A Look at Plant Response to Increased Atmospheric CO_2 Levels

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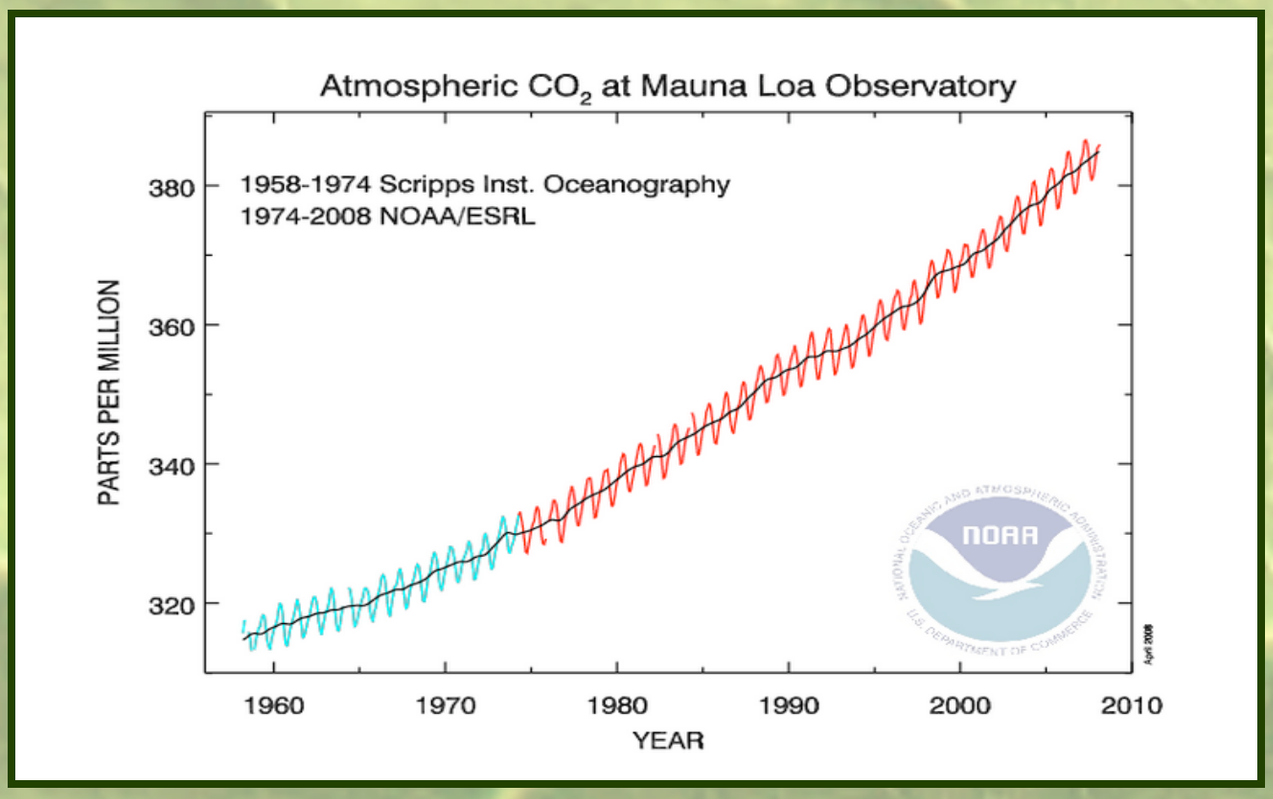

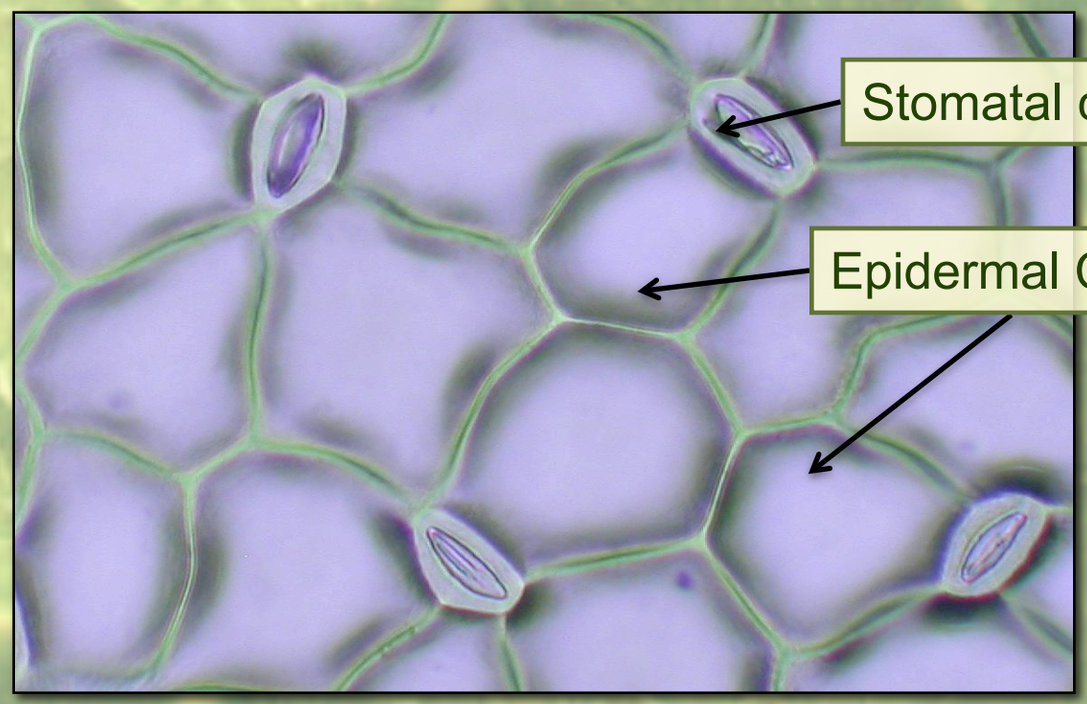

- **Stomata** cells (as seen in this leaf impression) are pores located on the top and bottom of leaves where CO_2 molecules enter and oxygen is respired from a leaf.
- Water vapor also enters and exits the leaf through these pores.

- Different levels of CO_2 can alter the amount of **stomatal** pores a plant has;
- I will monitor CO_2 levels in the city of Seattle where I expect to see the highest values (heavily trafficked roads) and the lowest values of CO_2 concentration in the city (such as the arboretum).
- *Arabidopsis thaliana* seedlings will be placed at these locations exposing them to different CO_2 levels.
- Leaf impressions will allow me to calculate the stomatal density and frequency of the plants.
- Some **implications** that altered stomatal frequency may have on vegetation include: a change in the plants' Water Use Efficiency and their heat and water balance which can influence the environment around the plant.

Arabidopsis thaliana