National Aeronautics and Space Administration

ROCKETS 2 RACECARS

Professional Development Workshop Series

Go GREEN Edition

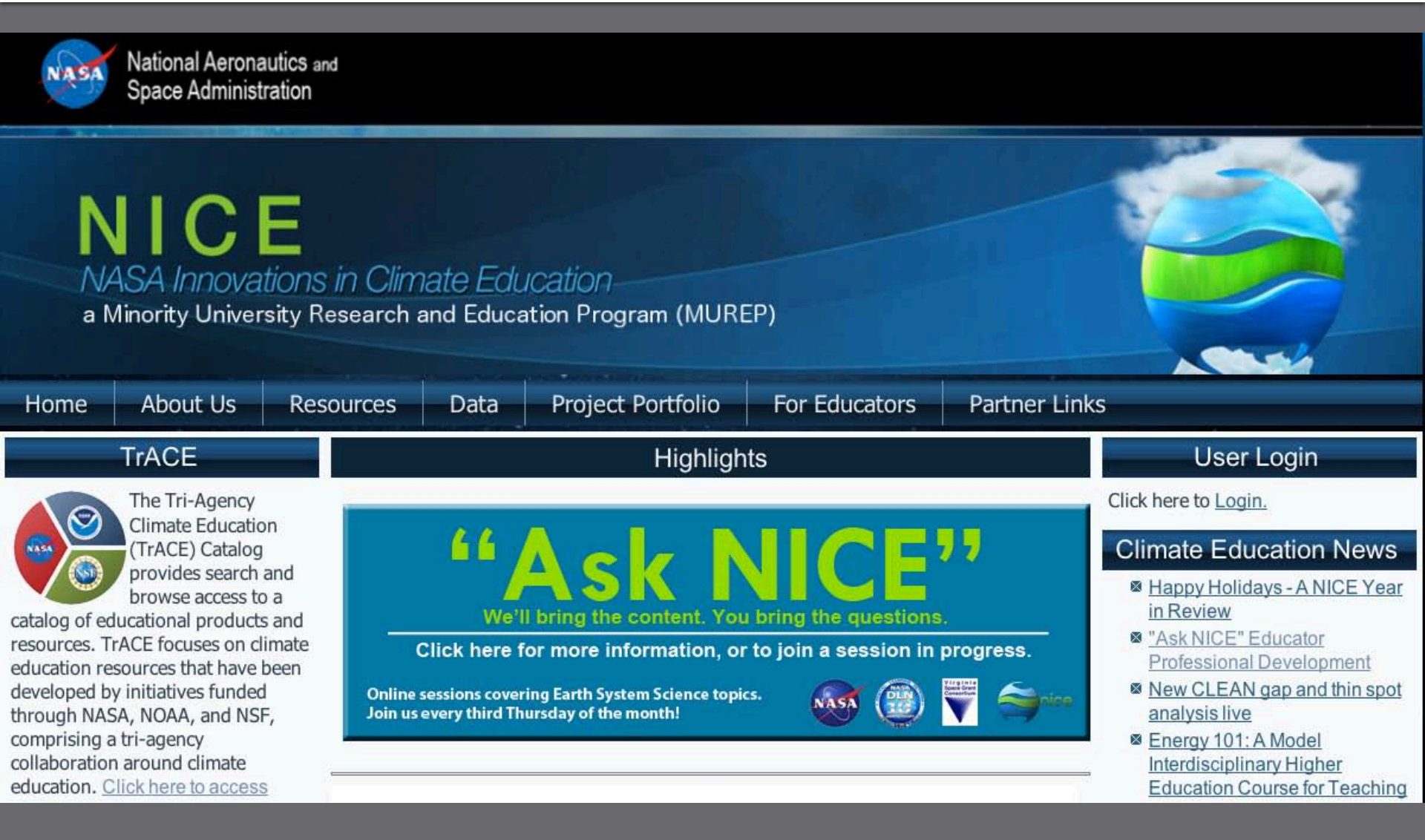
Rockets 2 Racecars EPD: dln.nasa.gov

Professional Development: Rockets to Racecars: NASA STEM Resources

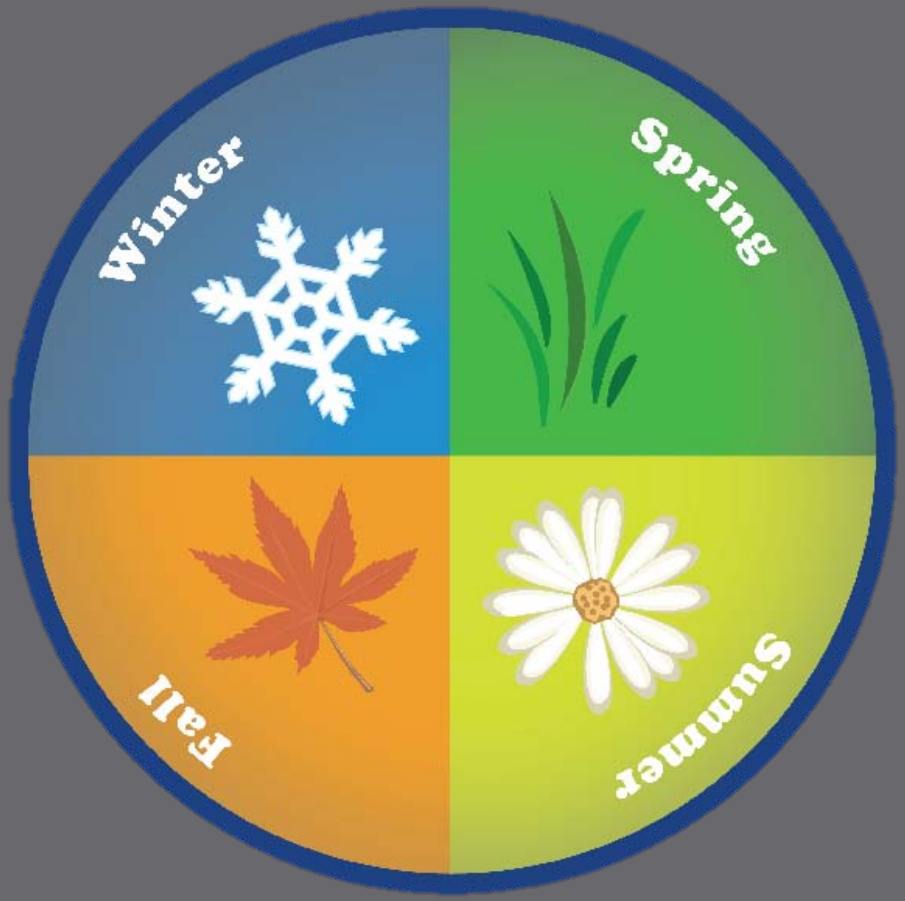
Learn about and Register for Rockets 2 Racecars Professional Development

Target Audience	• Informal Educators
	• Educators: K-12
Hosting Center(s)	• Langley Research Center
Subject Category	• Physical Science
Unit Correlation	• Exploring Engineering and Technology
	• Professional Development Programs
Grade Level	• 5-8
	• 9-12
	• K-4

Earth System Science: nice.larc.nasa.gov



Weather vs Climate



NASCAR Sprint Cup 2014 Schedule

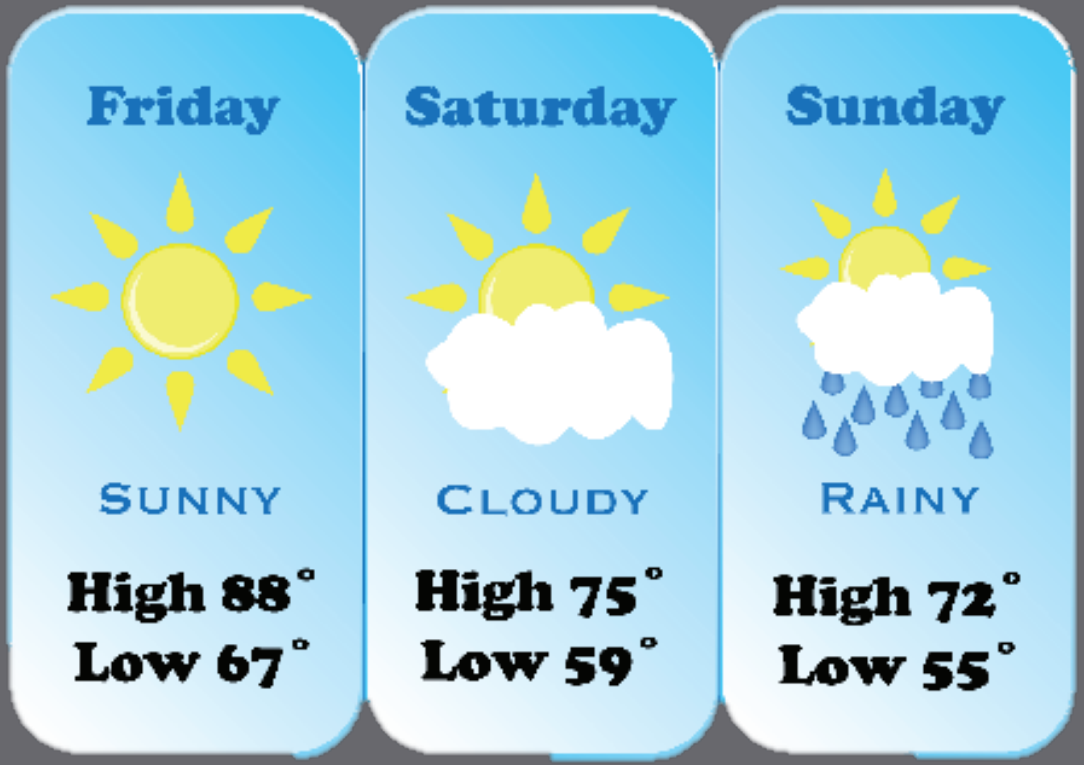
Date	Race	TV
Feb. 15	Daytona International Speedway (Sprint Unlimited)	FOX Sports1
Feb. 20	Daytona International Speedway (Duels)	FOX Sports 1
Feb. 23	Daytona International Speedway (Daytona 500)	FOX
March 2	Phoenix International Raceway	FOX
March 9	Las Vegas Motor Speedway	FOX
March 16	Bristol Motor Speedway	FOX
March 23	Auto Club Speedway	FOX
March 30	Martinsville Speedway	FOX
