



The Bureau
of Meteorology



Committee on Earth Observation Satellites (CEOS) Youth Initiative

The Committee on Earth Observation Satellites (CEOS)

CEOS is a community of space agencies and international bodies that aims to ensure coordination of civil space-based Earth Observation.

CEOS Agencies work together on collaborative missions and initiatives, and such cooperative efforts have highly benefited users all around the world.

CEOS Youth Initiative

In 2025 the CEOS Chair, the UK Space Agency, developed and ran the pilot CEOS Youth Engagement Programme to inspire and foster global collaboration between students across CEOS countries.

In 2026, Australia (Geoscience Australia, CSIRO and the Bureau of Meteorology) will be the CEOS Chair, and will continue the CEOS Youth Engagement Programme.

CEOS Youth Initiative

Objectives of Programme:

- **Educate:** Create a low-cost repeatable programme that educates and inspires young people on applying satellite EO to address real global challenges
- **Collaborate:** Provide an opportunity for students to work collaboratively across international borders using the platform of CEOS.
- **Engage:** Facilitate a discussion between CEOS principals and youth representatives on key CEOS topic areas

Student benefits:

- Students learn about satellites and the data they collect about our planet
- Experience working across international borders with other students in the global CEOS community
- Engage with world-leading Earth Observation scientists
- Present to and ask questions of senior leaders in the satellite Earth Observation field

Activities for 2026

1. Introduction to EO:

The programme provides educational material to introduce students to the concept of Earth Observation and how it is used in the world around them. The material will be provided to students prior to the online international workshops (around February 2026).



CEOS

CEOS Youth programme

This programme aim is to inspire and foster global collaboration between students across CEOS countries. The course material provided within the programme will give students a background knowledge of what satellite Earth Observation is and how it is used. The purpose of this is to facilitate the conservation of the two international workshops with other participating CEOS agencies.

Three Components of students' engagement:

Introduction to EO Collaboration workshops Poster challenge

Intro to Earth Observation → Temperature from space → International workshop → Biodiversity → International Workshop → Poster → CEOS Youth Summit

Each session pack contains:

- Lesson Plan:** Contains information on preparation and external resources. It includes a lesson structure with explanations of activities and timings, easily adaptable for different lesson lengths.
- Worksheets:** A variety of activities for students to engage with provided in formats that are easy to print.
- Activity Answers:** Answers are included within the worksheet or lesson plan.
- Presentation:** Some resources include an MS PowerPoint/Google Slides or a PDF that can be used by the lesson leader in the classroom.

Part 1: Introduction to Earth Observation (Nov-Dec) 2 hours of core teaching

Type	Module	Activity and links
Core	Intro to EO	Overview: This session introduces basic concepts: what Earth Observation is, what satellites are and what can be seen from space. Lesson plan: https://satschool-outreach.github.io/lesson_ready/teachers/intro-to-EO/ Worksheets: Link Presentation: Link Useful websites: https://www.esa.int/Education/Careers_in_Earth_Observation https://space4climate.com/our-work/101-careers-in-earth-observation/
Core	EO in Practice	Overview: This session will be led by an EO 'expert' and be an opportunity for students to engage with a leader in UK EO. Each session will be tailored by individual experts. Lesson Plan: CEOS in schools programme overview.pdf (Attached) Additional presentation will be provided by expert. Worksheets: N/A Useful websites: N/A SatSchool ArcGIS Story maps for teacher-led or self-directed session on EM spectrum Satellites and Orbits Sensors Image resolution
Optional	EO Fundamentals	

CEOS

CEOS Youth programme

2024/25 Course Teaching material

Catherine Fitzsimons 11/27/24 CEOS in schools

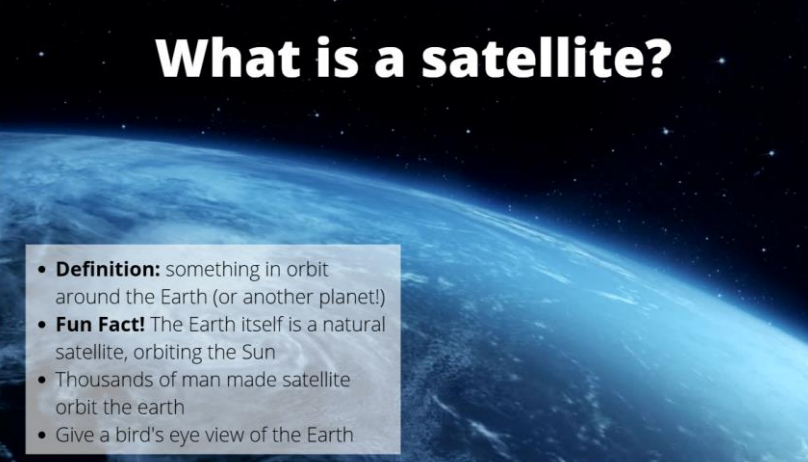
What is Earth Observation?




- Earth observation involves collecting imagery and measurements of the surface of the Earth from the vantage point of space.
- Specially designed instruments on-board satellites orbit the Earth taking measurements - giant cameras, radars, and even lasers!
- Provides info for research in many fields: meteorology, oceanography, ecology, glaciology, atmospheric

'Earthrise' - Apollo 11

What is a satellite?



- Definition:** something in orbit around the Earth (or another planet!)
- Fun Fact!** The Earth itself is a natural satellite, orbiting the Sun
- Thousands of man made satellite orbit the earth
- Give a bird's eye view of the Earth

Activities for 2026

2. Online international workshops:

There will be two international workshops as part of the programme, to be held between February and April (dates to be determined). The topics will be:

- EO for addressing water quality (CSIRO AquaWatch Program)
- EO for monitoring bushfires (ANU, Fenner School of Environment & Society and the School of Engineering)

The workshops will run for 1.5 hours each and will have students participating from around the world. Students will be given an opportunity to discuss and share ideas during virtual breakout groups.

Feedback from the Australian teachers from the 2025 webinars:

"The content was great"

"We would sign up again in a heartbeat"

" Students were excited to participate. They loved the international engagement"

" The 7pm time wasn't an issue, parents enjoyed getting involved"

"Students loved it, they were very engaged "

"The students did a lot of research prior, and they had a lot of questions during the webinar"

Activities for 2026

3. Poster Challenge:

Students will have the opportunity to develop a poster presentation on what they have learnt or ideas they have for Earth Observation in the future. The posters will be presented at the second CEOS Youth Summit in Hobart Australia in November 2026.

[Video from the poster session in Bath, November 2025](#)



Poster Challenge



This is your chance to make your voice heard, we want to hear your thoughts, ideas and suggestions on the future direction of Earth observation satellites! We need your help, we need your fresh perspectives, and we want to know what you care most about.

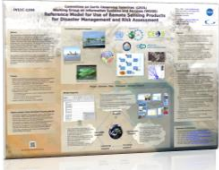
Challenge Brief: Choose one of the three categories and design a digital poster that explains how Satellite Earth observation data is used in the world around us.

Categories:

1. Design a new Earth Observation satellite – what would it do? How? Why?
2. Tell us how we can improve international collaboration
3. Research Earth observation use for important issues.



Designing new EO satellite poster



Improving collaboration poster
OFFICIAL



Your research poster



Q&A session at the Bath Plenary with CEOS leads and local school students