# Project Title: Urban Heat Island

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**Class:** Davis 2009

## Project Description
Students will be asked to map out urban heat island in Downtown Salt Lake City. Students will take GPS coordinates at 10 different spots around Salt Lake City. These locations will vary by the amount of vegetation and asphalt. Students will return to these locations and take temperature reading for two weeks. The temperature and location data will then be compiled and mapped out using GIS.

## Community Issue or Problem Selected
With the reconstruction of Downtown Salt Lake City the questions of roof top gardens and open space continue to be issues for city planners. The data collected will show how local air temperature is affected by these choices.

## Community Partner(s)
National Energy Foundation

## Project Objectives
To demonstrate urban heat islands in Downtown Salt Lake City.

## Utah Core Standards/Objectives
IB Chemistry Standard:  
1) Temperature and change of temperature  
2) Chemistry in the Environment  
3) Using technology

## Essential Question(s)
**-Spatial Issue**
Where are the urban heat islands in Downtown Salt Lake City?  
What are the temperature differences between different locations?

## Assessments (rubrics, scoring guides)
IB portfolio grading rubric

## Project Products
GIS map  
Power point presentation

## Project Timeline
(first: Instruct students in using GPS and Vernier technology. Have students go out to their locations and take waypoint and temperature data.  
Next 2 weeks: Have students take temperature data at their
assigned location.

Third: Help students upload GPS data and create a map using GIS.

Last: Have students present findings to class. Have students connect with community partners and present findings.

| Resources Needed | GPS  
Vernier temperature probs  
Computer lab time  
ArcGIS software installed and working  
SLC Aerial Image |
|------------------|--------------------------------------------------|
| Skills Required  | Waypoint marking  
Vernier  
Basic GIS map making skills |
| Project Team Member Roles | **Teacher(s):** Make connection with community partner.  
Gather and teach necessary technology to students.  

**Students:** Gather data and create maps. Continue connection with community partner.  

**Partner(s):** Use data to inspire city planners to continue to implement appropriate open spaces and roof top gardens |
| Celebration/Presentation | Students will present map and finding to the class |
| Project Evaluation | IB portfolio rubric |
| Project Bibliography |  |
| Plans for Future CMaP Activities | Water quality project along the Jordan River with USU extension |
| Optional:  
-Lesson Plans  
-Student Artifacts  
-Publicity |  |