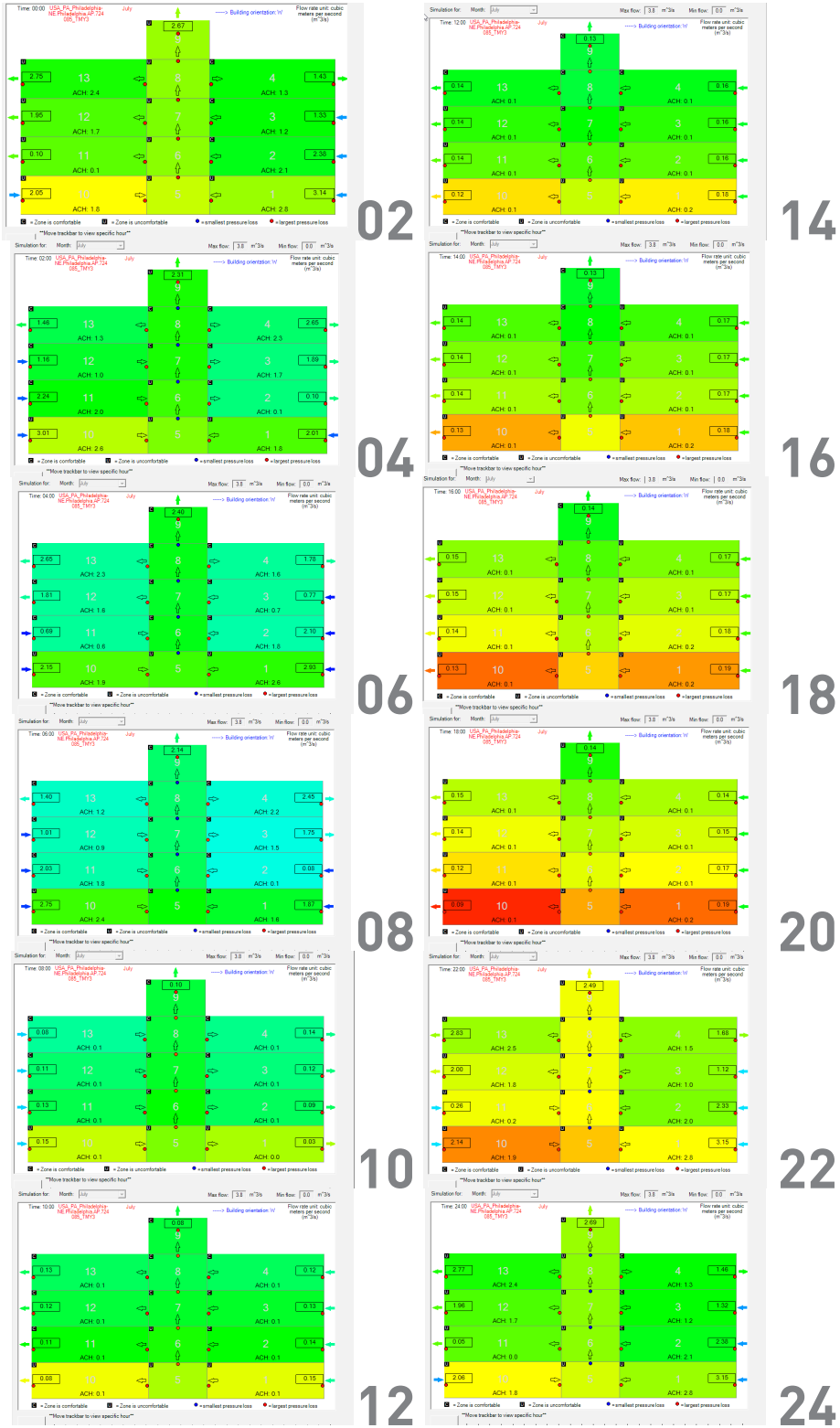
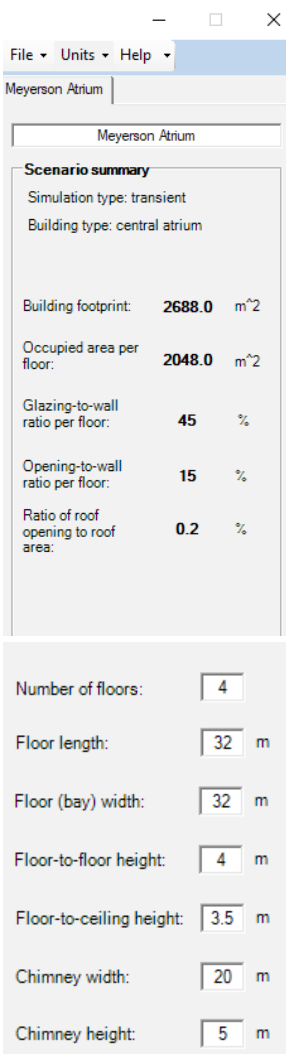


