

THANK YOU



UNITED NATIONS
Office for Outer Space Affairs
www.unoosa.org • @UNOOSA

EO for SDGs in the Atlantic Region

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United Nations Office for Outer Space Affairs
<http://unoosa.org>
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Office for Outer Space Affairs



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Office for Outer Space Affairs





What does the Office do?

- Helps Member States to Discuss on Space Matters
- Bridge the “Space Divide”
- United Nations Gateway for Space



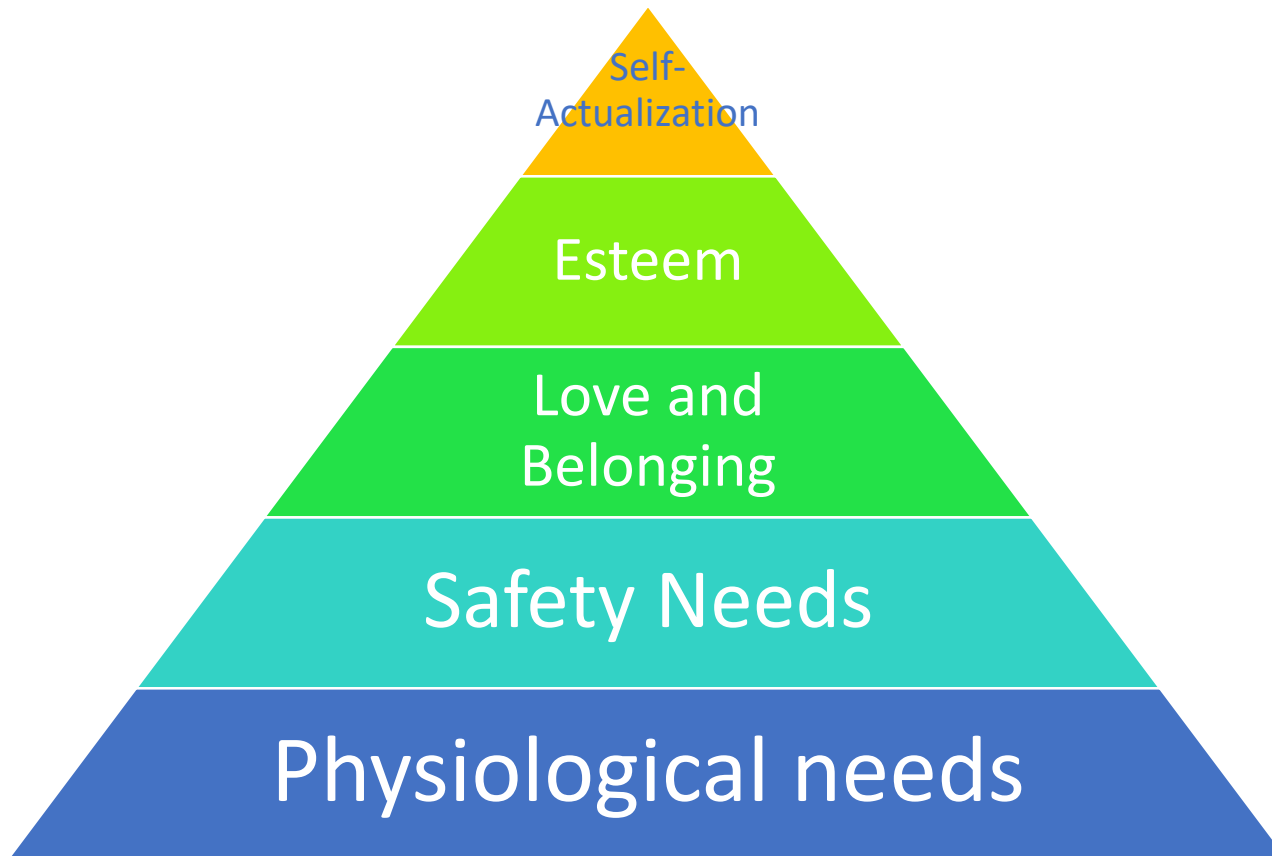
Bringing the benefits of space to humankind



What are the needs?



What do I want as a citizen?



Maslow's pyramid



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SUSTAINABLE DEVELOPMENT GOALS



