

8T Assignment 12: Solar Heating

Name: _____

1. According to the Environmental Protection Agency, temperatures in American cities can reach as much as 10°F higher than neighboring areas, a phenomenon called ‘**urban heat islands.**’ This effect leads to increased power usage for air-conditioning (and the attendant release of carbon in to the atmosphere) and tragically higher rates of heat-related deaths in summer.

You are an engineer asked to design solutions to the urban heat island effect on your city. Use what you have learned about thermal energy and the Earth’s surface to devise a plan to reduce the extreme high temperatures in your city, and thus make city-life safer, greener, and less costly.

In this space, show your design using pictures <u>and</u> words	In this space, clearly explain WHY your design will help solve the urban heat island effect

2. Figure 1 (Source regions of global air masses) shows that air at the equator is hotter over land than it is over the ocean. Explain why that is.

3. Clearly explain why Sacramento in June is cooler at 6 pm than it is a noon. **Use BOTH words and pictures to explain.**

Figure 1: Source regions of global air masses

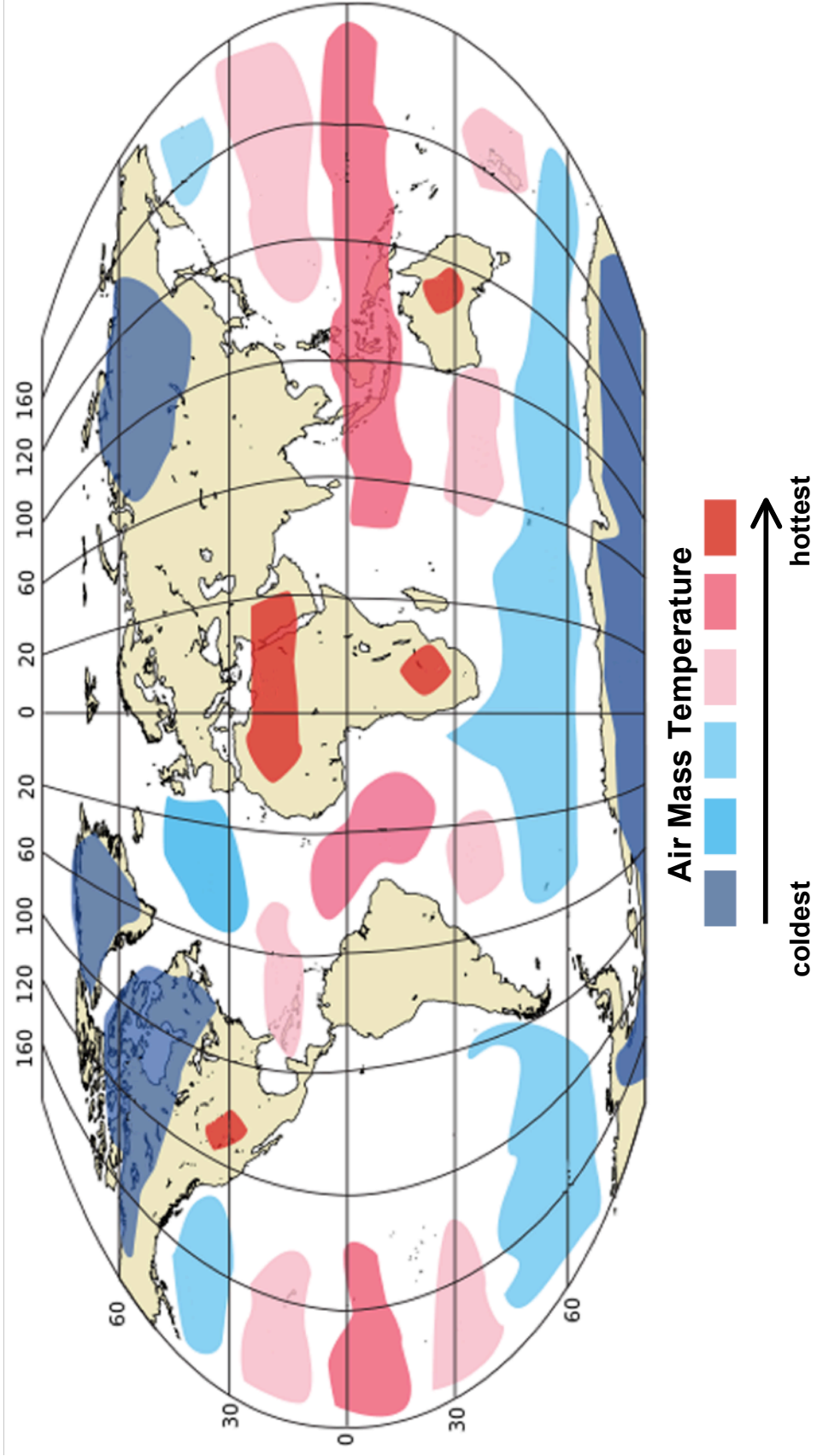


Image courtesy of NASA via Wikipedia Commons (https://en.wikipedia.org/wiki/File:Air_masses.svg)