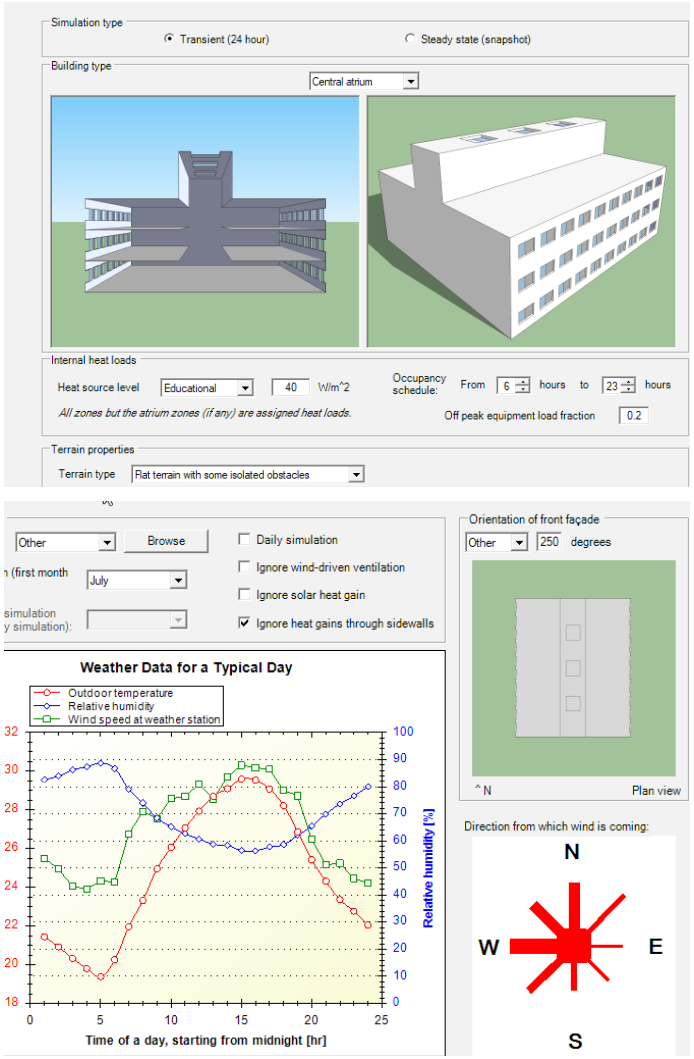
Meyerson Atrium Design

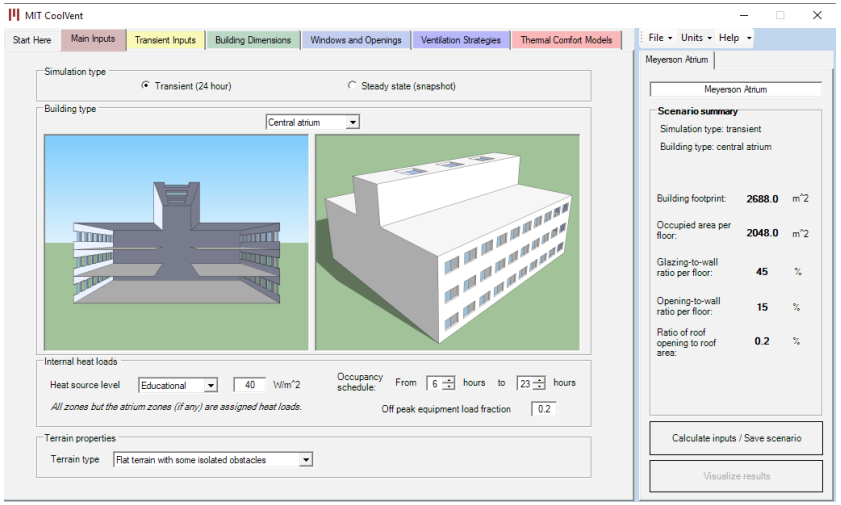
Environmental Systems I - 10/29/2017
Elizabeth Heldridge