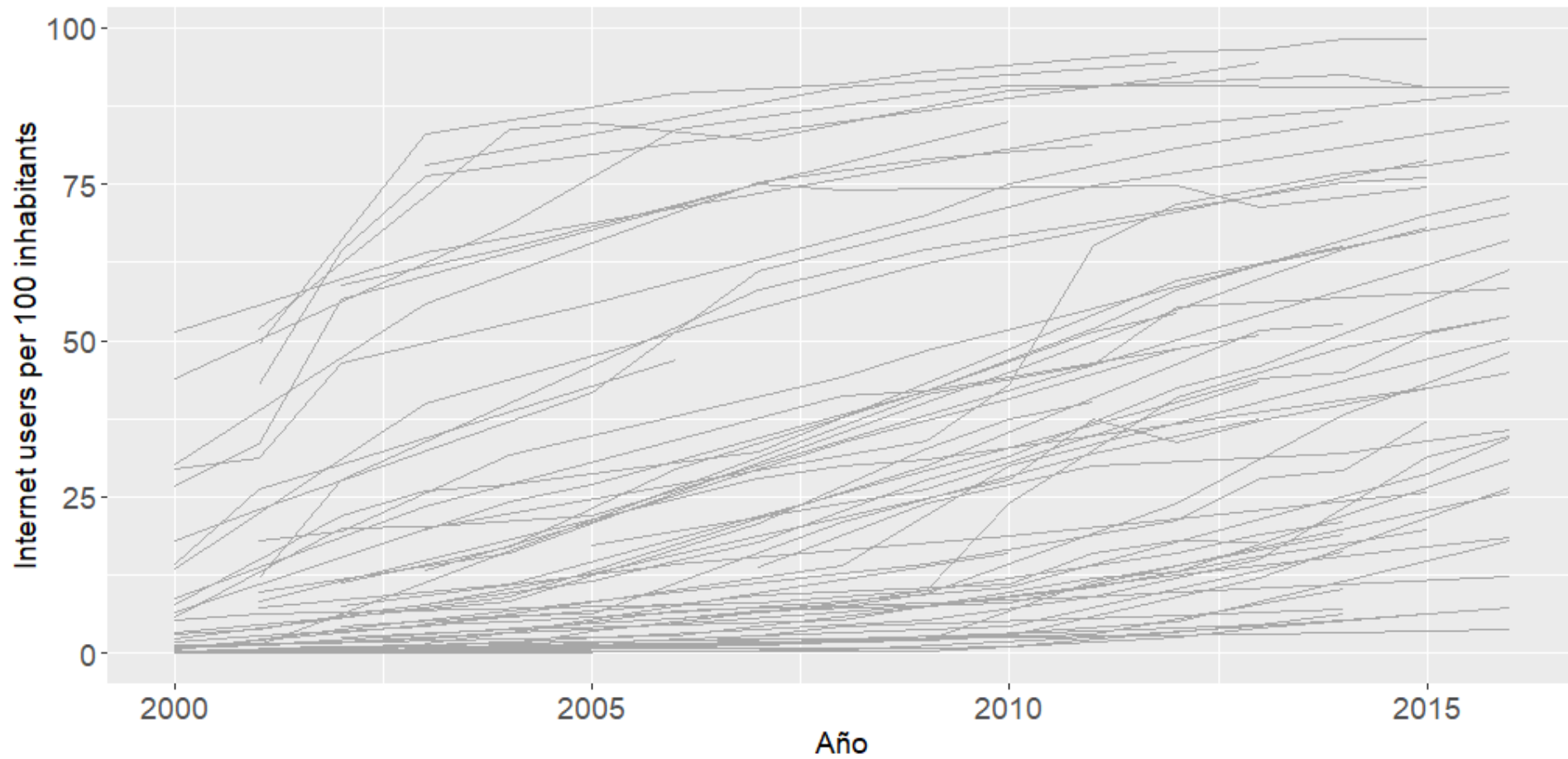


Indicador
1.4.1 Proportion of population living in households with access to basic services
6.5.2 Proportion of transboundary basin area with an operational arrangement for water cooperation
6.6.1 Change in the extent of water-related ecosystems over time
9.1.1 Proportion of the rural population who live within 2 km of an all-season road
11.3.1 Ratio of land consumption rate to population growth rate
11.6.2 Annual mean levels of fine particulate matter (e.g. PM2.5 and PM10) in cities (population weighted)
11.7.1 Average share of the built-up area of cities that is open space for public use for all, by sex, age and persons with disabilities
11.a.1 Proportion of population living in cities that implement urban and regional development plans integrating population projections and resource needs, by size of city
13.2.1 Number of countries that have communicated the establishment or operationalization of an integrated policy/strategy/plan which increases their ability to adapt to the adverse impacts of climate change, and foster climate resilience and low greenhouse gas emissions development in a manner that does not threaten food production (including a national adaptation plan, nationally determined contribution, national communication, biennial update report or other)
14.1.1 Index of coastal eutrophication and floating plastic debris density
14.2.1 Proportion of national exclusive economic zones managed using ecosystem-based approaches
14.5.1 Coverage of protected areas in relation to marine areas
15.3.1 Proportion of land that is degraded over total land area
15.4.1 Coverage by protected areas of important sites for mountain biodiversity
15.4.2 Mountain Green Cover Index



