EMIT-VISIONS-ISS COPILOT - CAGLIARI

EMIT FOR THE FUTURE! – HOW TO USE EMIT OPEN SOURCE DATA FOR RAISE AWARENESS ABOUT GLOBAL WARMING.

TEAM:

Nicolò Melis: Recent graduate in engineering

Fabio Pisano: Technology enthusiast

Maurizio Naletto: R&D Engineer

Davide Pisano: Student 2nd year High School

https://www.emit-vision-iss-copilot.com/

https://github.com/MaurizioNaletto-code/EMIT-VISIONS-ISS-COPILOT

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NASA INTERNATIONAL SPACE APPS CHALLENGE

EMIT-VISIONS-ISS COPILOT

Emit is a modern technology for the study of our planet, it provides us with data to understand climate change and more generally to understand our planet. We followed the NASA tutorials for Emit on and thought about what we had in front of us.

EMIT FOR THE FUTURE

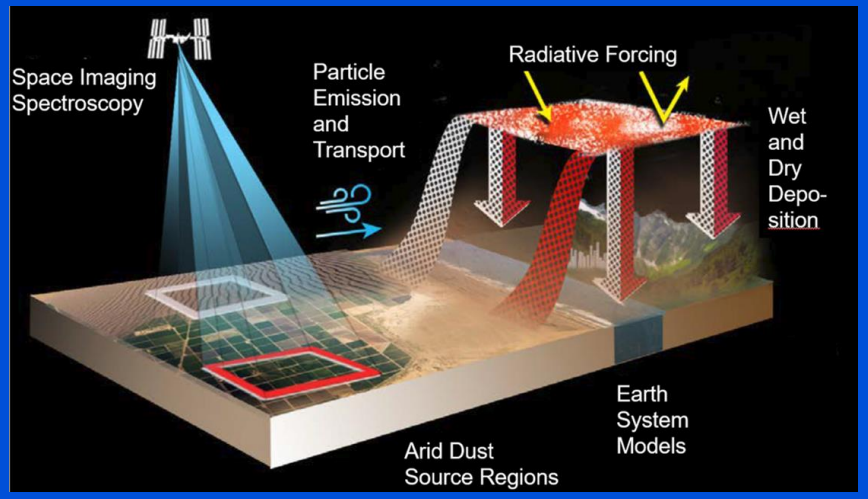
The future is where the new generations are. So we thought about how to create a simple way to use these technologies, creating paths to see closely how we work with space technologies, in a special way, using the open-source tools provided by NASA.

- HOW TO MAKE NEW GENERATIONS USE THIS DATA?

MAKING THEM BECOME SPACE INVESTIGATORS

-WHAT ABOUT HIGH SCHOOL STUDENTS AND RESEARCHERS?

GIVING THEM A NOTEBOOK AND A GUIDE+VIDEO TO EXTRACTING DATA SIMPLIFYING THE NASA GUIDE, ADDING A SMALL ALGORITHM TO OBTAIN THE NUMERICAL DATA EASILY



The «ISS SPACE CAMERA»
The EMIT instrument is an imaging spectrometer that will measure light in visible and infrared wavelengths. They display unique spectral signatures indicating the mineral composition of the surface.

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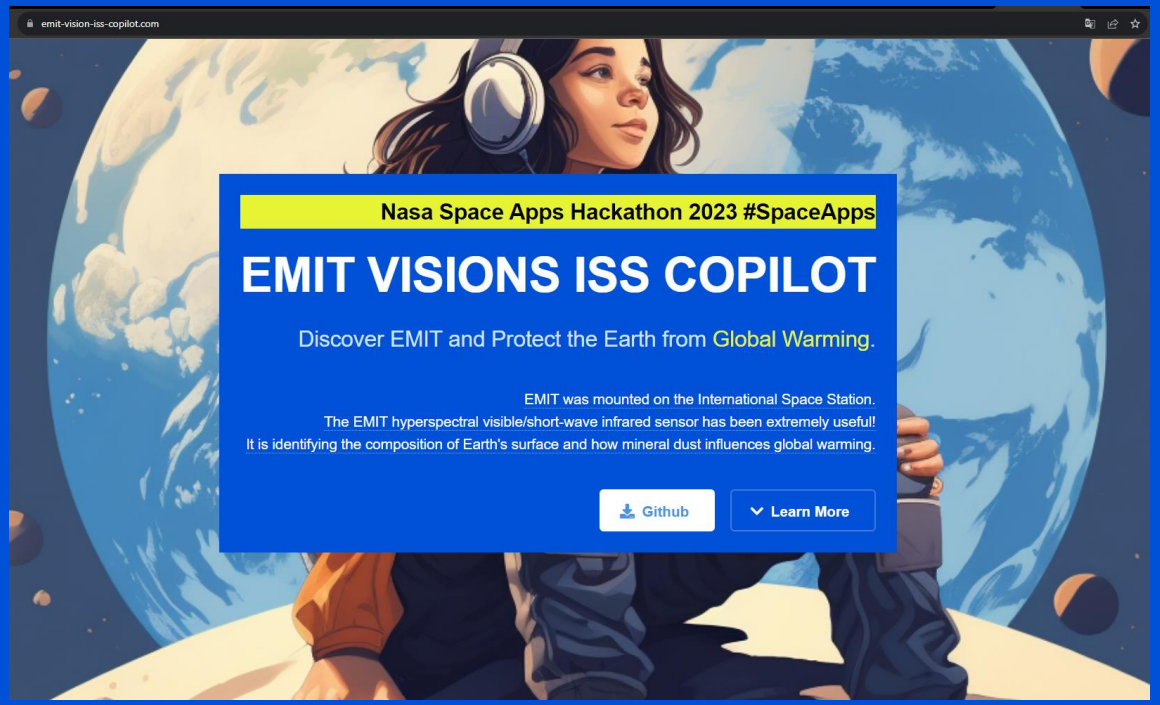

