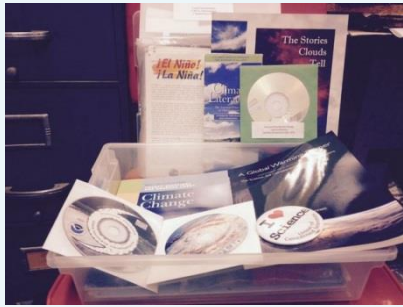


# Secondary School Climate Kit: Students Making a Difference in Climate Change



Climate kit containing books, posters, CDs, thermometers, lesson plans.

Steve LaDochy<sup>1</sup>, Pedro Ramirez<sup>1</sup>, William Patzert<sup>2</sup> and Joshua Willis<sup>2</sup>

<sup>1</sup>California State University, Los Angeles; <sup>2</sup>Jet Propulsion Laboratory, NASA

## Carbon Footprint Calculators

Use one of these tools to estimate your personal or household greenhouse gas emissions and explore the impact of different techniques to lower those emissions:

Global Footprint Network:

[www.footprintnetwork.org/en/index.php/gfn/page/calculators/](http://www.footprintnetwork.org/en/index.php/gfn/page/calculators/)

The Nature Conservancy:

[www.nature.org/greenliving/carboncalculator/](http://www.nature.org/greenliving/carboncalculator/)

U.S. Environmental Protection Agency: [www3.epa.gov/carbon-footprint-calculator/](http://www3.epa.gov/carbon-footprint-calculator/)

## Carbon Footprint Calculator

**What is your carbon footprint?**  
Take a few minutes to find out with EPA's Household Carbon Footprint Calculator.

Number of people in your household:

ZIP Code:

**Get Started**

**About**

- Many of our daily activities – such as using electricity, driving a car, or disposing of waste – cause greenhouse gas emissions. Together these emissions make up a household's carbon footprint.
- The calculator estimates your footprint in three areas: home energy, transportation and waste. Everyone's carbon footprint is different depending on their location, habits, and personal choices.
- For an explanation of the calculator's assumptions and sources, see the [Assumptions and References](#) page.

**How To**

- You can get a quick, rough estimate of your carbon footprint by using U.S. average values. They are provided (along with other useful information) in the "tool tips" throughout the calculator.
- For a more accurate estimate, use your own numbers. Gather your utility bills (electricity, natural gas, fuel oil, propane) to calculate your average use over a year. You can find your car's rated fuel efficiency at [EPA.com/epa.gov](#), or you can calculate your car's actual efficiency.

**Download**

- To work offline or see the formulas behind the calculator, you can download it as a spreadsheet. [Click here to download.](#)

Source: <http://www3.epa.gov/carbon-footprint-calculator/>

**YOUR ECOLOGICAL FOOTPRINT**

How many planets does it take to support your lifestyle?

**BEGIN >**

**EAT LOW CARBON**

IS MY CHEESEBURGER CAUSING GLOBAL WARMING?

Are you concerned about climate change? Well, now that you've changed your lightbulbs, it's time to change your lunch!

DIET TIPS | FOOD SCORES | TAKE THE QUIZ

The food system is responsible for a third of global greenhouse gas emissions. Learn how to reduce your carbon "footprint."

Source: <http://www.eatlowcarbon.org/>

## Climate Stewardship Project Plan - "It's Fun to Save the World!"

### 1. What is the Climate Change Issue?

This project shows how individual students can make a difference in reducing greenhouse gases. The objective is to have students explore (1) climate change, (2) the role of greenhouse gases in global warming, (3) the role of individuals, communities, cities and nations in greenhouse gases (GHG) contributions, and (4) how individuals can make a difference in reducing GHGs. We will show that even small changes in behavior of one household can make a difference.

### 2. What is the desired outcome of your project?

Calculate their carbon footprint. From these calculations, students will then look at how to:

a. record individual changes to carbon footprint focusing on: transportation, food, electrical, heating/ air conditioning. Students in the selected classrooms will:

b. alter their lifestyle to reduce GHGs in such areas as transportation, energy usage, the 3 Rs and in their diet. From researching their own individual contributions, students will then tackle how GHGs can be reduced in their home and school.