Evolution of indicator 17.8.1

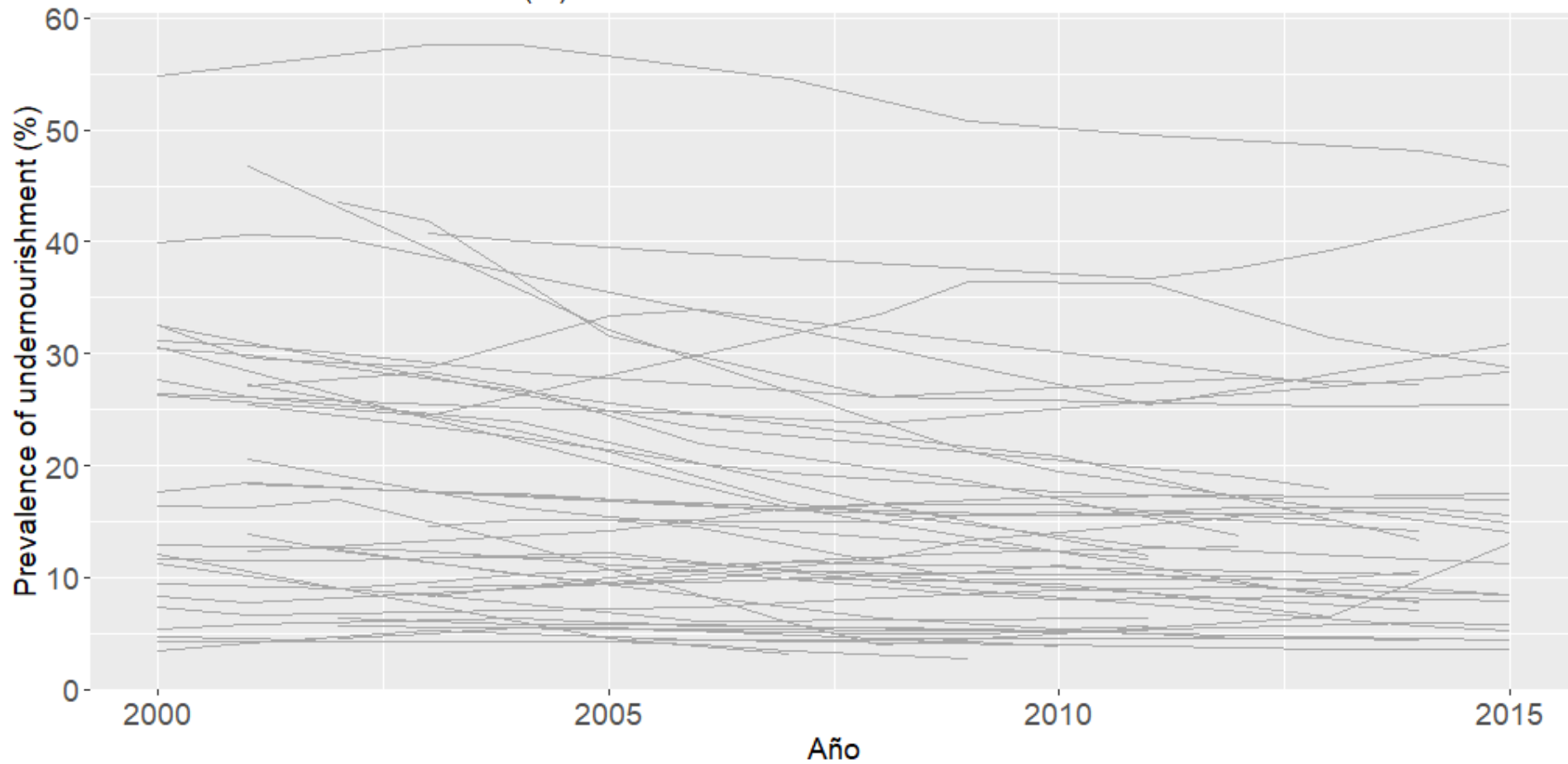
Internet users per 100 inhabitants





Evolution of indicator 2.1.1

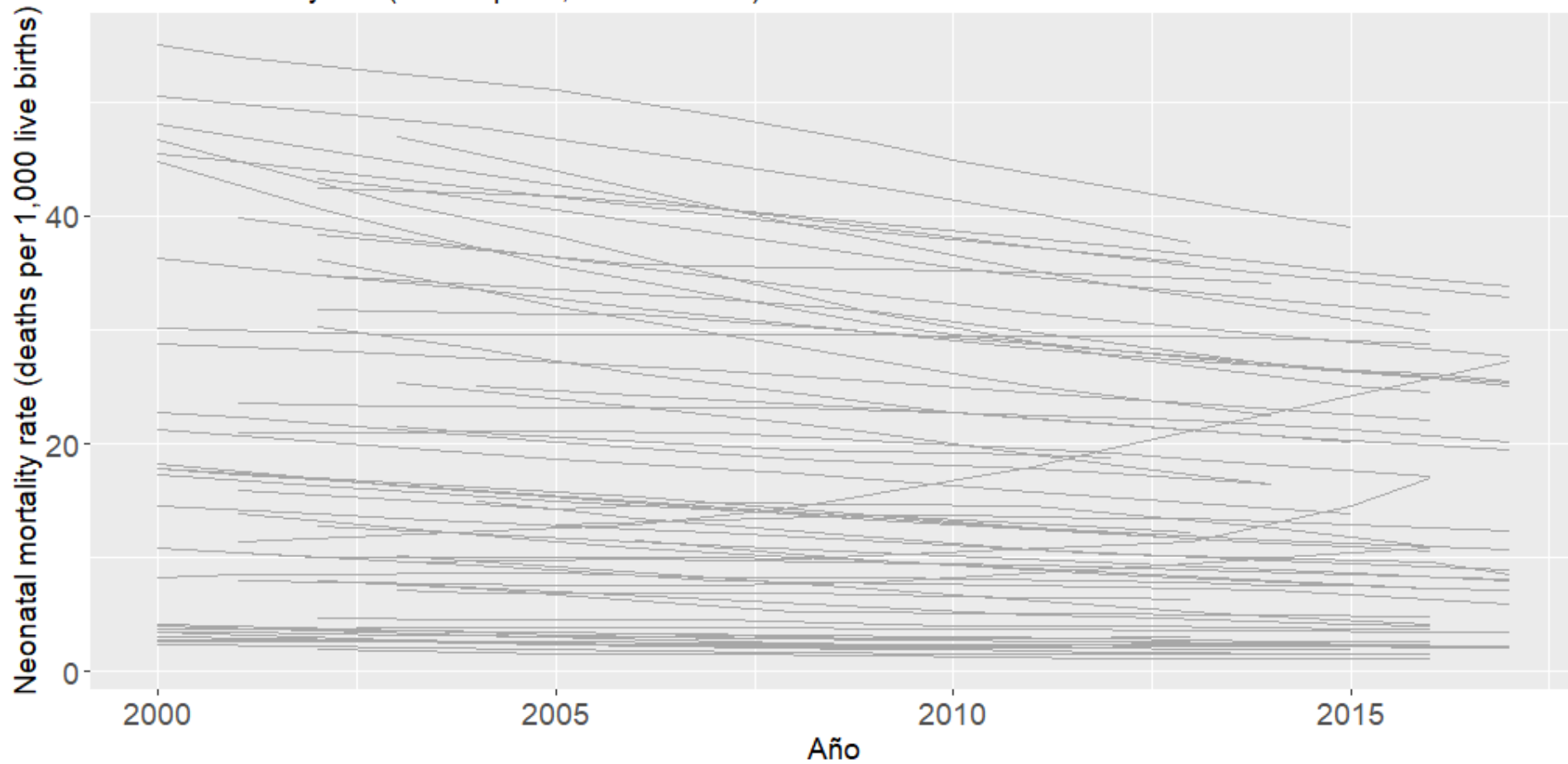
Prevalence of undernourishment (%)





