



# CERES Education and Outreach Update

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## The S'COOL - MY NASA DATA Team:

Educators, Graphic Artists,  
Writers, Editors,  
Programmers, DBAs,  
Managers, Systems  
Admins, Translators  
(SSAI STARS II)

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Karen Brown  
Katie Bethea

Kristina Ruhlman  
Penny Oots  
Preston Lewis  
Sarah Crecelius  
Susan Moore  
Tim Marvel  
Tina Rogerson

<https://myasadata.larc.nasa.gov>

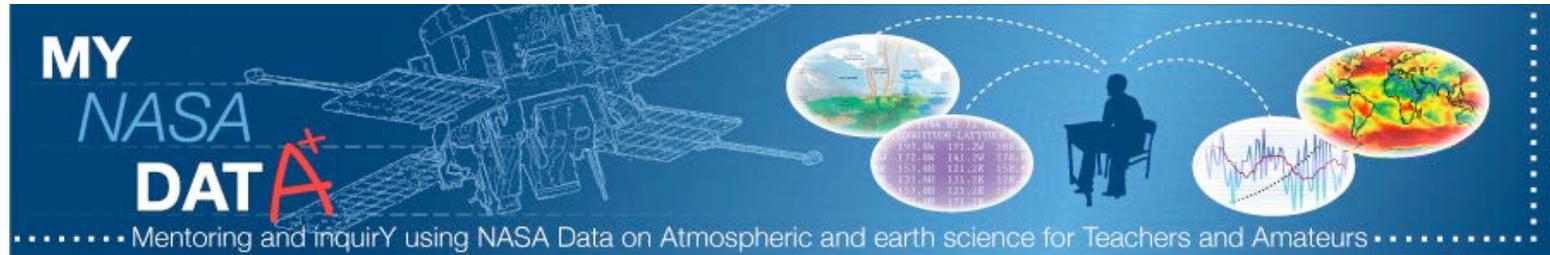
<https://scool.larc.nasa.gov>

<https://science-edu.larc.nasa.gov>

Email us at: [scool@lists.larc.nasa.gov](mailto:scool@lists.larc.nasa.gov) or [myasadata@lists.larc.nasa.gov](mailto:myasadata@lists.larc.nasa.gov)

CERES Science Team Meeting

## MY NASA DATA: Overview



- Involve students in real science.
- Enable K-12 teachers and students, as well as citizen scientists, to explore the large volumes of data that NASA collects about the Earth from space.
- *Students use scientific inquiry and math skills as they access and display microsets of the Earth System.*