We built a website for this mission…

Our site is the co-pilot that contains direct links to the tutorials and the github repository link.

EMIT FOR THE FUTURE

Are you a student or a Teacher who aim to investigate climate change? Follow our tutorial to find environmentally harmful emissions using systems from the International Space Station

READ TUTORIAL

START MISSION

ON NASA EMIT WEBSITE

EMIT FOR DATA SCIENTISTS

Do you want to use EMIT data for your research? Follow our tutorials & Video and download our Google Colab Notebook to extract data.

Github Download

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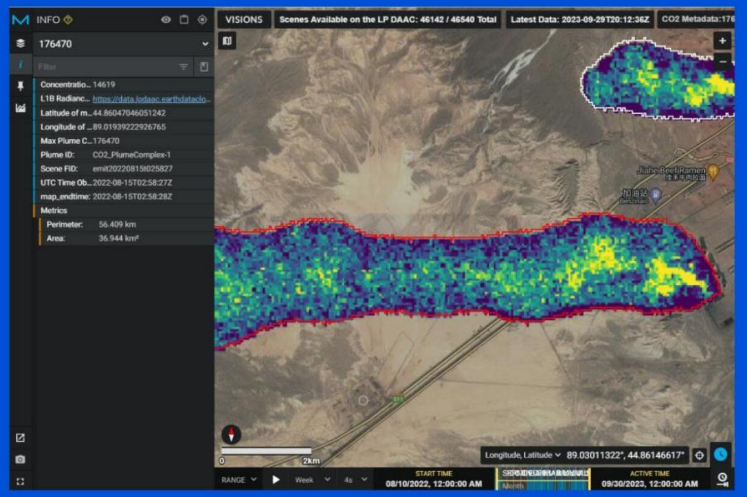
How does it work for middle and elementary school students?

Through a guided tutorial in PDF and a link, they are guided to find greenhouse gases and their location. Even in their region, if there is EMIT system acquisition on the space station.

7) Click on the “cloud” and then click on info, you will see the emission details: position, concentration and its size.
For example, this one is as big as **5000 football fields!**



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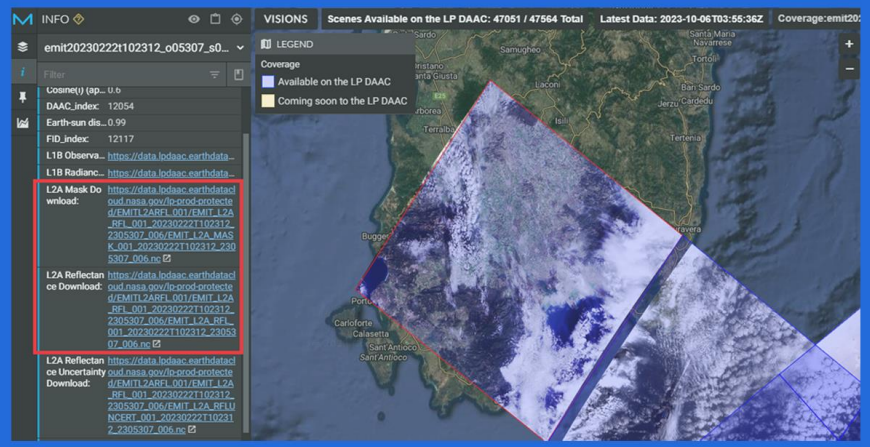
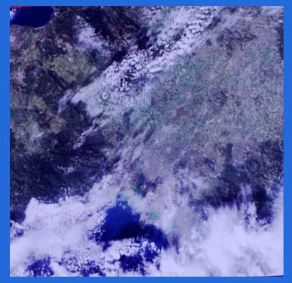
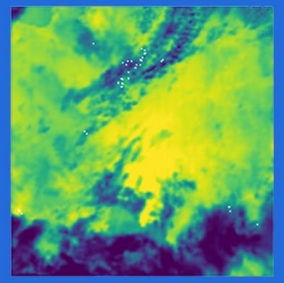
How does it work for high school students or researchers?

