Being Practical: How to Access and Process EUMETSAT and Copernicus Data

ESA - exploring data-driven Little Pictures

Paul Fisher

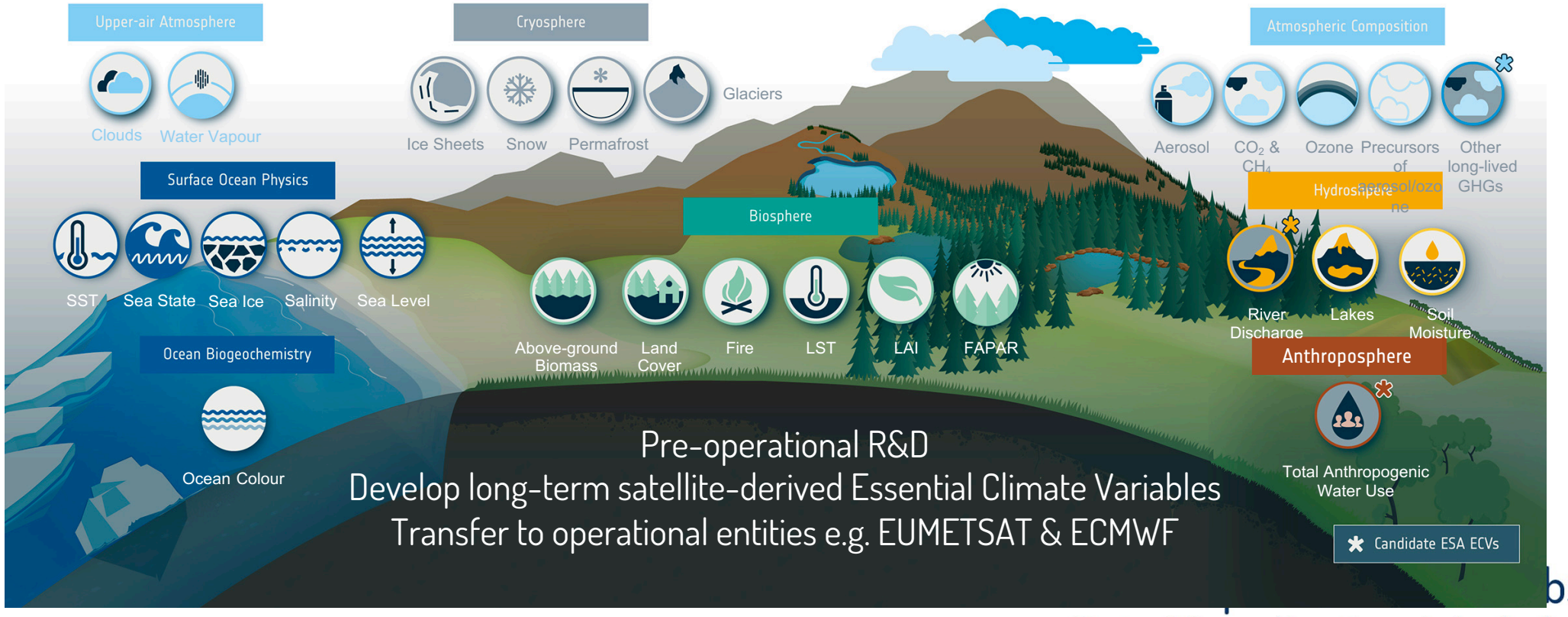
EUMETSAT

#EOData4Storytelling

PROGRAMME OF THE EUROPEAN UNION

Copernicus
Europe's eyes on Earth

esa CLIMATE CHANGE INITIATIVE



bservation
Data Visualisation Workshop Series
Being Practical: How to Access & Process
EUMETSAT and Copernicus Data

