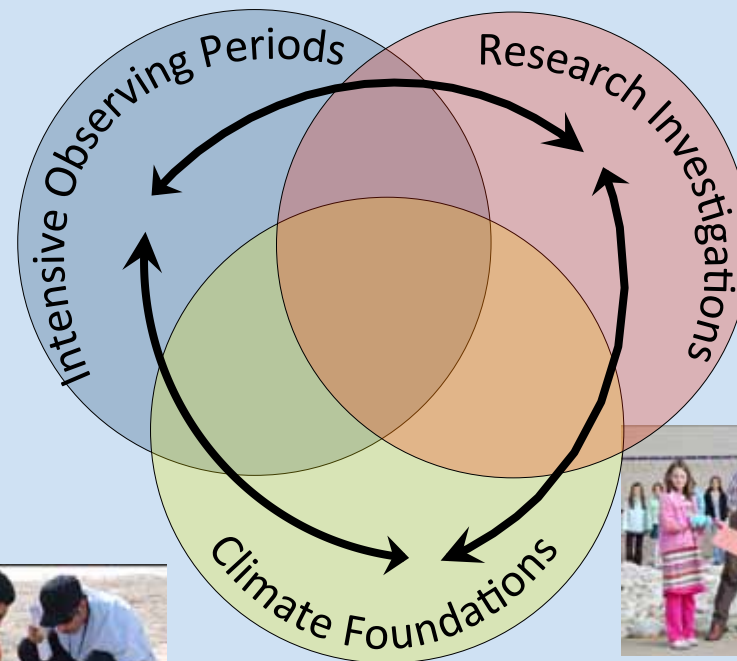


# Update on the Student Climate Research Campaign

19 July 2011  
Annual Partner Meeting



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# SCRC Community Input & Development

2008-09	Advisement from U.S. Federal Agencies & scientists
2008-11	Vision of GPO Director & GLOBE International Community
2009	Recommendations from Climate Campaign Planning meeting, WMO, Geneva, Switzerland
2010	Community Input at Calgary Partner Meeting
2010	Identifying & creating climate foundation resources & web support; Develop & pilot IOPs with community
2010-11	Development of Google Earth support (Tair, photo upload, climate classification)
2011	Community field / pilot testing
2011	Community Review Committee Approval of Partner Implementation Plan

*Teacher Participation Guide, Regional IOPs, web support*



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# SCRC and Technology Refresh

## SCRC

Annual  
Meeting

2012

May 2011  
Review by  
GLOBE  
Community

June  
Materials  
for  
Phase One

September  
**Phase One**  
of SCRC

August  
**Phase Two**  
of SCRC



May  
Review by  
GLOBE  
Community

November  
New  
website  
launches

April  
Full new  
technology  
online

## Technology Refresh



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5 May 2011

3

# Transfer Web Content

**THE GLOBE**  
CONNECTING THE NEXT GENERATION

[Home](#) [About GLOBE](#) [Explore Science](#)  
[Science Topics](#) [Student Climate Research](#)

## Student Climate Research

**Student Climate Research Campaign**  
Climate Foundations  
Intensive Observing Periods (IOPs)  
Climate and Land Cover Project  
Great Global Investigation of Climate  
Research Investigations

The GLOBE Program is measuring and around students climate.

There are these to

Intensive Students will be er measure of time.

By partic connect and conc climate-r

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### Welcome to GLOBE

The Global Learning and Observations to Benefit the Environment (GLOBE) program is a worldwide hands-on, primary and secondary school-based science and education program.

[Learn More About GLOBE >](#)

### GLOBE Community



**Recent Discussions in the Collaboration Groups:**

**Schools:** 16,588

**Teachers:** 16,588

**Measurements:** 7,064,952

**Measurements in the Past Month:** 7,064,952

**Users Logged-in:** 142

[See GLOBE members >](#)

[Join GLOBE](#)

### Enter Data



**The Student ZONE**  
Learn how to be a student GLOBE scientist

### GLOBE profiles



**Majida Khalifeh**  
General Coordinator  
Safe High School in  
Saida, Lebanon

[Visit My Page >](#)

### News

05/27/2011 12:00 MDT  
**Student Climate Research Campaign**  
In the GLOBE Student Climate Research Campaign (SCRC) students learn about complex interactions between the oceans >>

