

**EO DATA SCIENCE**

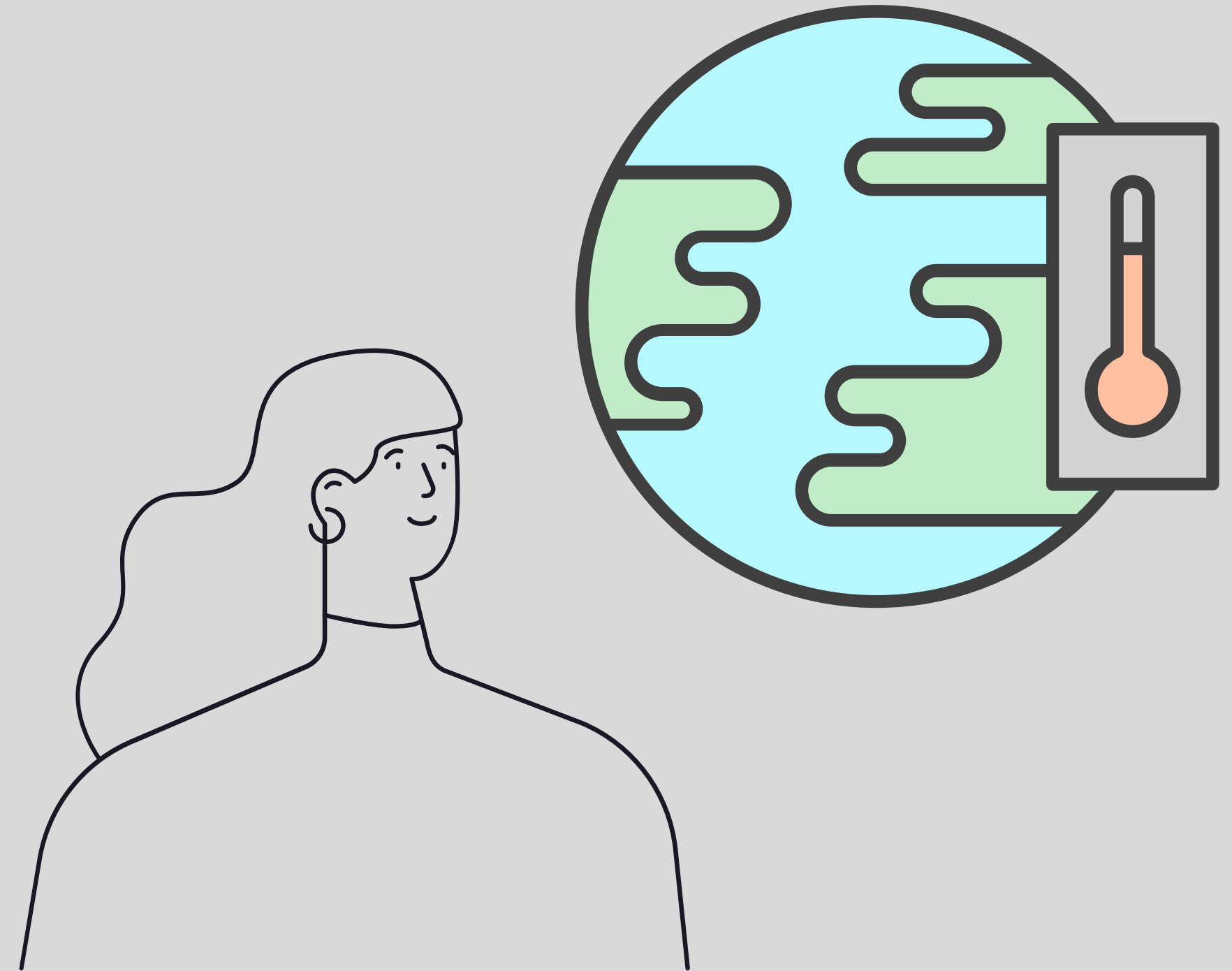
**THROUGH**

**GOOGLE EARTH ENGINE**

**Juan Torres-Batló**

