Visualising Climate 2026

BOLOGNA, ITALY

WORKSHOP

Thursday 05.11.2026

Turning Climate Data into Comics and Visual Narratives

Inés Martín del Real

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Science Communication specialists

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UX expert

Antonella Mele

Emma D'Orto

Science Communication specialists and scientific managers

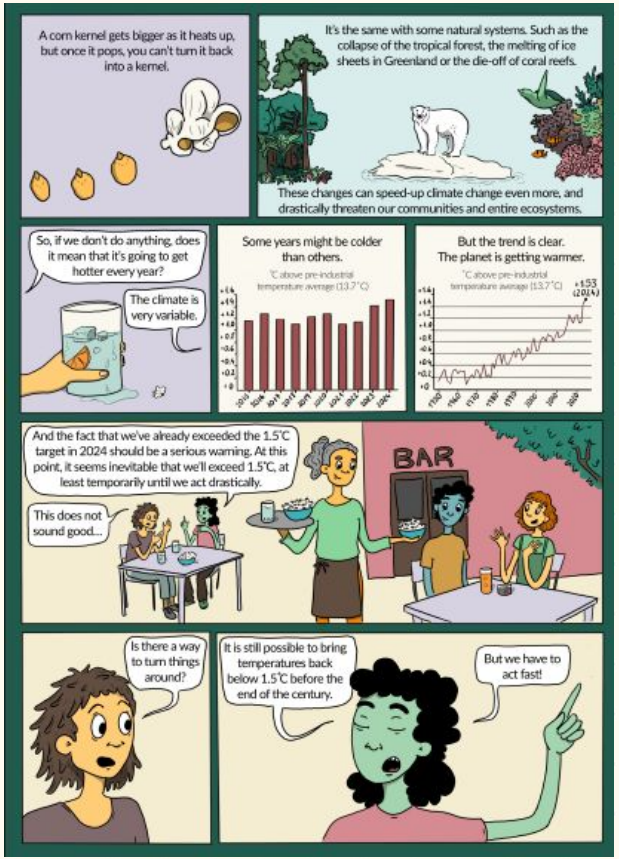
Barcelona Supercomputing Center
Centro Nacional de Supercomputación

cmcc Centro Euro-Mediterraneo sui Cambiamenti Climatici

Comics

Comic on climate overshoot,
RESCUE project

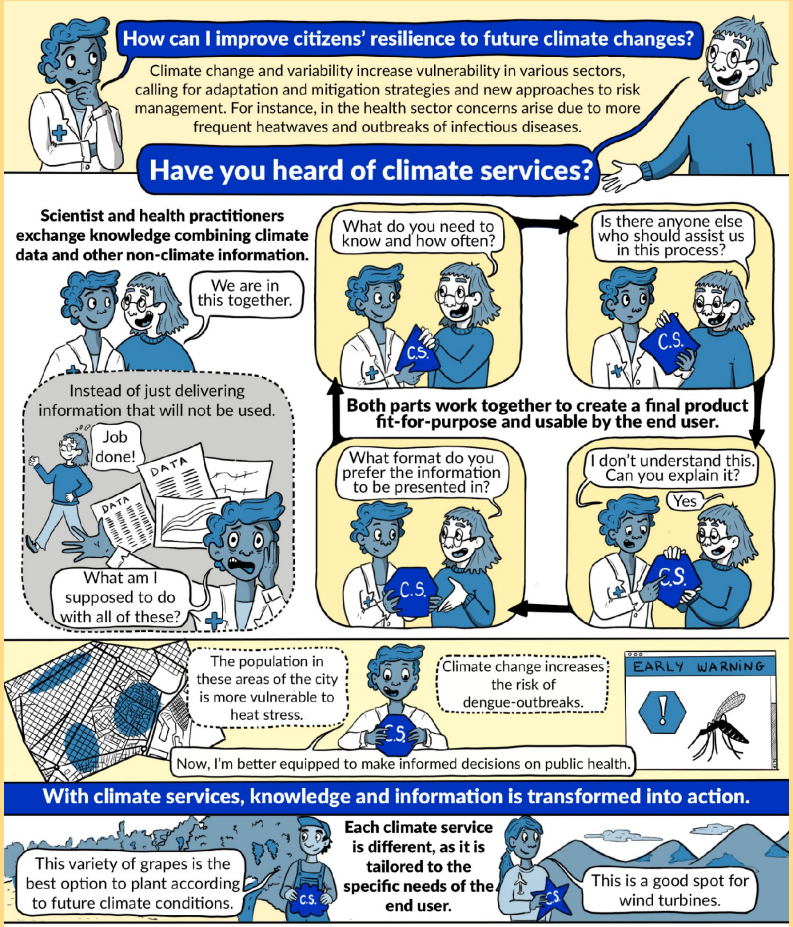




What is a science comic?

A science comic has as one of its main aims to **communicate science or to educate** the reader about some non-fictional, **scientific concept or theme.**

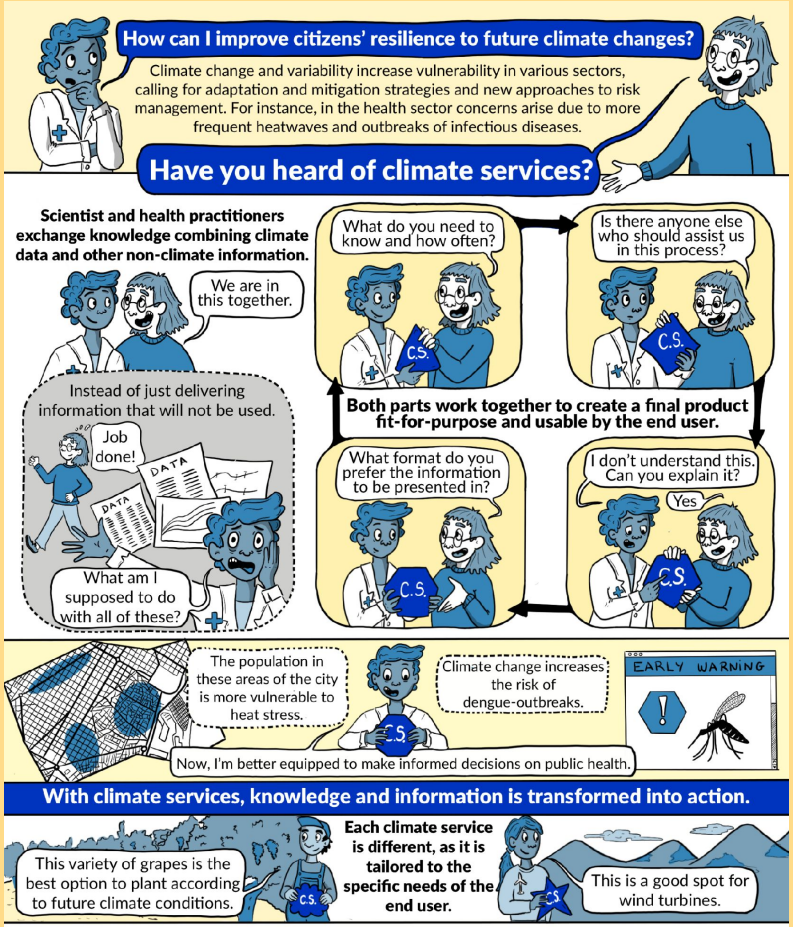
(Tatalovic, 2009)



By Inés Martín

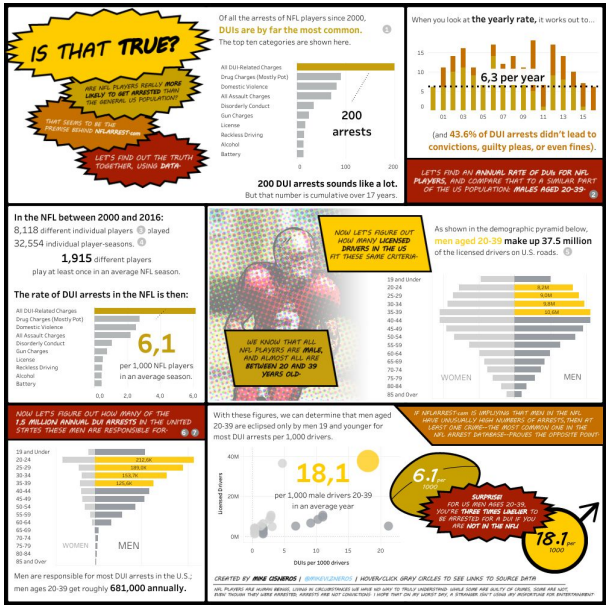
What are the main components of a (science) comic?

