Global Plastics Tool

A Samuel Pottinger | PH 101 | April 14

Hello! I'm a data scientist, software engineer, and information designer. Plastics, high potency greenhouse gasses, agriculture, fire recovery.

Sam Pottinger
A more human-centered AI/ML
https://gleap.org

UC Berkeley	Data + Environment
EVERY	Data + Synthetic Biology
IDEO	Data + Design
Plenty	Data + Indoor Agriculture
Apple	Data + Engineering
Google	Data + Visualization
LabJack	Data + Hardware
Processing	Data + Love in Java
Sketchingpy	Data + Love in Python

A sustainable healthy world requires system-level intervention.

We need tools which allow us to engage in collaborative systems design.

We need media for thought.

We will explore these ideas through plastics pollution.

Media for thought

What is the square which when taken with ten of its roots will give a sum total of thirty nine? Now the roots in the problem before us are ten. Therefore take five, which multiplied by itself gives twenty five, an amount you add to thirty nine to give sixty four. Having taken the square root of this which is eight, subtract from this half the roots, five leaving three. The number three represents one root of this square, which itself, of course is nine. Nine therefore gives the square.

Media for thought

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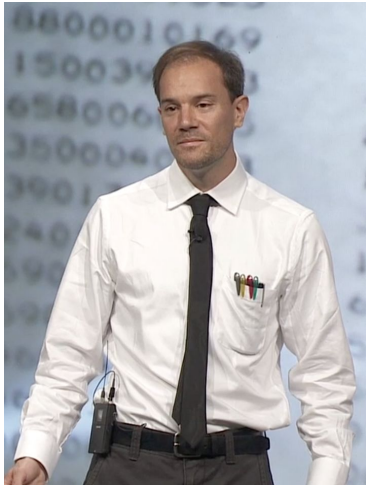
$$x^2 + 10x = 39$$

Media for thought



The most popular games in 1999

News Videos Reviews Staff Picks Deals More

1999's Best-Selling Games

The numbers are in. PC Data has compiled a list of the 20 best-selling games of last year.

Today

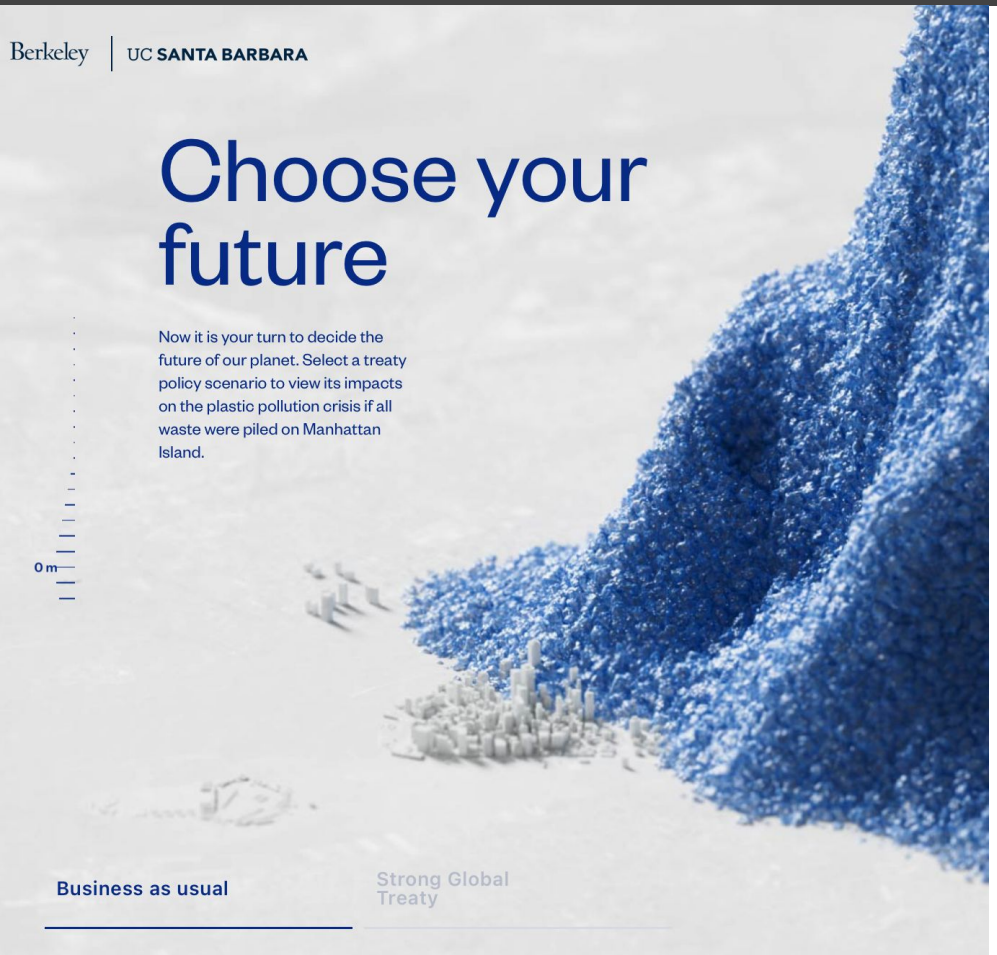
> The outlook for plastics.