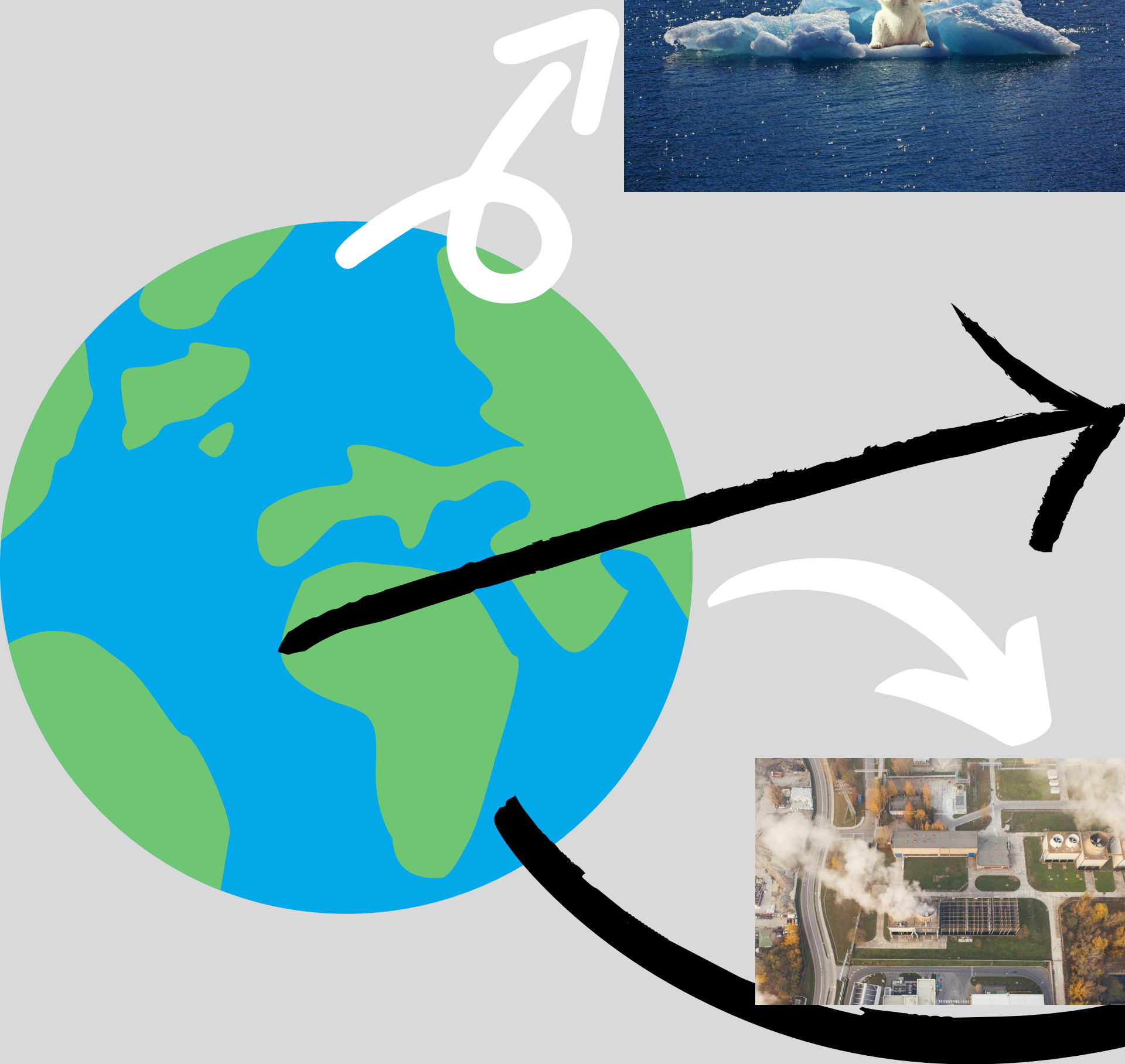


**Is there any need  
of using Earth  
Observation (EO)  
data to tackle  