CAGLIARI AREA DATA FROM EMIT
Open Source Colab Notebook results

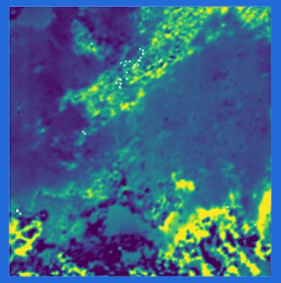




RGB

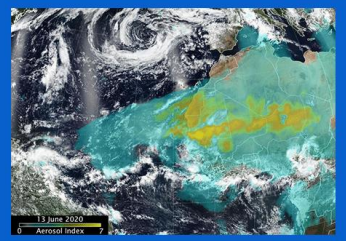


H20 gr*cm2



AOD550

NASA Emit Official
Image results



Through a guided tutorial in PDF a video and a google notebook, who contain Open CV AI machine vision algorithm to extract data.

```
Total Area: 5625000000 square meters
Area for 19.31987847222222%: 1086743164.0625 square meters
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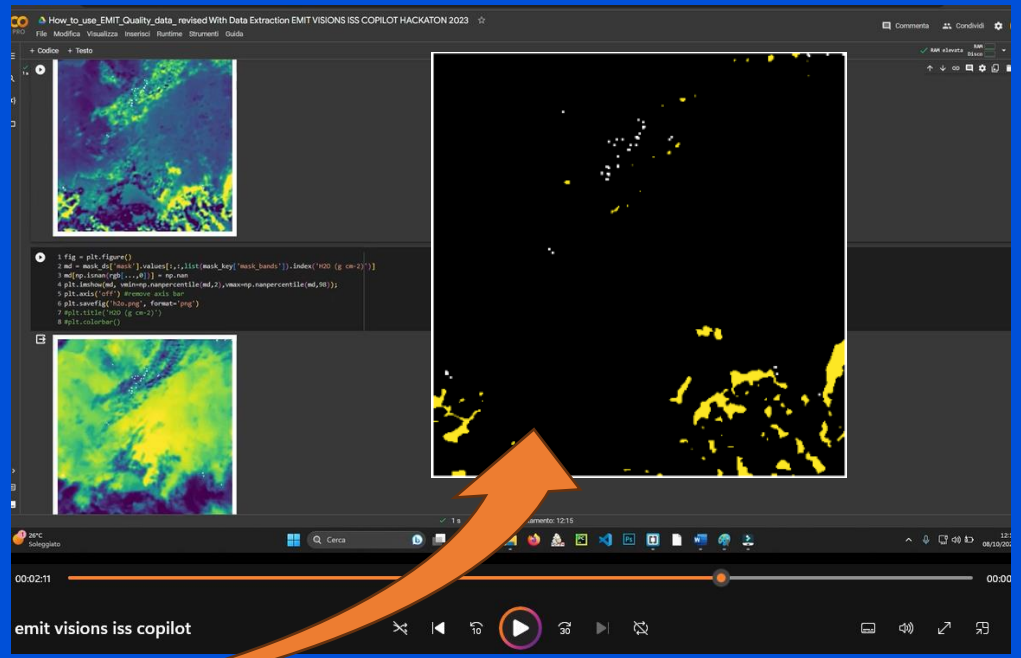

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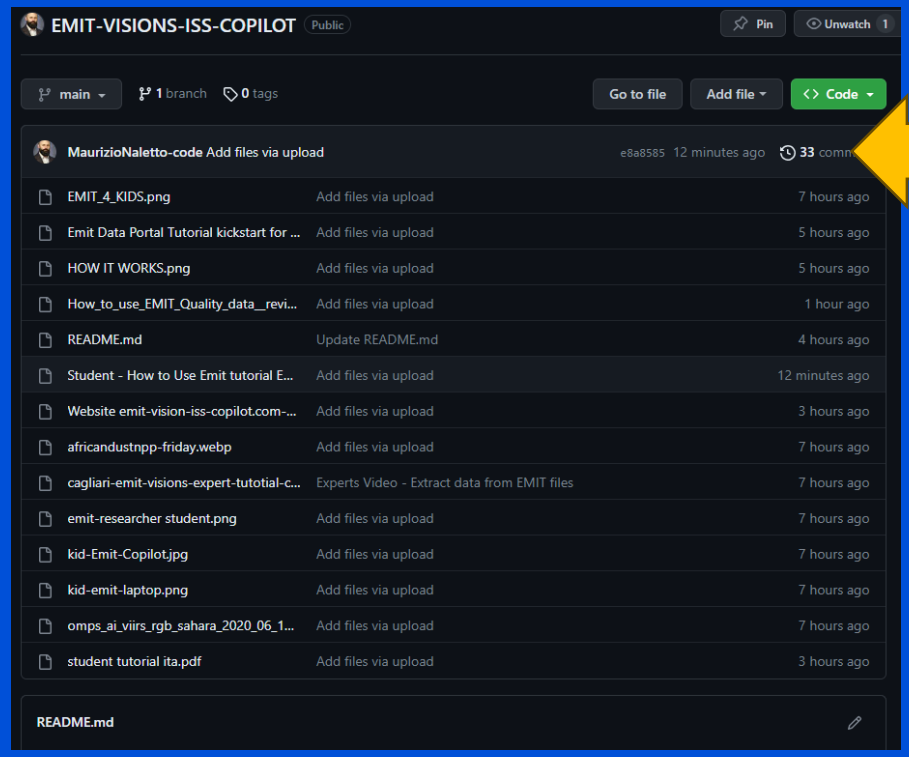
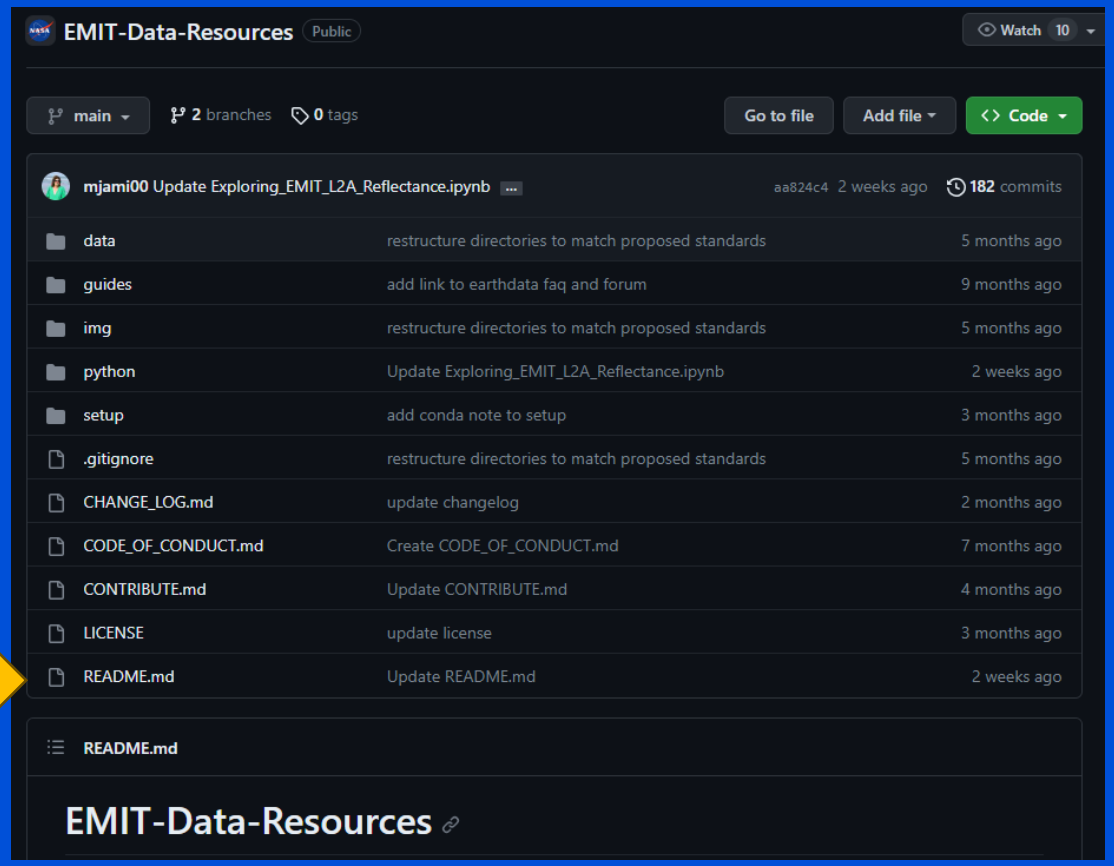
Our system is an adaptation of official NASA systems, you can download it from github and modify it for your own uses. It includes all the tutorials, videos, images & also our website.





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Thank you!

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