A systems perspective on plastics.

Brief group exercise.

Learnings for systems and public policy design.

A massive mess of plastic.



https://plasticstreaty.berkeley.edu

Harms on the environment and us.

SPECIAL ISSUE REVIEW

The global threat from plastic pollution

MATTHEW MACLEOD, HANS PETER H. ARP, MINE B. TEKMAN, AND ANNIKA JAHNKE Authors Info & Affiliations

SCIENCE • 2 Jul 2021 • Vol 373, Issue 6550 • pp. 61-65 • DOI: 10.1126/science.abg5433

98,581 1,550

Abstract

Plastic pollution accumulating in an area of the environment is considered "poorly reversible" if natural mineralization processes occurring there are slow and engineered remediation solutions are improbable. Should negative outcomes in these areas arise as a consequence of plastic pollution, they will be practically irreversible. Potential impacts from poorly reversible plastic pollution include changes to carbon and nutrient cycles; habitat changes within soils, sediments, and aquatic ecosystems; co-occurring biological impacts on endangered or keystone species; ecotoxicity; and related societal impacts. The rational response to the global threat posed by accumulating and poorly reversible plastic pollution is to rapidly reduce plastic emissions through reductions in consumption of virgin plastic materials, along with internationally coordinated strategies for waste management.

Review article

The potential impact of nano- and microplastics on human health: Understanding human health risks.

Ewa Winiarska [a], Marek Jutel [a b], Magdalena Zemelka-Wiacek [a]

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https://doi.org/10.1016/j.envres.2024.118535 Get rights and content

Highlights

- Exposure to nano- and microplastics in humans potentially leads to serious health issues, including various cancers, respiratory disorders, and inflammatory bowel disease.
- Understanding molecular mechanisms underlying the interaction of plastics with human cells may help

