



Welcome to the space exploration journey!

Previously the idea of landing on the moon had been the stuff of science fiction. But, in a short space of time, we had taken huge strides in technology which enabled the seemingly impossible to become reality. Neil Armstrong, climbing down the ladder of the lunar lander, and taking that very first step, said "It's one small step for man, one giant leap for mankind". The achievement changed our whole perspective of ourselves as a civilisation, a species. That moment, as he stepped away from that ladder, showed us that we can do anything we want, if we work together.

Why should we explore space? Thousands of discoveries have been made in space that we now use in our everyday lives. Space exploration allowed us to innovate in health care, energy and the environment, everyday technology, and many other areas. It helps us to collaborate and protect our planet, and it continues to inspire us to think outside the box. The achievements of space science have shown us that we can make the impossible possible.

Curiosity and exploration are vital to the human spirit, so we invite you to **#stepintospace** and join us on a journey of discovery through this exhibition. We want to share the story of space and your part in it.

Image Credits: NASA (1969) Astronaut Buzz Aldrin Descends Lunar Module Ladder

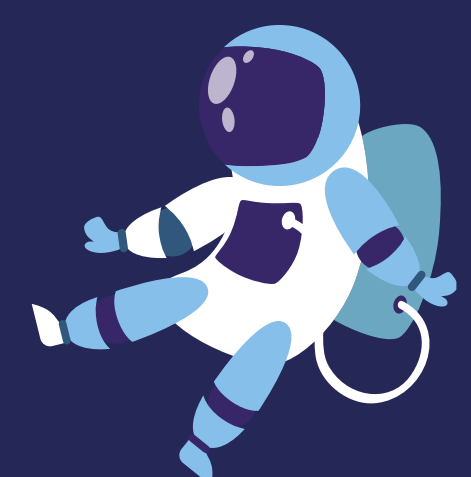
Dobrodošli na putovanje istraživanja svemira!

Nekada ranije je ideja slijetanja na mjesec bila u domeni naučne fantastike. Međutim, u veoma kratkom vremenskom periodu, postigli smo ogroman napredak u tehnologiji koja je omogućila da naizgled nemoguće postane stvarnost. Neil Armstrong, dok je silazio niz stepenice lunarnog modula, rekao je pri prvom koraku "Ovo je mali korak za čovjeka, ali je veliki korak za čovječanstvo". Ovo postignuće je promijenilo našu cjelokupnu perspektivu o nama samima kao civilizaciji, kao vrsti. Taj trenutak, kada se on odmakao od stepenica, pokazao nam je da možemo uraditi šta god želimo, ako radimo zajedno.

Zašto bismo istraživali svemir? U svemiru su se desila na hiljade otkrića koja mi danas koristimo u svakodnevnom životu. Istraživanje svemira nam je omogućilo da uvedeno inovacije u zdravstvenu zaštitu, sektore energije i okoliša, svakodnevne tehnologije, i brojne druge oblasti. Pomaže nam da sarađujemo i štitimo našu planetu i stalno nas inspirira da razmišljamo van zadatih okvira. Postignuća svemirske nauke pokazala su nam da nemoguće možemo pretvoriti u moguće.

Znatizelja i istraživanje nužni su ljudskom duhu, tako da te pozivamo u **#stepintospace** da nam se pridružiš na istraživačkom putovanju kroz ovu izložbu. Želimo podijeliti priču o svemiru, kao i tvoj udio u njoj.

Slike: NASA (1969) Astronaut Buzz Aldrin spušta stepenice lunarnog modula





O PROJEKTU SPACE EU



spaceEU is an exciting space outreach and education project which aims to spark the interest of young people in STEAM (Science, Technology, Engineering, Arts and Maths), and to encourage them to consider space-related careers. The project inspires and broadens young minds, develops a sense of European and global citizenship, and through our shared human relationship with space, aims to foster long-term partnerships between people from different countries and cultural backgrounds.

The same exhibitioⁿ as presented here will travel to ten different countries from December 2019 to October 2020. Find out more about events, collaborators, and the European connection on the website: space-eu.org

spaceEU je uzbudljivi projekat edukacije i dopiranja do mladih kojem je cilj da potakne interesovanje mladih za STEAM (nauka, tehnologija, inženjerstvo, umjetnost i matematika) te da ih ohrabri da razmišljaju o karijerama u kojima bi se bavili svemirom. Projektom se mladi umovi inspiriraju i proširuju, razvija se osjećaj evropskog i globalnog građanstva te se, kroz naš zajednički ljudski odnos prema svemiru, nastoje njegovati dugotrajna partnerstva među ljudima iz različitih zemalja i kultura.

Izložba koja je ovdje predstavljena putovat će u deset različitih zemalja od decembra 2019. do oktobra 2020. godine. Saznajte više o događajima, saradnicima i evropskoj vezi na web stranici: space-eu.org

Exhibition Artists

Sarah Petkus (US),
We Colonised the Moon (DE/ UK),
Jaqueline Eder, Selina Maurovich, Kilian Mayer,
Stephanie Stigler (AT),
Eva Rust (CH)

Exhibition Partners

Sentinel Hub EO Browser by Sinergise
and ESA Apps

Exhibition Crew

The exhibition was developed by Ars
Electronica in close collaboration with
Science Gallery Dublin and Leiden University.