For the atrium analysis of Meyerson, I tried to see what simply changing the shape would accomplish. This analysis was completed without the use of night-flush, and standard window / glazing ratio values. Overall, the building maintained a reasonable level of comfort throughout the July day of occupancy, however critically the lowest floors on the west and east sides, but specifically the west, experienced high levels of discomfort and would require extensive air conditioning to maintain the 80/20 comfort ratio.

To improve this analysis further, I would have looked at increasing the roof opening of the chimney, or increasing the height of that space, allowing the hot air to move upwards. I also would have increased the inlet dimension on the first floors, hoping to allow the hot air to escape more easily.







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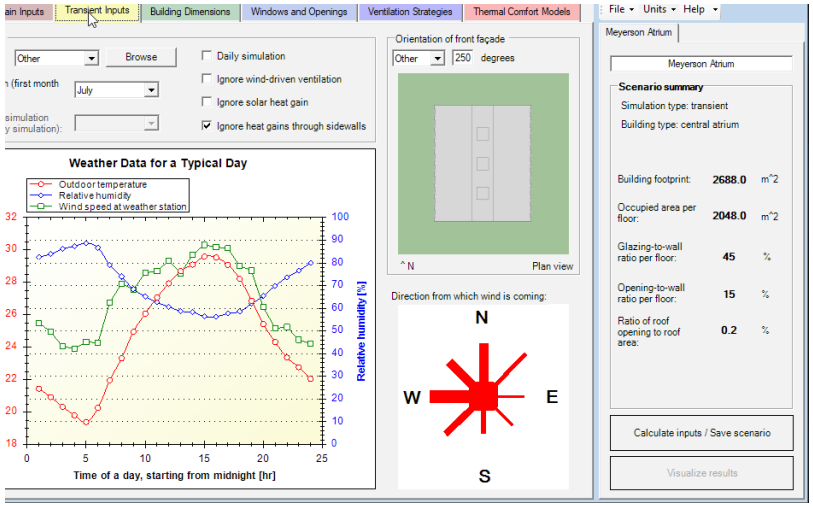

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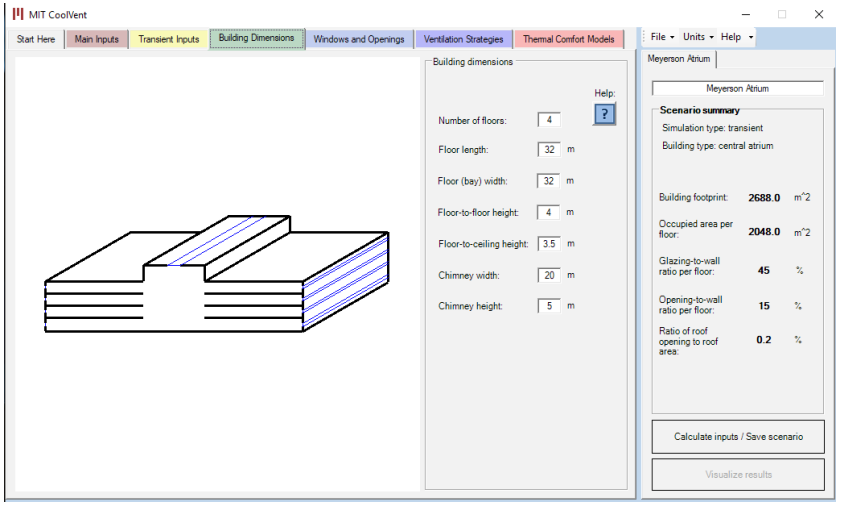

