Climate Across the Curriculum:

Forging a Path to Quality Education and Climate Action

TROP ICSU continues to strengthen its alignment with the UN Sustainable Development Goals (SDGs) of Quality Education (SDG 4) and Climate Action (SDG 13).

The May-July 2019 quarter is one of the most exciting times for the TROP ICSU project. We had an opportunity to present our educational efforts at the Science Education events during the 4th UN STI Forum 2019 on 14 and 15 May 2019 at the UN headquarters in New York.

In another significant development, TROP ICSU will participate at the United Nations High Level Political Forum 2019 (HLPF 2019) on Sustainable Development at the United Nations Headquarters on 11 July 2019 in a three-hour joint session with the International Federation of Social Workers (IFSW) and Harvard University. This session is titled "Practices and Approaches on quality education towards environment and climate action." Representatives from the participating organizations will brainstorm on (i) approaches that formal (curriculum, pedagogy, cross-disciplinary linkages) and informal (such as NGOs working at the grass-root level) education systems can adopt to promote transdisciplinary thinking essential for public understanding of the science of environmental degradation and climate change and (ii) ways to obtain feedback from the community to design environmentally just sustainable infrastructure at local levels and identify ways to reverse and mitigate climate change at global levels.

A tentative agenda and the concept note, along with a detailed description of the contribution from TROP ICSU and ISC/ICSU, can be accessed here.
for teachers in the Social Sciences, Humanities, and Biological Sciences; three TROP ICSU workshops in Australia; and project presentations at the 4th UN STI Forum 2019 in New York.

New teacher-submitted lesson plans—spanning a range of topics and disciplines such as Reading Techniques (Humanities and English Literature), Climate Consciousness in the National Constitution (Social Sciences), and Plant Diseases and Climate Change (Biological Sciences)—have been added to the TROP ICSU website. More lesson plan ideas submitted by teachers from various countries are being reviewed and developed further to increase the number of region-specific, locally rooted educational resources.

Our efforts to introduce the project and its educational resources, and to seek feedback on the global relevance of the teaching material are in full swing. Three TROP ICSU workshops were conducted in Australia. In Melbourne, a workshop for teachers was held on 24 May 2019 at the Royal Society of Victoria, in collaboration with Monash University. Then, a lesson plan development workshop with experts in climate science and pedagogy was organized on 27 May 2019 in partnership with the University of Melbourne. And finally, a workshop for teachers was conducted in Adelaide on 30 and 31 May 2019 with valuable support from the University of Adelaide.

At these workshops, participants and organizers expressed strong interest in promoting and implementing the idea of integrating climate change topics with the Australian curriculum.

On the events front, we are collaborating with partners to plan and organize workshops in France and China in June and July 2019. Detailed reports of our earlier workshops in South Africa and Egypt have been published and are now available here (South Africa) and here (Egypt).

Stay tuned to the Upcoming Events section of the newsletter for information about a TROP ICSU workshop near your location.

We hope you enjoy reading this edition of our newsletter. Thank you for your interest and support!

Team TROP ICSU
The TROP ICSU project was presented jointly with the International Science Council at the following two side events of the 4th annual UN STI Forum 2019 on 14 and 15 May at the United Nations Headquarters, New York.

- "The role of Engineering and Science Education in empowering people and ensuring inclusiveness and equality," organized by World Federation
"Earth and Environmental Science Education for Sustainable Development," organized by Geology for Global Development. A summary of this side event is available [here](https://us19.campaign-archive.com/?u=792378e66e9138deb30c8b5a1&id=a8d53dbd35).

The detailed program can be accessed [here](https://us19.campaign-archive.com/?u=792378e66e9138deb30c8b5a1&id=a8d53dbd35).

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**New Lesson Plans**

**Lesson Plan: Reading Techniques: A study of "Geology of Mankind"**

As a high school English teacher, you can use this lesson plan to help you in teaching reading and analysis skills as part of English Language Teaching (ELT). The lesson plan involves training students in reading techniques.

[Read more.](https://us19.campaign-archive.com/?u=792378e66e9138deb30c8b5a1&id=a8d53dbd35)

**Lesson Plan: Climate Consciousness in the National Constitution: Bhutan at the Forefront**

As a Humanities or Social Sciences high school or undergraduate teacher, you can use this set of computer-based tools to teach about the Constitution of a country, the components of a nation's Constitution, and the role of climate consciousness.

[Read more.](https://us19.campaign-archive.com/?u=792378e66e9138deb30c8b5a1&id=a8d53dbd35)

Does the Constitution of a country include climate-related policies? How might climate change influence the incidence and distribution of plant diseases? Is insect behavior affected by temperature variations? How can reading and analysis skills be taught from texts that discuss climate change? Find out by exploring the latest lesson plans on our website. Newest additions include lesson plans on:

- **Reading Techniques: A Study of "Geology of Mankind"** in the Humanities and English Literature
- **Climate Consciousness in the National Constitution: Bhutan at the Forefront** in the Humanities and Social Sciences
- **Capitalism and Climate Change** in the Social Sciences
- **Insect Behavior and Climate Change** in the **Biological Sciences**
- **Black Carbon and its Impact on Earth's Climate** in **Chemistry** and **Environmental Sciences**
- **Phenotypic Plasticity: Coping with Climate Change** in the **Biological Sciences**
- **Metabolic Rate and Climate Change** in the **Biological Sciences**

Explore all the TROP ICSU lesson plans [here](#), and the teacher-submitted lesson plans [here](#).