Exhibition Co-design Manager

Laura Welzenbach

Architecture

Gerald Moser/ Wunderkammer
and Zirup – Architektur & Design

Storyline/ Writer

Niamh Shaw

Dutch Translation

Huib Gelling

Graphic Designer

Rory McCormick

Tech Advisor

Bildwerk

SpaceEU Principal Investigator and Coordinator

Pedro Russo

With contributions from

Suzana Filipecki Martins,
Ryan Williamson,
Grace Darcy,
João Dias,
Cristina Paca
Veronika Liebl.

SpaceEU Partners

Leiden University
Ars Electronica
Ecsite European Network
for Science Centres Museums
EUN Partnership AISBL European Schoolnet
Science Gallery at Trinity College Dublin
Ellinogermaniki Agogi
Ciência Viva
Cité de l'espace
Parque de las Ciencias
Universum® Bremen
SCIENCE IN
New Space Foundation

Umjetnici izložbe

Sarah Petkus (US)
We Colonised the Moon (DE/ UK),
Jaqueline Eder, Selina Maurovich, Kilian Mayer,
Stephanie Stigler (AT),
Eva Rust (CH)

Partneri izložbe

Sentinel Hub EO Browser by Sinergise
and ESA Apps

Tim izložbe

Izložbu je pripremila Ars Electronica u bliskoj
saradnji sa
Science Gallery Dublin i Univerzitetom u
Leidenu.

Sudizajnerica izložbe

Laura Welzenbach

Arhitektura

Gerald Moser/ Wunderkammer
i Zirup – Architektur & Design

Priča/tekst

Niamh Shaw

Prevod na bosanski

Scientix

Grafički dizajn

Rory McCormick

Tehničko savjetovanje

Bildwerk

Glavni istraživač i koordinator projekta spaceEU

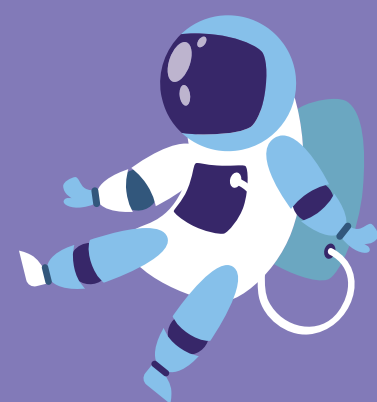
Pedro Russo

Doprinos dali

Suzana Filipecki Martins,
Ryan Williamson,
Grace Darcy,
João Dias,
Cristina Paca
Veronika Liebl.

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Evropske unije za istraživanja i inovacije Horizon
2020. prema sporazumu o grantu br. 821832



Prevod je uradio Scientix, uz finansijsku
podršku programa za istraživanje i inovacije
Evropske unije H2020 – projekat Scientix
4 (Sporazum o grantu br. 101000063), a
koordinirao European Schoolnet (EUN).

Sadržaj ovog dokumenta isključivo je
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sadržanih informacija.

ŠTA SMO SVE NAPRAVILI OD SVEMIRA

How has exploring space affected life on Earth?

Since we began exploring space, engineers and scientists had to think of solutions to overcome difficult situations – how to record data, how to protect astronauts from intense solar rays, how to eat in space, what clothes to wear. Living in an environment with little to no gravity, lacking oxygen, water, and food; and which was built of materials that had to be lightweight, meant that there were many problems that we needed to overcome. We had to invent new materials, new objects, new technologies so that astronauts could live in space safely. And after all that work we realised that these new technologies and materials could be used to solve everyday problems back on Earth.

Here we are going to take a look at some of the everyday objects that were originally developed for space. How long would it take to find your way without using GPS (Global Positioning System) navigation? Could you live without your phone? What about materials that protect us from UV radiation? Space science impacts us every single day, whether we are aware of it or not.

Check out the take booklet to learn more about these objects.

Kako je istraživanje svemira uticalo na život na Zemlji?