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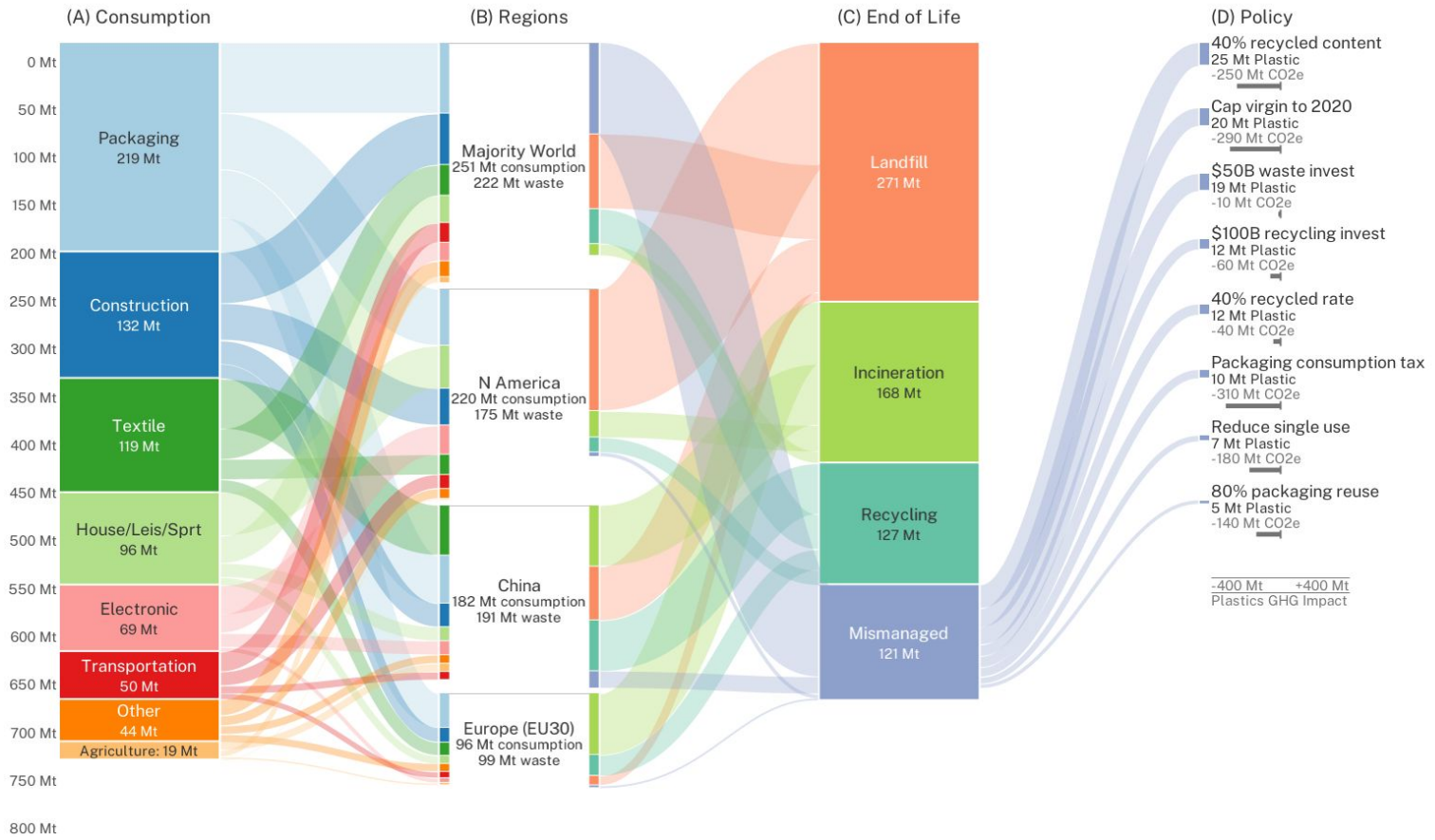
Plastic isn’t in just one thing.



We've solved something like this before.

We are trying to do it again.

In March 2022, at the resumed fifth session of the UN Environment Assembly (UNEA-5.2), a historic resolution was adopted to develop an international legally binding instrument on plastic pollution, including in the marine environment.