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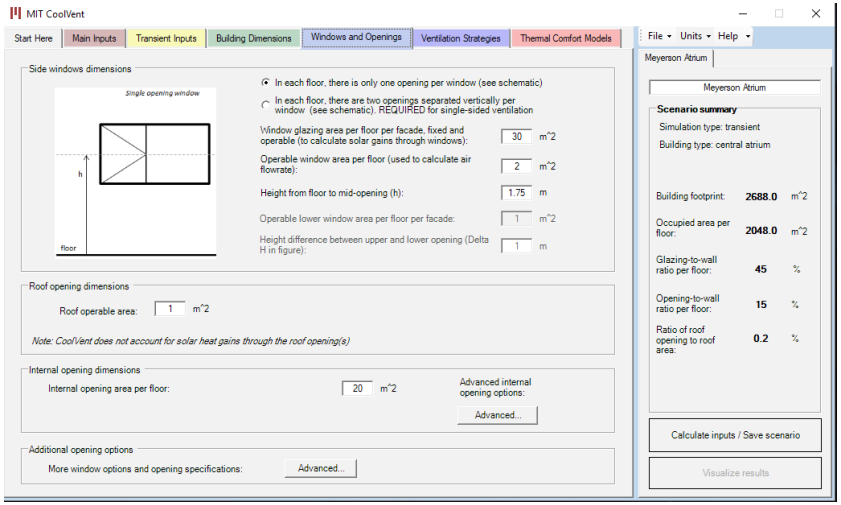

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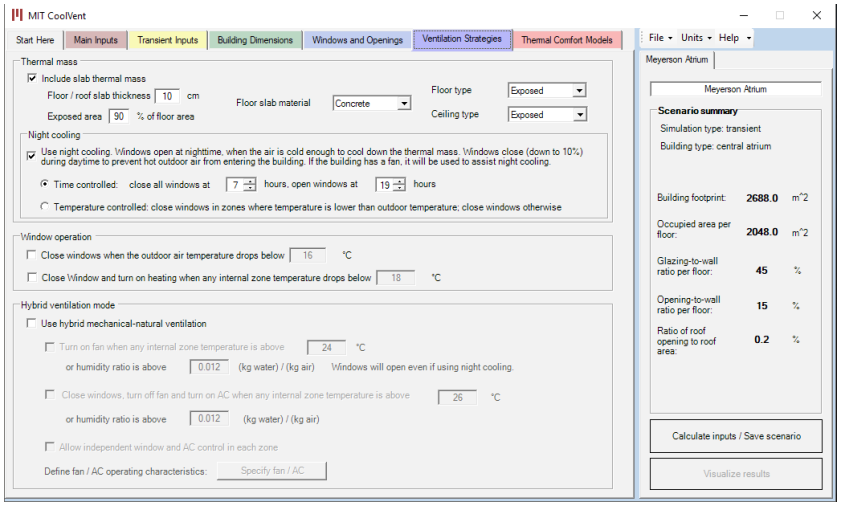

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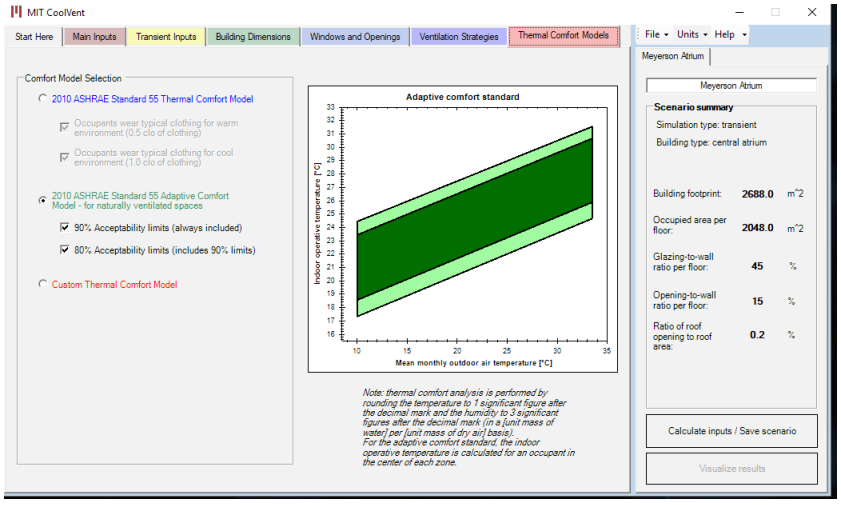