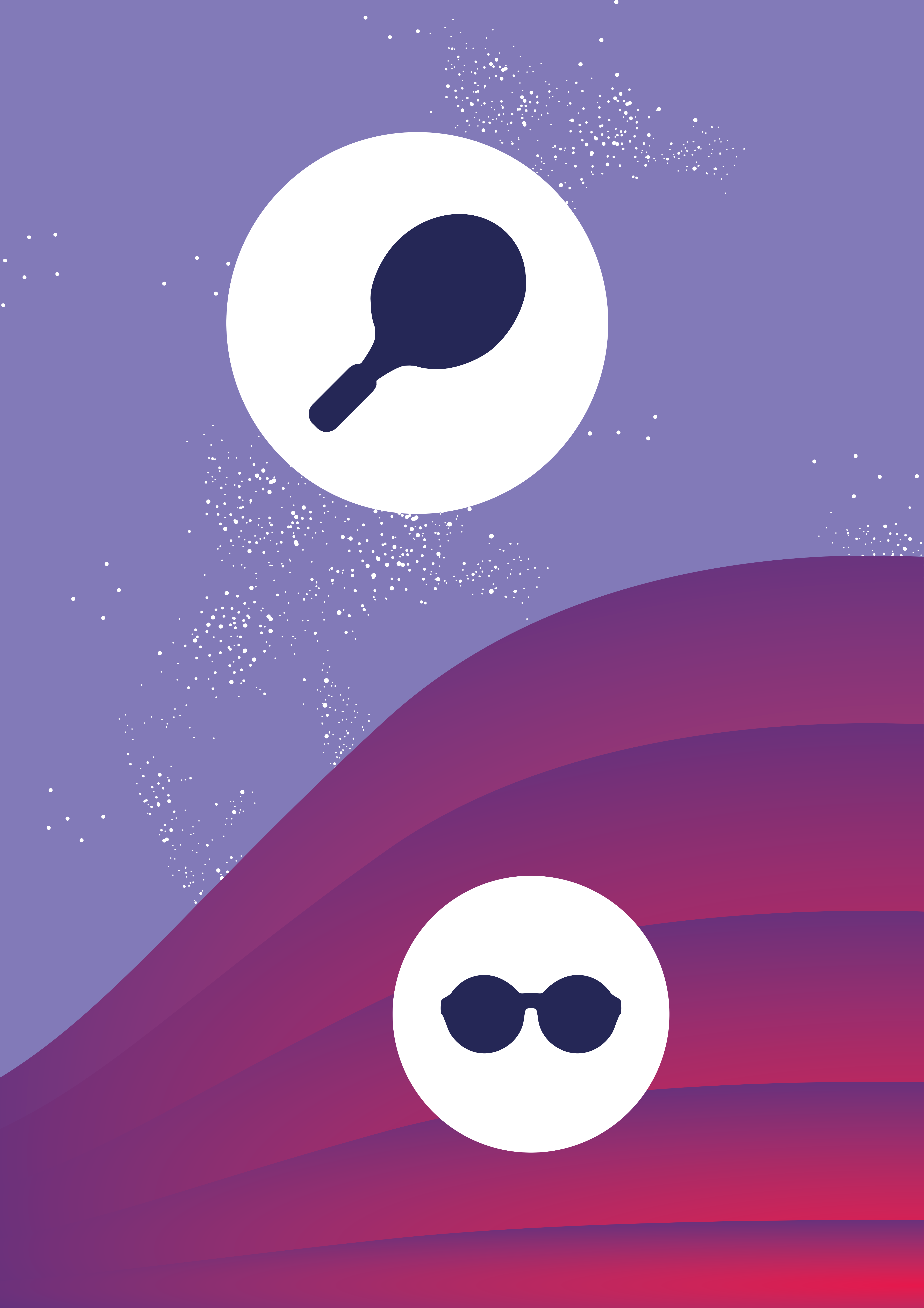
Od kada smo počeli istraživati svemir, inženjeri i naučnici morali su pronalaziti rješenja za teške situacije – kako bilježiti podatke, kako zaštititi astronaute od intenzivnih solarnih zraka, kako jesti u svemiru, šta obući. Činjenica da žive u okruženju u kojem skoro da nema gravitacije, bez kisika, vode i hrane i da je to okruženje napravljeno od materijala koji su morali biti lagani, ukazivala je na brojne probleme koje smo morali prevazići. Morali smo izmisliti nove materijale, nove predmete i nove tehnologije da bi astronauti mogli sigurno živjeti u svemiru. Nakon sveg tog rada, shvatili smo da se te nove tehnologije i materijali mogu koristiti za rješavanje svakodnevnih problema na planeti Zemlji.

Osvrnut ćemo se na neke svakodnevne predmete koji su prvobitno bili razvijeni za svemir. Koliko dugo bi ti trebalo da nađeš pravi put bez navigacije GPS (Globalni sistem pozicioniranja)? Da li bi mogao živjeti bez svog telefona? A šta je sa materijalima koji nas štite od UV radijacije? Svemirska nauka utiče na nas svaki dan, bez obzira da li smo toga svjesni ili ne.

Pogledaj brošuru da saznaš više o ovakvim predmetima.







KROZ PRIZMU SVEMIRA

How does space exploration allow us to observe our own planet?

We can use satellite images to see our cities grow, our glaciers melt, and our forests shrink. It is important that we continue to observe Earth's activities so we can reflect on our way of living, and so it can guide our future actions.

Here we will see how satellites allow us to monitor our planet. We learn how to read these satellite images, how to access publicly available information and what we can collectively do to help fight the climate crisis. Together, we can all become part of the solution to this global challenge.

Satellites deliver true colour images of the Earth, but also have sensors that detect wavelengths invisible to the human eye. ESA, the European Space Agency, has made their vast archive of Earth observation images publicly available, so that we can make our own maps and see the changes that are happening for ourselves.