April 6	Texas Motor Speedway	FOX
April 12	Darlington Raceway	FOX
April 26	Richmond International Raceway	FOX
May 4	Talladega Superspeedway	FOX
May 10	Kansas Speedway	FOX
May 17	Charlotte Motor Speedway (All-Star Race)	FOX Sports 1
May 25	Charlotte Motor Speedway	FOX
June 1	Dover International Speedway	FOX
June 8	Pocono Raceway	TNT
June 15	Michigan International Speedway	TNT
June 22	Sonoma Raceway	TNT
June 28	Kentucky Speedway	TNT
July 5	Daytona International Speedway	TNT
July 13	New Hampshire Motor Speedway	TNT
July 27	Indianapolis Motor Speedway	ESPN
Aug. 3	Pocono Raceway	ESPN
Aug. 10	Watkins Glen International	ESPN
Aug. 17	Michigan International Speedway	ESPN
Aug. 23	Bristol Motor Speedway	ABC
Aug. 31	Atlanta Motor Speedway	ESPN
Sept. 6	Richmond International Raceway	ABC
Sept. 14	Chicagoland Speedway	ESPN
Sept. 21	New Hampshire Motor Speedway	ESPN
Sept. 28	Dover International Speedway	ESPN
Oct. 5	Kansas Speedway	ESPN
Oct. 11	Charlotte Motor Speedway	ABC
Oct. 19	Talladega Superspeedway	ESPN
Oct. 26	Martinsville Speedway	ESPN
Nov. 2	Texas Motor Speedway	ESPN
Nov. 9	Phoenix International Raceway	ESPN
Nov. 16	Homestead-Miami Speedway	ESPN