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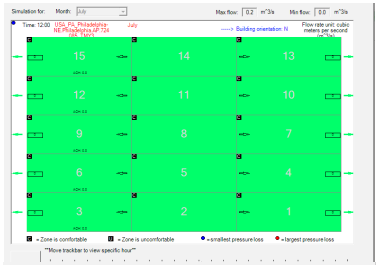

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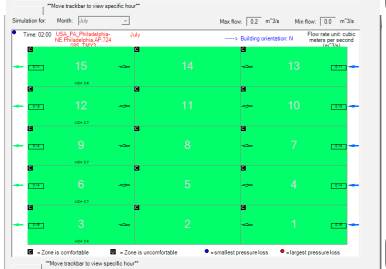

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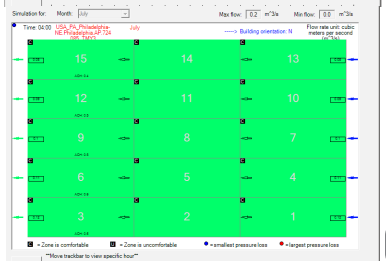

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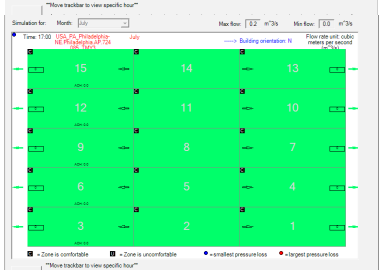

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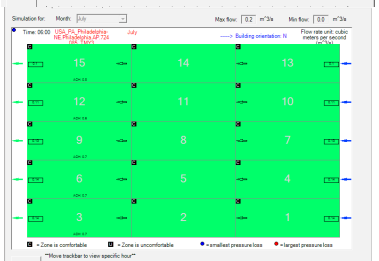

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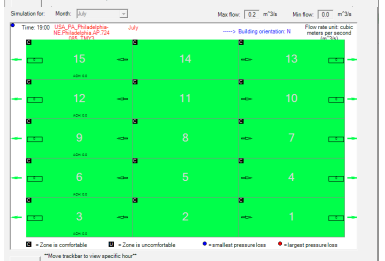

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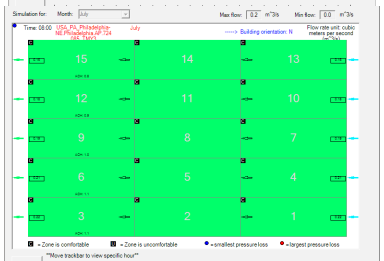

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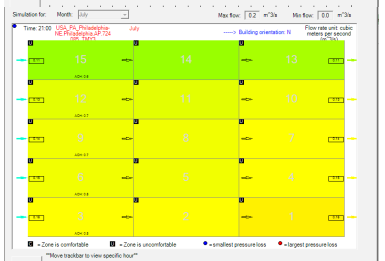

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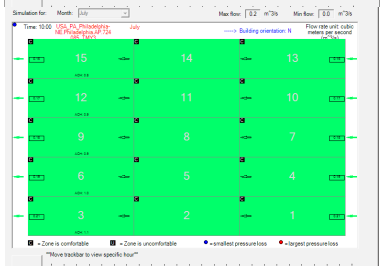