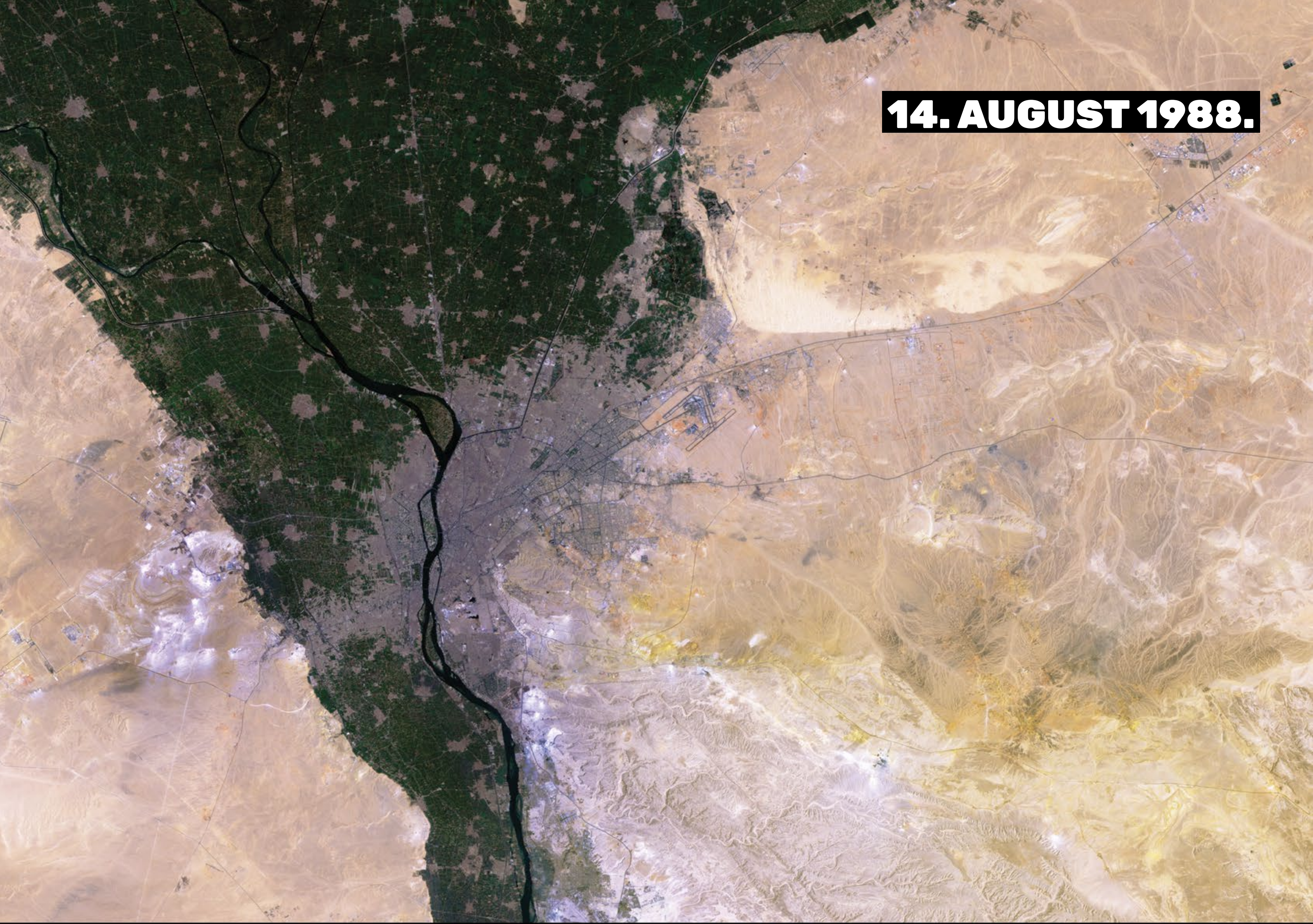
Kako nam istraživanje svemira omogućava posmatranje naše planete?

Možemo koristiti satelitske snimke da vidimo kako nam gradovi rastu, kako se glečeri tope i šume smanjuju. Važno je nastaviti posmatrati aktivnosti na Zemlji da bismo mogli promišljati naš način života i na osnovu toga usmjeravati naše buduće djelovanje.

Ovdje vidimo kako nam sateliti omogućavaju da pratimo našu planetu. Učimo kako da čitamo satelitske snimke, kako da pristupimo javno dostupnim informacijama i o tome kako kolektivno možemo doprinijeti borbi protiv klimatske krize. Zajednički, svi možemo biti dijelom rješenja za ovaj globalni izazov.

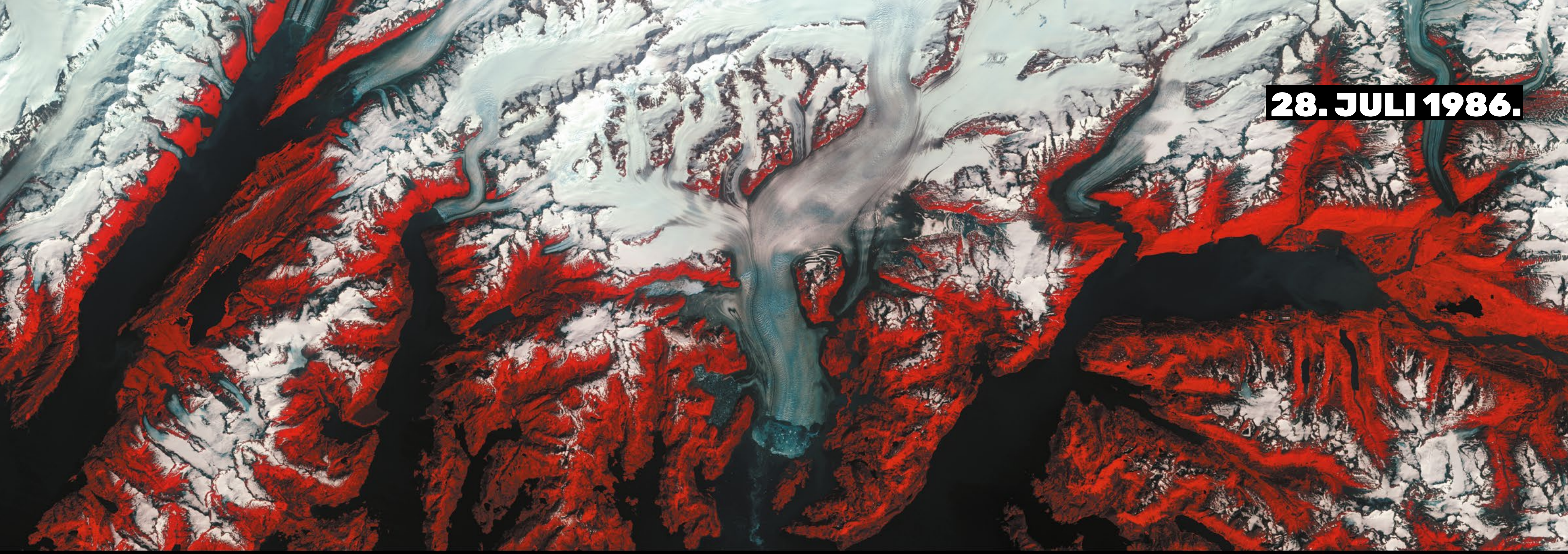
Sateliti daju slike Zemlje u stvarnim bojama, ali imaju i senzore koji detektiraju talasne dužine nevidljive ljudskom oku. ESA, Evropska svemirska agencija, otvorila je svoju veliku arhivu slika Zemlje javnosti tako da možemo sami praviti vlastite karte i pratiti promjene koje se dešavaju.