Today

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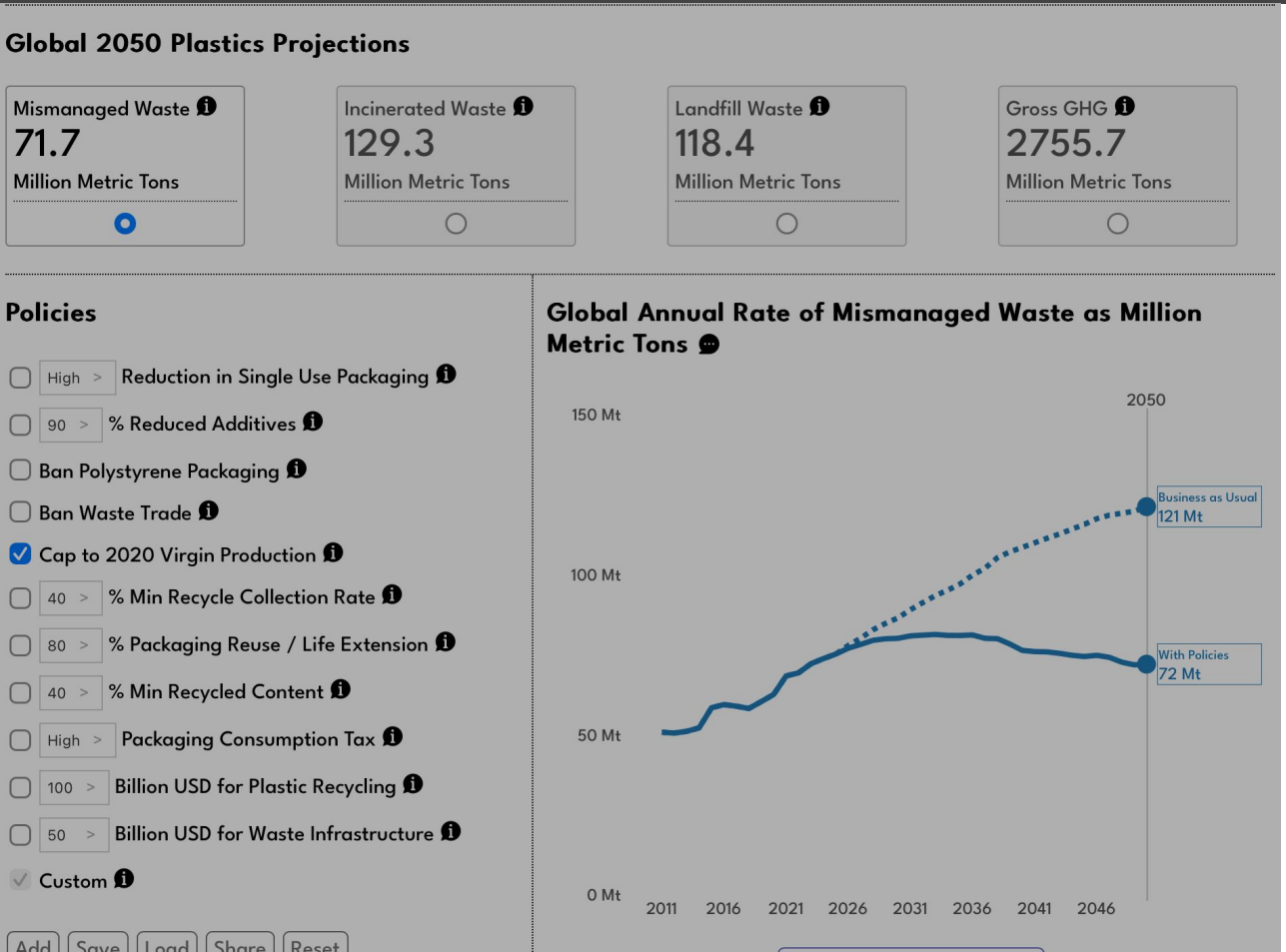
We are going to step into the policy makers' shoes.



https://global-plastics-tool.org

Today

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Users as co-creators (using game design).

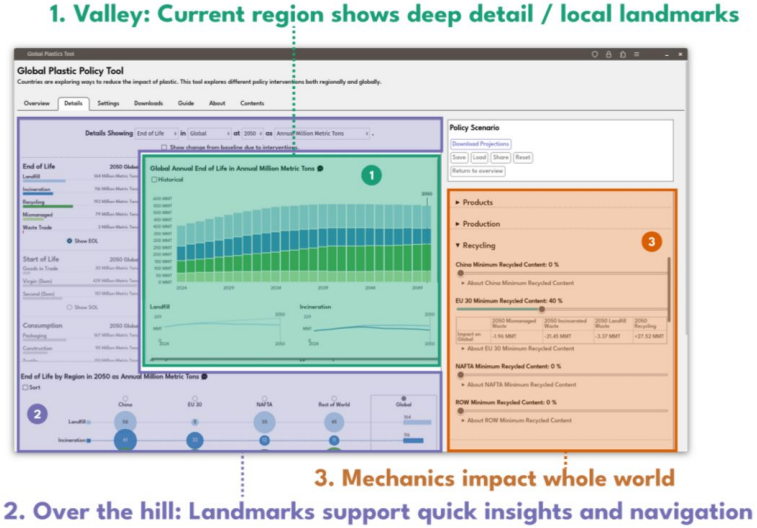
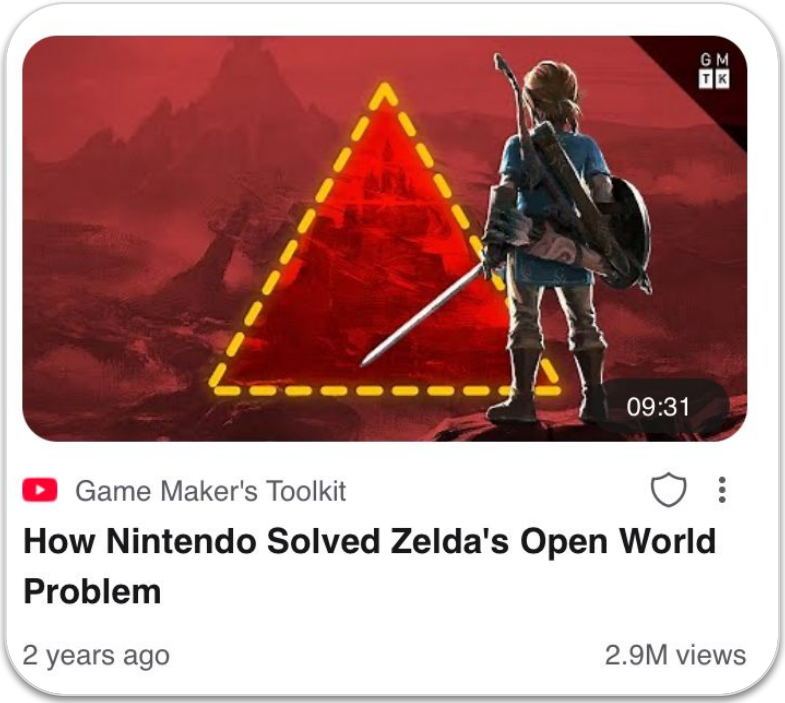


