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The ENSO Student Research Campaign

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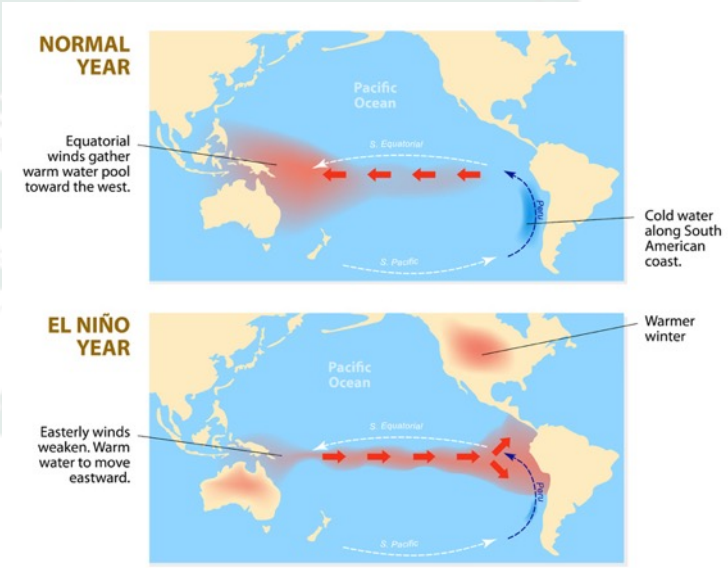
What is El Niño?

El Nino and La Nina are important climatic phenomena that can have effects on the global climate.



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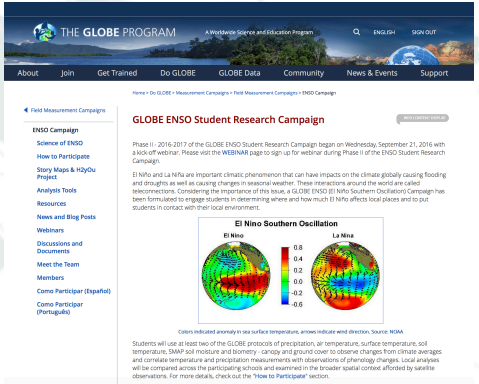
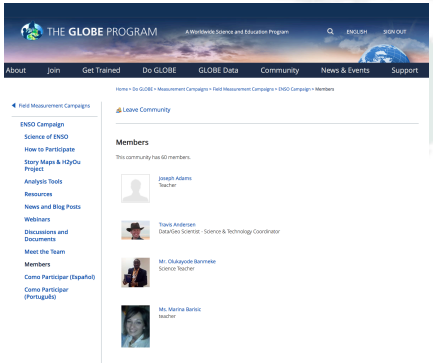
Understanding El Niño Locally

- **What are the main differences between a normal year and a El Niño year?**
- **Is the effect of El Niño the same in all parts of the world?**

How can you participate? – Become a GLOBE School

- 1. Become a member of the ENSO Campaign Community:
  - Click on Log in: Enter your username and password
  - Go to the El Niño Student Research Campaign website: http://www.globe.gov/es/web/el-nino/el-nino-campaign
  - Select the " members" link of the left menu
- On the "member " page click on "join community" you will see a message in green when you successfully joined the group





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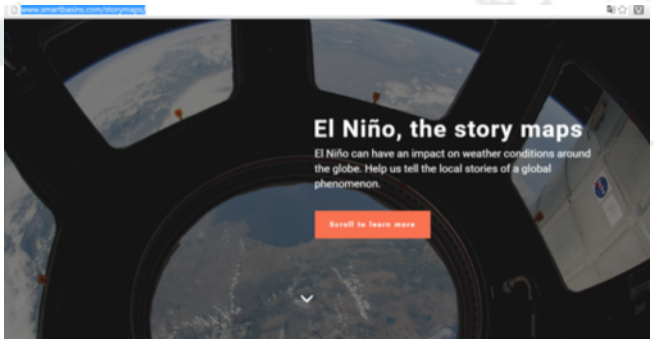
Next Steps to Participate

- Record data for at least two of the six protocols in the GLOBE Data Entry
- Fill the form to participate in the webinars (optional, but highly recommended)

- Everyone can share their stories on Story Maps and the H2yOu Project:
  - http://www.smartbasins.com/storymaps/
  - http://h2youproject.com



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Protocols that are part of the campaign: Collect Data for at least two of six protocols