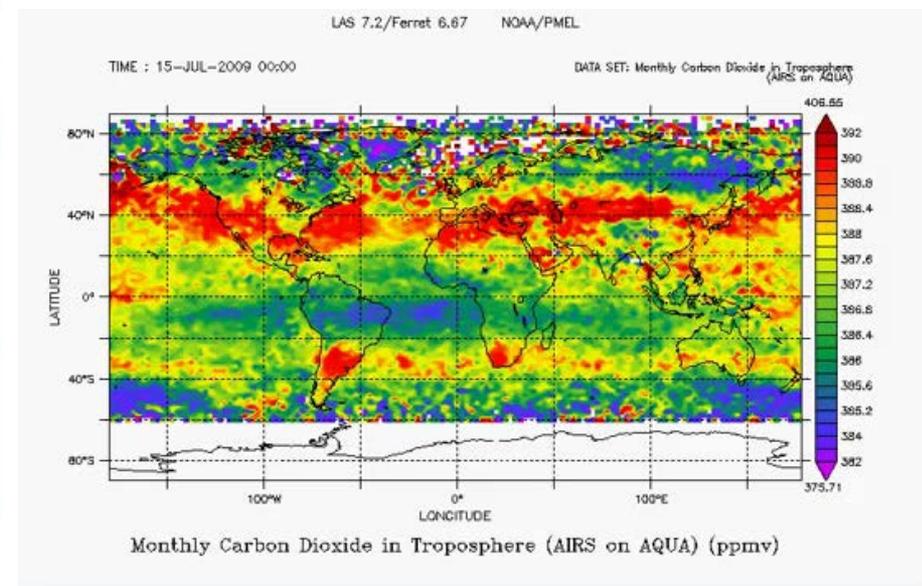
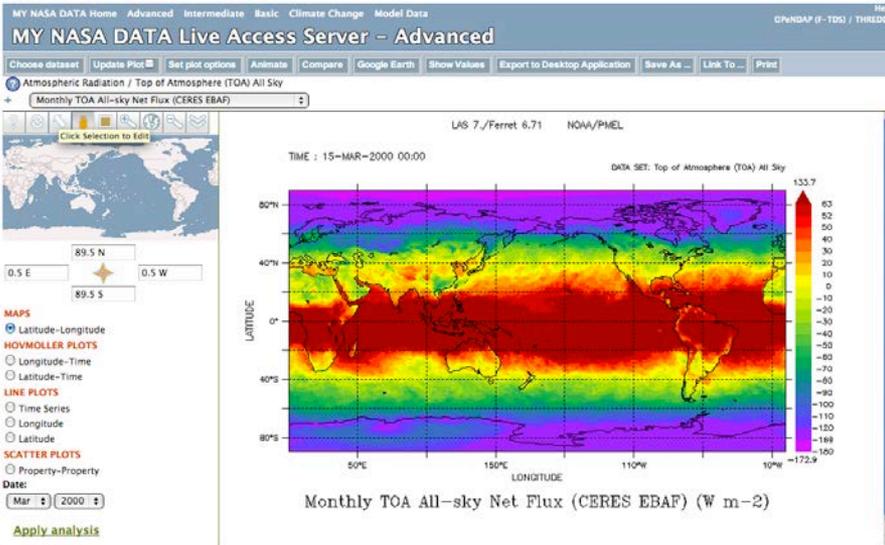
## MY NASA DATA Provides:

Lessons  
Projects/Ideas  
Data Visualization  
Workshops/Training  
Partnership with Educators

Educational Resources  
A Climate Education Portal  
Cross-mission EPO tool  
Access to Scientists  
A True Scientific Experience



- CALIPSO, SSE, TRMM, GPCP, AIRS
- New CALIPSO, AMSR-E, MISR Data
- New Depth/Animations Functions
- 60 new parameters added (+40% FY11)



# MY NASA DATA: CERES, Aqua, and Terra



- Lessons ~30
- Projects
- Multi-media
- Data
- Live Access Server
- Albedo, Fluxes (EBAF & TRMM)
- Surface Scene Type
- CO2 AIRS on AQUA

Pageviews  
**38.51%**  
 20,009 vs 14,446

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION  
 + Visit NASA.gov  
 + Visit the ASDC  
 Search

**MY NASA DATA**  
 Mentoring and inquiry using NASA Data on Atmospheric and earth science for Teachers and Amateurs

+MY NASA DATA HOME +DATA ACCESS +LESSON PLANS +COMPUTER TOOLS +SCIENCE FOCUS

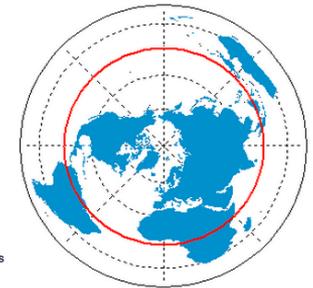
[View lesson with Standards](#) [View lesson without Standards](#)

Circle the Earth - Explore Surface Types on a Journey around Earth

**Purpose:** To use CERES percent coverage surface data with a world map in locating landmasses and bodies of water at Earth's Equator.

**Grade Level:** 4 - 12

**Estimated Time for Completing Activity:** One 50-minute class period



**Learning Outcomes:**

- Locating map locations using latitude and longitude coordinates
- Applying percentage to determine land surface characteristics
- Using a microset of satellite data to investigate surface characteristics