### 3. Describe the information you will collect to measure progress toward your desired outcome.

-Students will be surveyed initially to find out their attitudes on climate change and greenhouse gases.  
-Students will calculate their carbon footprint contributions and find ways to reduce totals.  
-Students will be requested to collect data from home and look at the possible reduction of GHGs.

The project will continue with biweekly topics that will include but not be limited to:

Transportation emissions; Home/school carbon foot prints; Home/school electricity usage; Home/School mitigation strategies

### 4. Use of NOAA and Other Climate Resources

10 Evidences of Global Warming (poster) NOAA; Earth Day Network Carbon Footprint Calculator [http://www.earthday.org/splash\\_page.php](http://www.earthday.org/splash_page.php)  
EPA What You Can Do (Climate Change) <http://www3.epa.gov/climatechange/wycc/>  
NOAA Climate Science <https://www.climate.gov/climate-and-energy-topics/personal-responsibility>  
Building energy use map of LA <http://www.citylab.com/housing/2015/10/las-new-energy-atlas-maps-who-sucks-the-most-off-the-grid/409135/>  
Video: Global Warming, Did You Know? <https://www.youtube.com/watch?v=gTS2Yp-UgI0>  
Video: climatekids.nasa.gov/review/how-to-help/  
How Students Can Reduce Their Carbon Footprint: [http://www2.cortland.edu/about/sustainability/cc/how-students-can-reduce-their-carbon-footprints.dot?host\\_id=1](http://www2.cortland.edu/about/sustainability/cc/how-students-can-reduce-their-carbon-footprints.dot?host_id=1)  
Communities Take Charge: <http://www.commiunitstakecharge.org>

## 10 Things I Can Do to Reduce My Carbon Footprint- List from 2 classes

- |                                      |  |
|--------------------------------------|--|
| Lower transport carbon (49)          | Showers, Conserve Water (19)           |
| Washing and Drying (29)              | Reduce appliances, devices energy (19) |
| Recycle, reduce, reuse (28)          | Reduce home heating, cooling (17)      |
| Green light bulbs, turn 'em off (28) | Making home energy efficient (6)       |
| Greener diet/less meat, diary (27)   | Others: educating, voting, support (7) |

**Inquiry to Student Environmental Action**  
promoting student environmental understanding and international collaborations

HOME | ACTIVITIES | RESOURCES | ABOUT | CONTACT

The "Inquiry to Student Environmental Action" (IS2EA) project promotes international collaboration among high school and secondary school students as they learn about, discuss, and envision solutions to shared environmental challenges.

In particular, we offer the following free, interactive digital learning tools relating to climate change and ocean acidification:

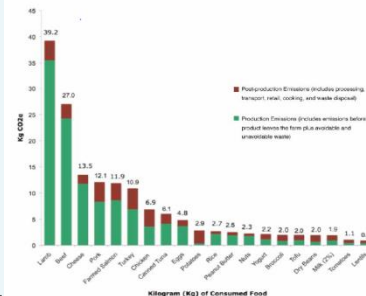
**Carbon Footprint Calculator**

Calculate your carbon footprints using our **international student oriented footprint calculator**.

Updated May 2015 with full mobile and tablet support.  
Level: Secondary school

Source: [i2sea.stanford.edu/isfc](http://i2sea.stanford.edu/isfc)

Please explore and share these free educational resources and [contact us](#) for more information or to join our international projects!



Source: [http://static.ewg.org/reports/2011/meateaters/pdf/methodology\\_ewg\\_meat\\_eat\\_ers\\_guide\\_to\\_health\\_and\\_climate\\_2011.pdf](http://static.ewg.org/reports/2011/meateaters/pdf/methodology_ewg_meat_eat_ers_guide_to_health_and_climate_2011.pdf)