14. AUGUST 1988.



2 AUGUST 2018.

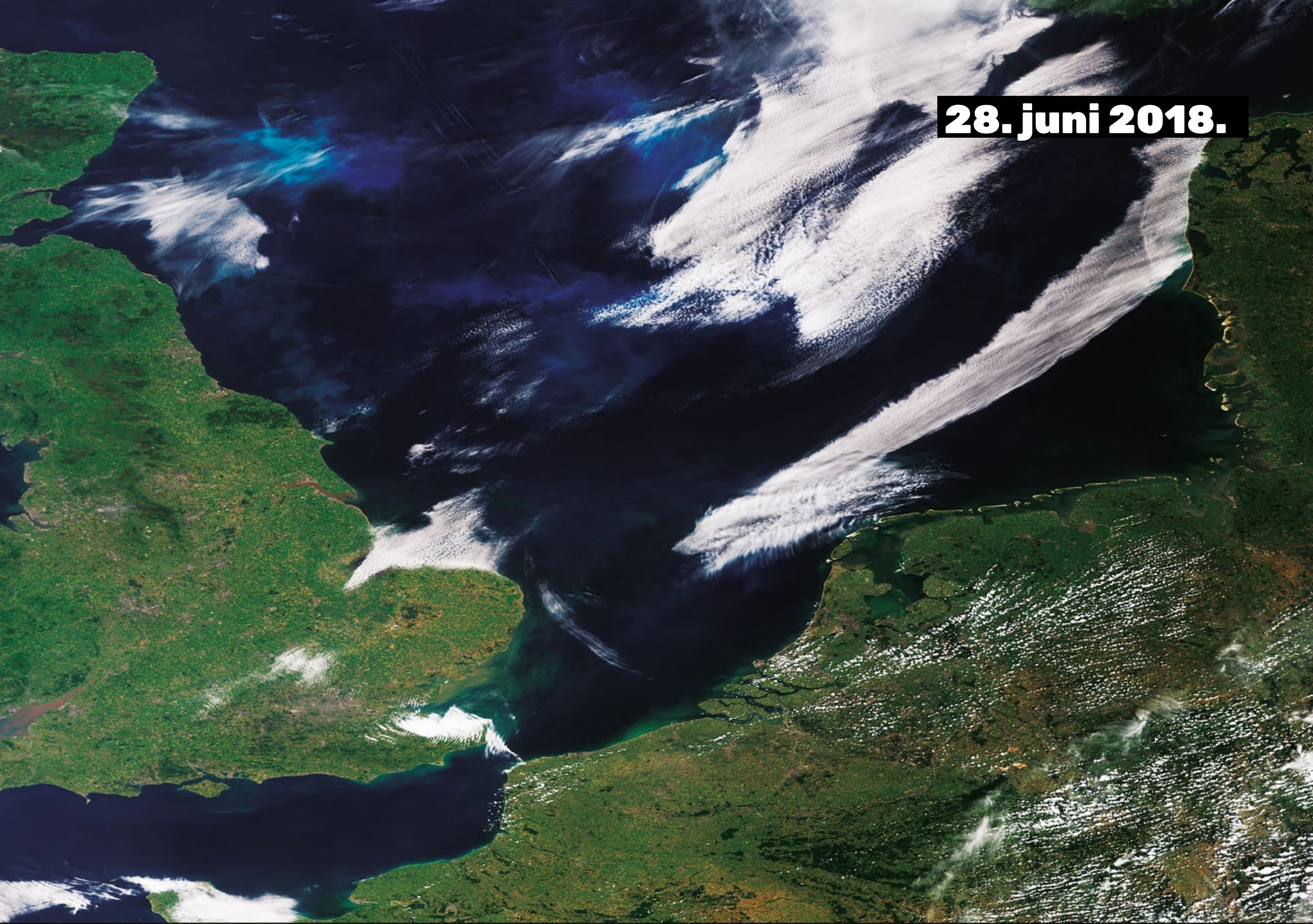




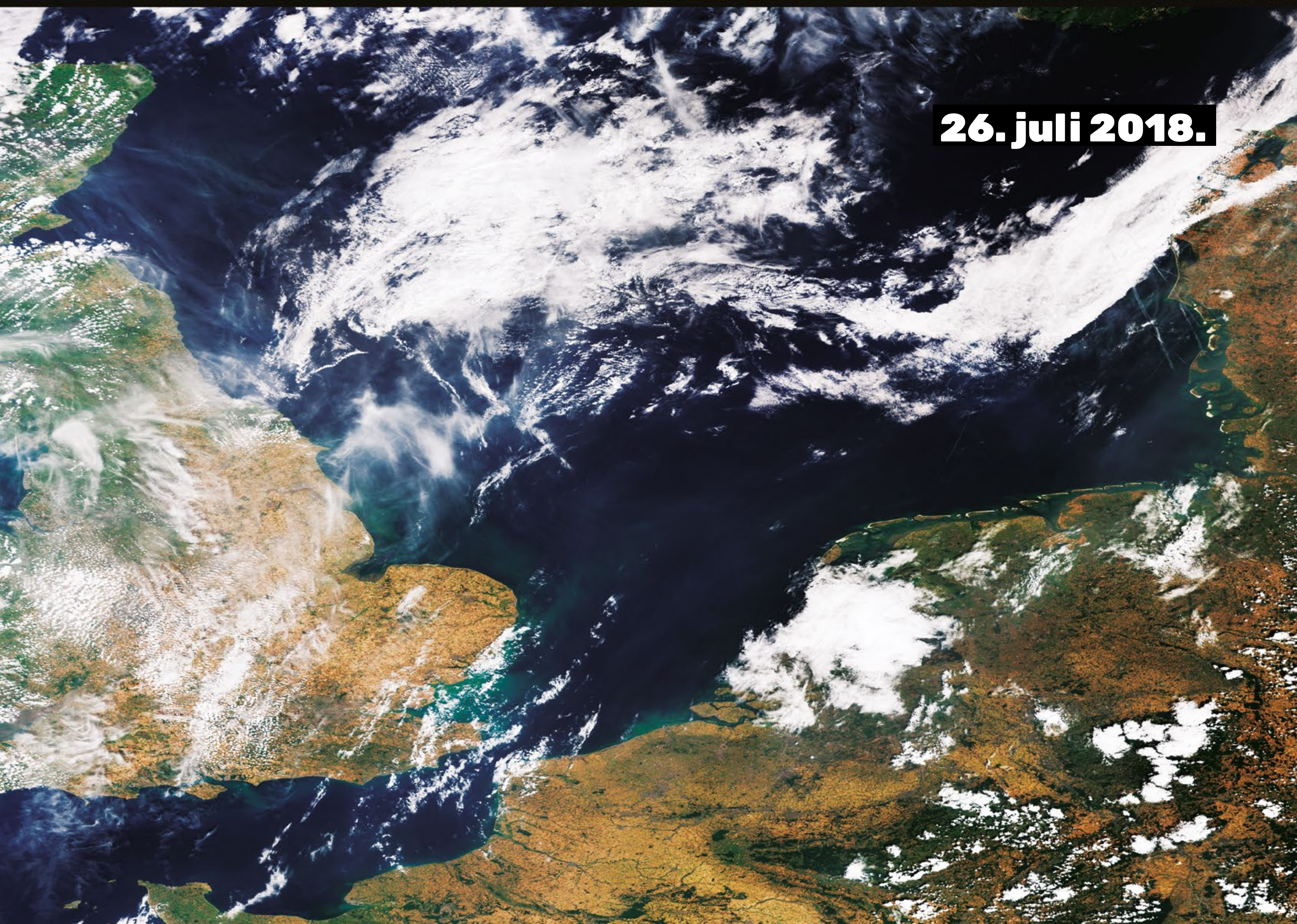
28. JULI 1986.