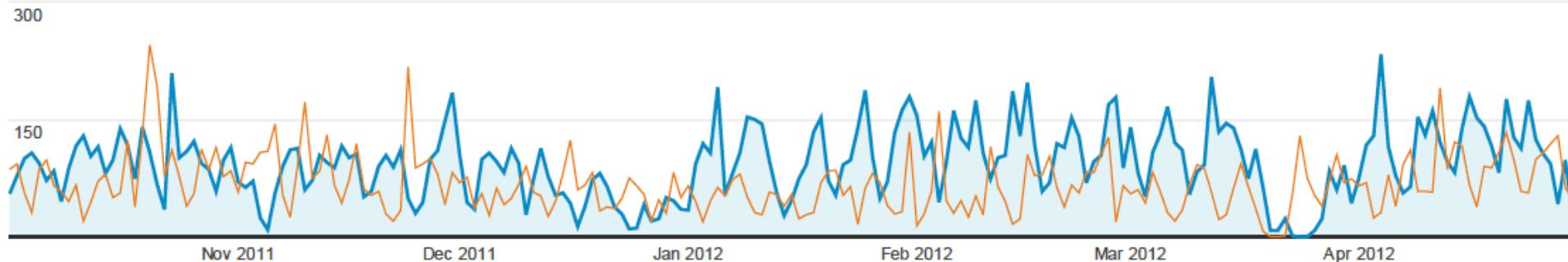


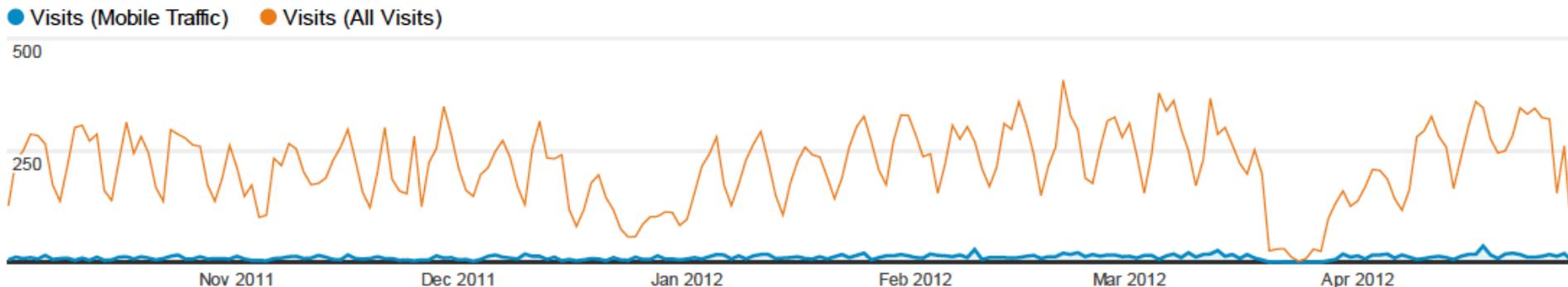
**National Standards:**

- **Geography:** Places and Regions
- **Geography:** The World in Spatial Terms
- **Math:** Algebra
- **Math:** Connections
- **Math:** Geometry
- **Math:** Number and Operations
- **Science Content:** A Science as Inquiry
- **Science Content:** D Earth and Space Science
- **Science Content:** E Science and Technology

## Lesson Content: Current vs. Last Period

● Pageviews ● Pageviews





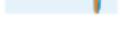
**81.85% New Visitor**  
 37,610 Visits

**18.15% Returning Visitor**  
 8,339 Visits

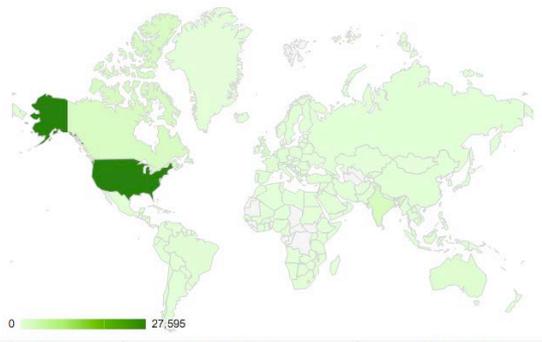
### Visits

Mobile Traffic: **2,229**

All Visits: **45,897**

-  **Visits: -14.38%**  
45,903 vs 53,614
-  **Unique Visitors: -13.14%**  
38,024 vs 43,777
-  **Pageviews: -34.84%**  
101,276 vs 155,427
-  **Pages/Visit: -23.89%**  
2.21 vs 2.90
-  **Avg. Visit Duration: -13.96%**  
00:01:59 vs 00:02:18
-  **Bounce Rate: 0.99%**  
60.77% vs 60.18%
-  **% New Visits: 1.69%**  
81.84% vs 80.48%