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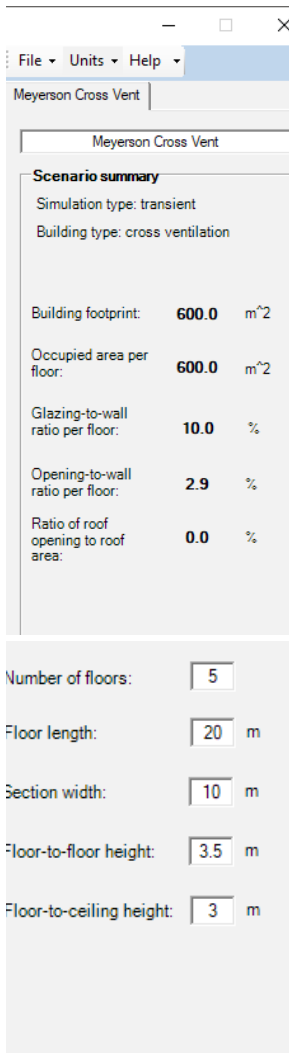
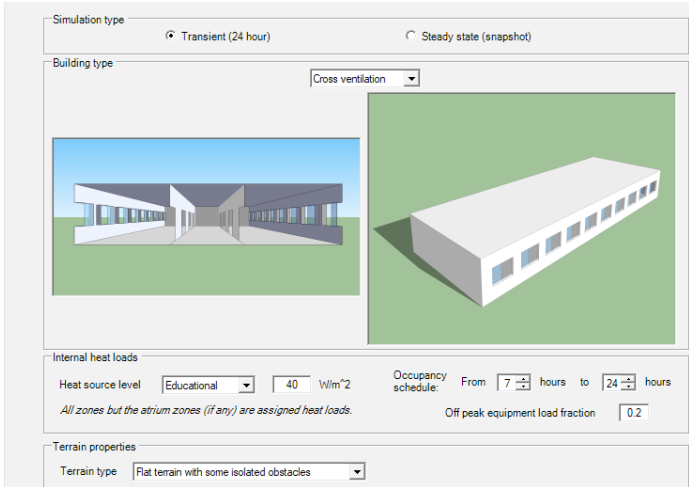
Meyerson CrossVentilation Design

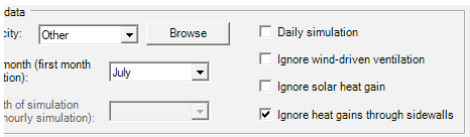
Environmental Systems I - 10/29/2017
Elizabeth Heldridge

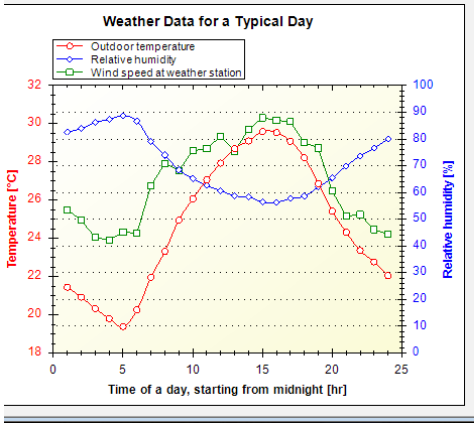
For this cross-ventilation analysis, I decided to enable all the options for hybrid cooling, operable windows automatically opening and closing, and increase the square footage of operable facade. I also reoriented the building so that the facades were primarily north and south, rather than east and west. It is possible that this analysis would have led to the values shown on the left, however I am suspicious that something went wrong in the analysis that led to the strange pattern shown here. When I ran the analysis a couple more times, the result did not change, so I decided to include it with the disclaimer that I'm pretty sure something is inaccurate.

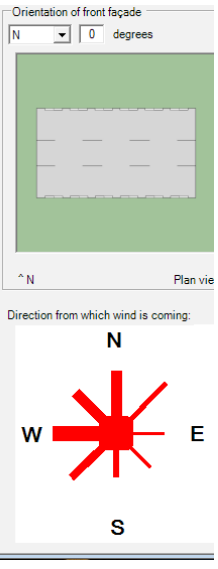
If these values were correct though, this design would likely be very successful.