Evolution of indicator 3.2.2

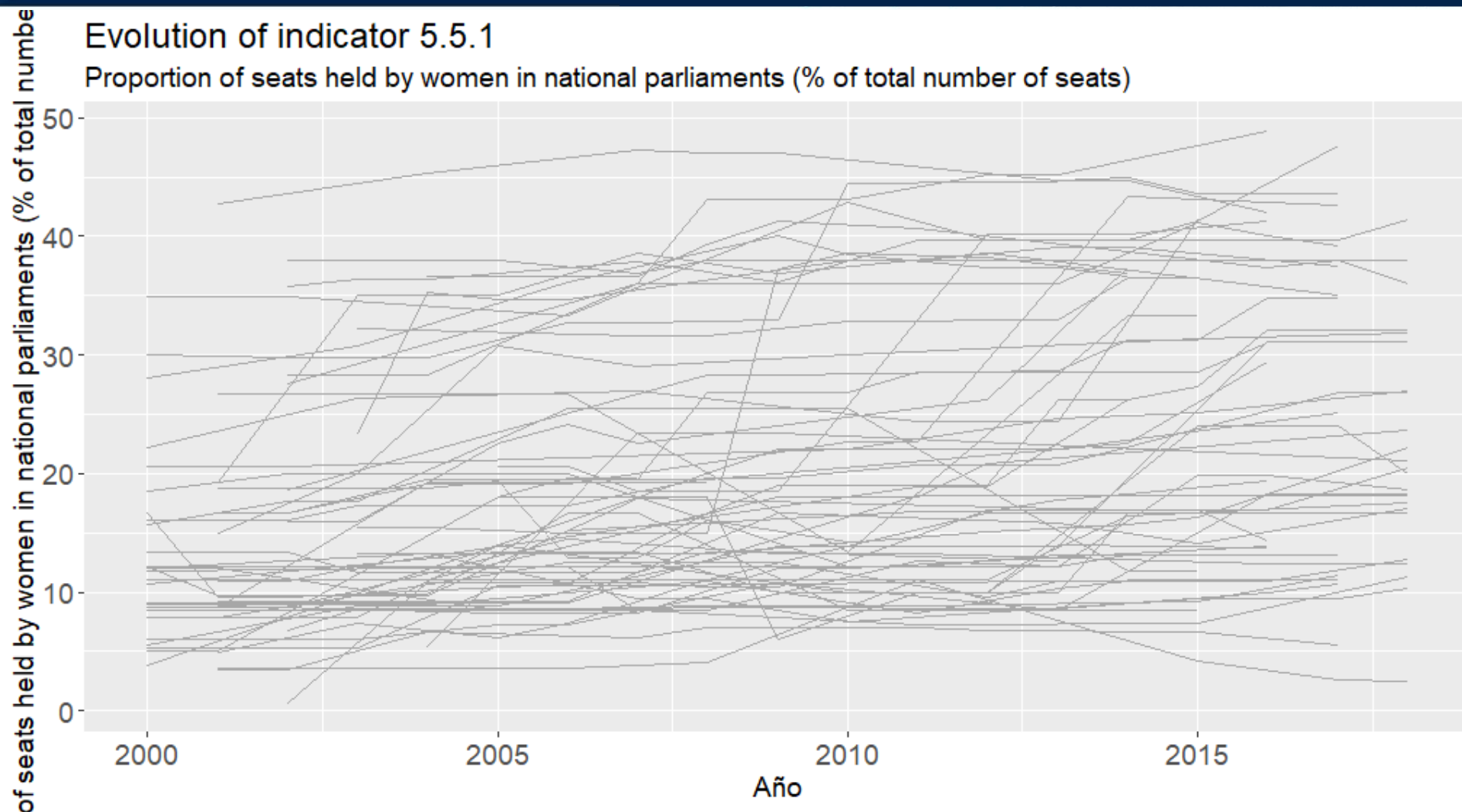
Neonatal mortality rate (deaths per 1,000 live births)





Evolution of indicator 5.5.1

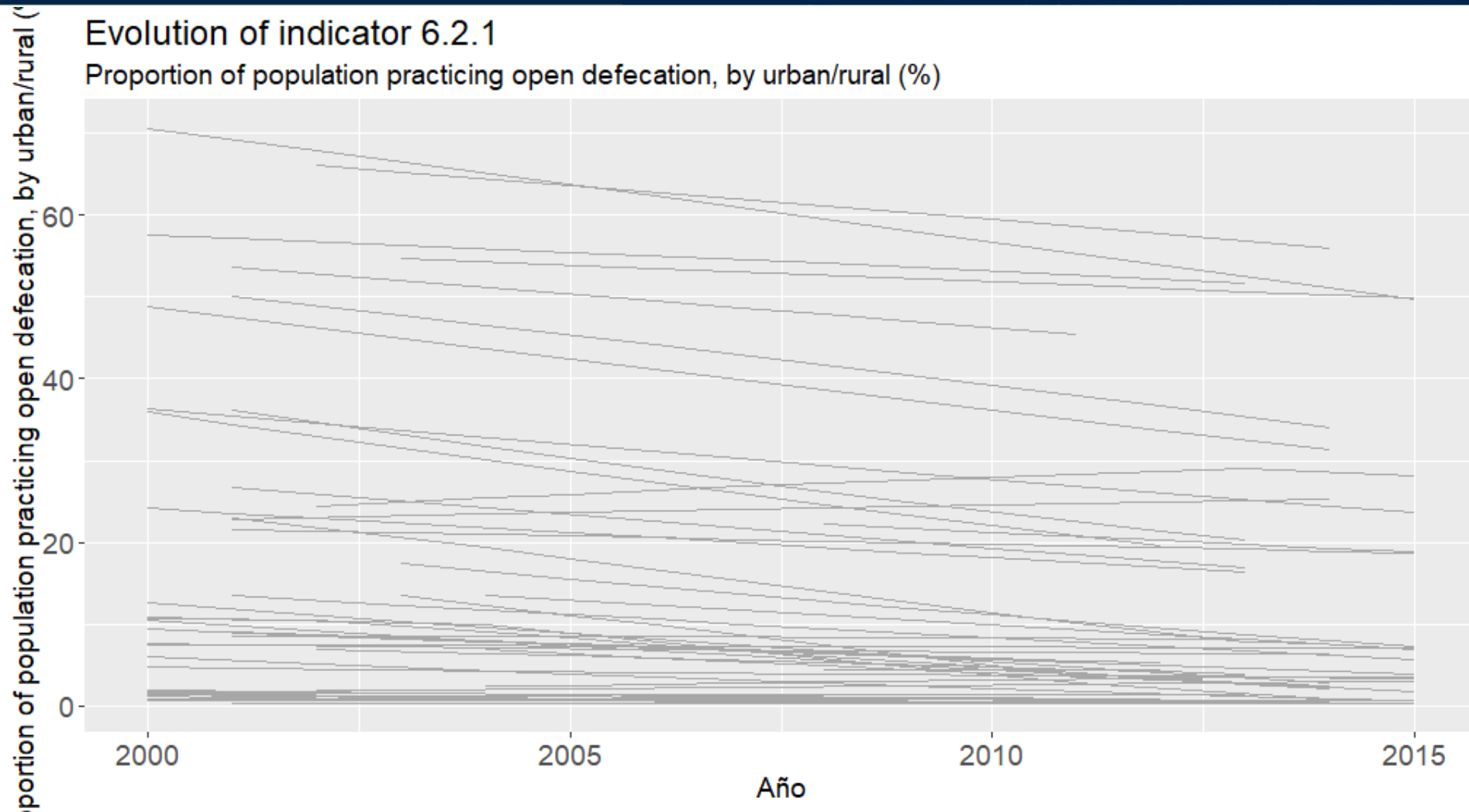
Proportion of seats held by women in national parliaments (% of total number of seats)