NASCAR 2014 SPRINT CUP SCHEDULE

Date	Race/Facility		Network	Start	Radio
Feb 15	**Sprint Unlimited**	**Daytona International Speedway**	FOX Sports 1	8:00PM ET	MRN/SIRIUSXM
Feb 16	**Daytona 500 Qualifying**	**Daytona International Speedway**	FOX	1:00PM ET	MRN/SIRIUSXM
Feb 20	**Budweiser Duel**	**Daytona International Speedway**	FOX Sports 1	7:00PM ET	MRN/SIRIUSXM
Feb 23	**Daytona 500**	**Daytona International Speedway**	FOX	1:00PM ET	MRN/SIRIUSXM
Mar 2	**Sprint Cup 500**	**Phoenix International Speedway**	FOX	3:00PM ET	MRN/SIRIUSXM
Mar 9	**Kobalt 400**	**Las Vegas Motor Speedway**	FOX	3:00PM ET	PRN/SIRIUSXM
Mar 16	**Food City 500**	**Bristol Motor Speedway**	FOX	1:00PM ET	PRN/SIRIUSXM
Mar 23	**Auto Club 400**	**Auto Club Speedway**	FOX	3:00PM ET	MRN/SIRIUSXM
Mar 30	**STP 500**	**Martinsville Speedway**	FOX	1:00PM ET	MRN/SIRIUSXM

Jul 13	**Camping World RV Sales 301**	**New Hampshire Motor Speedway**	TNT	1:00PM ET	PRN/SIRIUSXM
Jul 27	**NASCAR Sprint Cup Series Race Day**	**Indianapolis Motor Speedway**	ESPN	1:00PM ET	IMS/SIRIUSXM
Aug 3	**GoBowling.com 400**	**Pocono Raceway**	ESPN	1:00PM ET	MRN/SIRIUSXM
Aug 10	**Cheez-It 355 at the Glen**	**Watkins Glen International**	ESPN	1:00PM ET	MRN/SIRIUSXM
Aug 17	**Pure Michigan 400**	**Michigan International Speedway**	ESPN	1:00PM ET	MRN/SIRIUSXM
Aug 23	**Irwin Tools Night Race**	**Bristol Motor Speedway**	ABC	7:30PM ET	PRN/SIRIUSXM
Aug 31	**NASCAR Sprint Cup Night Racing Returns**	**Atlanta Motor Speedway**	ESPN	7:30PM ET	PRN/SIRIUSXM
Sep 6	**Federated Auto Parts 400**	**Richmond International Raceway**	ABC	7:30PM ET	MRN/SIRIUSXM
		CHASE FOR THE NASCAR SPRINT CUP BEGINS			
Sep 14	**NSCS Race**	**Chicagoland Speedway**	ESPN	2:00PM ET	MRN/SIRIUSXM
Sep 21	**Osram Sylvania 300**	**New Hampshire Motor Speedway**	ESPN	2:00PM ET	PRN/SIRIUSXM
Sep 28	**AAA 400**	**Dover International Speedway**	ESPN	2:00PM ET	MRN/SIRIUSXM
Oct 5	**Hollywood Casino 400**	**Kansas Speedway**	ESPN	2:00PM ET	MRN/SIRIUSXM