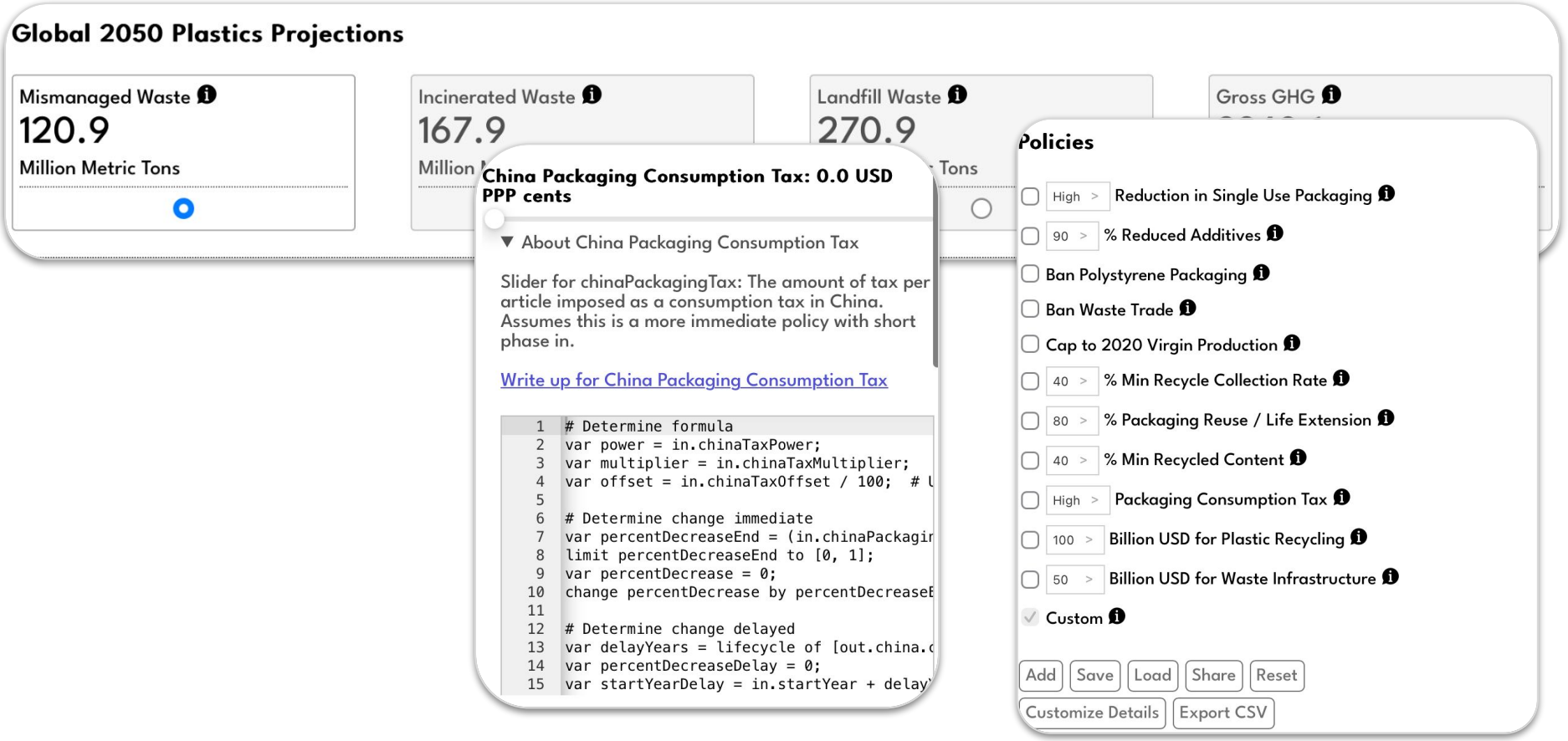
Figure 2: The details tab use “valleys” to structure primary and secondary loops.