environmental  
issues?**



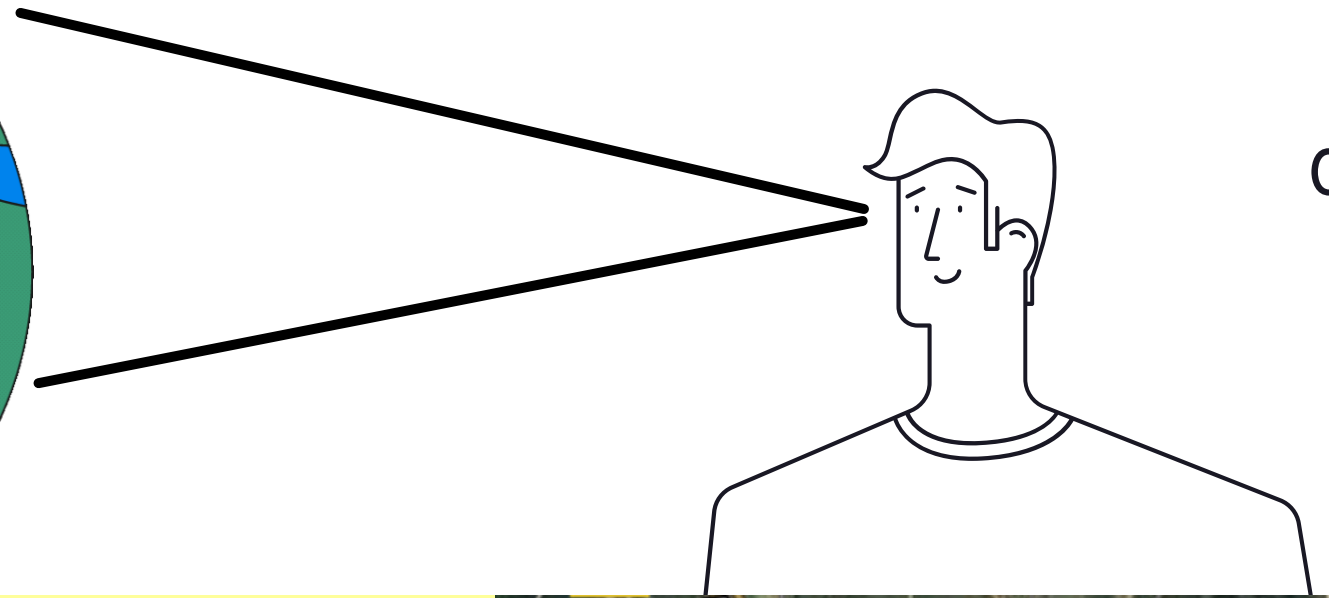
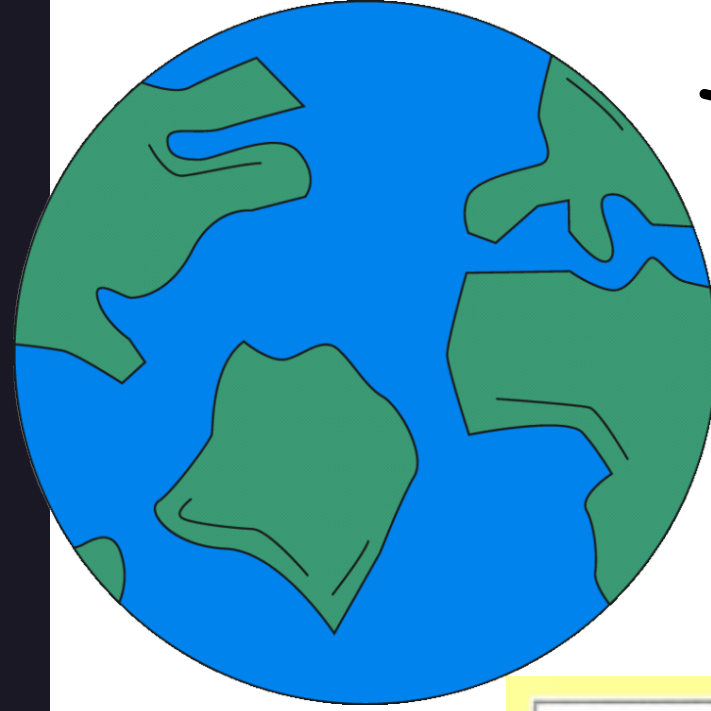