- Scientific content
- Language and pictures
- Structured progression through a narration
- Panel(s)

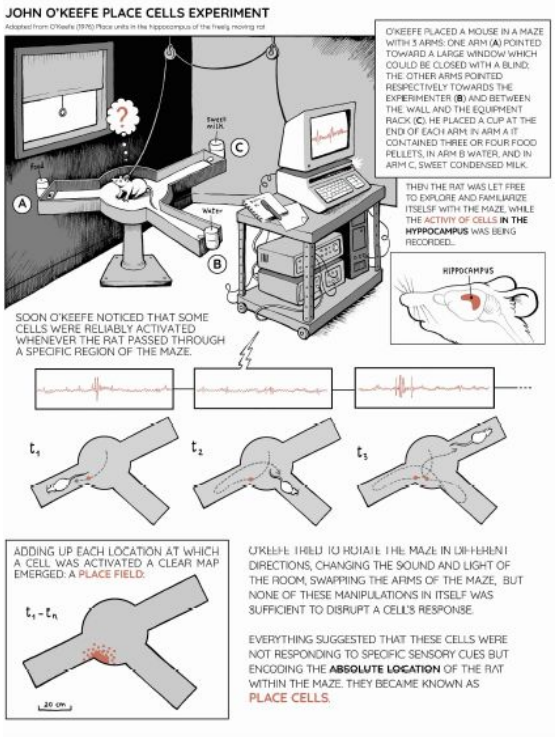


By Inés Martín

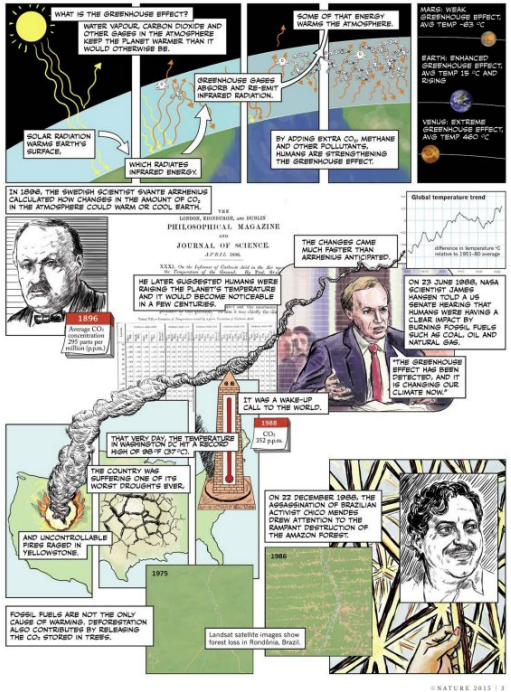
What are the main components of a (science) comic?



By Mike Cinseros

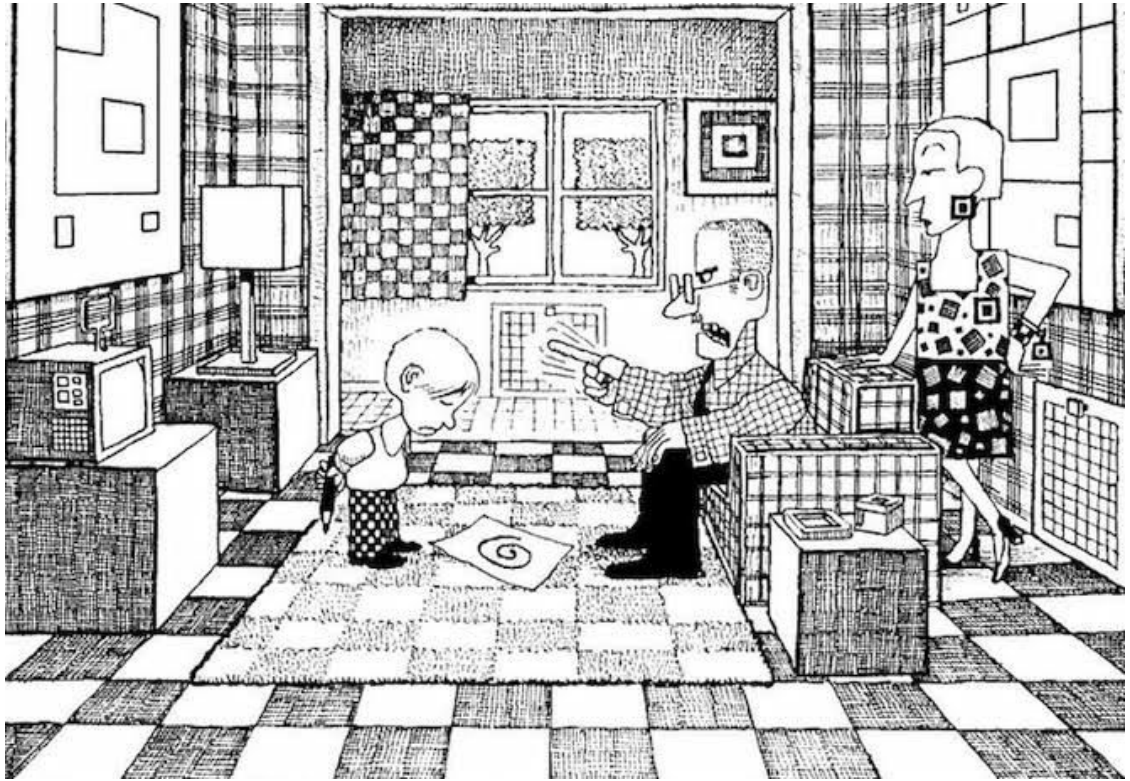


By Matteo Farinella



"A Fragile Network" (Monastersky & Sousanis, 2015)

What are the main components of a (science) comic?



By Quino

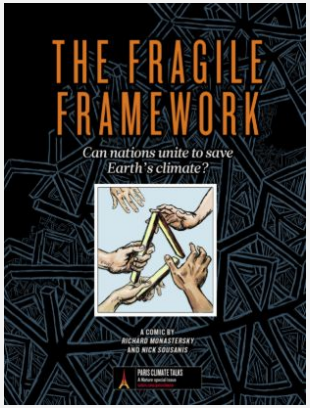
Why use comics in climate communication ?

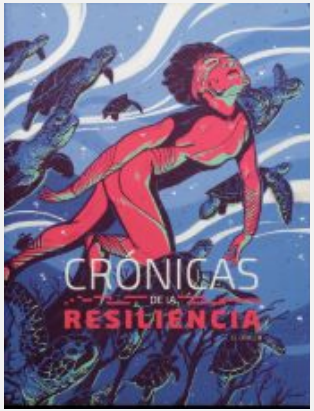
- Storytelling and contextualization
- Visual and graphical elements
- Emotions and humor

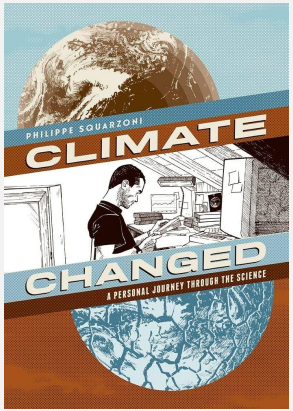


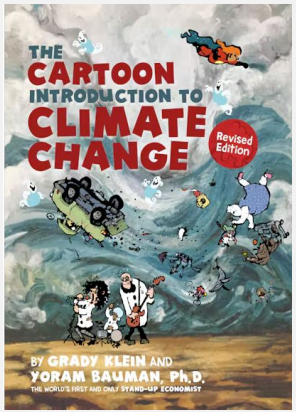
By Inés Martín, for RESCUE

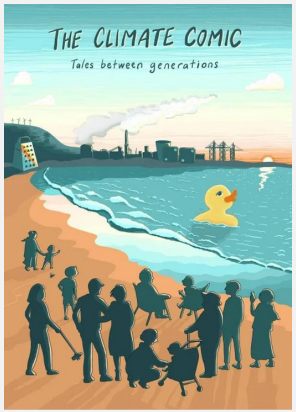
Books

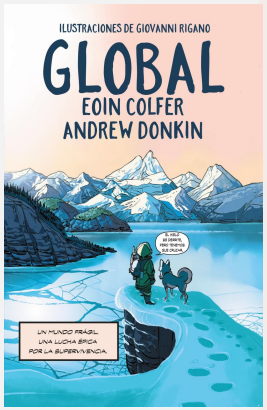

THE FRAGILE FRAMEWORK
Can nations unite to save Earth's climate?
A COMIC BY RICHARD MONASTERSKY AND NICK SOUSANIS
PARIS CLIMATE TALKS

