Tree Benefit Report

This data was produced from the i-Tree Planting Calculator version 1.1.3 for Claremont, CA. It shows the total projected benefit over the next 25 years. The report was put together by Sustainability Claremont and HMC summer research students on :

# CO2 Benefits

Trees can have an impact by reducing atmospheric carbon in two primary ways:

**1) Avoiding CO2**: Trees near buildings can reduce heating and air conditioning demands, thereby reducing CO2 emissions associated with power production.  
 **2) Sequestering CO2**: They sequester (lock up) CO2 in their roots, trunks, stems, and leaves while they grow, and in wood products after they are harvested.

# Energy Benefits

Trees modify climate and conserve building energy use in three principal ways:

**1) Shading:** Reduces the amount of heat absorbed and stored by buildings  
 **2) Reducing air temperatures**: Through evapotranspiration of moisture by foliage.

**3) Slowing down winds:** Reduces the amount of heat lost from a home.

# Ecosystem Services

Trees act as mini-reservoirs, controlling runoff at the source. Trees reduce runoff by:

**1) Rainwater**: Trees intercept and hold rain on leaves, branches, and bark. They also increase infiltration and storage of rainwater through the tree’s root system.

**2) Reducing soil erosion:** Trees slow rainfall before it strikes the soil.

# Air Benefits

Urban forest can mitigate the health effects of pollution by:

**1) Absorbing pollutants:** Ozone (O3), nitrogen dioxide (NO2), sulfur dioxide (SO2).

**2) Intercepting particulate matter:** < 10 microns (PM10) like dust, ash, and smoke.

**3) Releasing oxygen**: Through photosynthesis.