1. US
2. India
3. Canada
4. UK
5. Australia



Visits (Mobile Traffic) Visits (All Visits)

1,000



# Student Cloud Observations Online(S'COOL)



- Education and Public Outreach arm of CERES
- Backbone of Terra/Aqua formal education effort
- A simple way to involve K-12 students in authentic science
- A source of validation data for the CERES cloud retrievals

<http://scool.larc.nasa.gov>



**November December 2011:**  
Colegio San Jose Hermanas Franciscanas  
-Bogota, Colombia



**January 2012:** Trinity Lutheran School  
-Newport News, VA



**February 2012:** Sofia Martinez,  
-GSA Austin, TX



**March 2012:** David Preizal  
-Marseille, France

**April 2012:** Carlos Alberto Caycedo Vega  
-Puerto Lleras, Meta, Colombia

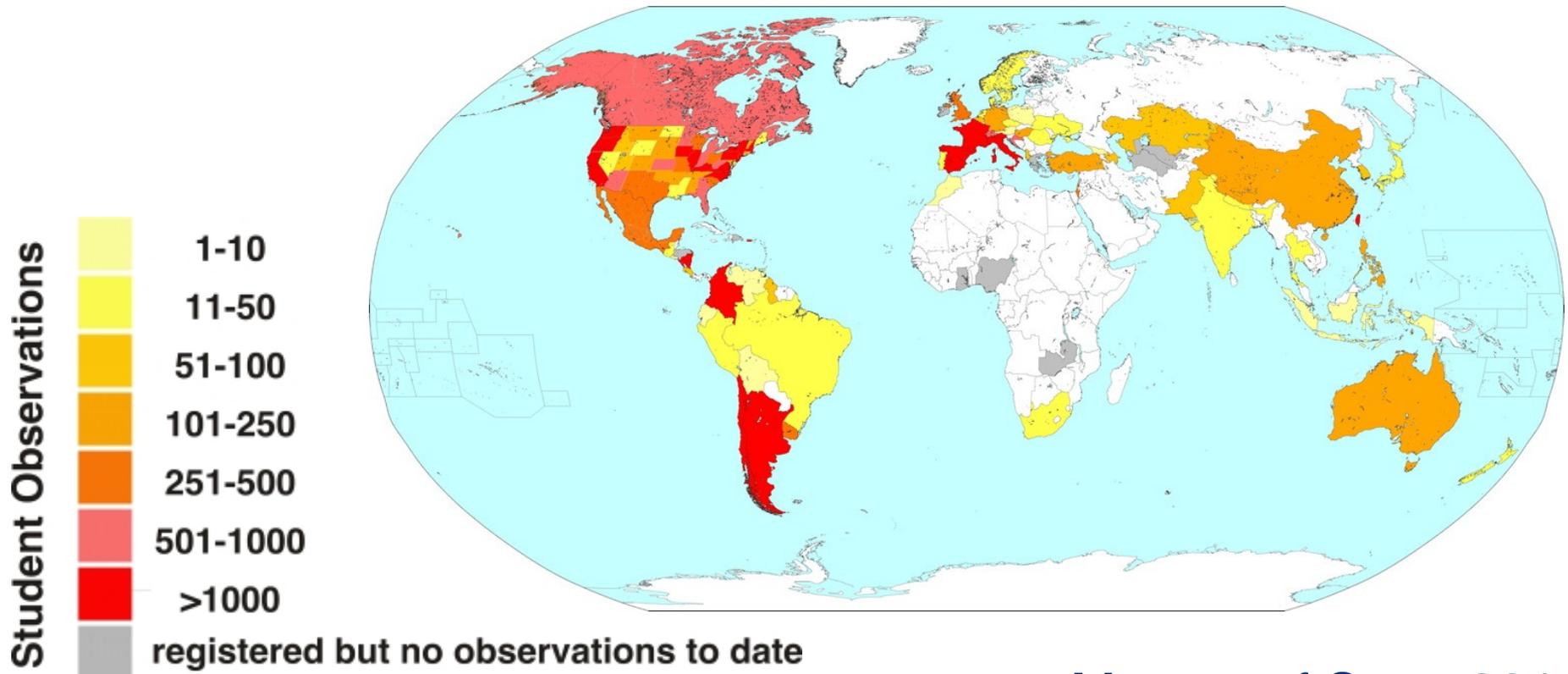
The winning banner designs are currently being featured on the S'COOL website.  
(one per month)