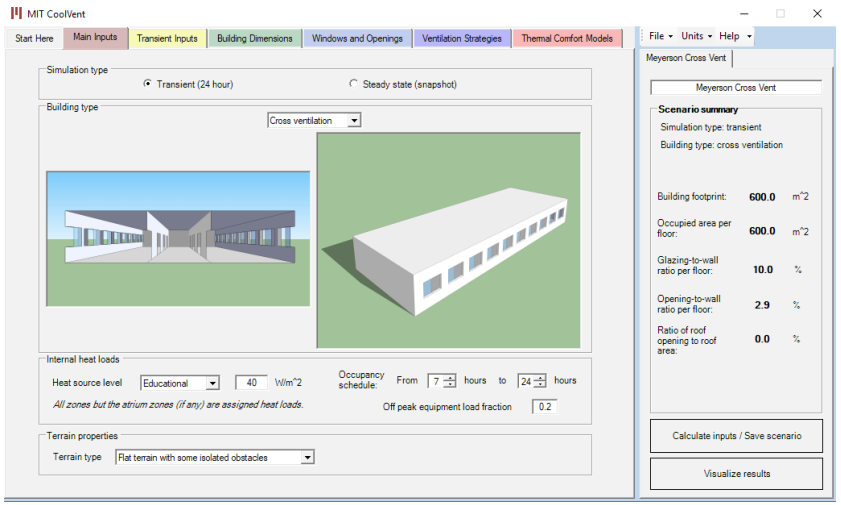












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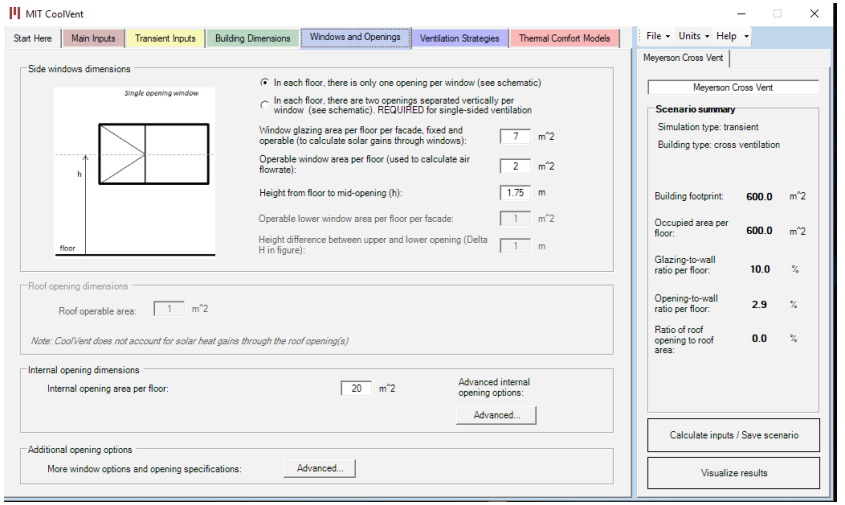

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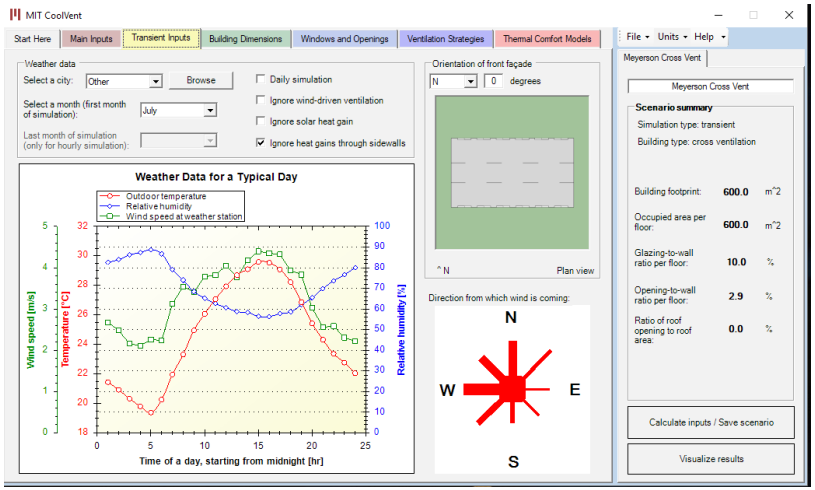