03

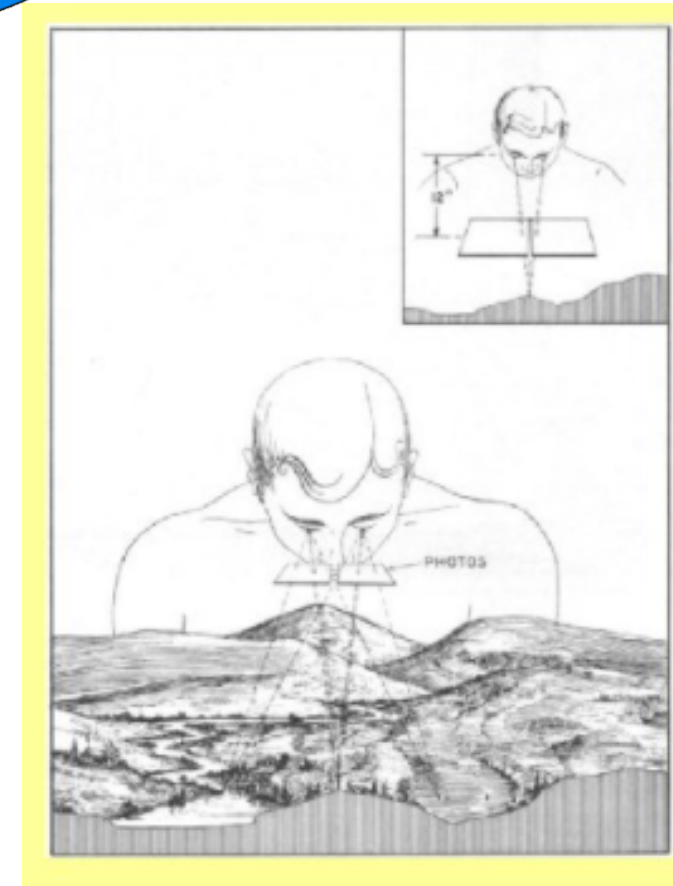




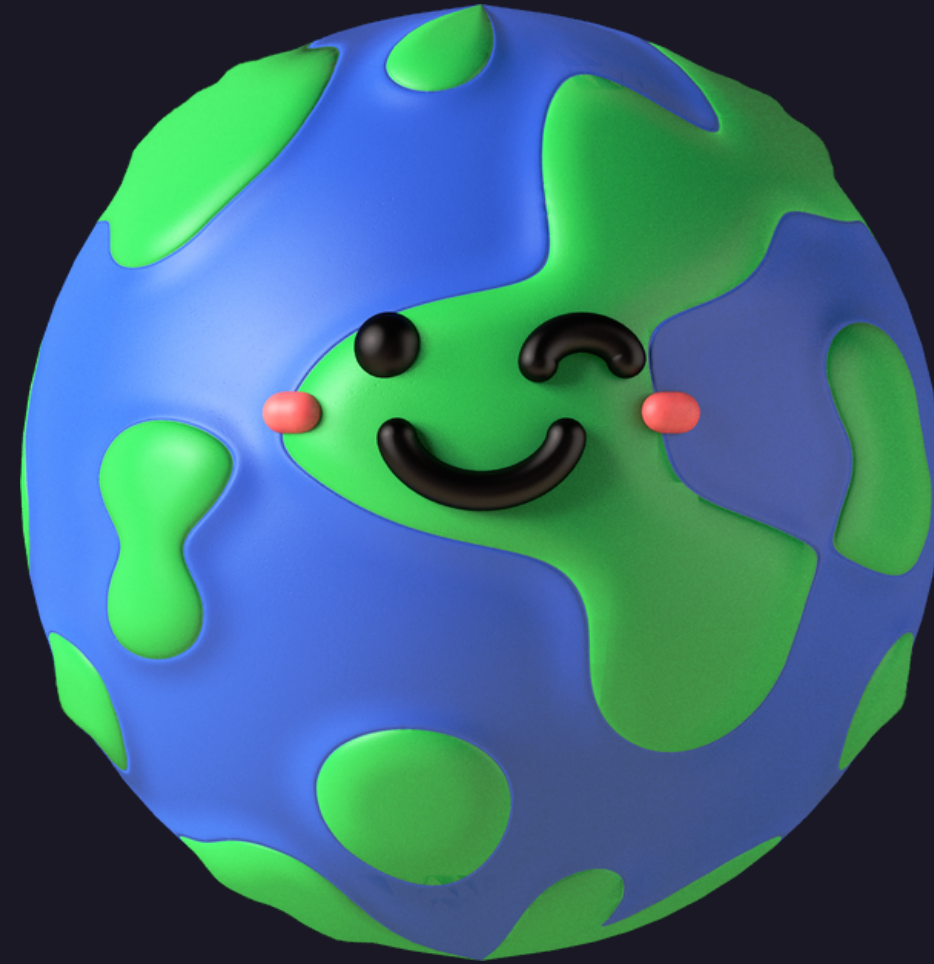
# WHY?