EUMETSAT

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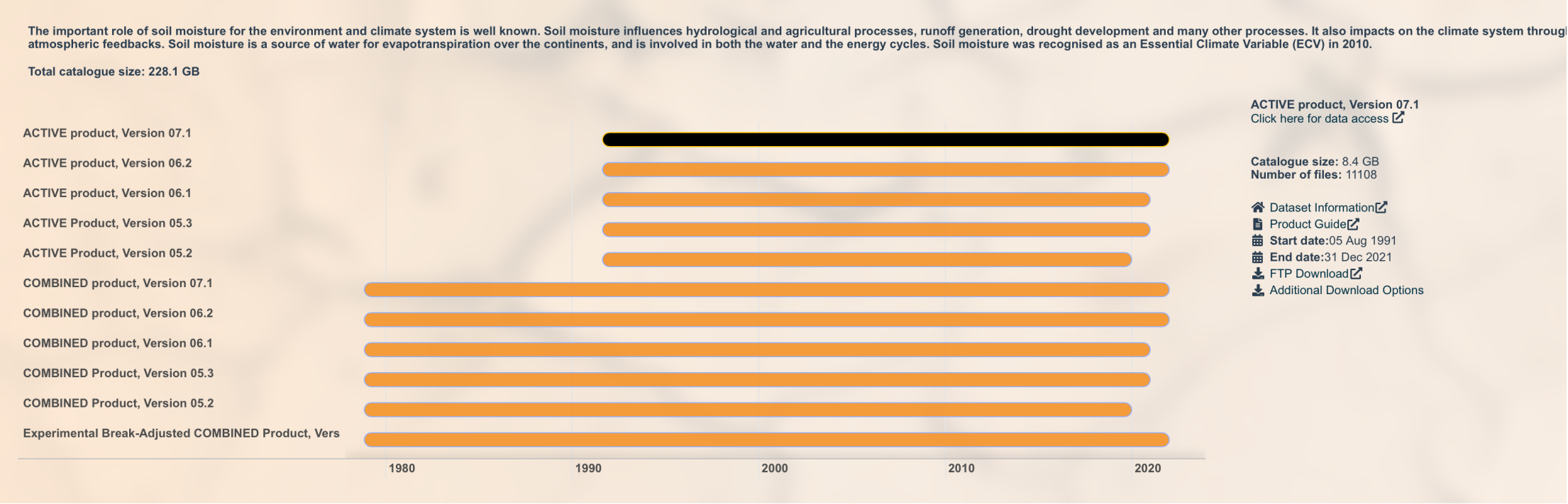
PROGRAMME OF THE EUROPEAN UNION

Copernicus Europe's eyes on Earth

ESA Climate Change Initiative Data

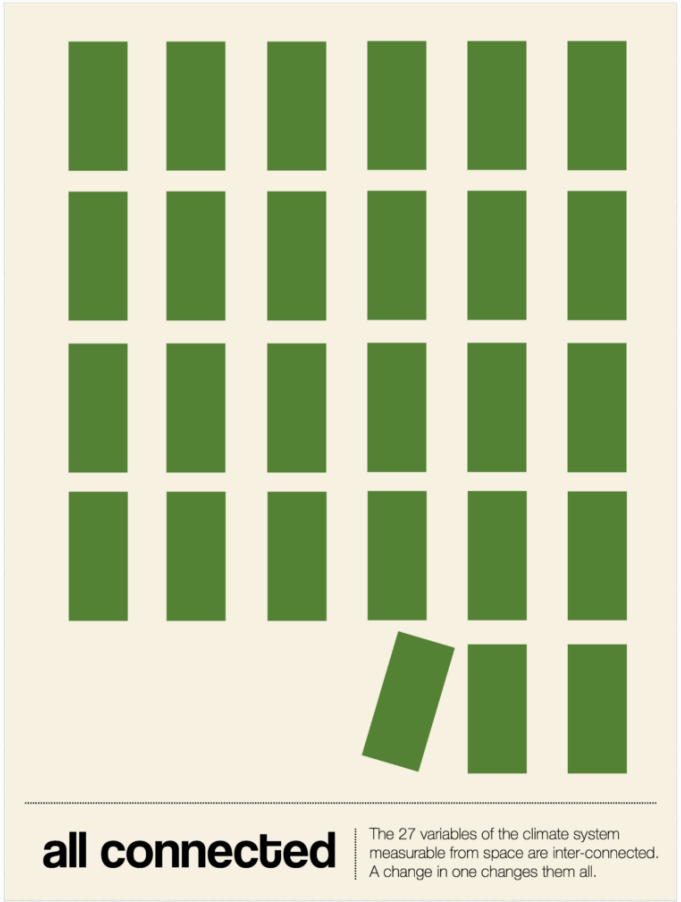


→ climate.esa.int/data

Copernicus Earth Observation Data Visualisation Workshop Series

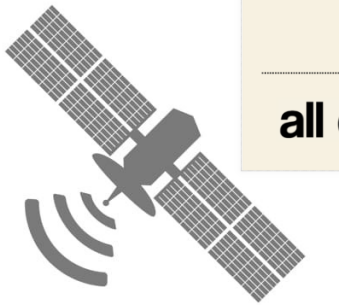
Being Practical: How to Access & Process EUMETSAT and Copernicus Data