## S'COOL Project Statistics



- > 106,000 observations from 60 countries and all 50 states
- 76% of S'COOL participants are from USA, 49% of our collected observations are from the US
- > 3,530 registered participants from 83 countries



Map as of Sept. 2011



~30 requests for S'COOL materials since Nov. 2011 (average)

### States "Top Five"

▪PA	12%
▪VA	4%
▪CA	3%
▪PR	2%
▪NH	2%

### Countries "Top Five"

▪US	49%
▪Colombia	23%
▪Argentina	5%
▪France	5%
▪Taiwan	4%

### States "Bottom Five"

▪North Dakota	14
▪DC	13
▪Virgin Islands	9
▪Guam	6
▪Northern Marianas	0

Bottom five  
no change



## **Database of observations - as of April 29, 2012**

- > 59,600 satellite correspondences (896 match both)
  - For 56% of ground observations
- >3,515 registered participants
  - 36% submitted data
- 83 countries
  - data from 60 countries (72%)

*Now Using SSF Only*



## NSTA Regional Conference, Seattle:

Ambassador-Denise Thompson (teacher from WA) presented S'COOL

## Integrating S'COOL into STEM Workshops (through NASA Explorer Schools and Aerospace Educator Services Program):

Ambassador- Les Gold (FL)

Ambassador- Rudo Kashiri (NASA LaRC)

## Upcoming:

- Astronomical Society of the Pacific
- AGU 2012
- Public Participation in Scientific Research
- NASA Explorer Schools Workshop
- GLOBE Workshop



## MND/SCOOOL Staff participated at:

- AGU 2011/AGU GIFTS Teachers Workshop
- NSTA National Conference 2012
- AMS National Conference 2012
- Virginia Association of Science Teachers Meeting
- NSTA Regional Conference, New Orleans
- J-Lab Teacher Development



## Blog Highlighting the NASA CERES S'COOL Project, the MY NASA DATA Project, and the Science Directorate Outreach Efforts.

**Observe your World**  
 NASA Science for you: S'COOL, MY NASA DATA and the Science Directorate

Home About Us Find Out More Related Links

**Related Links**

Here are a few links to pages that we think you might like. These sites provide more information about some features from our website including, related science concepts, related materials and other sources of scientific data.

- Science at NASA's Langley Research Center: [nasa-science.lanl.nasa.gov](http://nasa-science.lanl.nasa.gov)

The Science Directorate is a unique NASA organization devoted to finding out how the earth and its atmosphere are changing and what that means for the health of our planet and the quality of life. We search for and measure better ways of gathering, measuring and analyzing environmental data so that we can better understand and track the effects of human activity on the atmosphere. We study changes in the earth and its atmosphere. We translate those findings into meaningful knowledge that inspires action -- by other scientists, administrators, government agencies, private emergency, students and the general public. We believe a healthy planet is possible if we act responsibly based on what we know to be true.

The three resources below are designed to assist the educator, citizen science and general public communities with their use of and knowledge of Earth Systems Science data.

- The CERES S'COOL Project: [www.ceres-scool.nasa.gov](http://www.ceres-scool.nasa.gov)

The CERES S'COOL Project, or Student's Cloud Observations Online, aims at getting students and citizen scientists involved in real world science. S'COOL users gather cloud observations to help with ground truthing satellite observations. This way, NASA will be able to get a better idea of what the satellites are seeing at and possibly a more accurate picture. The S'COOL project currently has classrooms in 30 countries across the world helping to send back cloud observations to NASA. Because of the huge number of sites, the S'COOL project makes materials available in multiple languages. It also makes sure that as much of the data that is received is used in real NASA science.