Be there.

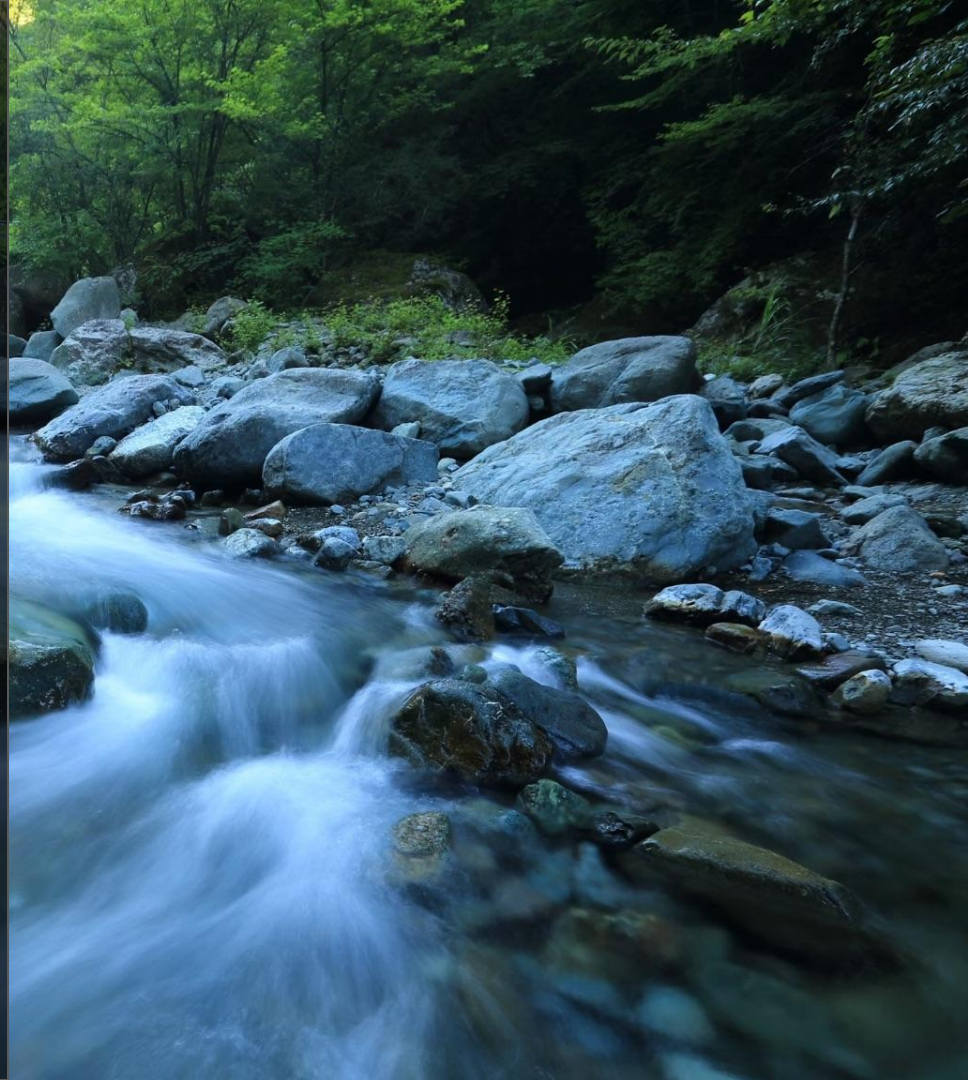

UN environment programme
UN environment assembly
UN environment programme
UN environment assembly

Speak their language.



Thank you.

Works cited attached.



Bonus Activity

https://foodsimsf.com

I teach! Learn more…

https://interactivedatascience.courses

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