



TROP ICSU Newsletter

September-October 2019

Climate Across the Curriculum:

Charting a Course for Wider Adoption

The TROP ICSU project has demonstrated a novel pedagogical approach of integrating climate change education with existing curriculum across the world.

To review the key accomplishments of the project and to brainstorm on ideas for the path forward, the **third TROP ICSU Working Group Meeting** was held at the **French Academy of Sciences (Académie des Sciences, Institut de France)** in Paris, France on **October 14 and 15, 2019**. The meeting was attended by 21 participants, including Working Group members, collaborators, partners, and Implementation Team members. Over two days, the project and its implementation were presented and reviewed, suggestions for further enhancement were discussed, and ideas for further dissemination and continuation of the project in its next phase beyond December 2019 were proposed.

During the past two months, several [new lesson plans](#)—including a few sample teaching resources for the middle school and primary school levels—on topics such as the **United Nations Sustainable Development Goals** (Economics, Social Sciences), **Simple Harmonic Motion and Simple Harmonic Oscillators** (Physics), **Civilizations and Climate Vulnerability: The Khmer Empire** (Social Sciences, History, Humanities), **Literary Analysis using Climate Fiction** (English Literature, Humanities), **Reading and Listening Comprehension in French** (Languages: French as a Second Language, Humanities), and **Mountains and Climate** (Geography, Earth Sciences) have been published on the TROP ICSU website.

In **September 2019**, short **workshops and scientific validation sessions** for climate science and climate change experts were conducted at the **Indian**

existing TROP ICSU educational resources from the scientific perspective and discussed ideas for new lesson plans.

Detailed reports of our workshops in Australia, China, and France have been published. The report for the workshops in Melbourne and Adelaide in Australia are accessible [here](#) and [here](#), respectively; the report for the workshop in Beijing, China can be accessed [here](#); and the report for the workshop in Orsay, France is available [here](#).

The TROP ICSU team is reviewing and incorporating the feedback, suggestions, and ideas received from collaborators and partners at the recent Working Group meeting. An action plan for the immediate future and steps for the next phase of the project are being defined.

We hope you enjoy reading this edition of our newsletter.

Thank you for your interest and support!

[Team TROP ICSU](#)

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The Third TROP ICSU Working Group Meeting



The third TROP ICSU Working Group Meeting was held at the **French Academy of Sciences (Académie des sciences, Institut de France), Paris, France** on **October 14 and 15, 2019**. The meeting was attended by 21 participants, including Working Group members, collaborators, partners, and the Implementation Team members. Over two days, the project and its implementation were presented and reviewed, suggestions for further enhancement were discussed, and possible ideas for the continuation of the project in its next phase beyond December 2019 were discussed.

The Working Group members and the Implementation Team members discussed (i) an overview of the TROP ICSU project and the progress since the last WG meeting in April 2018; (ii) the development of a validated repository of climate-related teaching tools and lesson plans; examples of teaching resources for the integration of topics in climate science and climate change with topics in various disciplines; (iii) an overall summary of the TROP ICSU workshops with educators, teachers, and climate experts across the world; a summary of the expert feedback and reviews received; its recognition and endorsement by various UN agencies and other organizations; (iv) examples of teacher-submitted lesson plans and ideas; development of these submissions into complete educational resources; (v) ideas for enhancing the TROP ICSU educational resources; (vi) the design and visual interface of the new TROP ICSU website; (vii) ideas for further refinement and improved accessibility of the new TROP ICSU website; (viii) suggestions on the translation of a selected set of TROP ICSU educational resources to other languages; (ix) finances; (x) continuation of the project beyond December 2019: dissemination of the overall

A discussion was held on ways to continue to disseminate the efforts of this project among educators beyond the first phase of the project. Ideas and suggestions on continued maintenance of the project website and financial support for other key project efforts were also discussed.

In the three-year period 2017-2019, the TROP ICSU project team, in collaboration with its partners, has created and provided a suite of educational resources as a validated proof-of-concept of the idea of integrating climate change education across the curriculum globally. The next steps and action plan for the project are being discussed and refined.