Evolution of indicator 6.2.1

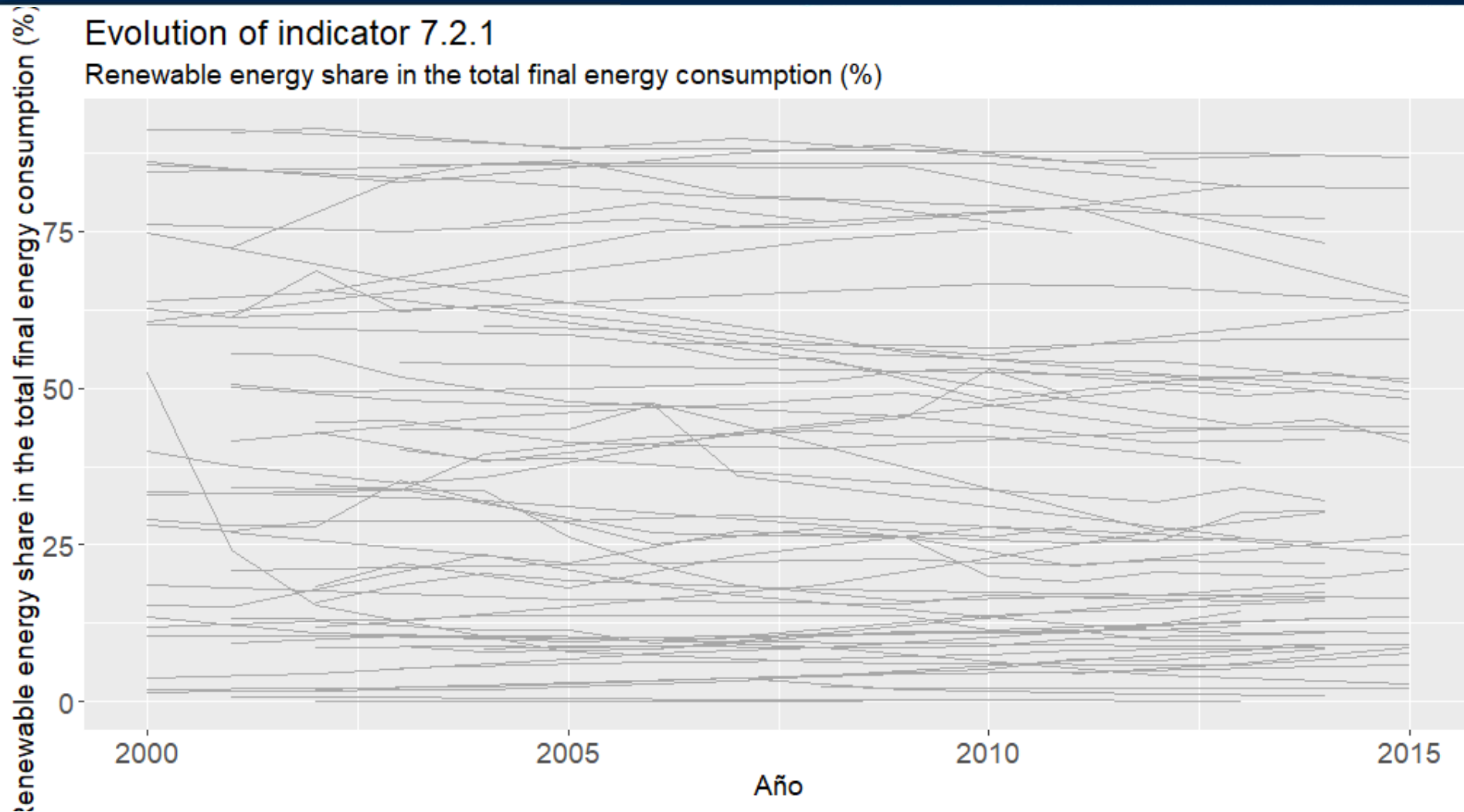
Proportion of population practicing open defecation, by urban/rural (%)





Evolution of indicator 7.2.1

Renewable energy share in the total final energy consumption (%)





“Technology made large populations possible; large populations now make technology indispensable”

Joseph Krutch
(Writer)



Space and the SDGs

- Nearly 40 % of targets can benefit from space technologies, data, services and applications
- Modern societies are not possible without space technologies, data, services and applications





Can EO be used?