05/03/2011 16:30 MDT  
**Dr. Andy Tasker Appointed GLOBE Director >>**

05/02/2011 13:00 MDT  
**Community Spotlight: Majida > Khalifeh Update**  
In the GLOBE Student Climate Research Campaign (SCRC) students learn about complex interactions between the oceans >>

05/01/2011 12:00 MDT  
**GLOBE Teachers Needed to Review Climate Science Learning Activities >>**

### twitter

Latest Update

GLOBE Students celebrate Earth's forests and water sources with a two-day campaign in Sri Lanka. [http://t.co/vWhe2X](#) about 13 hours ago

GLOBE Teachers explore relationships between Earth systems at partner hosted training workshop at Queens College in Flushing, New York, US. 1 day ago

Students in Bahrain attend inaugural GLOBE Gals' Science Camp [http://t.co/2H2QW6](#) 3 days ago



## Student Climate Research Campaign

### Student Climate Research Campaign

[Climate Foundations](#)

[Intensive Observing Periods \(IOPs\)](#)

[Climate and Land Cover Project](#)

[Great Global Investigation of Climate](#)

[Research Investigations](#)

The GLOBE Student Climate Research Campaign (SCRC) aims to engage students in measuring, investigating, and understanding the climate system in their local communities and around the world. Drawing on GLOBE protocols and data, as well as other datasets, students take climate-related measurements and investigate research questions about climate.

There are three linked components to the SCRC, and teachers can use any one or all of these to enhance teaching and understanding of climate issues.

### Engaging Youth to Understand Climate (Click on the Images below to learn more)



**Intensive Observing Periods**  
Students from around the world will be encouraged to take themed measurements over a short period of time, and analyze their data.



**Research Investigations**  
Students can carry out their own research projects, either alone, or with other schools in their country or around the world.



**Climate Foundations**  
These introductory activities allow students to study real data and understand key concepts of weather and climate.

By participating in this campaign, students will contribute to climate science studies; will connect with other schools and classrooms around the globe, and be inspired to explore and conduct science investigations of their own as part of their increased awareness of climate-related environmental issues and Earth as a system.

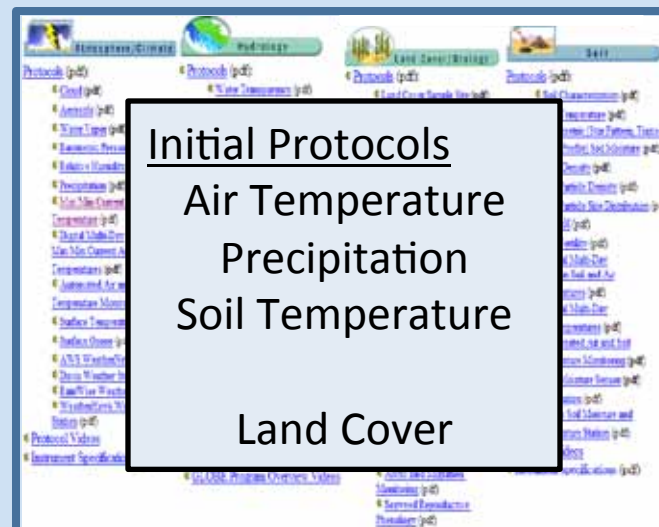
[Join the SCRC](#)

[Teacher Participation Guide](#)

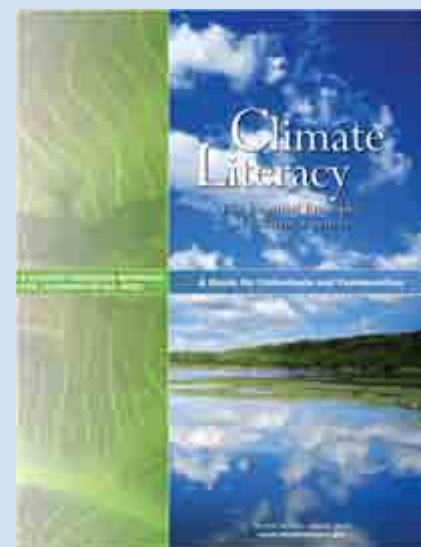
[Featured Resources](#)

[FAQ](#)

## GLOBE SCRC builds on:



Initial Protocols  
Air Temperature  
Precipitation  
Soil Temperature  
Land Cover



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CONNECTING THE NEXT GENERATION OF SCIENTISTS

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Science Topics **Student Climate Research Campaign** Primary GLOBE (K-4) Field Campaigns & IOPs