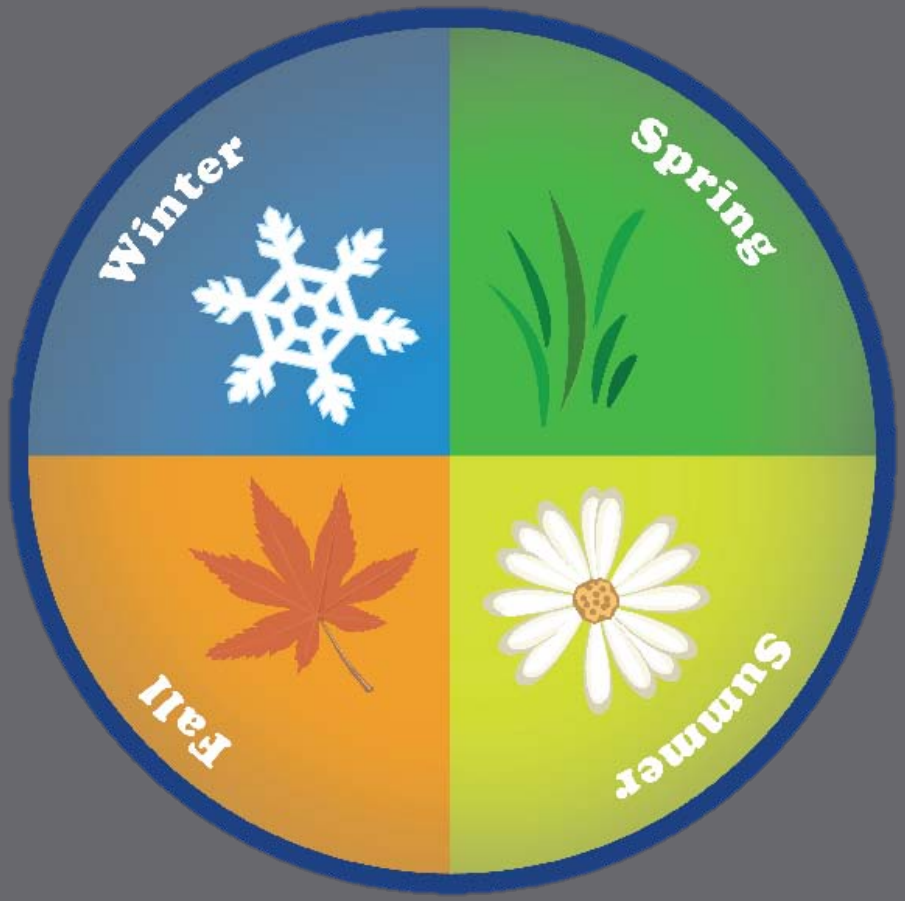
Weather vs Climate



Weather vs Climate

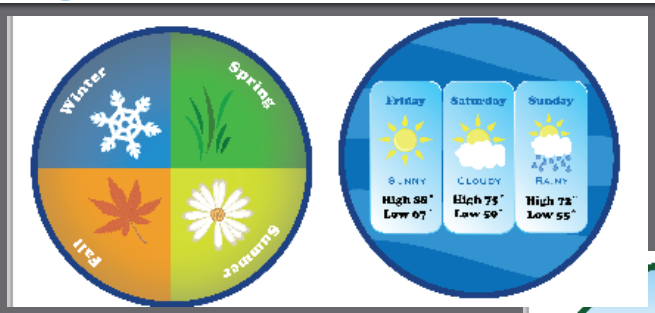
Weather vs Climate

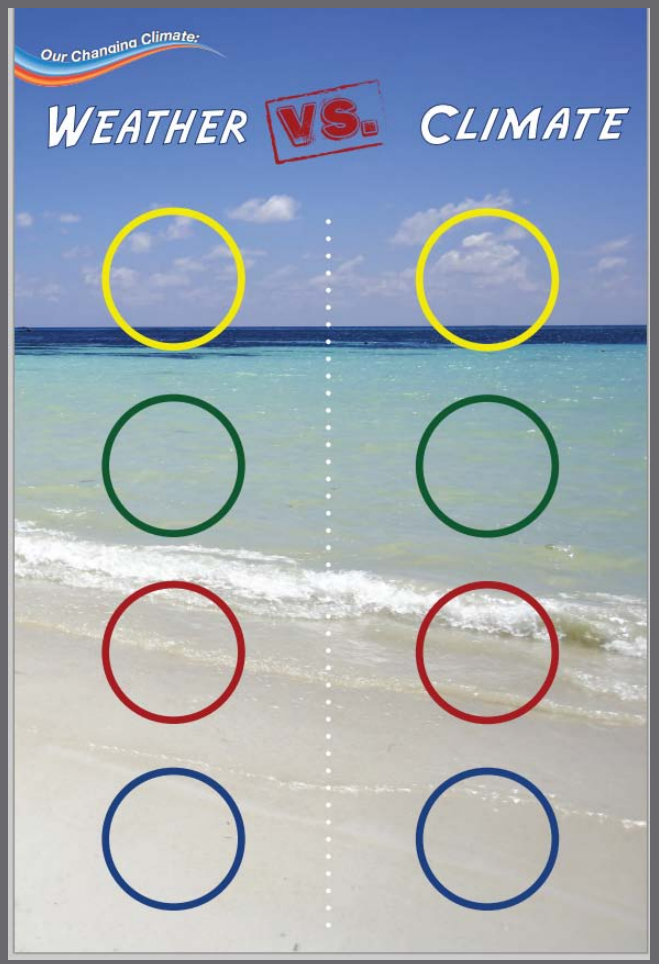
Weather vs Climate



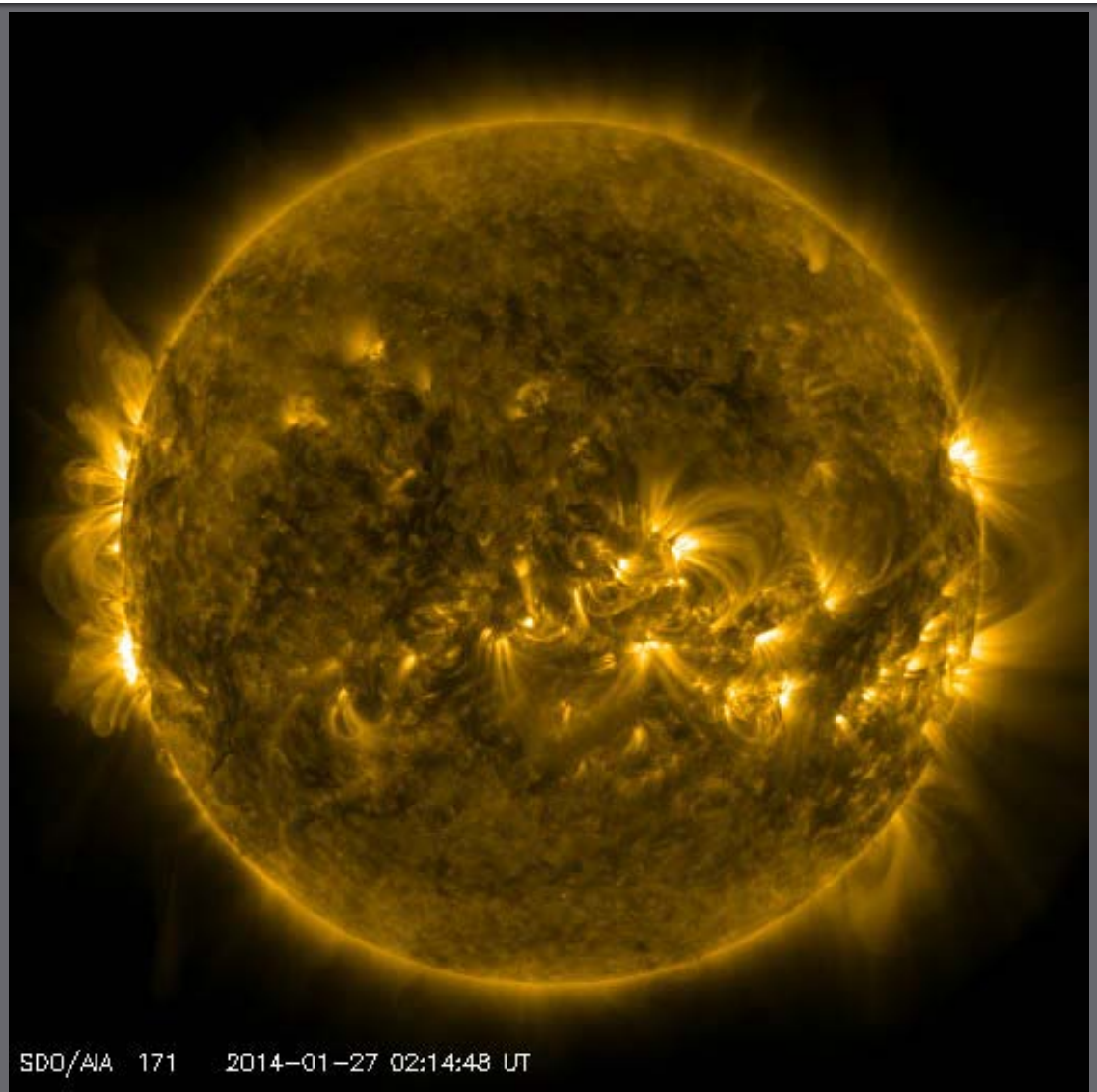
Weather vs Climate Game

http://science-edu.larc.nasa.gov/resources-games.php

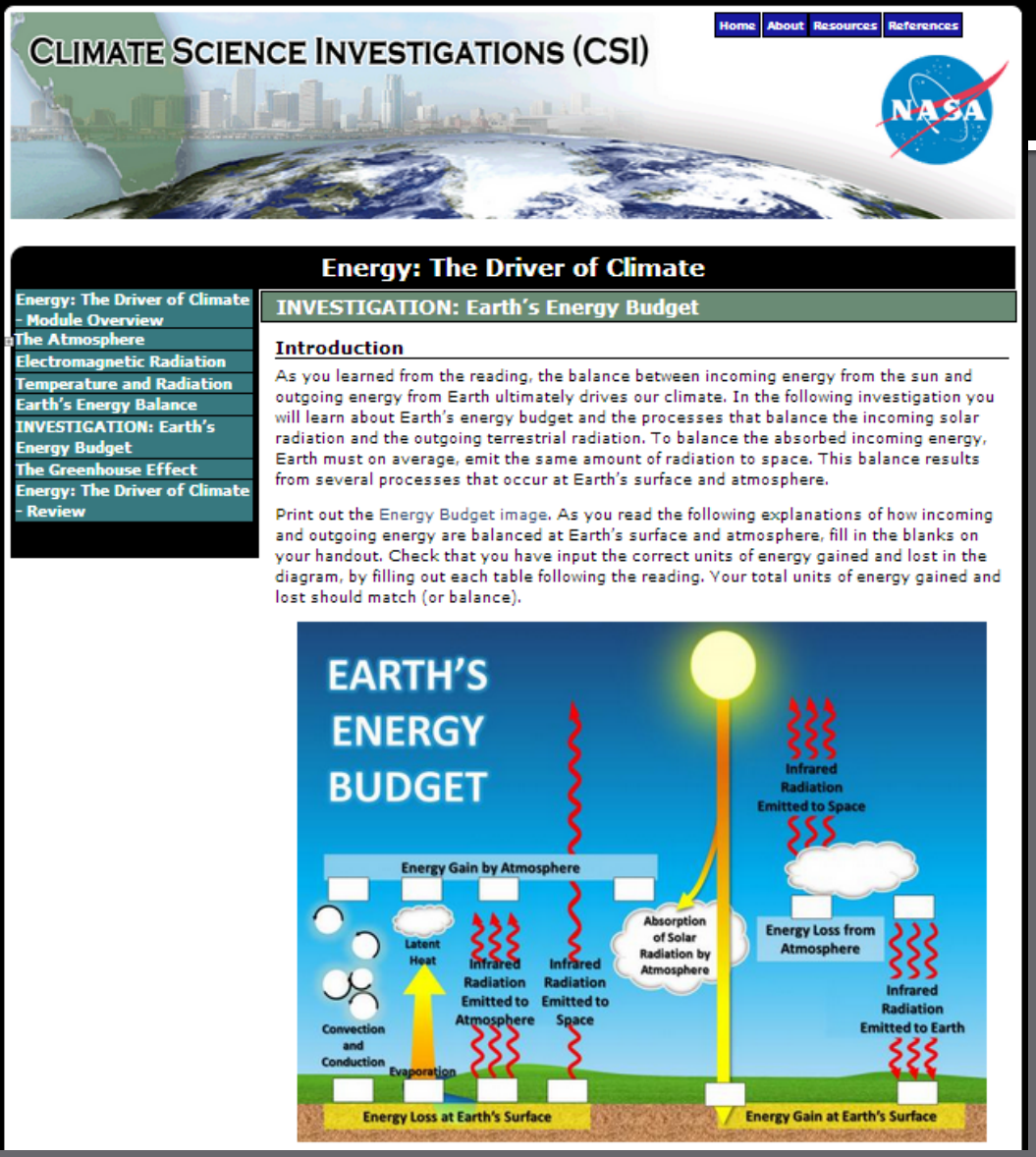