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

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*TROP ICSU Workshop for Teachers in Melbourne, Australia*
A one-day TROP ICSU workshop for teachers from Victoria was conducted in collaboration with Monash University at the Royal Society of Victoria in Melbourne, Australia, on May 24, 2019.

The workshop was attended by approximately 49 school teachers from various disciplines such as Science, Maths, Geography, Humanities, and Environmental Science.

The event began with talks on "Climate Change Knowns and Unknowns" and "Australian Climate and Climate Change" by experts from Monash University. Then, the TROP ICSU team provided an introduction to the project and its teaching resources. Next, the participants worked in groups to review and provide feedback on the teaching tools and lesson plans from the TROP ICSU website.

A students' Climate Strike near the workshop venue on the same day stole everyone's attention for a few moments, reinforcing the need for urgent climate action.

Overall, the teachers and educators found the workshop content and activities to be useful and relevant. They provided valuable feedback on the TROP ICSU educational resources.

Participants said:
"Excellent resource modify to Australian conditions"

"Would be useful to incorporate some local examples using the interactive models to see impacts of sea level rise."

"Spend more time having teachers research the tools and work to create more for you..."

"The morning sessions were a highlight - hearing about the latest climate change science and getting the details about the TROP ICSU resources. I was impressed with the philosophy of helping teachers integrate climate change issues into the standard curriculum. Having reliable resources to do this makes the objective achievable. Reviewing a teaching tool and detailed lesson plan was also a useful exercise as it helped me delve deeper into the resources..."
TROP ICSU Lesson Plan Development Workshop for Climate Experts in Melbourne, Australia

A one-day lesson plan development workshop, “TROP ICSU: Trans-disciplinary Research Oriented Pedagogy for Climate Studies and Understanding” was held in collaboration with the University of Melbourne on May 27, 2019.

Ten experts in climate science and pedagogy from the University of Melbourne, Monash University, and the University of New South Wales (UNSW) Sydney attended this workshop.

The workshop began with an introduction to the TROP ICSU project and teaching resources. Then, the participants worked on the development of new lesson plan ideas to integrate topics in climate science and climate change with topics in various disciplines for the Australian curriculum. They discussed and presented their ideas and provided suggestions and recommendations to colleagues.
TROP ICSU Workshop for Teachers in Adelaide, Australia

Summary of the Workshops

A TROP ICSU workshop, “Teaching Sustainability as a Cross-curriculum Priority: Climate Change Resources for Teachers” was held in collaboration with the University of Adelaide on May 30 and 31, 2019.

Forty-one participants (high school and undergraduate-level teachers) attended this workshop. The participants were from various disciplines such as English, Social Sciences, Geology, Philosophy, Humanities, Literacy, and Environmental Management.

We are very grateful for the valuable support from the University of Adelaide, the Government of South Australia, Botanic Gardens and State

Participant Feedback and Reactions

Overall, the teachers provided positive feedback about the workshop content and activities. They found the educational resources for climate change to be useful and relevant, and enjoyed the opportunity to create new lesson plan frameworks while discussing ideas and networking with other educators. The feedback received from participants' review of the educational resources will help in further refinement of the content.

Participants said: "This video is too long- we need videos that are approx 5 mins, up to 8 minutes otherwise students tune out!"
Management Board, and Adelaide Botanic High School in making the event a great success.

The TROP ICSU team presented the project and its resources. Then, participants worked in discipline-based groups to review the existing teaching resources and to develop new lesson plan ideas. Other highlights of the workshop included a tour of the Adelaide Botanic High School and engaging talks by representatives from the Department of Environment, Water and Natural Resources; the Adelaide and Mt Lofty Ranges Natural Resources Management Board; and the Botanic Gardens and State Herbarium of South Australia.

"Fantastic opportunity to network and share ideas around climate change. Very inspiring. Thank you!"

"This resource needs specific core teaching before it can be used. It's a good resource, but only one small aspect of a wider teaching unit"

"If possible, please add filters to the case studies (by country) so we can select local relevant examples for our students."

"This workshop has been very useful in collaborating with other staff to find the links with climate change to all areas of education."

"Thank you for sharing such an amazing set of educational tools specifically on sustainability."

Upcoming Events

TROP ICSU and the International Science Council (ISC/ICSU) will participate at the United Nations High Level Political Forum 2019 (HLPF 2019) on Sustainable Development at the United Nations Headquarters on 11 July 2019 in a joint session with the International Federation of Social Workers (IFSW) and Harvard University. This session is titled "Practices and Approaches on quality education towards environment and climate action."
The TROP ICSU team will facilitate a teachers workshop in **Orsay, France** on **28 June 2019** in collaboration with **Paris-Sud University (Université Paris-Sud)**.

A TROP ICSU workshop for teachers will be organized in **Beijing, China** on **16 and 17 July 2019** in partnership with the **Beijing Institute of Genomics, Chinese Academy of Sciences**.

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

**Climate-related Educational Resources for Teachers**

- [Links to Activities on Weather and Climate (for teachers)](https://www.sepup.org/category/research/weather-climate) from the Science Education for Public Understanding Program (SEPUP), the University of California at Berkeley

**A Collection of Teaching Modules on Climate Justice**

- [Climate Justice in BC: Lessons for Transformation](https://policyalternatives.ca/post/climate-justice-in-bc-lessons-for-transformation) from the Canadian Centre for Policy Alternatives and the BC Teachers' Federation.

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