## SCRC Data and Visualizations

### Long-Term Air Temperature and Precipitation Data in Google Earth

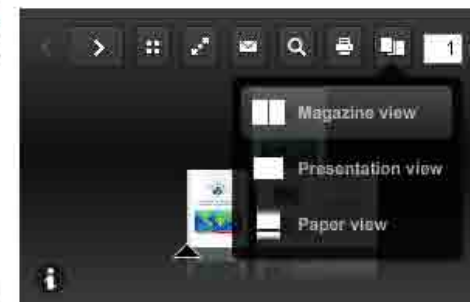
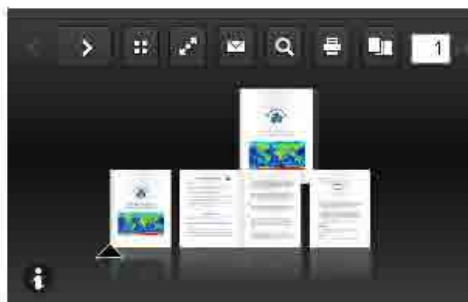
This [Google Earth KML file](#) displays reporting stations of long-term air temperature and precipitation data from the National Climatic Data Center (NCDC). [Download the KML data](#) and use [Google Earth](#) to locate a long-term data record.

From the popup balloons for each city you can download and view the long-term air temperature and precipitation data for each city.

## NOAA Global Historical Climatology Network (GHCN)

This data comes from the Global Historical Climatology Network (GHCN) version 3 data set (air temperature) and version 2 data set (precipitation) managed by the National Climatic Data Center (NCDC). More information about this data set is available through NCDC at: <http://www.ncdc.noaa.gov/ghcnm>.

Refer to the [Google Earth Instruction Guide](#) below for more detailed instructions on setting up Google Earth and the [Viewing Long-term Data Guide](#) below for instructions on how to locate and download temperature and precipitation data in Google Earth.



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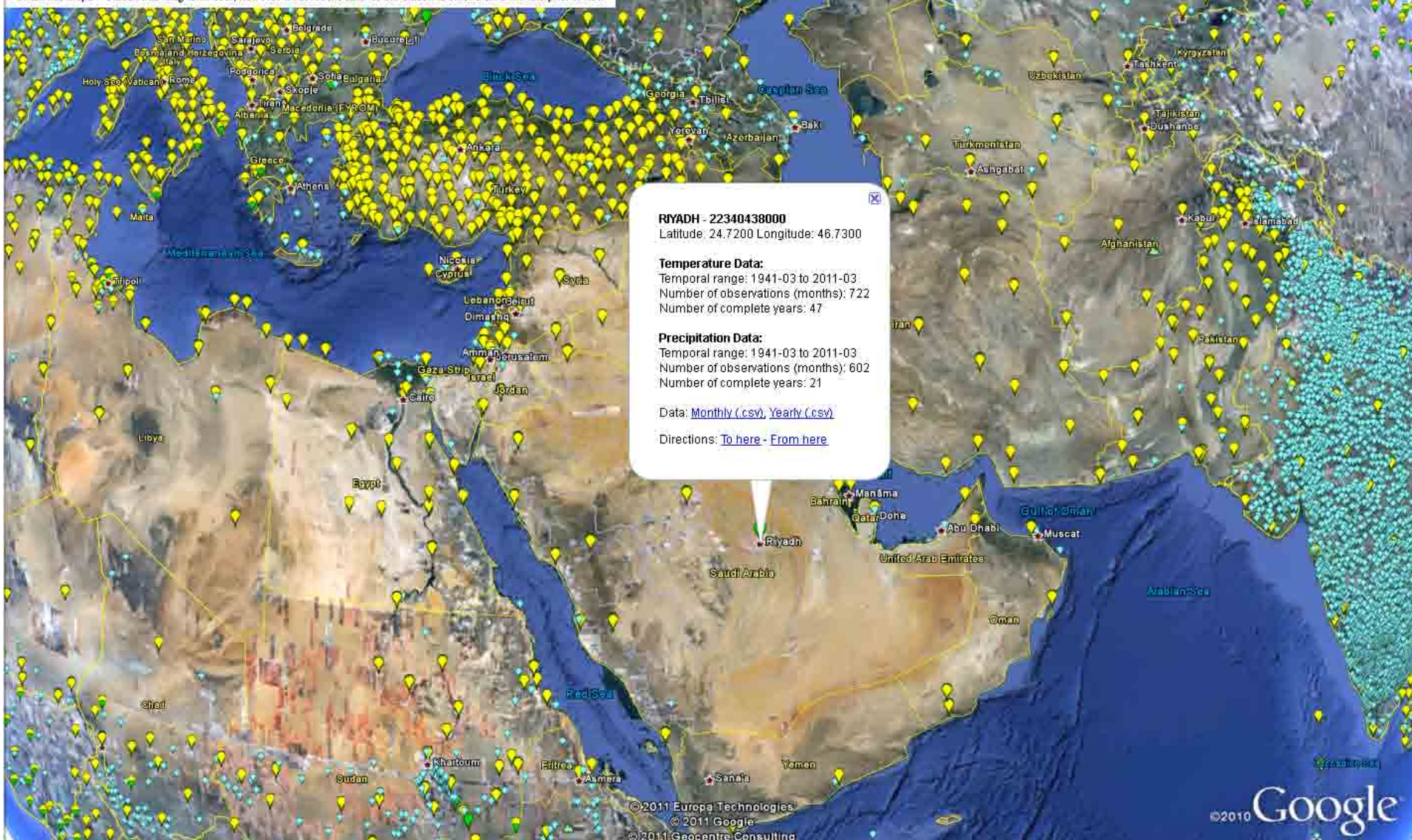