Weather and Climate



Let's Explore



http://www.ces.fau.edu/nasa/module-2/energy-budget.php

The Energy Budget Story

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

SEARCH NASA

Home | Poster Reverse Side Sections | Links | Energy Budget Story [PDF]

The NASA Earth's Energy Budget Poster.

This double-sided poster is suitable for full sized printing at 25½ inches width by 22 inches height per side.

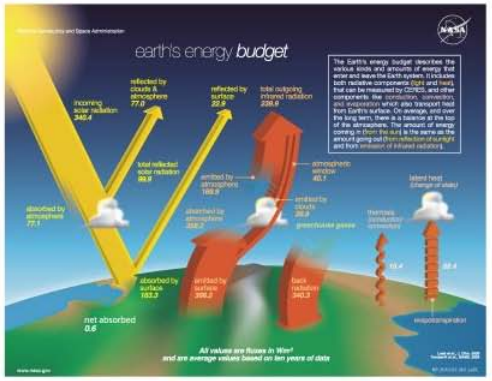
Click Here to download the full sized PDF document.

+ Download the updated Earth's Radiation Budget Lithograph [PDF - 5.53MB].

Get Acrobat Reader These documents [PDF] are best if viewed in Adobe Acrobat® 4.0 or better.
Adobe Copyright Info: ©Adobe Systems Inc. All Rights Reserved.