Space and the SDGs



Global Goals
for Sustainable
Development



EGNSS



Copernicus



Synergies



Examples of applications

Natural disaster forecast
Crop productivity optimisation

PRECISION AGRICULTURE

- Monitor humidity
- Monitor plant growth
- Reduce amount of fertilizer and water

DISASTER MANAGEMENT AND EMERGENCY

- Satellite communications
- GNSS track areas surveyed
- Damage assessment
- Risk assessment





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Space and the SDGs



Global Goals
for Sustainable
Development



EGNSS



Copernicus



Synergies



Examples of applications

Natural disaster forecast
Crop productivity optimisation

UN-SPIDER

- Technical Advisory Missions
- Best Practices
- Trainings

<http://www.un-spider.org/>

INT. CHARTER SPACE AND MAJOR DISASTERS

- Provision of data
- Emergency Monitoring and Response

Explore the Knowledge Portal

How the Charter Works

How to become a user



Space and the SDGs



Targets

4.a

EGNSS

Copernicus

Synergies

Level of contribution in monitoring/achieving part of a target/indicator



Limited contribution



Significant contribution



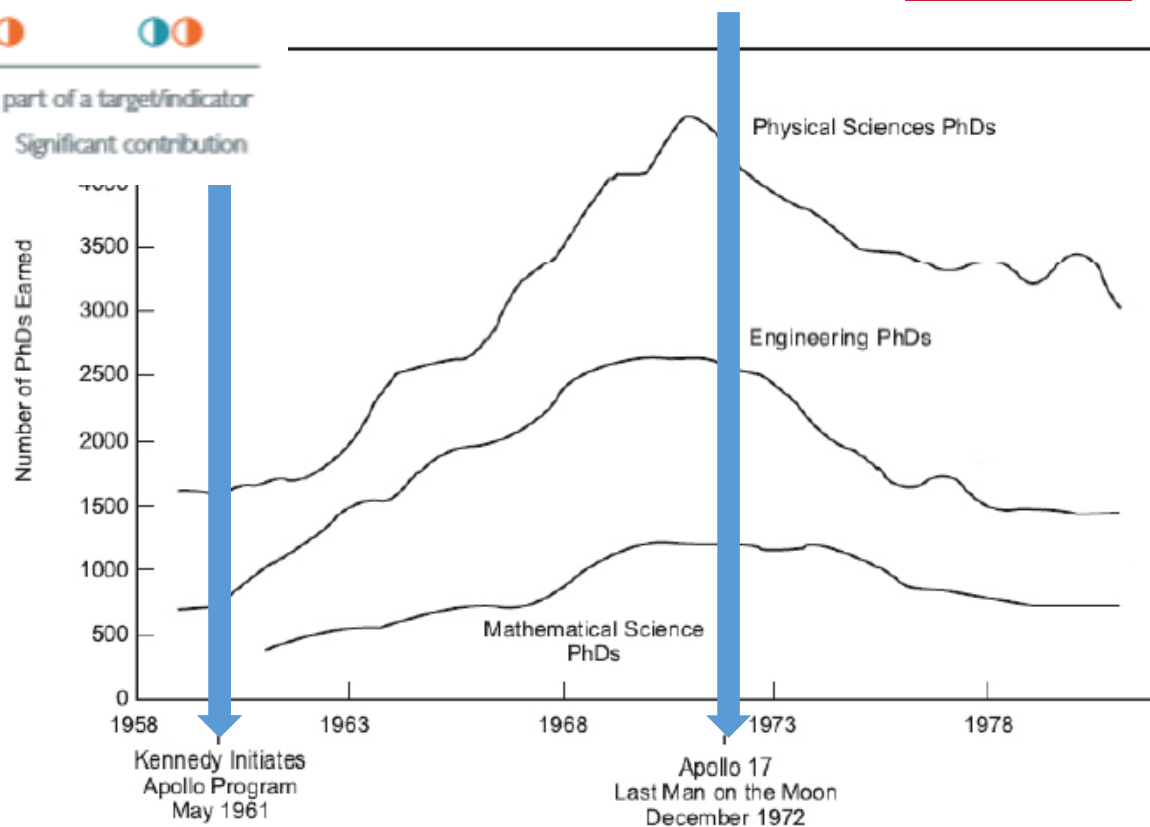
4 QUALITY EDUCATION



SPACE FOR WOMEN

- Role Model and Mentorship

<http://www.un-spider.org/>





Space and the SDGs



Targets	EGNSS	Copernicus	Synergies
4.a			

Level of contribution in monitoring/achieving part of a target/indicator

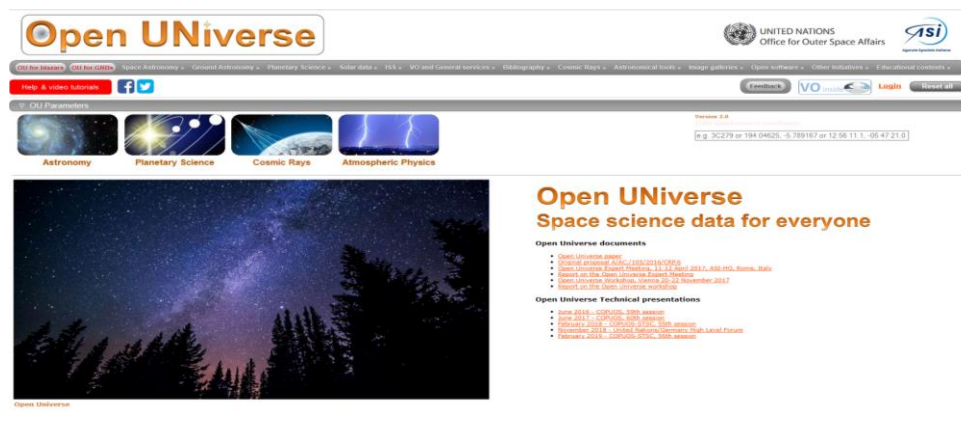
Limited contribution Significant contribution



OPEN UNIVERSE

- Broadening space Science user base
- Resurfacing data
- Transparency

<http://www.un-spider.org/>



SPACE FOR YOUTH

<http://www.unoosa.org/oosa/en/ourwork/topics/space4youth/index.html>

REGIONAL CENTRES













- Fellowships for students from developing countries

<http://www.unoosa.org/oosa/en/ourwork/space4sdgs/sdg4.html>







Space and the SDGs



Targets	EGNSS	Copernicus	Synergies
12.2	 	 	 
12b	 	 	 

Level of contribution in monitoring/achieving part of a target/indicator

  Limited contribution   Significant contribution



QUICK FACTS

- 93 % of water in the international space station is reclaimed
- 40 % of oxygen is recycled although NASA is researching on technologies that can increase that to 75 %

<http://www.unoosa.org/oosa/en/ourwork/space4sdgs/sdg12.html>





Space and the SDGs



Targets	EGNSS	Copernicus	Synergies
9.1			
9.4			
9.c			

Level of contribution in monitoring/achieving part of a target/indicator
 Limited contribution Significant contribution



INTERNATIONAL COMMITTEE ON GNSS

- Compatibility
- Interoperability
- Applications of GNSS

<http://www.unoosa.org/oosa/en/ourwork/icg/icg.html>



International Committee on
Global Navigation Satellite Systems

CHINESE SPACE STATION

- Experiment in microgravity fluid physics and combustion. Three institutions from two countries, which are: the Sapienza University, In Quattro s.r.l. in Italy, and the Machakos University in Kenya.