Little pictures – our dataviz sandpit



We established a informal collective of climate data visualisation creatives to **explore** how to make a big impact with data-driven little pictures

- Super simple
- Not impenetrable science figures
- Driven by CSV of our 'greatest hits'
- To identify how to make data easy to access and use to increase reach

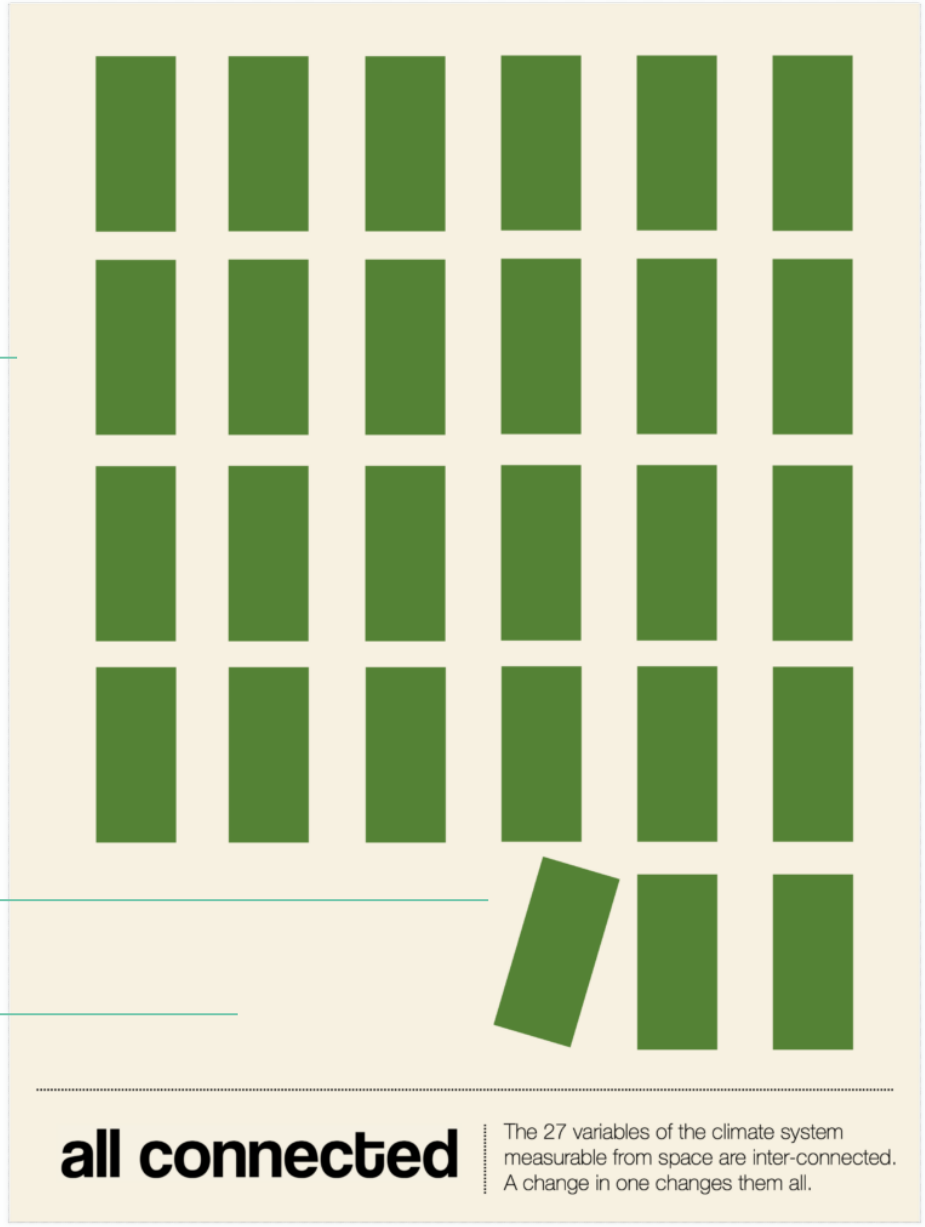


Design language – revised Bauhaus.

Minimalist.

Emotional hook.