S'COOL Monthly E-Notes Archive

MY NASA DATA

MY NASA DATA (MND) is a tool that allows anyone to make use of satellite data that was previously unavailable. Through the use of MND's User Access Server (UAS) a multitude of charts, plots and graphs can be generated using a wide variety of parameters. This site provides a large number of lesson plans with a wide variety of topics, all with the student in mind. Not only can you use our lesson plans, you can use the UAS to request the data that you are currently implementing in your classroom.

**Observe your World**  
 NASA Science for you: S'COOL, MY NASA DATA and the Science Directorate

Home About Us Find Out More Related Links

**Find Out More**

Who is the site for?  
 Observe your World is geared towards a wide range of communities:

- Teachers
- Students
- Citizen Scientists
- Classroom Organizations
- Current E-Note Readers
- Foreign Audiences
- Non-Profit Users

We welcome all readers!  
 What is on the site?  
 The blog focuses on, but is not limited to, 3 main post themes:

- Education and Outreach
- Meet The Team
- NASA Resources
- Other
- Science Directorate Events
- Science Missions

**Tag Cloud**

Education and Outreach 61  
 Meet The Team 61  
 NASA Resources 61  
 Other 61  
 Science Directorate Events 61  
 Science Missions 61

Where should I visit the blog?  
 You can visit the blog whenever is convenient to you!  
 Also, through our RSS feed you can use a 'feed reader' (like Google Reader) to see what's new on our blog. Coming soon, we will have the ability to subscribe to receive emails announcing new posts or highlights.

Where do I get help?  
 For S'COOL or MY NASA DATA questions, check out the 'Education and Outreach' post category. For blog related questions please see our 'S'COOL' page in the top navigation bar where you can contact us.

**Observe your World**  
 NASA Science for you: S'COOL, MY NASA DATA and the Science Directorate

Home About Us Find Out More Related Links

**MY NASA DATA Featured Lesson: The Reason for the Seasons**

April 13, 2012

Did you know...

The seasons on Earth are caused by the tilt of the Earth as it rotates on its axis and revolves around the Sun. The 23.5 degree tilt of the Earth's axis results in changes of the angle of incident sunlight. A common misconception among students is that the seasons are caused by the distance between the Earth and Sun. In fact, summer in the Northern Hemisphere occurs at aphelion, the farthest distance between the Earth and Sun, and follows summer solstice when incident sunlight is most concentrated along the Tropic of Cancer, 23 degrees 26 minutes 22 seconds North.

[Read the rest of this entry »](#)

The tilt of the Earth During Different Seasons. Image courtesy of NOAA

**Observe Your World**

- Education and Outreach
- Meet The Team
- NASA Resources
- Other
- Science Directorate Events
- Science Missions

**Tag Cloud**

46 E-Note number 46 61 access air 40  
 Atlanta could data discover **E-Note**  
 enote last launch lesson live

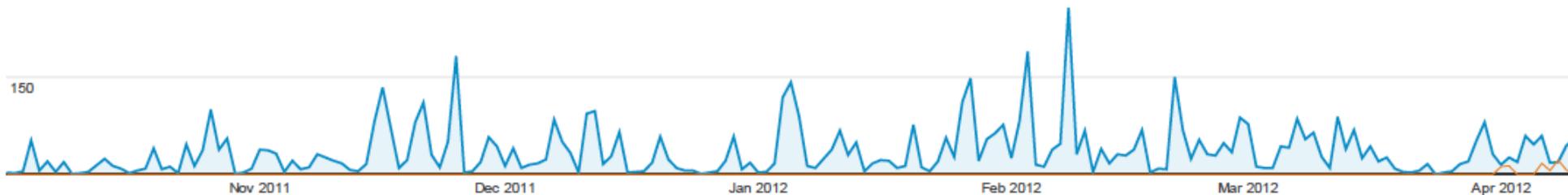
Pageviews  
**2,017.88%**  
 7,582 vs 358

	oyw!		
Oct 1, 2011 - Apr 30, 2012		7,573	5,062
Mar 2, 2011 - Sep 30, 2011		358	255
% Change		2,015.36%	1,885.10%