Temperature data only    Precipitation data only    Temperature and Precipitation data

Large Pin drops – Station has long-term data up through sometime within the last 6 months

Small Pin drops – Station has long-term data, however most recent data for the station is older than 6 months prior to now



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# Community & GPO Accomplishments

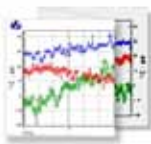
## Piloting Climate Foundation Learning Activities

All Regions Contributed

142 schools total!

Embedded Google  
Earth Data Display

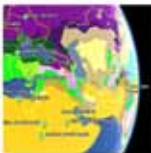
### SCRC Learning Activities



#### From Weather to Climate – Looking at Air Temperature Data

Students will look at air temperature data starting from the individual measurements (taken during the course of a day) to averages of many measurements over a daily, monthly, or annual time period. Students will also make observations about variations and trends in the data on those daily, monthly, and annual scales. Extensions provide the foundations to explore additional statistical analysis techniques and spatial averaging. To learn more and to download a pdf copy of the Learning Activity view

[From Weather to Climate Learning Activity Page](#)



#### What is your Climate Classification?

Students will be introduced to the idea that climates can be broadly classified using a system that is based upon long-term averages of specific variables (air temperature and precipitation) by examining the relationship between temperature and precipitation data to determine the Köppen-Geiger climate classification for a specific location. To learn more and to download a pdf copy of the Learning Activity view

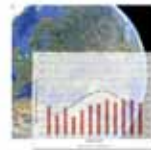
[What is Your Climate Classification Learning Activity Page](#)



#### Exploring the Factors that Affect Seasonal Patterns

Students use pre-selected GLOBE student-collected annual temperature and precipitation data to compare the influence of latitude, elevation, physical features and proximity to water on the earth's tropical, temperate, and polar zones, as well as on seasonal patterns. To learn more and to download a pdf copy of the Learning Activity view

[Exploring Factors that Affect Seasonal Patterns Learning Activity Page](#)



#### Exploring Climate Influences

Students examine the characteristics of the earth's tropical, temperate, and polar zones by analyzing 30 years of monthly temperature and precipitation patterns in pre-selected cities around the world. In their investigation, students observe temperature and precipitation patterns associated with changes in latitude, elevation, proximity to water and physical features. To learn more and to download a pdf copy of the Learning Activity view