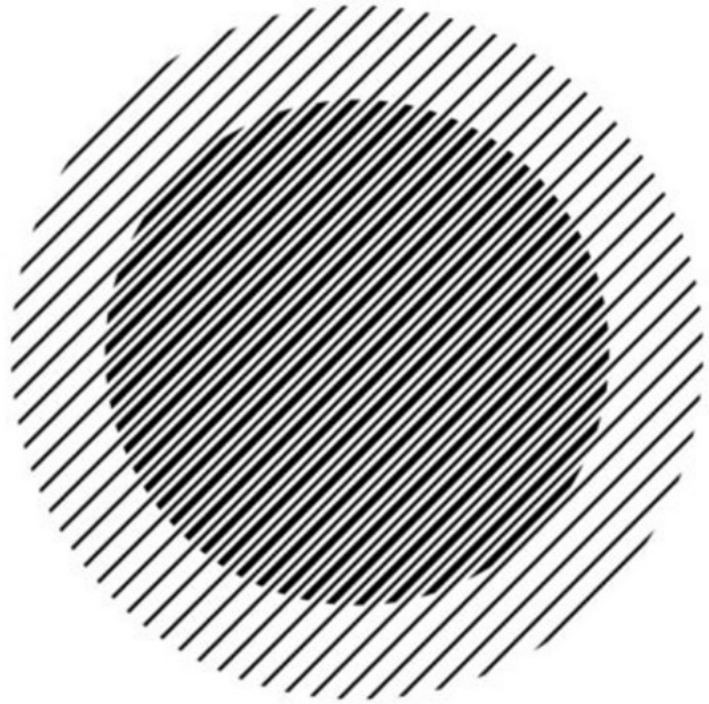
Negative space.



Hyperlinks to landing page where all the following are made easily & freely available –

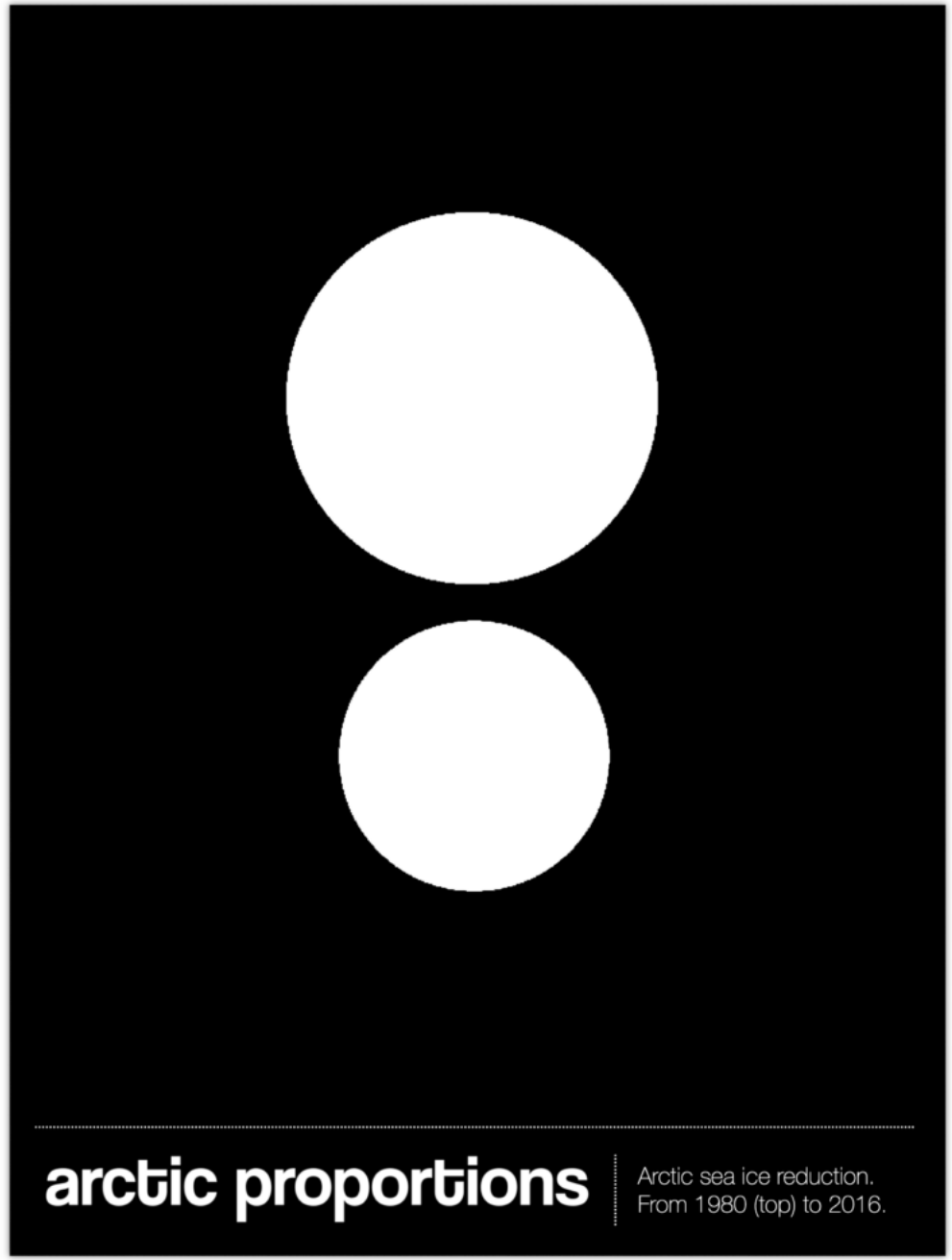
- The story
- The free & open dataset
- Instructions on how made & how to recreate, encouraging user to make their own.
- "The Bigger Picture" on what ESA and collaborating agencies do to get the data on which based.
- Fully citable and traceable