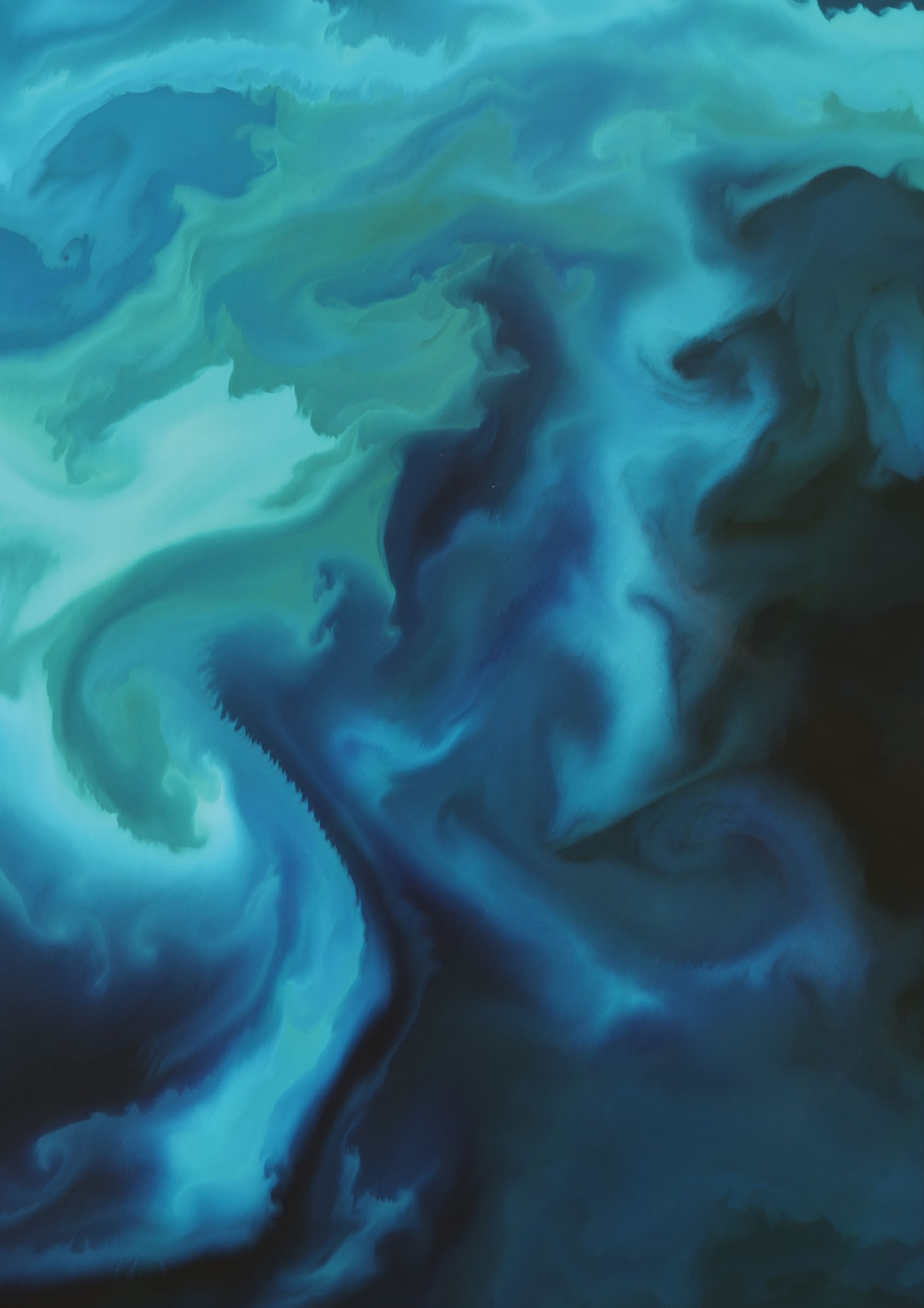
5. AUGUST 2017.



28. juni 2018.