- Precipitation
- Maximum/ Minimum/Actual Air Temperature
- Surface Temperature

- Soil Temperature

SMAP Soil Moisture

Biometry: Canopy and Ground Cover

Seasons

Dates	Northern Hemisphere	Southern Hemisphere
March 1 - May 31	Spring	Fall Wet/Dry
June 1 – August 31	Summer	Winter Dry
September 1 - November 30	Fall	Spring Dry/Wet
December 1 - February 28/29	Winter	Summer Wet

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Taking the Data to the Next Level

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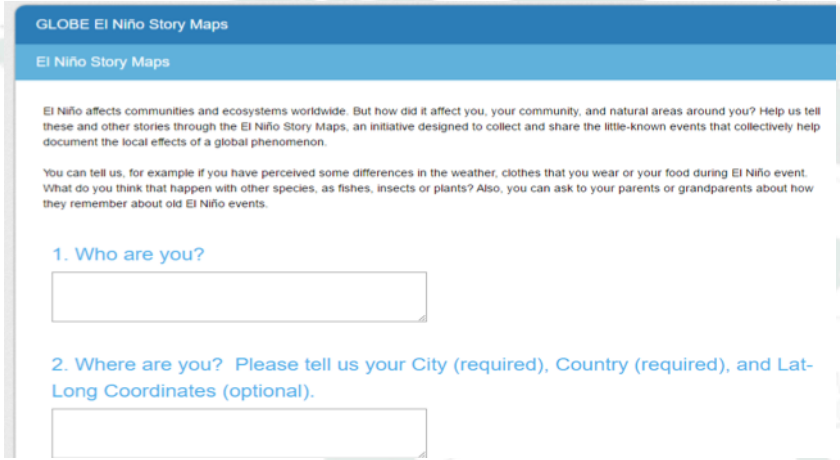
Story Tellers:

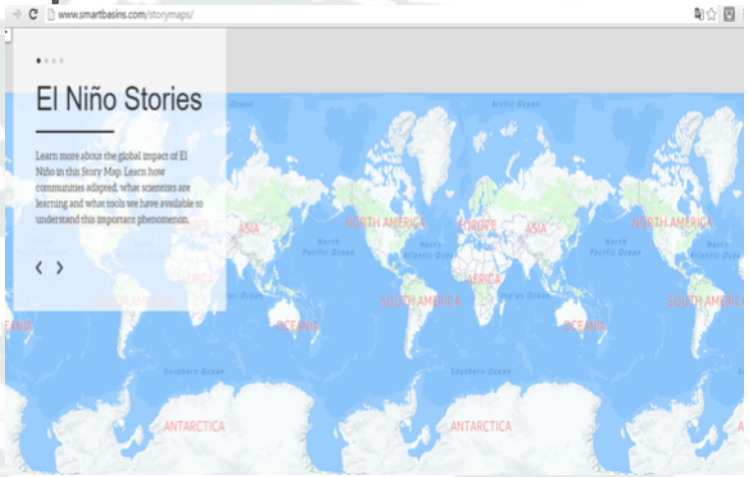
ENSO: Japanese character that means circle. Absolute symbolizes enlightenment, fortune, elegance and creativity.

How Does El Niño Affect Us?

- We want to invite you to investigate more about what happens with El Niño in your region and to tell a story about it
- The stories can be amazing educational tools because they connect with the student, involve the use of metaphors and are emotionally significant
- To start, you can make a list of events,
  - Determine the lead characters for your story.
  - Decide how the characters relate to the facts of El Niño.
  - Use all your creativity!

Share Your Stories: Story Maps





https://www.surveymonkey.com/r/LFVK7H3

If you have links to photos or videos you can do it through this link.

You can also share your photos and stories by sending an email to

stories@smartbasins.com

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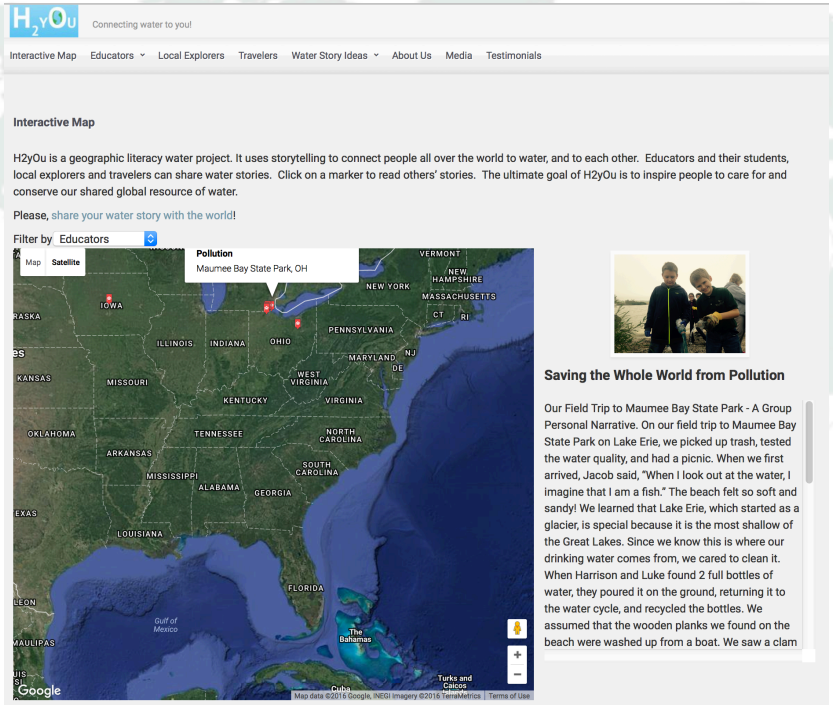
Sharing Stories: H2yOu Project