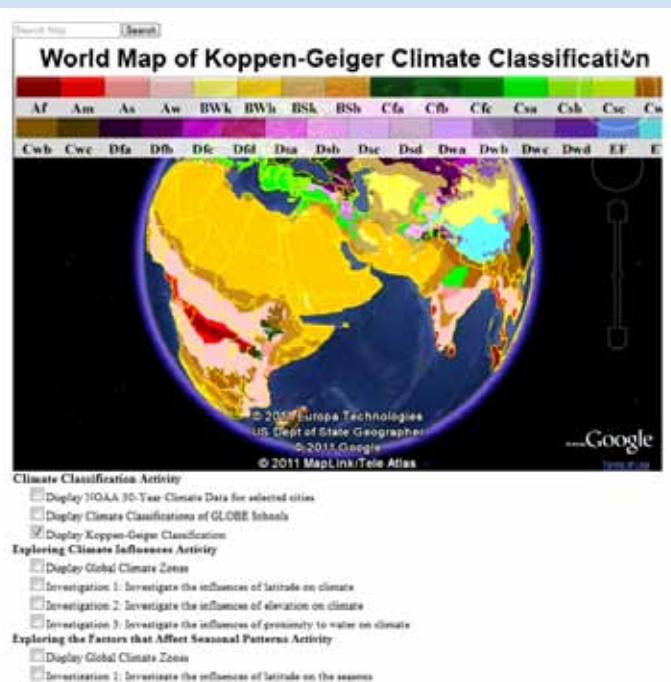
[Exploring Climate Influence Learning Activity Page](#)



#### My Climate – My Community: Exploring the links between Climate and Community

Students use a web-based or paper-copy of the classroom discussion tool provided as a base to discuss, explore, and eventually rate the importance of relationships between climate and community in eight distinct sectors. Students will develop an understanding of the dependencies and relationships between climate and community at the local level. To learn more and to download a pdf copy of the Learning Activity view

[My Climate – My Community Learning Activity Page](#)



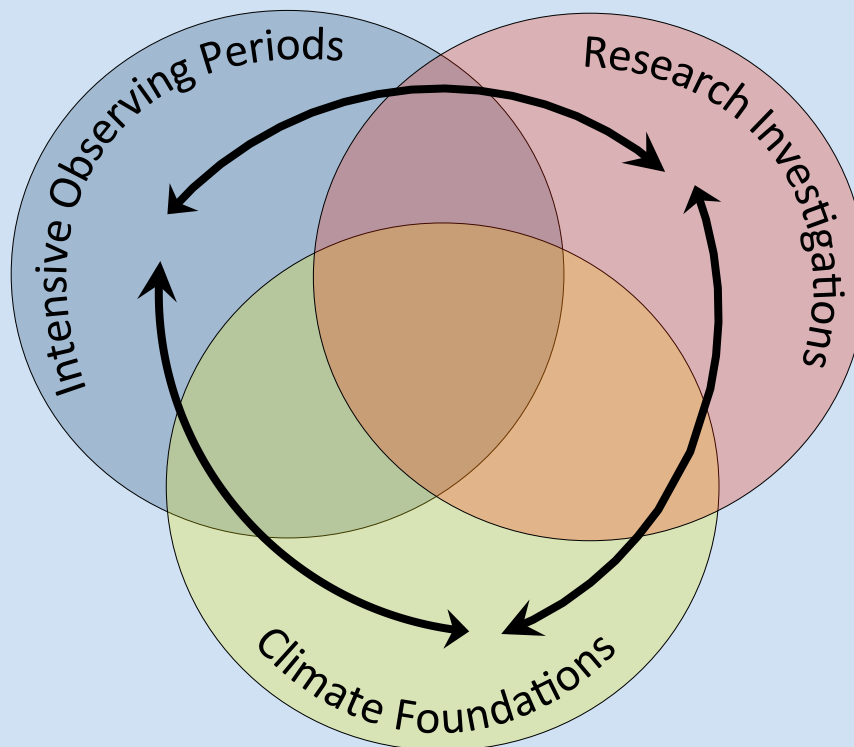
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### Intensive Observing Periods

Students from around the world will be encouraged to take themed measurements over a short period of time and analyze their data.



### Research Investigations

Students can carry out their own research projects, either alone, or with other schools in their country or around the world.



### Climate Foundations

These introductory activities allow students to study real data and understand key concepts of weather and climate.



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# This afternoon: Update and Feedback

- Overview of SCRC - Plenary

## **Breakout Sessions**

- Overview of 3 elements  
Climate Foundations, IOP, Research Investigations
- Question and Answer period
- Discussion and Feedback to GPO



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# Feedback and Input Sessions

	Balance	Lavender	Lilac
14:00 – 14:45	Climate Foundations	IOPs	Research Investigations
14:45 – 15:30	Climate Foundations	IOPs	Research Investigations
<i>Break 15:30 – 16:00</i>			
16:00 – 17:00	Climate Foundations	IOPs	Research Investigations



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