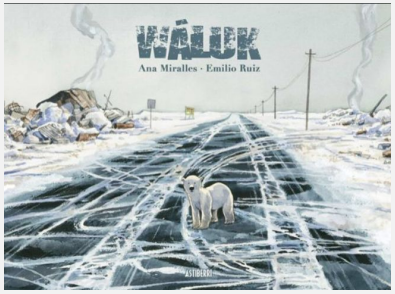

CRÓNICAS DE LA RESILIENCIA

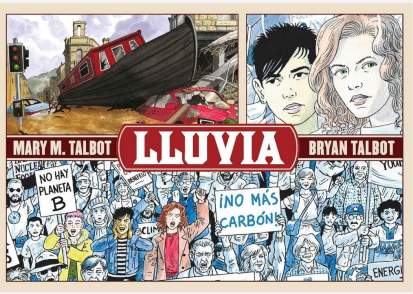

PHILIPPE SQUARZONI
CLIMATE CHANGED
A PERSONAL JOURNEY THROUGH THE SCIENCE


THE CARTOON INTRODUCTION TO CLIMATE CHANGE
Revised Edition
BY GRADY KLEIN AND YORAM BAUMAN, Ph.D.
THE WORLD'S FIRST AND ONLY STAND-UP ECONOMIST


THE CLIMATE COMIC
Tales between generations

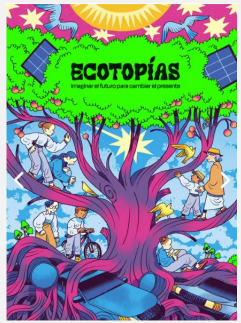

ILUSTRACIONES DE GIOVANNI RIGANO
GLOBAL
EOIN COLFER
ANDREW DONKIN


WÁLUK
Ana Miralles · Emilio Ruiz

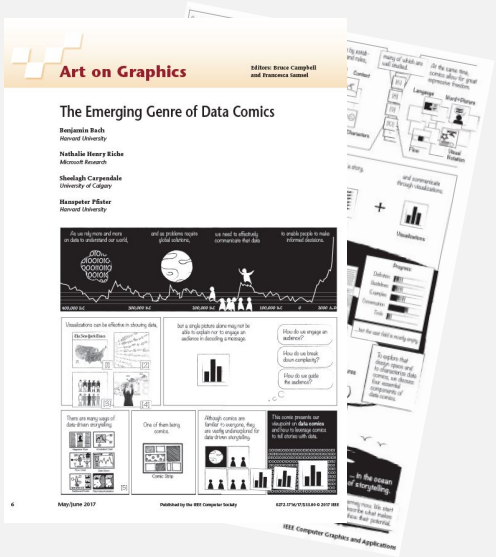

MARY M. TALBOT
LLUVIA
BRYAN TALBOT
NO HAY PLANETA B
¡NO MÁS CARBÓN!


OLE MATHISMOEN Y JENNY JORDAHL
¿PERO QUÉ PASA CON EL CLIMA?

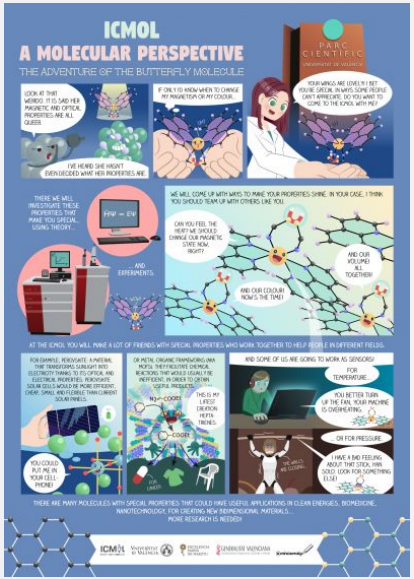

EL METEORITO SOMOS NOSOTROS
UN CÓMIC SOBRE EL CAMBIO CLIMÁTICO
DARÍO ADANTI


ECOTOPÍAS

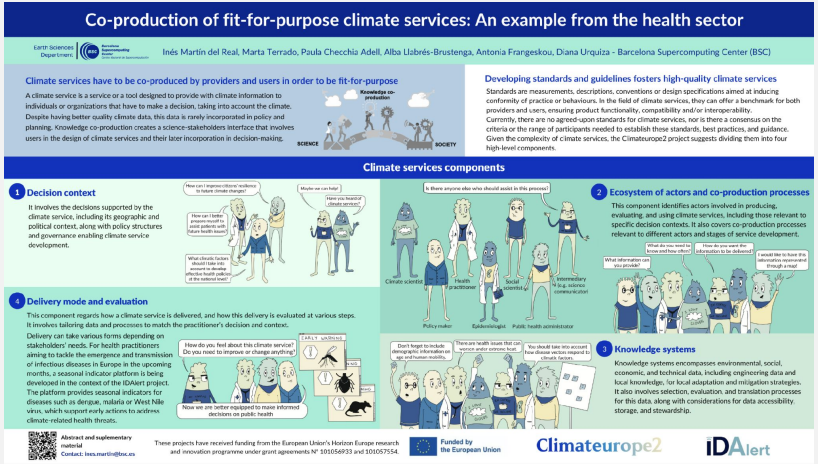
Papers and posters



(Bach et al. 2017)



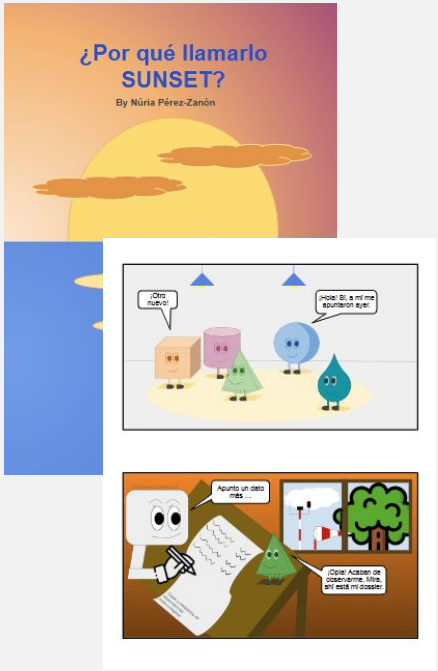
By Biomiics



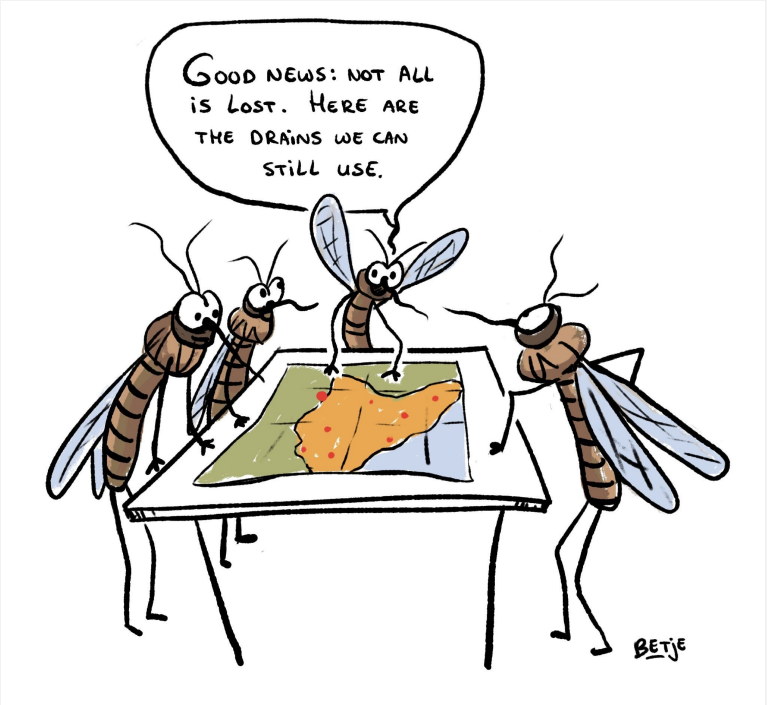
By IDAlert and Climateurope2

Acknowledgements: Climateurope2 IDAlert Infectious Disease decision-support tools and Alert systems