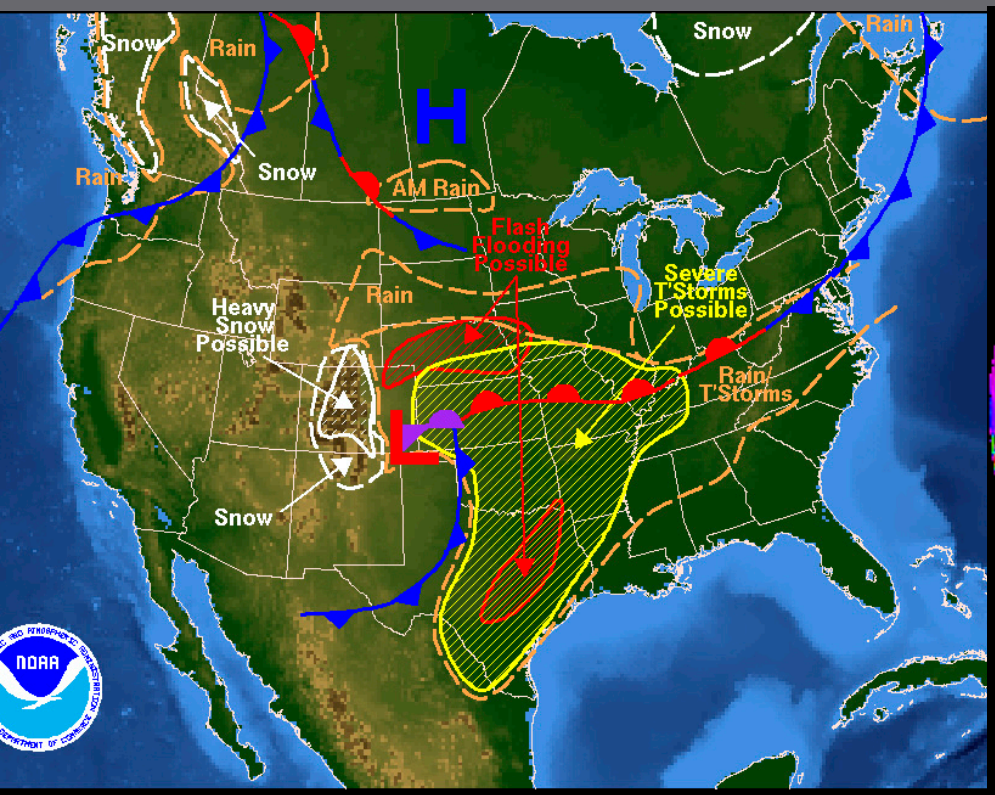
The energy budget diagram on the front shows our best understanding of energy flows into and away from the Earth. It is based on the work of many scientists over more than 100 years, with the most recent measurements from the Clouds and the Earth's Radiant Energy System (CERES; http://ceres.larc.nasa.gov) satellite instrument providing high accuracy data of the radiation components (reflected solar and emitted infrared radiation fluxes).

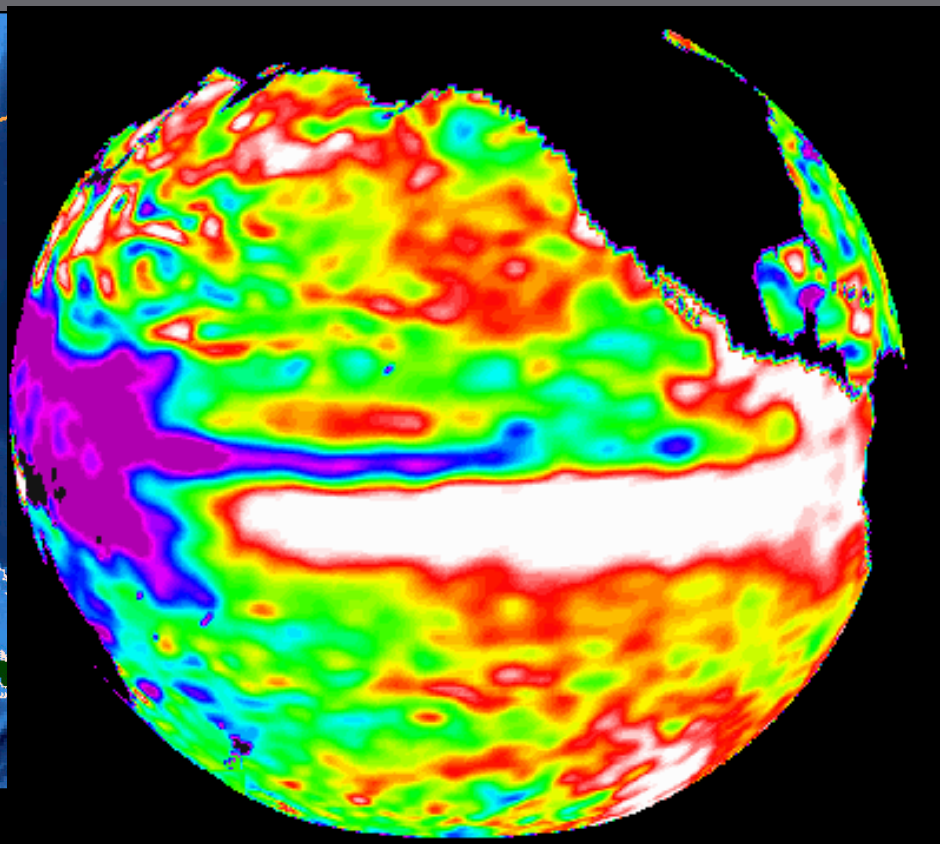
This energy balance determines the climate of the Earth. Our understanding of these energy flows will continue to evolve as scientists obtain a longer and longer record using new and better instruments (http://clarreo.larc.nasa.gov).



http://science-edu.larc.nasa.gov/energy_budget/

And another idea…





Triple beam balance

Solar Energy

How Many Watts does It Take?