- How does water affect you and your region?
- Educators and their students, local explorers and travelers can share water stories
- Read others' stories from around the world and compare and contrast your stories
- http://h2youproject.com

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Sharing Stories

- Stories
- Activity with science students
- Observations
- Testimonies
- Collaborative Projects

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An Example of a Story and Research

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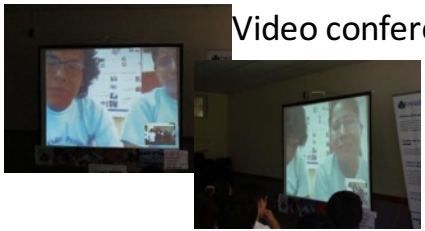
Collaborative Project: El Niño

Online Collaborative Tools



Video conferences

Workshop in Junín de los Andes

Workshop in Buenos Aires

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SCIENTIST SUPPORT

Dr. Madeleine Renom from Uruguay (Meteorology Specialist)

Dr. Ricardo Chrobak from Argentina (Specialist on Science Teaching)

Dr. Vasco Mantas from Portugal (Remote Sensing Specialist)

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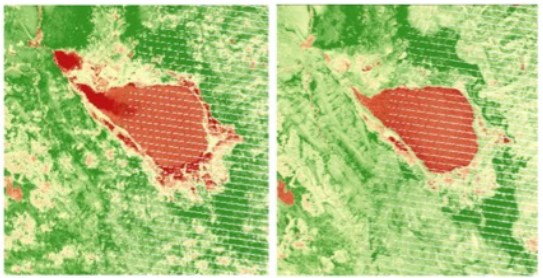
The BIG Questions

- How does the ENSO phenomenon affect each country?
- Does the ENSO phenomenon affect all countries in the same way?
- How does ENSO affect human activities and land cover?