SUSTAINABLE DEVELOPMENT GOALS



And we have not talked about Clean Water and Sanitation, Climate Change, Global Health...

And many others!

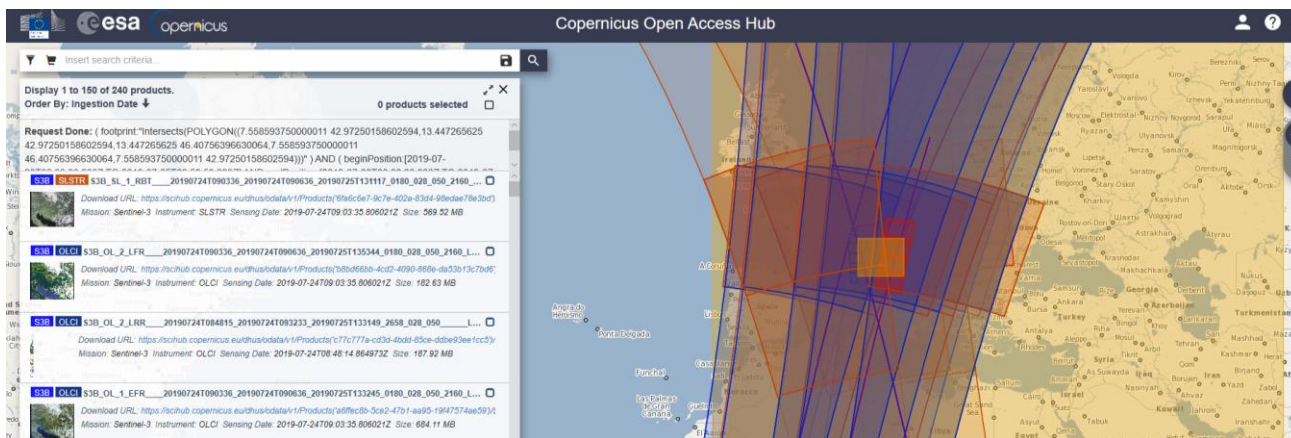


*Space is the internet of ~~tomorrow~~
today*



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if you have free data...



Copernicus Open Access Hub



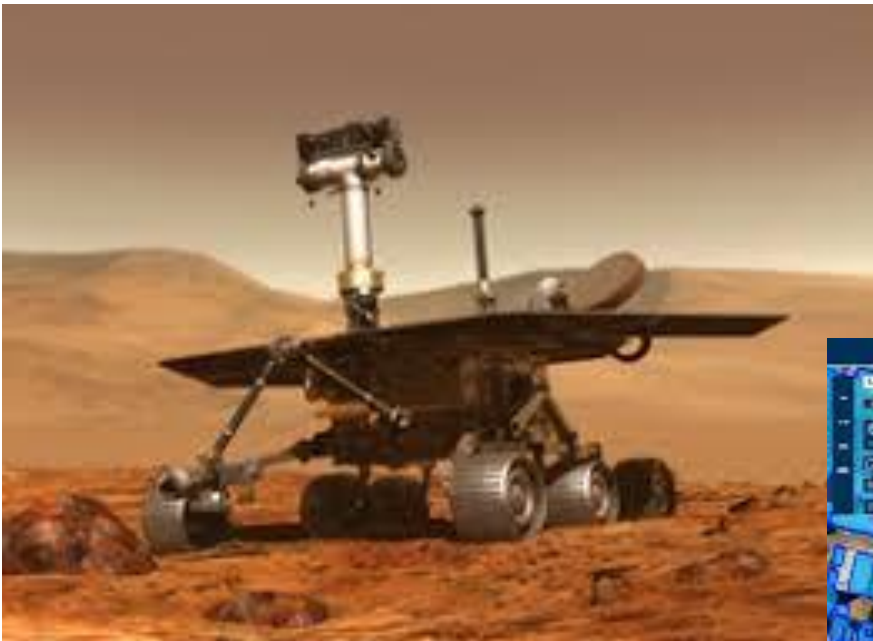
EarthExplorer - Home

Open UNiverse





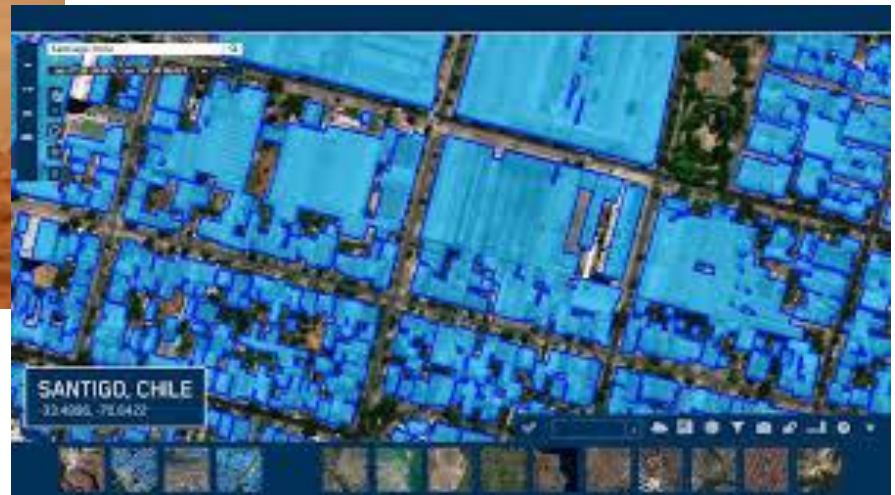
If you apply artificial intelligence...