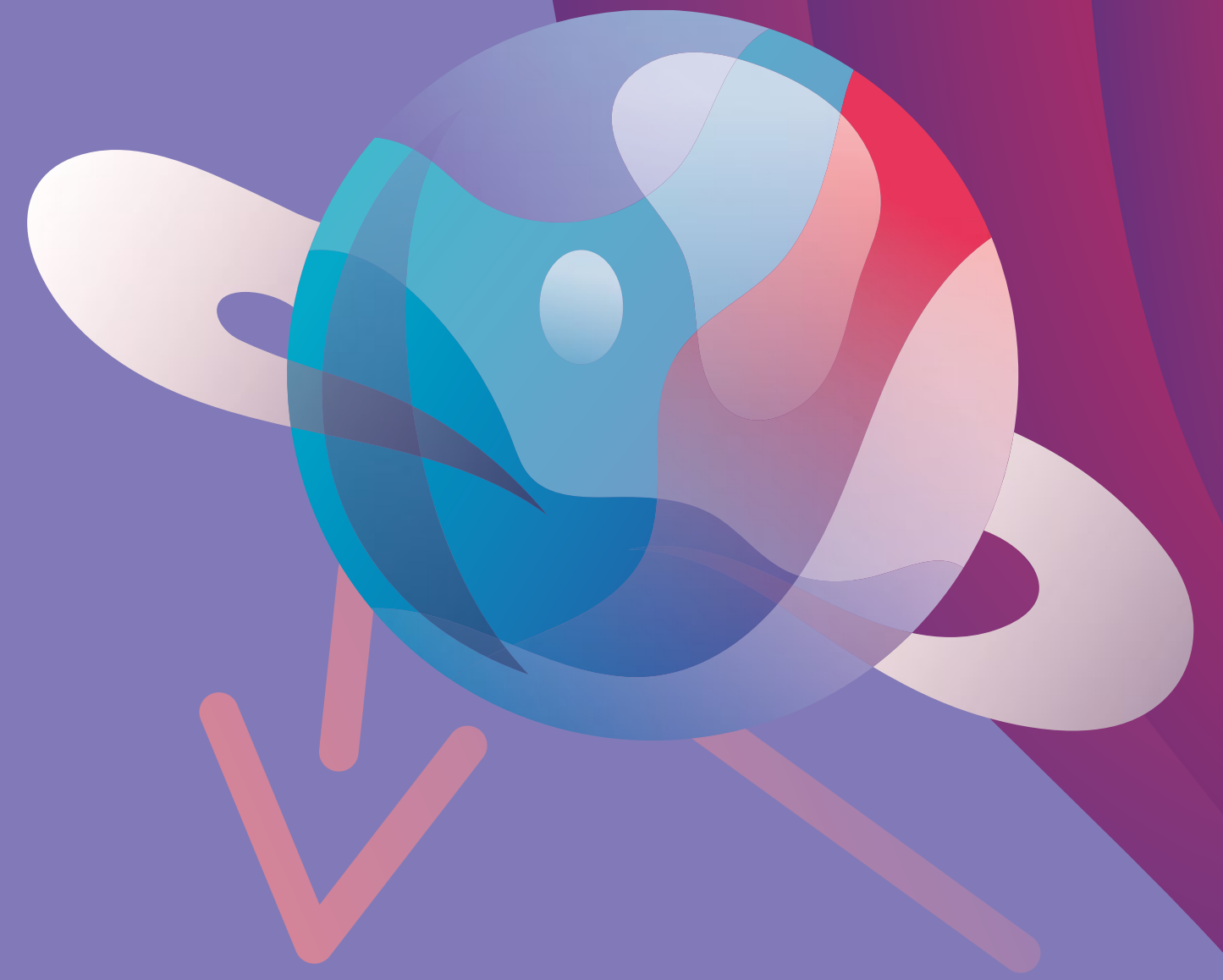


26. juli 2018.





MOŽEMO NAPRAVITI PROMJENU



When thinking about how to tackle the climate crisis, it can be difficult to know where to start. How can we play our part? If everyone makes one small change, collectively that can have a huge impact. So what change in your life can you implement that would positively impact our planet?

3 Rs: Reduce, Reuse, Recycle

Have you thought about the choices you make everyday? What do you do with your rubbish? Where do you buy your clothes and how do you dispose of them? How can you reduce the amount of waste you generate? Think about your daily habits and consider making some small changes. Collectively they will have a bigger impact on our planet than you realise

Get involved! Join group activities like Plogging or hosting #trashtag challenges

Plogging is a combination of jogging and picking up litter that began because of increased concern about plastic pollution. It started as an organised activity in Sweden in 2016 and spread to other countries in 2018. As a workout, it provides variation in body movements by adding bending, squatting and stretching to the main action of running, hiking, or walking. Another example is the #trashtag challenge. Check out the hashtag online and see how people, equipped with gloves and some rubbish bags, clean up polluted areas.

Kada razmišljamo o tome kako da se borimo protiv klimatskih promjena, nekada je teško znati odakle treba početi. Kako mi možemo doprinijeti? Ako svako napravi jednu malu promjenu, to bi kolektivno moglo imati veliki uticaj. Koju promjenu ti možeš napraviti u svom životu koja bi mogla pozitivno uticati na našu planetu?

3 slova R: Reduce (smanji), Reuse (ponovo upotrijebi), Recycle (recikliraj)

Jesi li razmišljao/razmišljala o izborima koje svaki dan praviš? Šta radiš sa smećem? Gdje kupuješ odjeću i kako je bacaš? Kako možeš smanjiti količinu otpada koji proizvodiš? Razmisli o svojim dnevnim navikama i o tome da uvedeš neke male promjene. Kolektivno će one imati mnogo veći uticaj na našu planetu nego što misliš.

Uključi se! Pridruži se grupnim aktivnostima kao što je Plogging ili pokreni #trashtag izazov