04





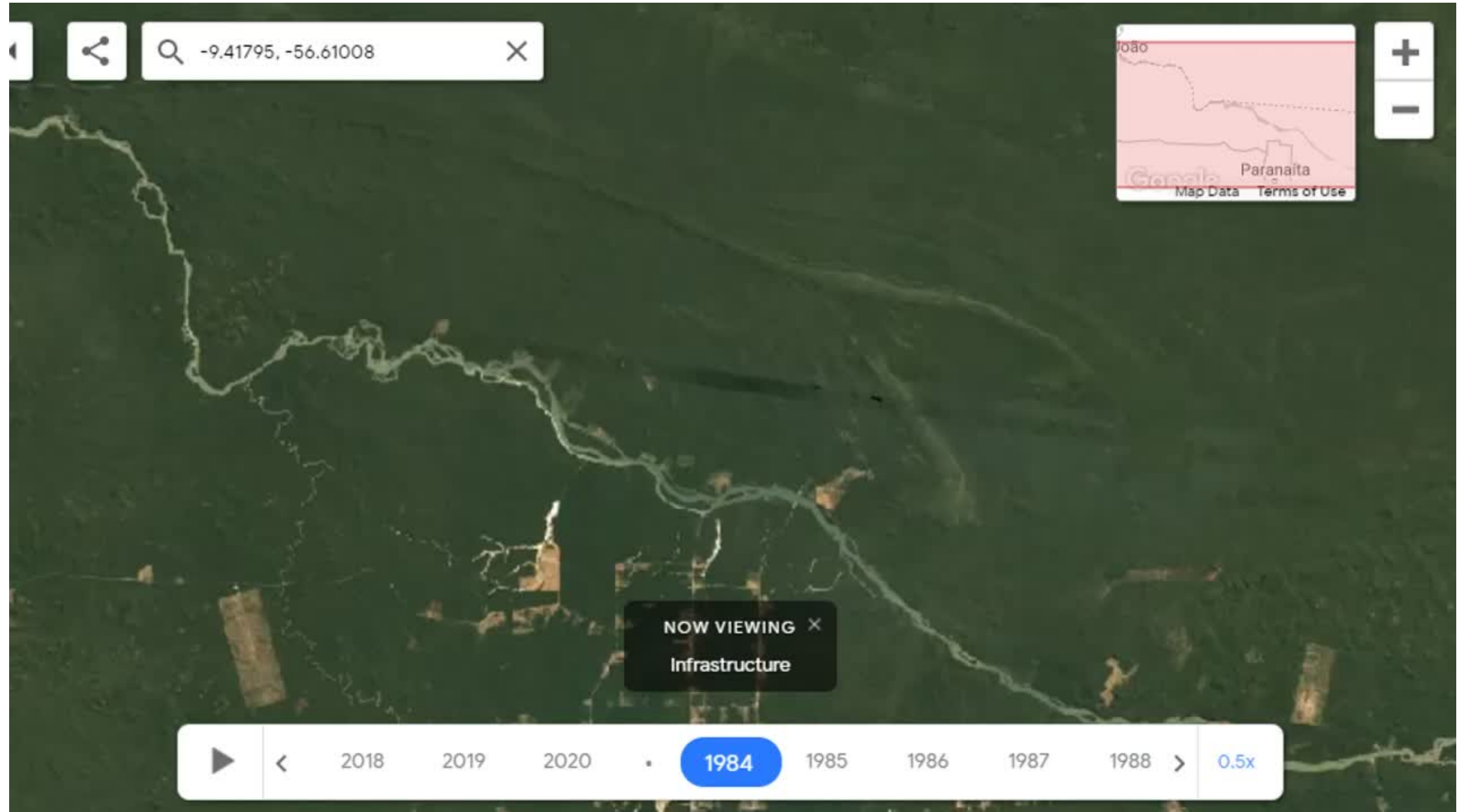


# **ADVANTAGES** OF USING EO DATA TO MONITOR THE EARTH



# EO DATA ALLOW US TO:

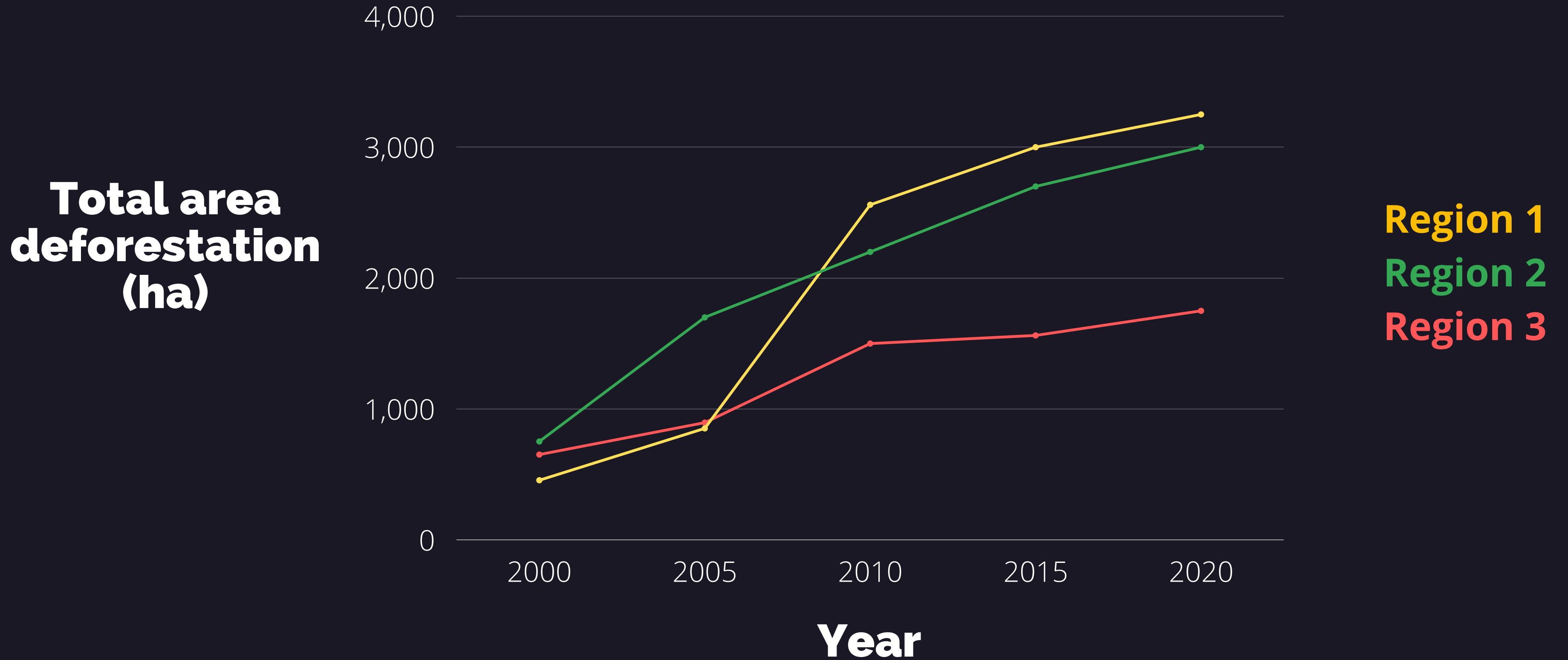
## 1. IDENTIFY SPATIAL CHANGES





# 2. QUANTIFY THOSE CHANGES

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# HOW?

With platforms such as Google Earth Engine.



[HTTPS://EARTHENGINE.GOOGLE.COM/](https://earthengine.google.com/)

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# LET'S HAVE A LOOK...

Earth Engine Apps Experimental

Search places



Map Satellite

## Global Forest Change

Results from analysis of Landsat images characterizing forest extent and change.

**For more information**

Science paper by Hansen, Potapov, Mo...  
Hancher et al.

**LINK TO THE APP:** [HTTPS://GOOGLE.EARTHENGINE.APP/VIEW/FOREST-CHANGE](https://google.earthengine.app/view/forest-change)



We care about making a positive impact in the world. We use software and data to tackle issues such as sustainable development, biodiversity and conservation, preservation of Indigenous rights and interests, climate change and disaster risk reduction.