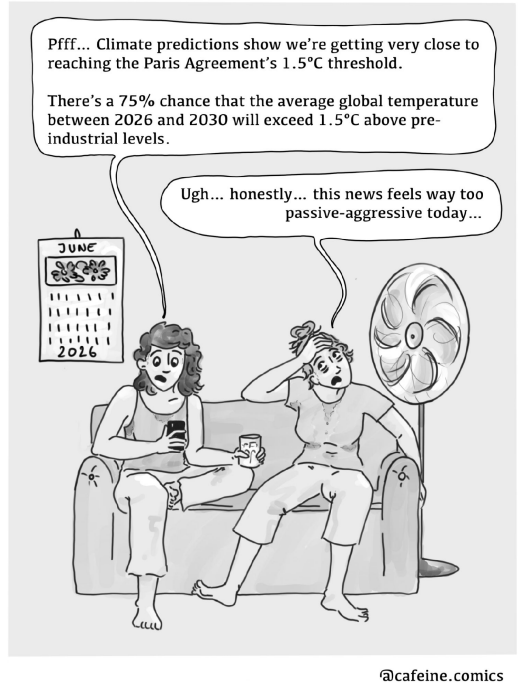
Dissemination, live cartooning and social media



By Nuria Pérez Zanon, BSC



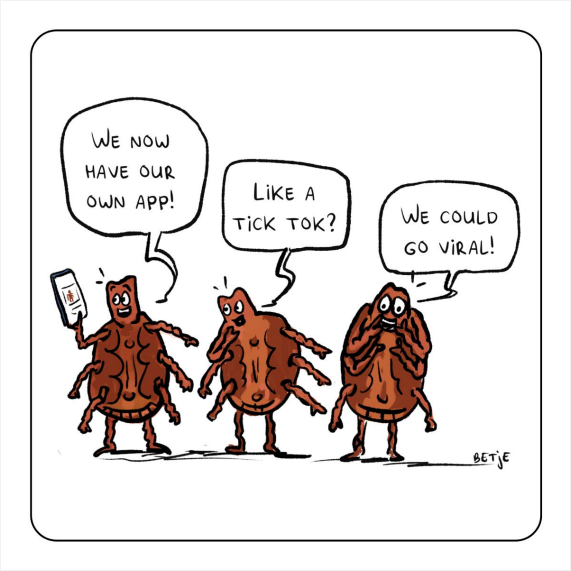
By Betje, for IDAlert



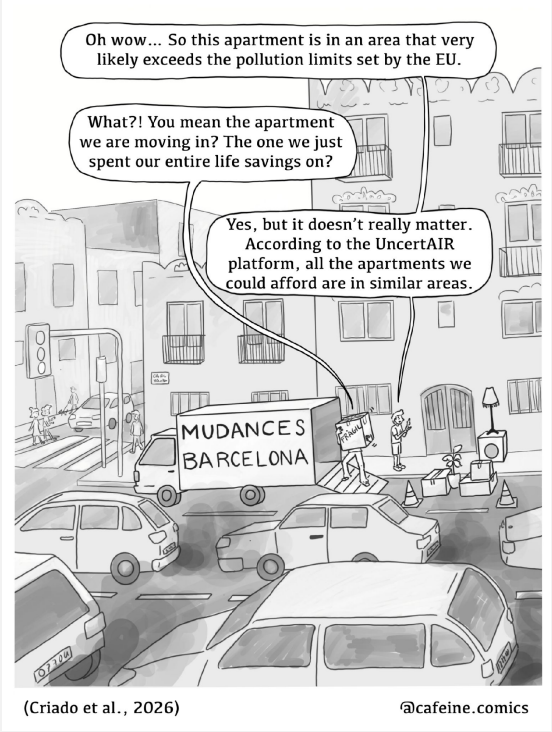
By Inés Martín, BSC

Acknowledgements: IDAlert Infectious Disease decision-support tools and Alert systems

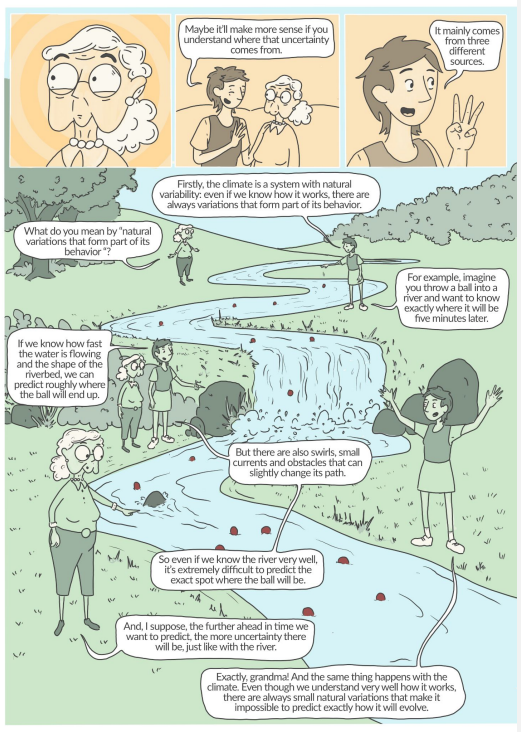
Visual metaphors



By Betje, for IDAlert



By Inés Martín



By Inés Martín, for RESCUE

Acknowledgements: IDAlert Infectious Disease decision-support tools and Alert systems, RESCUE