Artist rendition of the Mars Rover exploring the surface of Mars
Credit: NASA

AEGIS

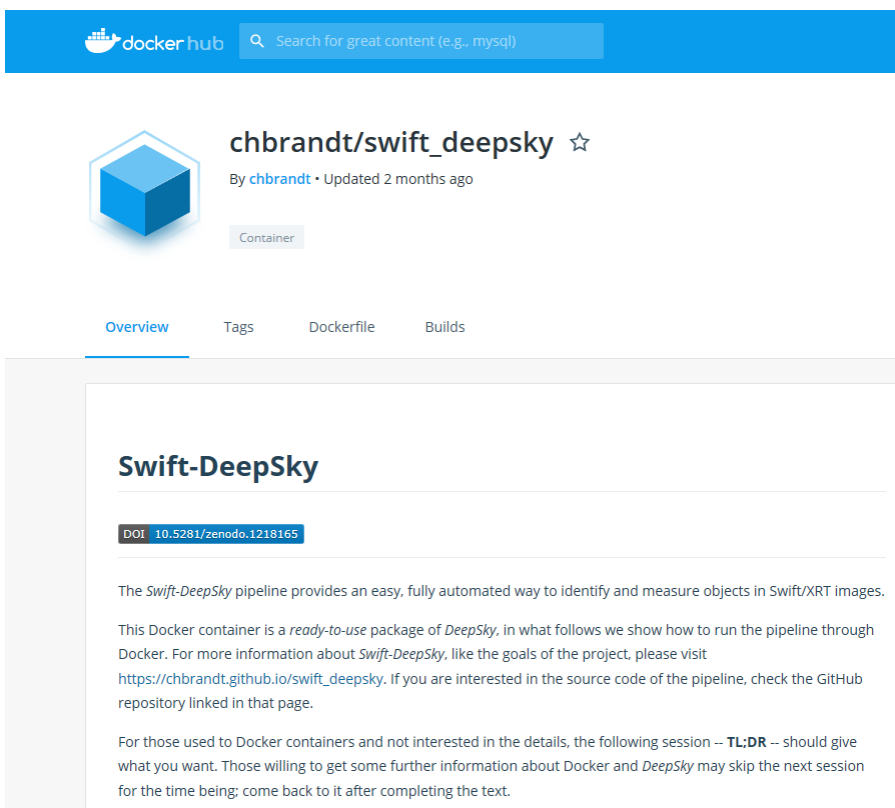
(Autonomous Exploration for Gathering Increased Science)



Building footprints in Santiago de Chile
Credit: MAXAR

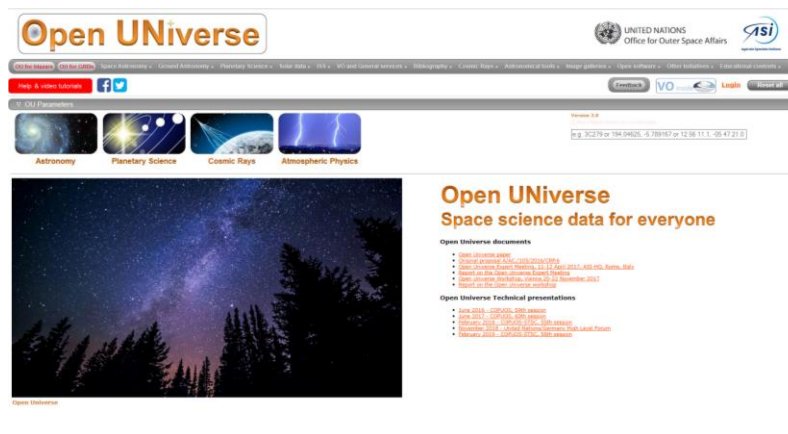


How to apply new tools...



The screenshot shows the Docker Hub page for the container `chbrandt/swift_deepsky`. The page header includes the Docker Hub logo and a search bar. The container is marked as a "Container" and was updated 2 months ago. The "Overview" tab is selected, showing the title "Swift-DeepSky" and a DOI of 10.5281/zenodo.1218165. The description states: "The *Swift-DeepSky* pipeline provides an easy, fully automated way to identify and measure objects in Swift/XRT images. This Docker container is a *ready-to-use* package of *DeepSky*, in what follows we show how to run the pipeline through Docker. For more information about *Swift-DeepSky*, like the goals of the project, please visit https://chbrandt.github.io/swift_deepsky. If you are interested in the source code of the pipeline, check the GitHub repository linked in that page." It also mentions that for those used to Docker containers and not interested in details, the following session -- **TL;DR** -- should give what you want, and those willing to get further information about Docker and *DeepSky* may skip the next session for the time being.

DOCKER CONTANERS FOR ASTRONOMY



The screenshot shows the Open Universe website, which is a platform for sharing and accessing space science data. The header includes the "Open UNiverse" logo and the United Nations Office for Outer Space Affairs logo. The main content area features a large image of the Milky Way galaxy and a list of "Open Universe documents" and "Open Universe Technical presentations". The website is designed to be user-friendly and accessible to everyone.



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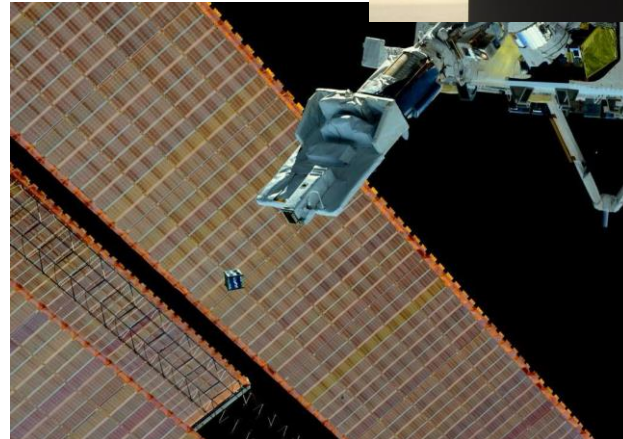
If you had the opportunity...

Access to Space for All

DropTES
(UNOOSA/ZARM)



KiboCUBE
(UNOOSA/JAXA)





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