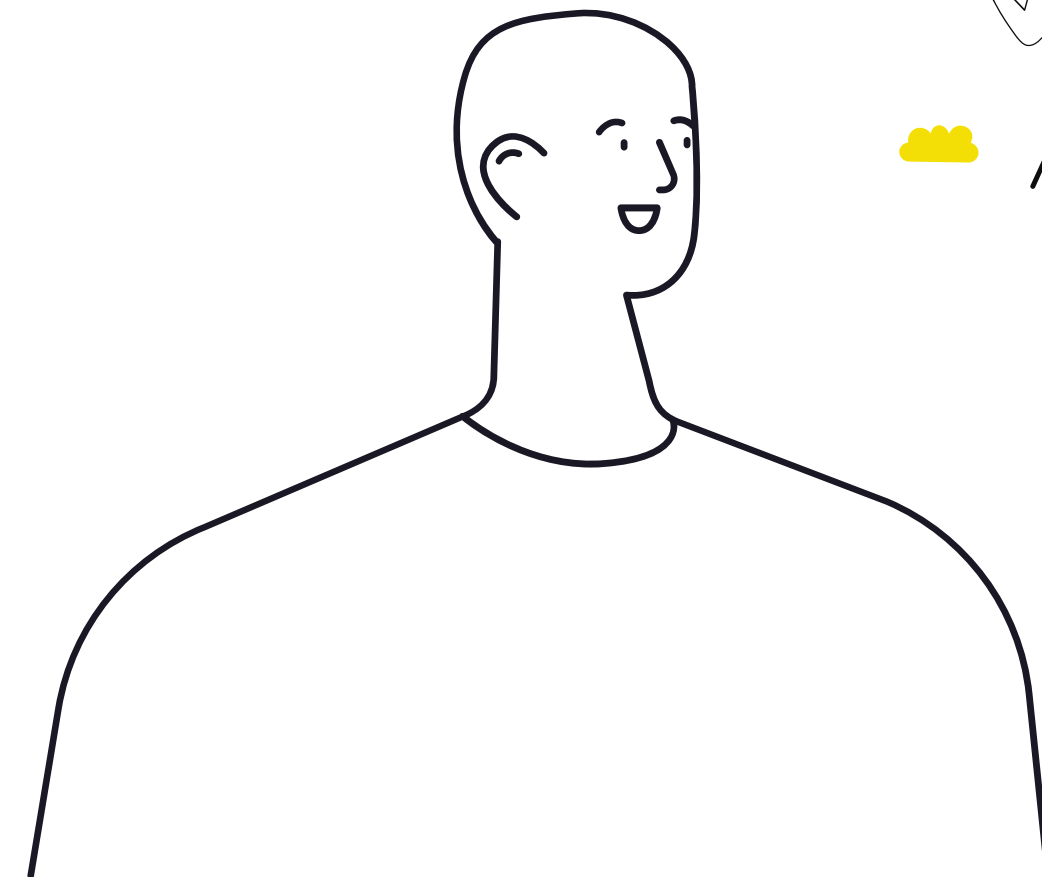


# WHY

**EO**  
Data Science



# ?



# GEO-GEE PROGRAM

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## TACKLING DEFORESTATION IN COSTA RICA

Home / Our Work / Land degradation / [Tackling deforestation in Costa Rica](#)

## HABITAT CONSERVATION AND MONITORING

Home / Our Work / Biodiversity & climate change / [Habitat conservation and monitoring](#)

18 MAY, 2021

## GEO-GEE PROJECT: ALGAE BLOOM MONITORING APPLICATION

Home / EO Data Science Blog / [GEO-GEE project: Algae Bloom Monitoring Application](#)

EO Data Science partnered with Google Earth Engine and the Group on Earth Observations to launch the GEO-GEE Program in July 2020. Across 22 countries, 32 projects were selected for the program which offers \$3 million USD towards product licenses and \$1 million USD in technical support from EO Data Science.