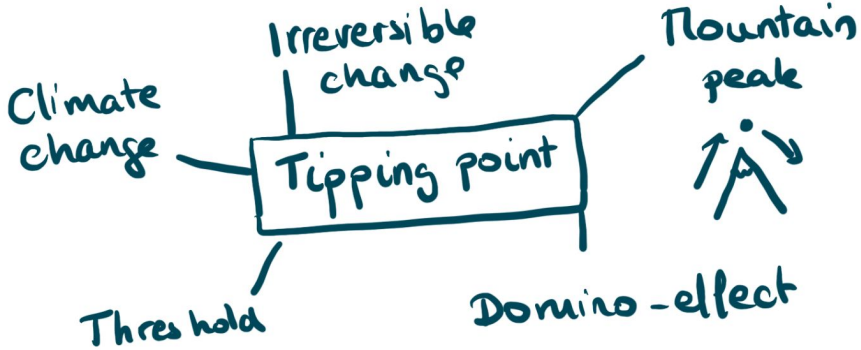
Tipping point

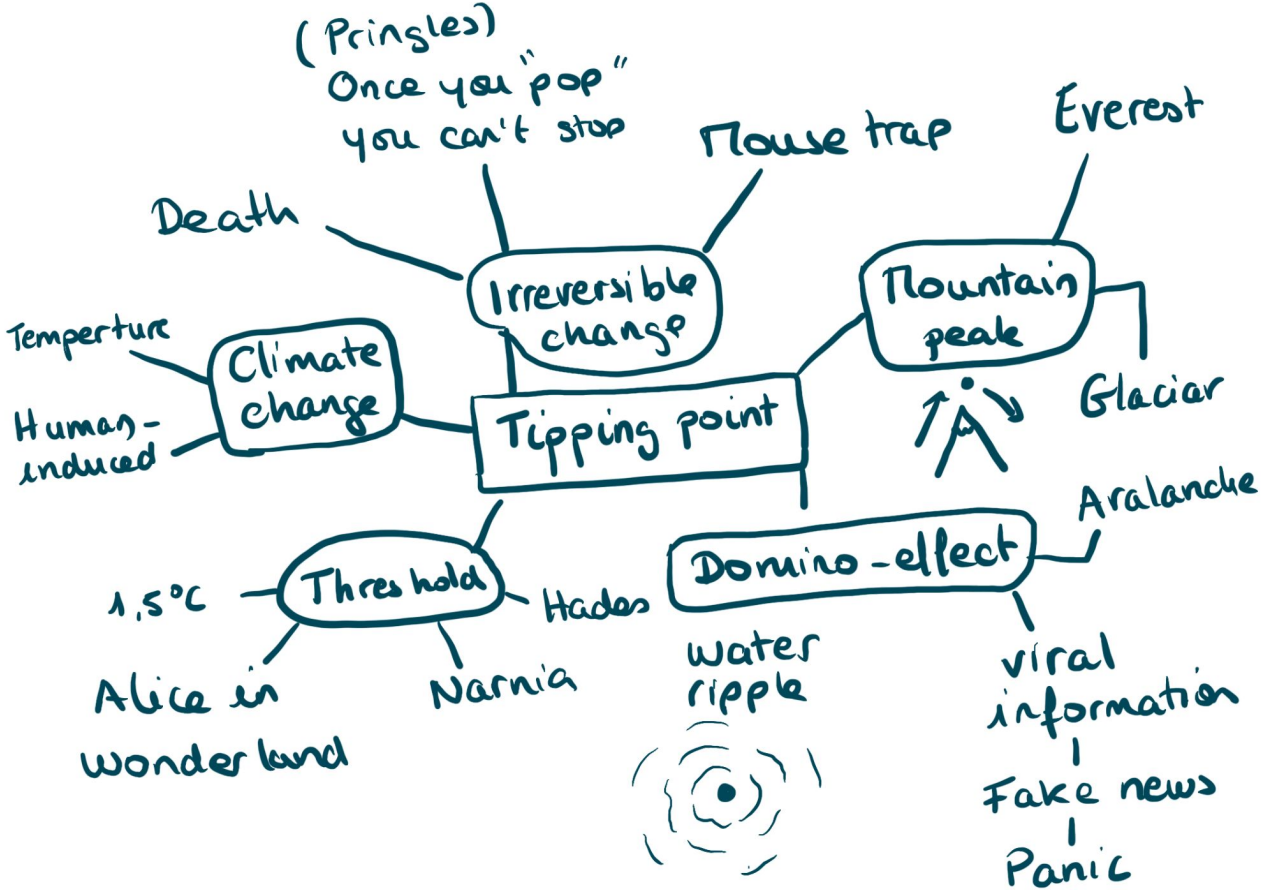
Critical thresholds in a system that, when exceeded, can lead to a significant change in the state of the system, often with an understanding that the change is irreversible. (IPCC)

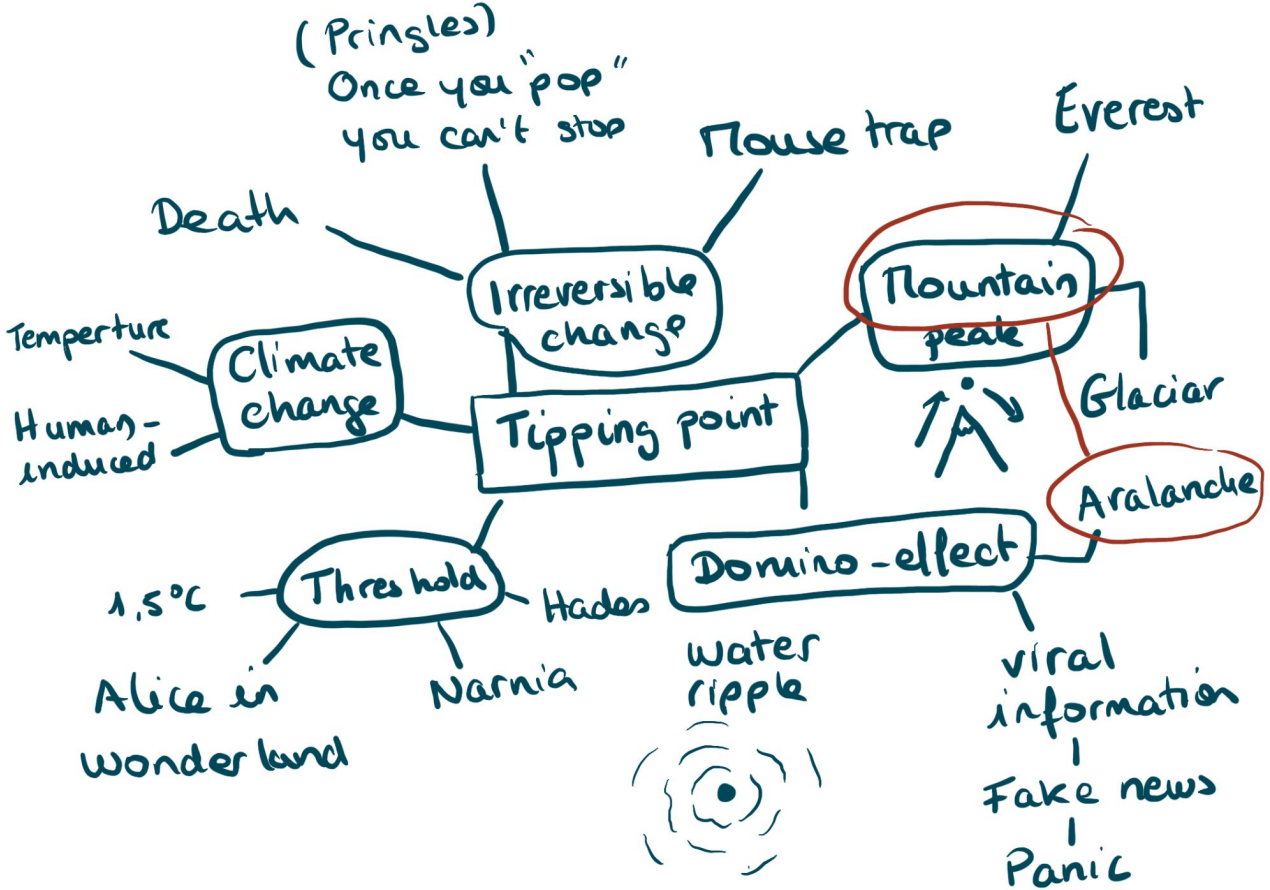
Climate tipping points are elements of the Earth system in which small changes can kick off reinforcing loops that ‘tip’ a system from one stable state into a profoundly different state. On top of that, the crossing of one tipping point could lead to the triggering of further tipping elements – unleashing a domino-effect chain reaction. (ESA)