Peru

Data Analysis - NDVI

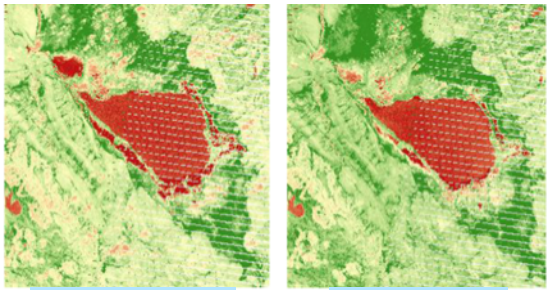
Annual precipitation 940 mm



February 2006 | October 2003

Neutral Period

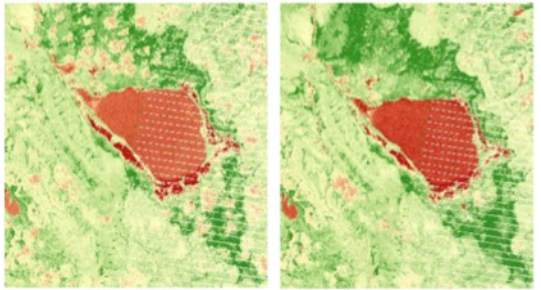
Annual precipitation 655 mm



September 2006 | October 2006

El Niño period

Annual precipitation 1476 mm



September 2010 | October 2010

La Niña period

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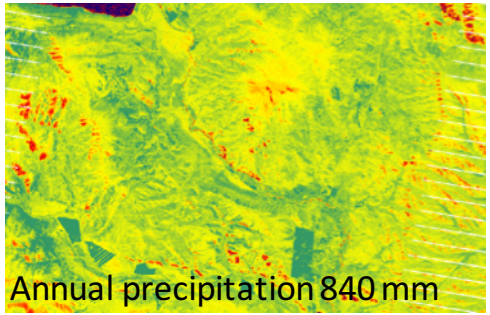
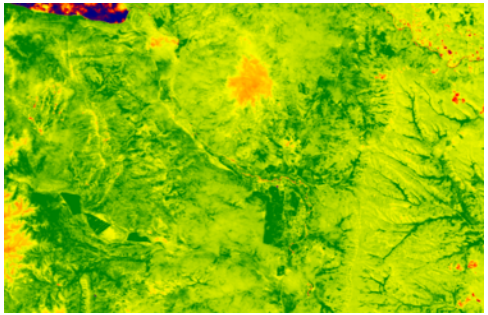
Argentina

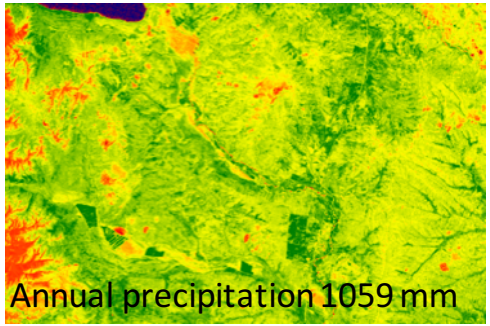
Data Analysis - NDVI



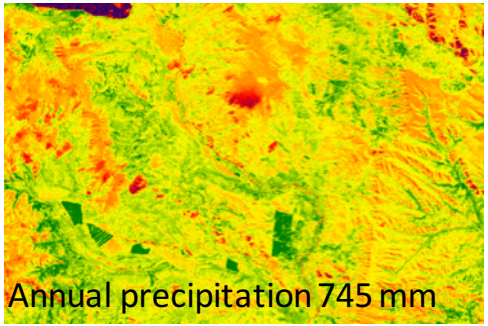
Neutral Period - 2003



Current - September 2013



El Niño Period - 2002



La Niña Period - 1999

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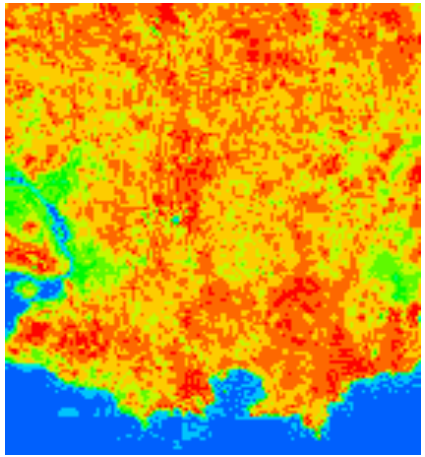
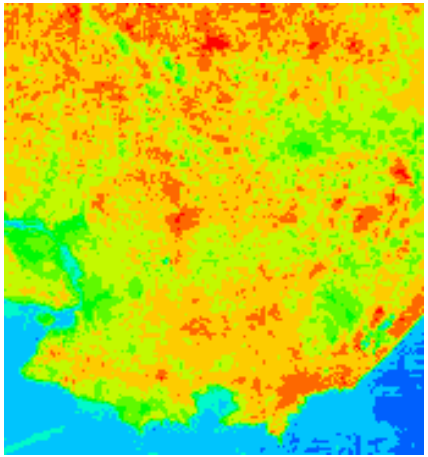
Uruguay

Data Analysis - NDVI



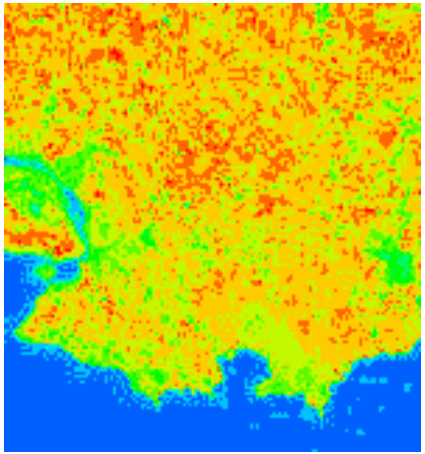
Neutral Period - 2003

Annual precipitation
1240 mm



Niño Period - 2009

Annual precipitation
1350 mm



Niña Period - 1999

Annual precipitation
1240 mm

Conclusions

- Vegetation cover decreases during the period of La Niña in Argentina and Uruguay and increases in Peru
- During El Niño , rainfall is much higher in Argentina and Uruguay, while in Peru rainfall is decreased
- The ENSO does not have the same effect on Argentina , Uruguay and Peru

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The Team

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Thank You!