Plogging predstavlja kombinaciju jogginga i skupljanja smeća i započet je zbog sve veće brige oko zagađenja plastikom. Počeo je kao organizirana aktivnost u Švedskoj 2016. godine i proširilo se u drugim zemljama 2018. godine. Kako se radi o fizičkoj aktivnosti, sadrži varijaciju tjelesnih pokreta poput saginjanja, čučanja i istezanja uz glavnu aktivnost trčanja, hodanja ili šetanja. Drugi primjer je izazov #trashtag. Pronađi ovaj hashtag na internetu i vidi kako ljudi sa rukavicama i kesama za smeće čiste zagađena područja.

SVAKI PETAK ZA BUDUĆNOST

#FridaysForFuture is a movement that began in August 2018, after 15-year-old Greta Thunberg sat in front of the Swedish parliament every school day for three weeks. She started to protest against the lack of action on the climate crisis and posted what she was doing on Instagram and Twitter. Her actions soon went viral. On 8 September 2018 Greta decided to continue striking every Friday until the Swedish policies provided a safe pathway in line with the Paris agreement. The hashtags #FridaysForFuture and #Climatestrike spread and many students and adults began to protest outside of their parliaments and local town halls all over the world.

“Start focusing on what needs to be done,
not what is politically feasible!”
– Greta Thunberg

Image Credits: Fridays for Future Vienna

#FridaysForFuture je pokret koji je počeo u augustu 2018, nakon što je petnaestogodišnja Greta Thunberg sjedila ispred švedskog parlamenta svaki radni dan pune tri sedmice. Počela je sa protestom zbog nedjelovanja na suzbijanju klimatske krize i objavljivala je sve što radi na platformama Instagram i Twitter. Uskoro je njeno djelovanje postalo viralno. Greta je 8. septembra odlučila nastaviti sa štrajkom svakog petka dok se ne donesu švedske politike u skladu sa Pariškim sporazumom. Hashtagovi #FridaysForFuture i #Climatestrike proširili su se i brojni mladi i odrasli započeli su sa protestima ispred parlamenata i lokalnih gradskih vlasti širom svijeta.

*“Počnite se baviti onim što se treba uraditi,
a ne onim što je politički izvodivo!”
– Greta Thunberg*

Svaki petak za budućnost, Beč