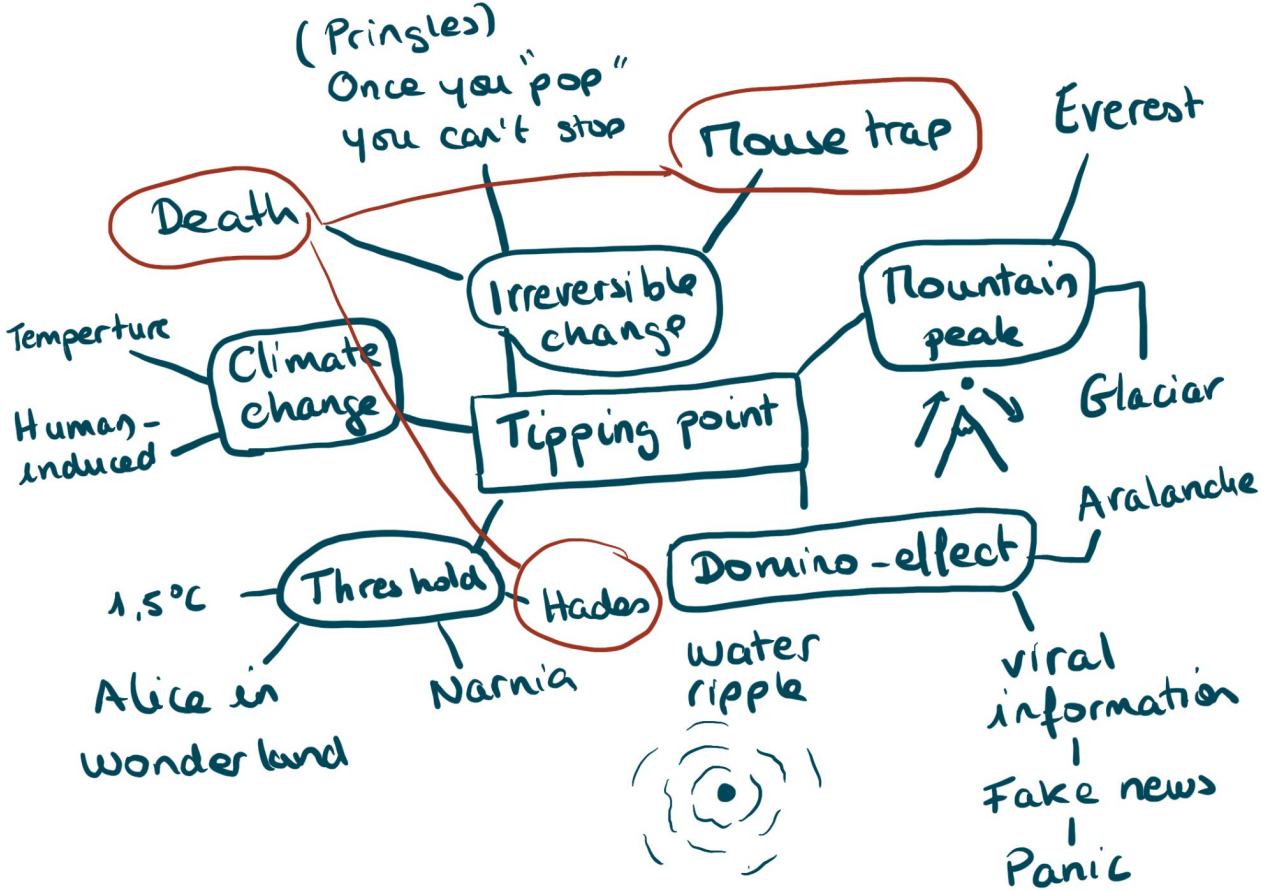
Visual metaphor web

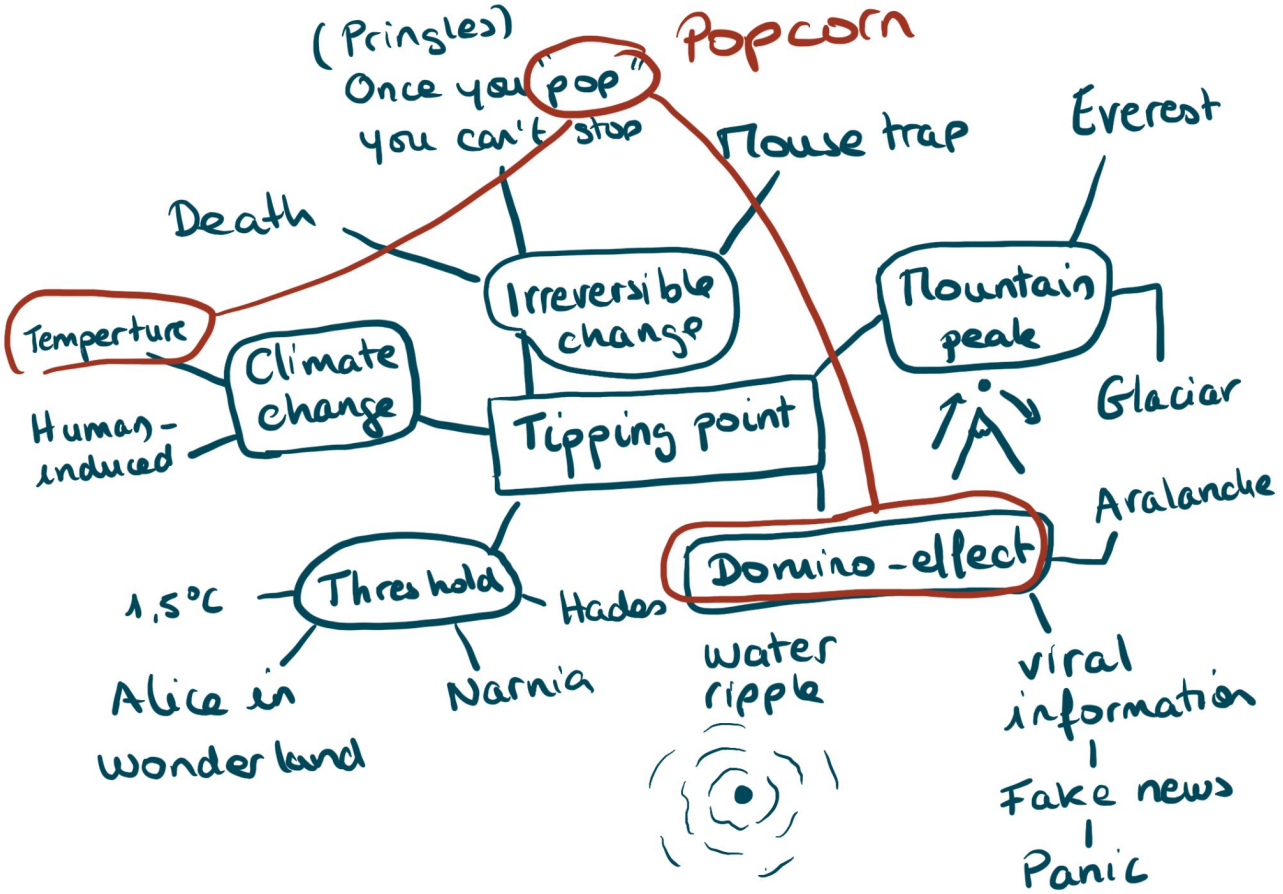


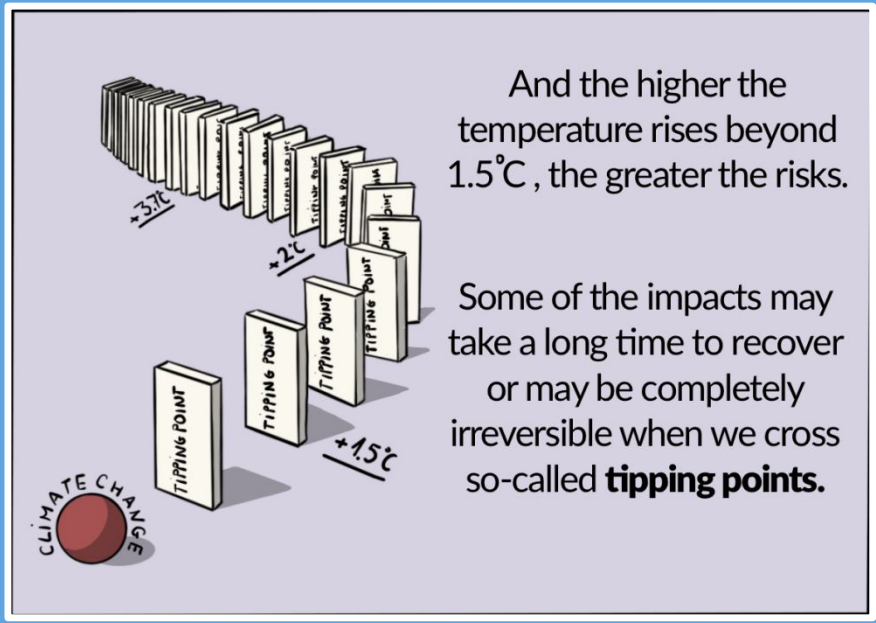

Irreversible change
Mountain peak
Climate change
Tipping point
Threshold
Domino-effect


(Pringles)
Once you "pop"
you can't stop
Death
Irreversible change
Mouse trap
Everest
Mountain peak
Glaciar
Temperture
Climate change
Humas-induced
Tipping point
Threshold
1,5°C
Alice in wonderland
Narnia
Hades
Domino-effect
Aralanche
water ripple
viral information
Fake news
Panic