New Lesson Plans



[Lesson Plan: Literary Analysis using Climate Fiction](#)

As a High School and Undergraduate Humanities teacher in English, you can use this lesson plan to teach literary analysis of a novel (climate fiction). The recently recognized literary genre of 'Cli-Fi' is a valuable

[Read more.](#)



[Lesson Plan: Civilizations and Climate Vulnerability: The Khmer Empire](#)

As a High School or Undergraduate teacher of History or Social Sciences, you can use this set of computer-based tools to teach about civilizations, decline of civilizations or empires, and societal vulnerability to climate-related extreme

[Read more.](#)

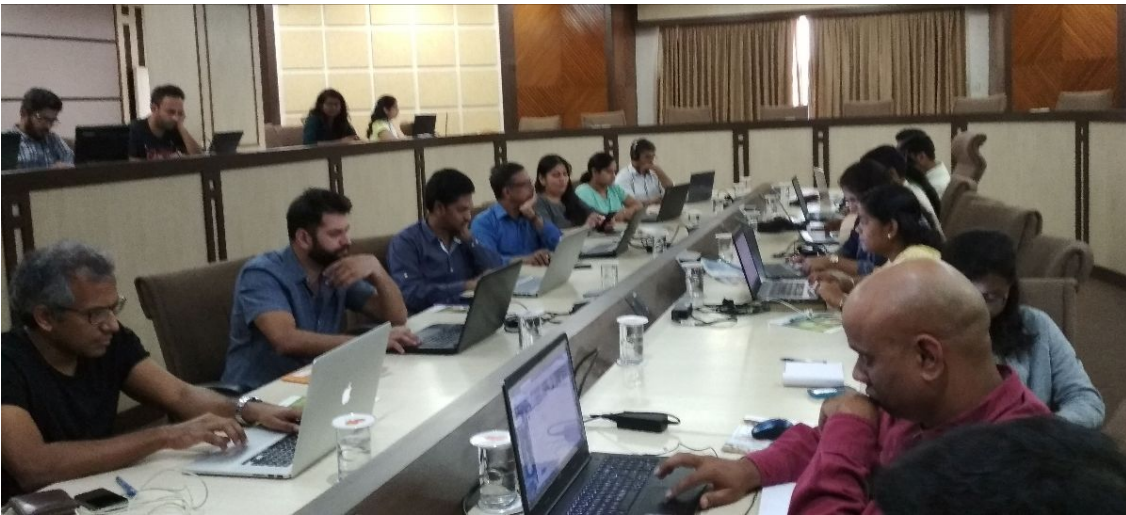
How might climate change adversely impact sustainable development? How could simple harmonic oscillations in the Earth's atmosphere and oceans influence climate? Did climate-related extreme events play a role in the decline and eventual collapse of the Khmer empire? How do mountains affect the climate of different regions in the world? Find out the answers and detailed

- [Teaching about the UN Sustainable Development Goals](#) in **Economics** and **Social Sciences**
- [Simple Harmonic Motion and Simple Harmonic Oscillators](#) in **Physics**
- [Literary Analysis using Climate Fiction](#) in **English Literature** and **Humanities**
- [Civilizations and Climate Vulnerability: The Khmer Empire](#) in **Social Sciences, History, and Humanities**
- [Reading and Listening Comprehension in French](#) in **Languages (French)** and **Humanities**
- [Use of Allegory in Literature](#) in **English** and **Humanities**
- [How to Read and Analyze Poetry](#) in **English** and **Humanities**
- [Basic Data Handling using Climate Data](#) in **Mathematics**
- [Teaching Verb Tenses through Climate Literature](#) in **English**
- [Enhancing French Vocabulary: Written and Spoken Language](#) in **Languages (French)**
- [Major Landforms: Mountains and Climate](#) in **Geography** and **Earth Sciences**
- [Trigonometry and Sea Level Rise](#) in **Mathematics**
- [Note Making and Summary Writing using Climate Literature](#) in **English** and **English for Academic Purposes**
- [William Blake's "Chimney Sweeper" Poems: Ode to the Industrial Age](#) in **English Literature**

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.

TROP ICSU Workshops and Scientific Validation Sessions in Pune, India



In **September 2019**, short **workshops and scientific validation sessions** for climate science and climate change experts were conducted at the **Indian Institute of Science Education and Research (IISER) Pune** and the **Indian Institute of Tropical Meteorology (IITM), Pune**.

On 7 September 2019, 11 participants—mainly faculty and researchers from the Earth and Climate Sciences department at IISER Pune—attended the workshop. On 17 September 2019, 21 participants—scientists, researchers, and climate experts from IITM, Pune—attended the workshop. Participants reviewed existing TROP ICSU educational resources from the scientific perspective and discussed ideas for new lesson plans.

Around the Web: Climate-related Educational Resources

Interactive Tools to Understand the Impact of Climate Change

[Interactive Infographics](#) from

A Book on Climate Change Topics Relevant to Australia

[Climate Change, Science and](#)

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