● Pageviews ● Pageviews

300

150



## S'COOL Visits, Day Of Education



- Hunter B. Andrews PreK-8 School (Hampton)
- R.O Nelson Elementary (Newport News)
- B.C. Charles Elementary School (Newport News)
- Warwick Christian River School (Newport News)
- Fairfield Elementary (Virginia Beach)
- Turn of the River Middle School, Skype (Stamford, CT)

**Thanks to all  
who participated  
or presented  
S'COOL or MND!**

### **Other Events:**

- Fairfield Elementary SOL Carnival (Virginia Beach)
- Provided material for JLab Teacher Professional Dev. Day
- Cape Henry Collegiate School, Science Fair/Night (Virginia Beach)



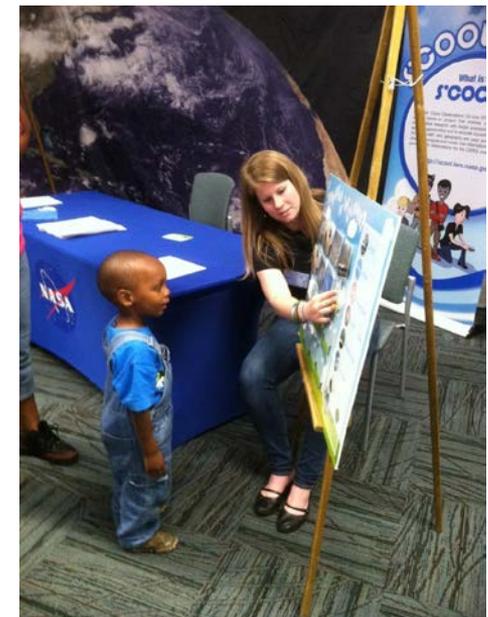


# S'COOL Team at the North Carolina Museum of Natural Sciences

Opening celebration for new nature center wing: April 20-21, 2012

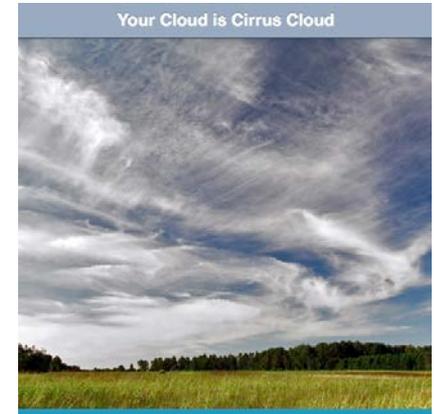


70,000 visitors through the museum with **40,000** through the new wing





- The web is going **mobile**.
- **HTML5???**
- Let's make **web apps/4G?**
- **CITRUS** – Cloud Id Tool for Students
  - Dichotomous Key
  - Cloud pic to map
  - Weather
  - Chart
  - METAR Integration
  - Picture Analysis?



CERES S'COOL Cloud Identification Tool



Students' Cloud Observations On-line

NOTE: BETA TEST VERSION  
Warning: this application will load extremely slowly on most mobile devices. It has not been optimized for any device.

☁ 1. Is it raining?	Yes
☁ 2. Is your cloud low-lying or touching the ground and reducing visibility?	Yes
✈ 3. Was the cloud left as a trail behind a plane or a semi straight line that is bright white becoming more transparent as it fades?	Yes
☁ 4. Is it a high wispy cloud, like a horse's tail?	Yes
☁ 5. Is it flat and layered, puffy and bumpy, or some of both?	Yes

<http://www.google.com/ig/api?weather=23188&hl=en>  
Weather conditions for 23188

Current Conditions: Overcast  
Temp F: 64  
Temp C: 18  
Humidity: 68%  
Wind: S at 9 mph



- **Make S'COOL Rover observations!**
- **Present S'COOL/MND** – scripted materials available
- **Translation Services needed!**
- **Serve as resource** for scientific content questions sent in by participants
- **Connect with observers** in every state and >83 countries
- **Contact** any one of the team members for posting to the blog or other information
  - [scool@lists.nasa.gov](mailto:scool@lists.nasa.gov) or [mynasadata@lists.nasa.gov](mailto:mynasadata@lists.nasa.gov)
- **Help wanted:** Looking for a science teacher! Contact Lin