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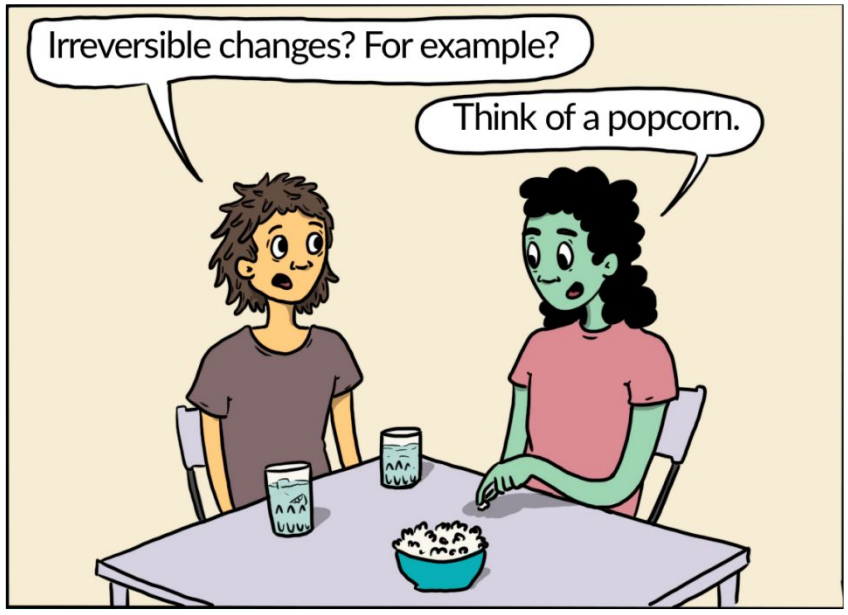

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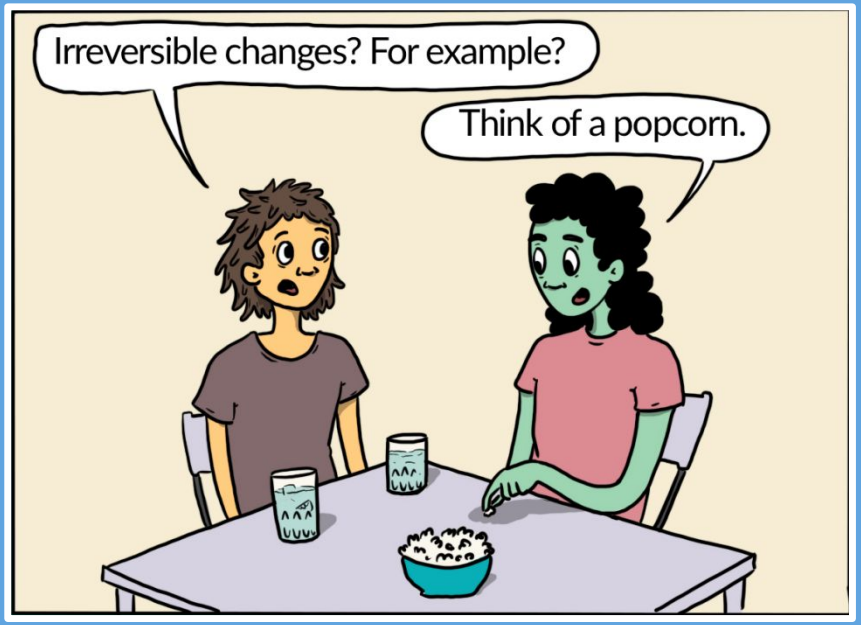

(Pringles)
Once you "pop"
you can't stop
Popcorn
Death
Mouse trap
Everest
Temperture
Irreversible change
Mountain peak
Climate change
Glaciar
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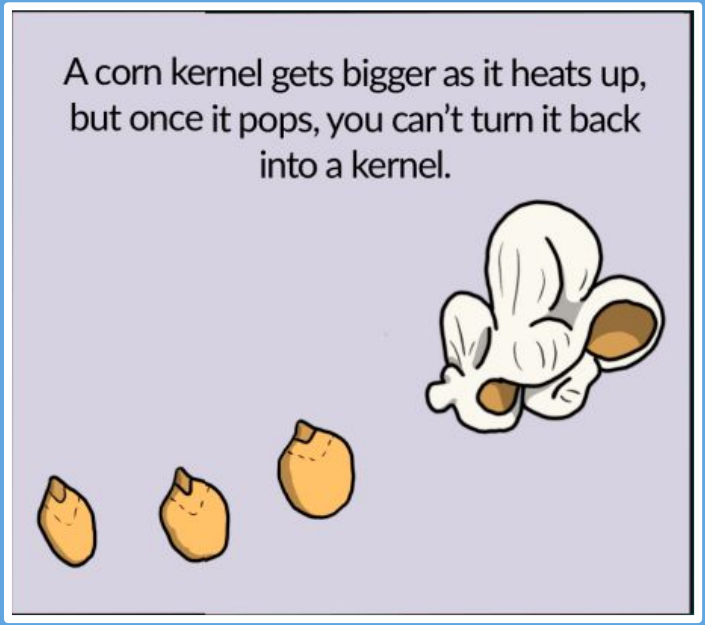


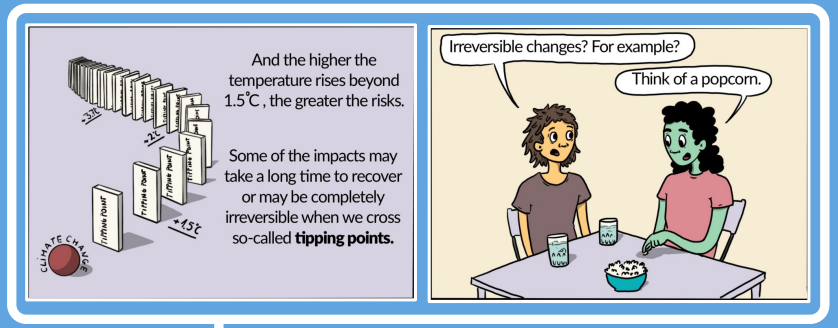
And the higher the temperature rises beyond 1.5℃ , the greater the risks.

Some of the impacts may take a long time to recover or may be completely irreversible when we cross so-called **tipping points.**



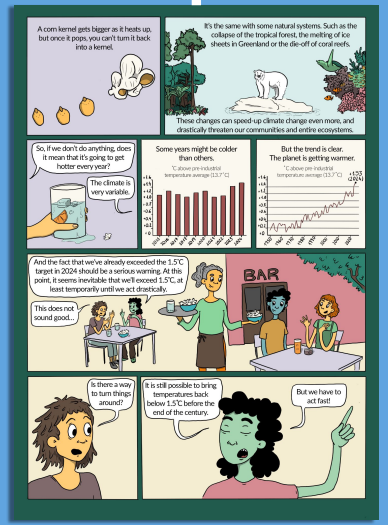

Irreversible changes? For example?
Think of a popcorn.

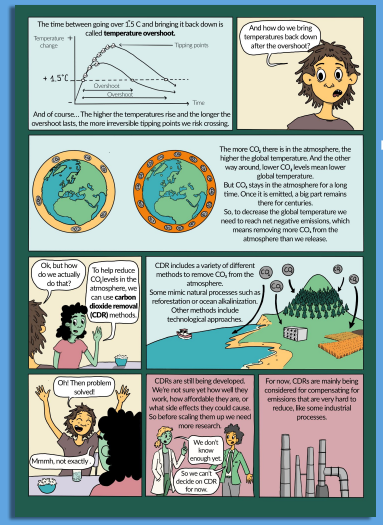

A corn kernel gets bigger as it heats up, but once it pops, you can't turn it back into a kernel.

