



# TROP ICSU Newsletter

## March 2019

### Climate Across the Curriculum:

#### Focused Workshop for Lesson Plan Development

Lesson plans in Psychology, Economics, the Biological Sciences, and Chemistry were developed by participants at the recent TROP ICSU Lesson Plan Development Workshop held in Pune, India in March 2019.

In March, as part of the continuing engagement initiative in the project, the TROP ICSU team conducted a workshop for selected participants from previous workshops. The two-day event focused on the development of complete lesson plans based on ideas and resources provided by the team. This **2-day workshop for university lecturers** was conducted at the [Indian Institute of Science Education and Research \(IISER\) Pune](#) on **March 18 and 19, 2019**.

Thirteen teachers from various disciplines participated in the development of lesson plans for the undergraduate and high school levels. The complete lesson plans from participants will be published soon on the TROP ICSU website.

In other updates, the TROP ICSU project has recently formalized its partnership with the [Young Earth System Scientists \(YESS\) community](#), whose members will help in the scientific review of the teaching resources. The project has received immense support from all its [partners](#) and is happy to welcome the YESS community as a new partner of the TROP ICSU family.

We are collaborating with local partners in South Africa, Egypt, China, and Australia to plan and organize workshops in these countries in April and May 2019.

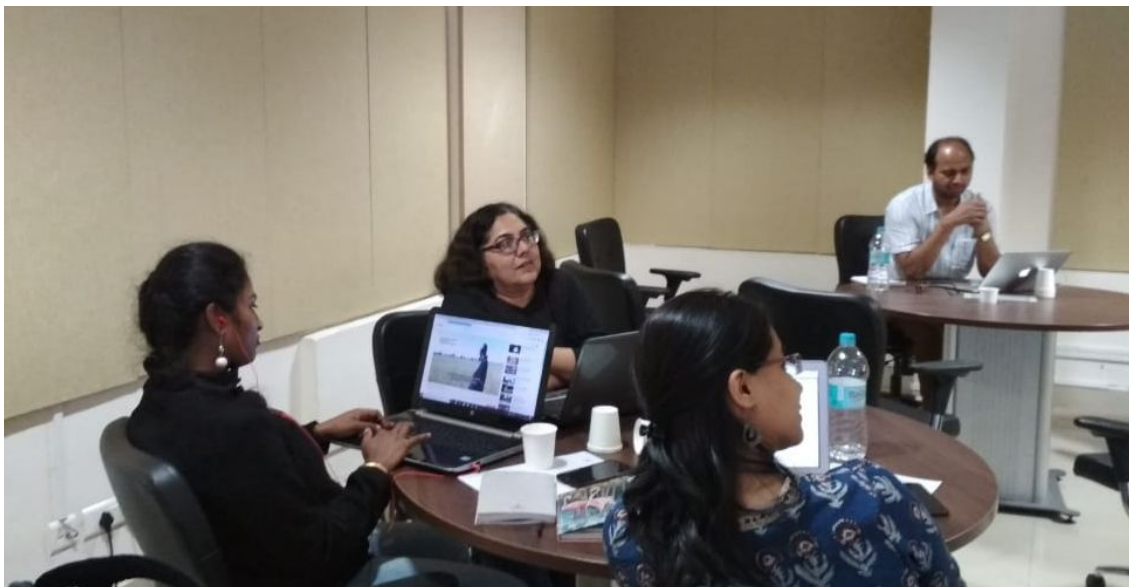
We hope you enjoy reading this edition of our newsletter.

Thank you for your interest and support!

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<https://tropicsu.org/>



## ***Lesson Plan Development Workshop in Pune, India***

**Summary of the Workshop**

**Lesson Plan Development**

was conducted in collaboration with [the Indian Institute of Science Education and Research \(IISER\) Pune](#) on March 18 and 19, 2019..

This workshop was organized as part of the continuing engagement initiative of TROP ICSU. A selected group of teachers from previous TROP ICSU workshops attended this session on developing complete lesson plans based on ideas and resources provided by the TROP ICSU team. As an expert in pedagogy and discipline, each teacher chose an idea from their discipline and built a lesson plan to integrate a topic in the curriculum of the discipline with a climate change-related topic. Further, teachers exchanged ideas with their peers to strengthen and further enhance the developed content. Facilitators from the TROP ICSU team provided inputs and guidance during the hands-on writing sessions.

such as Psychology, Economics, Environmental Sciences, Chemistry, and the Biological Sciences.

The participants invited to this workshop were already familiar with the TROP ICSU project and its objectives. Some of these teachers have previously contributed to the TROP ICSU suite of educational resources ([teacher-contributed lesson plans](#)).

Overall, the participants were motivated and enthusiastic about creating lesson plans for their disciplines. They also benefited from discussions with peers about enhancing the relevance and improving the usability of the newly created resources.

The lesson plans created by teachers during this workshop will be published soon on the TROP ICSU website.

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## ***Forging Partnerships: Welcoming the Young Earth System Scientists (YESS) Community as a Project Partner***

The TROP ICSU project benefits from the support of all its [project partners](#) - including international unions, national academies of several countries, national research centers, and United Nations agencies. We continue to forge new

We are happy to welcome the [Young Earth System Scientists \(YESS\) community](#) as a new project partner. In addition to disseminating TROP ICSU project-related information and updates through their network, the YESS community will help in the



YOUNG  
EARTH SYSTEM  
SCIENTISTS  
community

## ***New Teaching Tools***

### Teaching Module: pH Scale, Ocean Chemistry and Impact of Ocean Acidification on Marine Life

A set of hands-on laboratory activities that uses the pH scale to understand the changes in ocean chemistry due to increased carbon dioxide emissions. This module shows that increased ocean acidification has adverse effects on

[Read more.](#)

### Teaching Module: Orbital Forcing and Earth's Climate

A set of classroom/laboratory activities to reconstruct Earth's past climate using isotopic composition data from ice cores and to highlight the influence of orbital forcing and atmospheric carbon dioxide feedback on Earth's climate.

[Read more.](#)

Our suite of teaching tools with brief descriptions and guidelines for usage continues to expand. These resources can be used to teach a topic in the existing curriculum of a discipline with the help of a climate change-related example, activity, or case study. Recent additions include tools such as

- [Orbital Forcing and Earth's Climate](#) in Earth Sciences
- [pH Scale, Ocean Chemistry and Impact of Ocean Acidification on Marine Life](#) in Chemistry
- [Isotopic Compositions and Ice Cores](#) in Chemistry

To contribute to our set of teaching resources, write to us at [tropicsu@iubs.org](mailto:tropicsu@iubs.org).



## Upcoming Events

The TROP ICSU team will conduct a workshop for teachers in **Pretoria, South Africa on 2 and 3 April 2019** with support from our partner, [the International Science Council - Regional Office for Africa](#).

TROP ICSU will participate in [the International Symposium on Climate Change and the Role of Education](#) on **12 and 13 April 2019** at **Bishop Grosseteste University, Lincoln, UK**.

A workshop for teachers in **Cairo, Egypt** will be held on **15 and 16 April 2019** in collaboration with [the Academy of Scientific Research and Technology, Egypt](#).

Two workshops—one for teachers and one for climate experts—will be conducted in **Tirupati, India** on **26 and 27 April 2019** in partnership with [the Indian Institute of Technology \(IIT\) Tirupati](#).

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### ***Around the Web: Climate-related Resources***

#### **Case Studies on Climate Adaptation**

[CAKE: Climate Adaptation Knowledge Exchange](#), managed by EcoAdapt

#### **Historical and Future Climate Data**

[Climate Change Knowledge Portal](#), from the World Bank Group

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