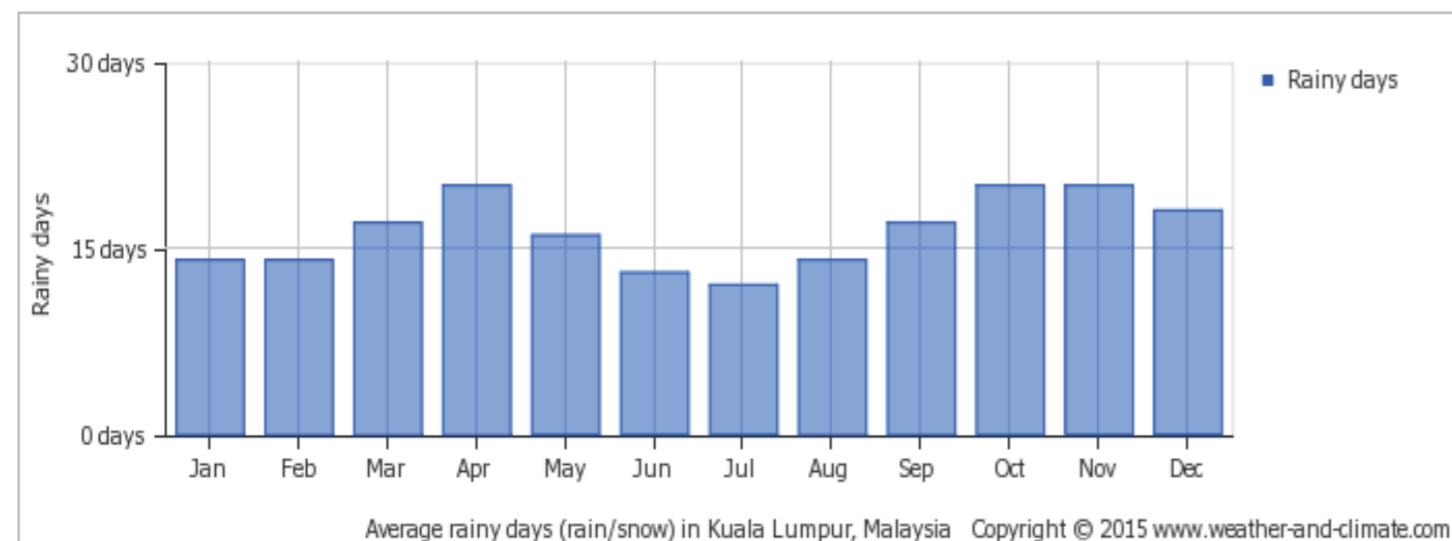
AVERAGE MONTHLY PRECIPITATION OVER THE YEAR (RAINFALL, SNOW)

This is the mean monthly precipitation, including rain, snow, hail etc. Show in [Inches](#) »



AVERAGE MONTHLY RAINY DAYS OVER THE YEAR

This is the number of days each month with rain, snow, hail etc.



Kuala Lumpur

Passive Design Strategy:

Given the diagram shown on left , we recommend to use **slope roof surface** to improve rain water collection ability in order to achieve net zero water on site.

Summary:

Given the knowledge I have on this project, I could only give out a few Passive strategies. There are many other suggestions could be draw if I could have more information on the project, like: project area, site condition, surrounding condition.

Since climate change only would make the earth warmer, I don't think it would not affect my design recommandations.