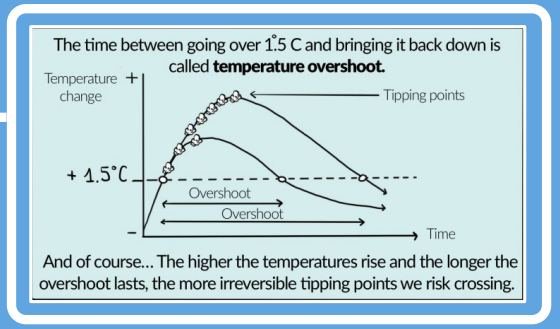

And the higher the temperature rises beyond 1.5˚C , the greater the risks.
Some of the impacts may take a long time to recover or may be completely irreversible when we cross so-called **tipping points.**
CLIMATE CHANGE
1.5°C
Irreversible changes? For example?
Think of a popcorn.


A corn kernel gets bigger as it heats up, but once it pops, you can't turn it back into a kernel.
It's the same with some natural systems. Such as the collapse of the tropical forest, the melting of ice sheets in Greenland or the die-off of coral reefs.
These changes can speed-up climate change even more, and drastically threaten our communities and entire ecosystems.


A FORESEEN OVERSHOOT
This is great ! What a pleasant spring we are having!
Yes... I'm not looking forward to summer, though. Last year it was terribly hot!
Did you hear that in 2024, for the first time, the world's average temperature was 1.5°C warmer than in the pre-industrial era?
Yes... But I don't really understand what it means...
Why do they always compare current temperatures to the pre-industrial levels?
"Pre-industrial" refers to the years between 1850-1900, the time when we started burning fossil fuels to power factories. Back then, the average global temperature was 13.7°C. Since then, CO_2 emissions have skyrocketed and global temperatures have been rising.
Ok, and why is the 1.5°C so important?
Because if the global warming is more than 1.5°C , the impacts of climate change will be much more severe.
And the higher the temperature rises beyond 1.5˚C , the greater the risks.
Some of the impacts may take a long time to recover or may be completely irreversible when we cross so-called tipping points.
Irreversible changes? For example?
Think of a popcorn.


A corn kernel gets bigger as it heats up, but once it pops, you can't turn it back into a kernel.
It's the same with some natural systems. Such as the collapse of the tropical forest, the melting of ice sheets in Greenland or the die-off of coral reefs.
These changes can speed-up climate change even more, and drastically threaten our communities and entire ecosystems.
So, if we don't do anything, does it mean that it's going to get hotter every year?
The climate is very variable.
Some years might be colder than others.
But the trend is clear. The planet is getting warmer.
And the fact that we've already exceeded the 1.5°C target in 2024 should be a serious warning. At this point, it seems inevitable that we'll exceed 1.5°C at least temporarily until we act drastically.
This does not sound good...
BAR
Is there a way to turn things around?
It is still possible to bring temperatures back below 1.5°C before the end of the century.
But we have to act fast!


The time between going over 1.5 C and bringing it back down is called **temperature overshoot.**
Temperature change
Tipping points
+ 1.5°C
Overshoot
Overshoot
Time
And of course... The higher the temperatures rise and the longer the overshoot lasts, the more irreversible tipping points we risk crossing.
And how do we bring temperatures back down after the overshoot?
The more CO_2 there is in the atmosphere, the higher the global temperature. And the other way around, lower CO_2 levels mean lower global temperature.
But CO_2 stays in the atmosphere for a long time. Once it is emitted, a big part remains there for centuries.
So, to decrease the global temperature we need to reach net negative emissions, which means removing more CO_2 from the atmosphere than we release.
Ok, but how do we actually do that?
To help reduce CO_2 levels in the atmosphere, we can use **carbon dioxide removal (CDR)** methods.
CDR includes a variety of different methods to remove CO_2 from the atmosphere.
Some mimic natural processes such as reforestation or ocean alkalinization.
Other methods include technological approaches
Oh! Then problem solved!
Mmmh, not exactly.
CDRs are still being developed. We're not sure yet how well they work, how affordable they are, or what side effects they could cause. So before scaling them up we need more research.
We don't know enough yet.
So we can't decide on CDR for now.
For now, CDRs are mainly being considered for compensating for emissions that are very hard to reduce, like some industrial processes.


The time between going over 1.5 C and bringing it back down is called **temperature overshoot.**
Temperature change
Tipping points
+ 1.5°C
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Overshoot
Time
And of course... The higher the temperatures rise and the longer the overshoot lasts, the more irreversible tipping points we risk crossing.

Now in Groups!

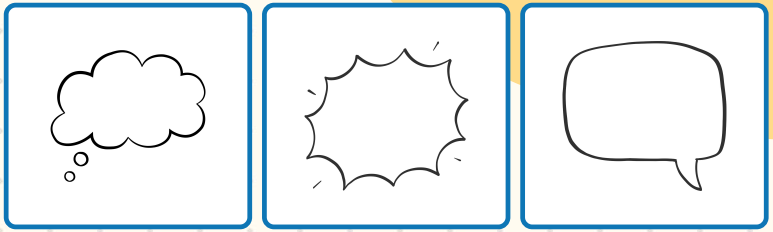
Now in groups!

Form groups (5 people max)



In groups, you'll work on creating a **visual metaphor web,** help each other out, and share tips and inspiration!

Draw a science comic!



Individually, create a comic strip with one, two or three panels.

But remember, work together to get the most out of your comics!

Some steps to guide the process

- In a group: Choose a concept for your team and create a visual metaphor web (5-10 min)
- Write or think about the script (5-10 min)
- Sketch out the comic. Play around with it! (10 min)
- Discuss your draft with your group.
- Create the final comic and then we'll share it with the whole group!



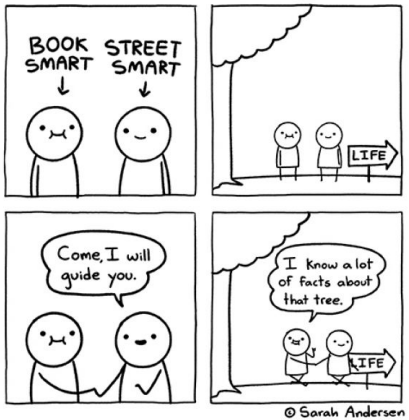
Physics for Cats, by Tom Gauld

A REMINDER

Science comic components:

- Scientific content
- Language and pictures
- Flow, a structured progression
- Narration
- Panel(s)

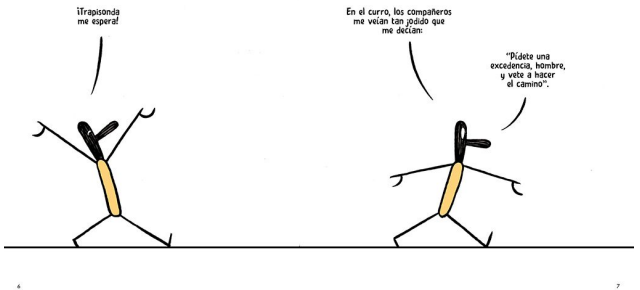
You don’t have to be Picasso!



By Sarah Andersen



By Adela xd



By Max

Some steps to guide the process

- Tipping point
- Climate model uncertainty
- Climate prediction vs climate projection
- Climate scenario
- Climate Variability vs Climate Change
- Climate Model

Or any data, concept, or results of your own if you're working on something that could benefit of a comic!

Acknowledgements

RESCUE

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Climateurope2

Funded by the European Union

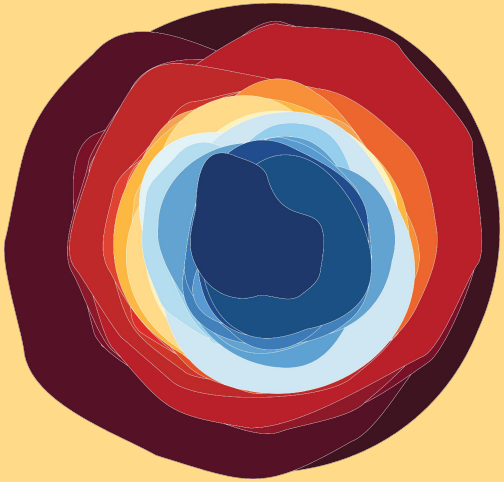
This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101056933.

iDAlert

Infectious Disease decision-support tools and Alert systems

Funded by the European Union

This projecte has received funding from the European Union's Horizon Europe programme under Grant Agreement 101057554.



Visualizing Climate 2026