How Many Watts does It Take?

1100 - 2000 Watts

25 Watts

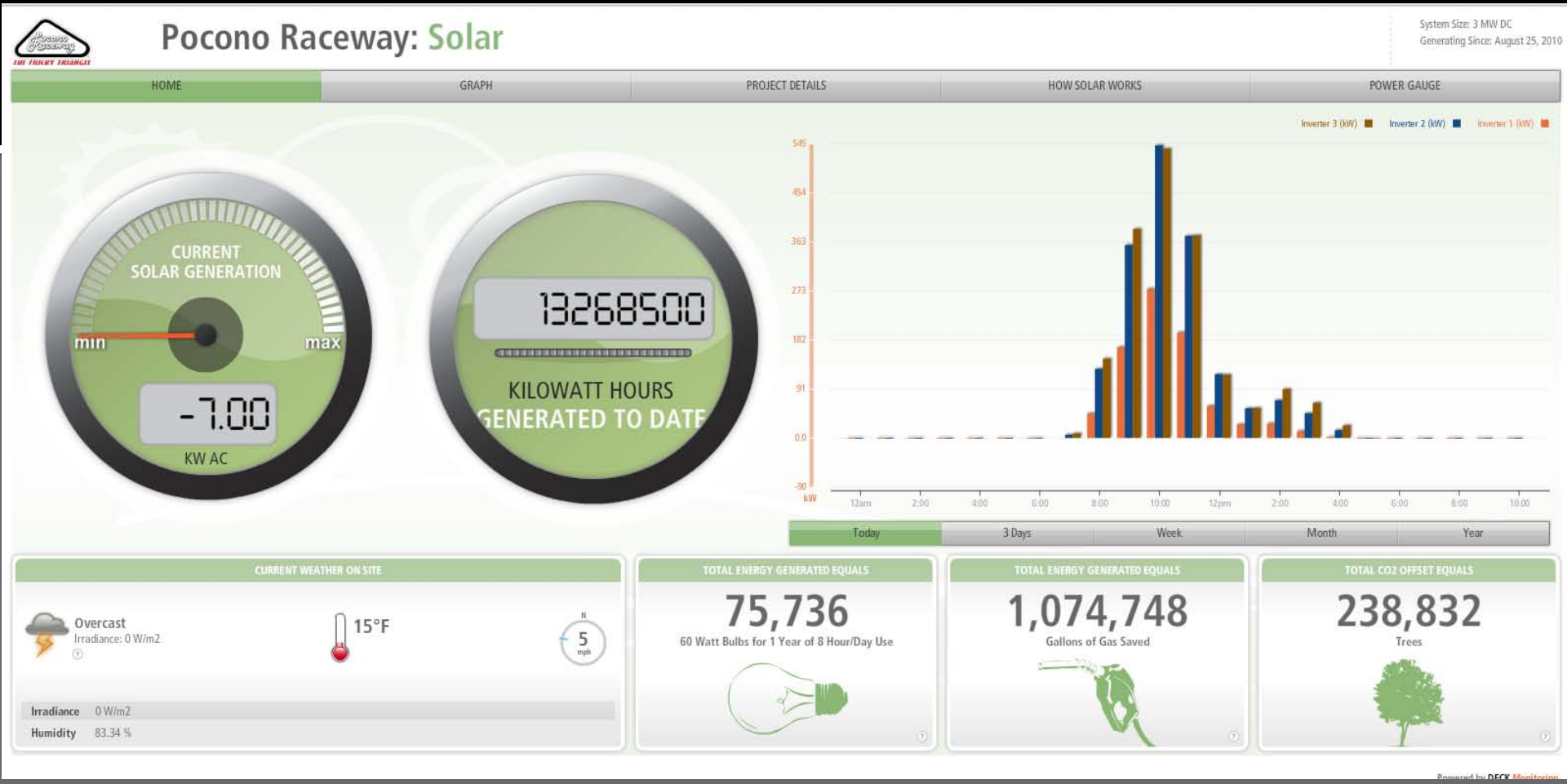
900 - 1000 Watts

http://www.donrowe.com/usage-chart-a/259.htm

100 Watts

50-75 Watts

Going Green at the Tricky triangle



http://www.poconoraceway.com/pocono-raceway-solar-energy.html

Contact info:

Bonnie Murray
bonnie.murray@nasa.gov

Marilé Colón Robles
marile.colonrobles@nasa.gov