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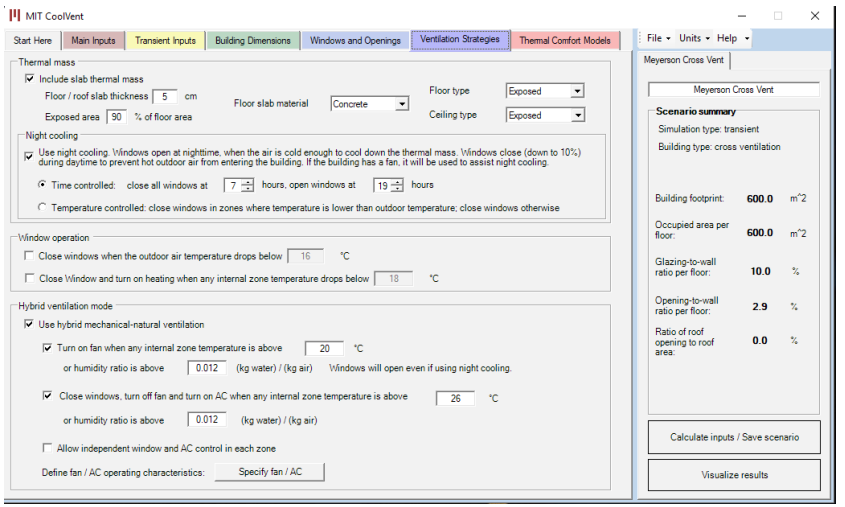

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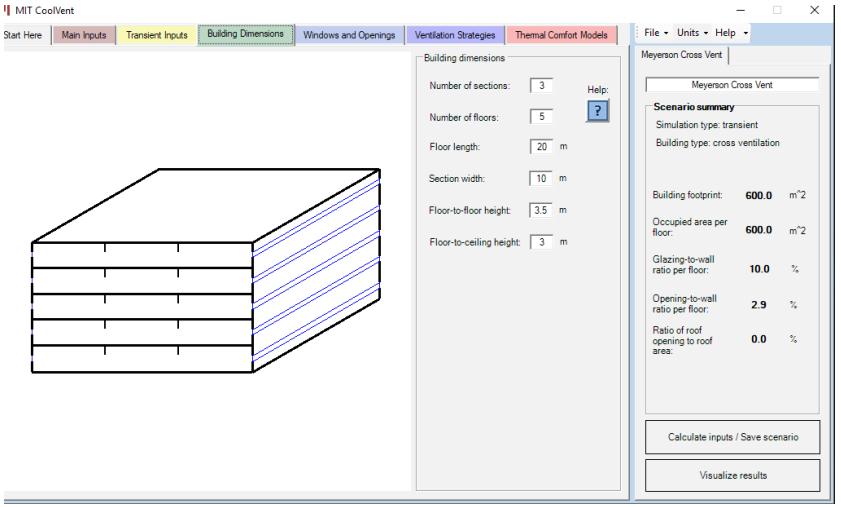

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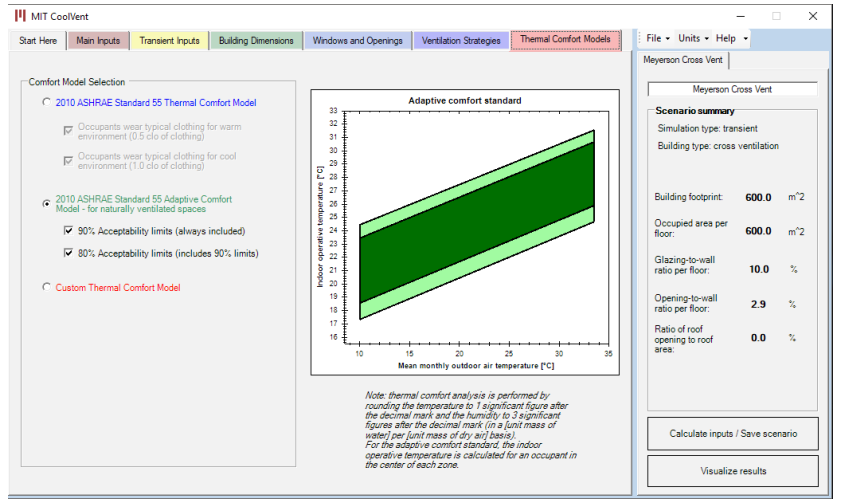

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