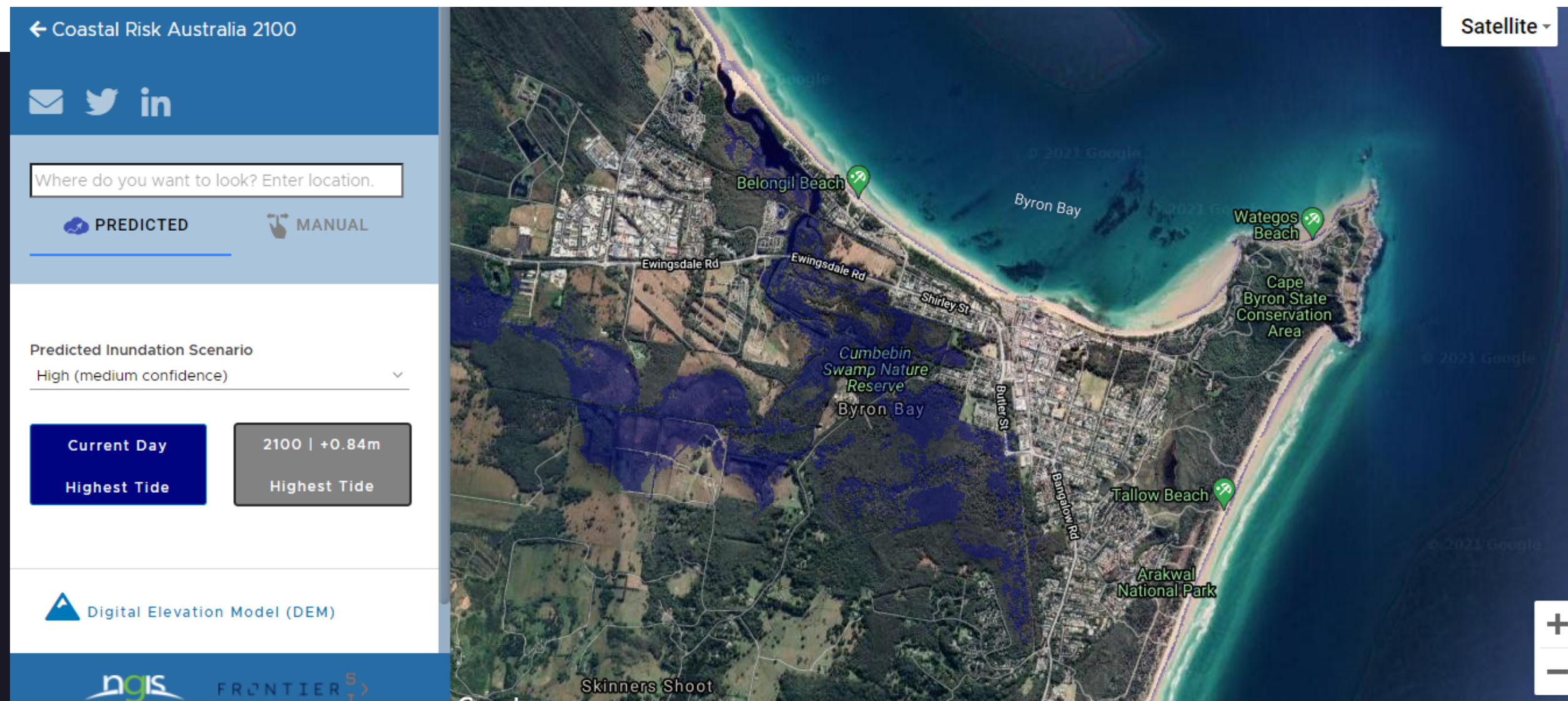
**LINK TO THE PROGRAM:** [HTTPS://EARTHOBSERVATIONS.ORG/ARTICLE.PHP?ID=447](https://earthobservations.org/article.php?id=447)



# COASTAL RISK MODEL

NGIS and EO Data Science used Google Earth Engine to process the petabytes of data required to show where inundation is likely in year 2100 due to sea level rise and storm surge. When released, the tool attracted attention nationally with more than 1.5 million views in one day.

LINK : [HTTPS://WWW.COASTALRISK.COM.AU/HOME](https://www.coastalrisk.com.au/home)





# NDPE DASHBOARD

The dashboard displays the following information:

- Commodity:** Palm Oil
- Origin:** Indonesia
- Conversion:** Deforestation on Forest
- Summary:** Indonesia
- Map:** Satellite view of Indonesia with red areas indicating deforestation hotspots.

**Deforestation on Forest (ha.) Data:**

Year	Deforestation on Forest (ha.)
2016	14,500,000
2017	8,500,000
2018	8,500,000
2019	8,500,000
2020	5,500,000



The background of the slide is a photograph of a landscape during sunset or sunrise. The sky is filled with soft, horizontal bands of color, ranging from pale blue at the top to deep orange and yellow near the horizon. A dark silhouette of a tree is visible on the right side of the image. On the far right edge, there is a solid green vertical bar. The quote is centered in the upper half of the image in a large, white, sans-serif font. The author's name is centered below the quote in a smaller, white, sans-serif font.

**“The earth is what we all have  
in common.”**

Wendell Berry