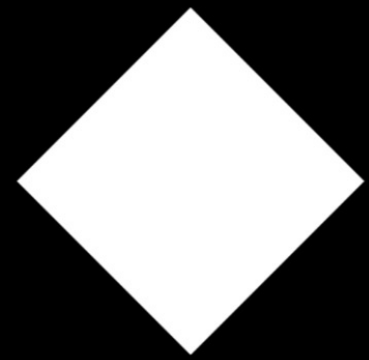
One message only.



an eye on ice loss

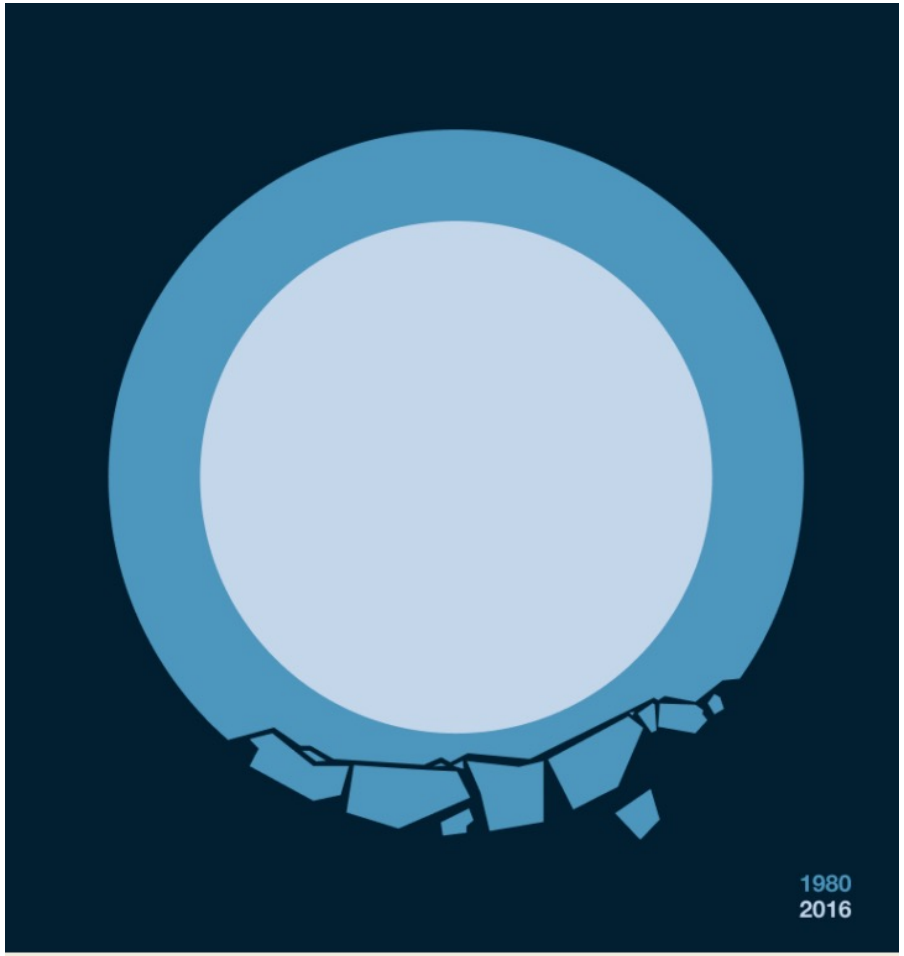
Proportion of arctic sea ice reduction from 1980 to 2016.


arctic proportions
Arctic sea ice reduction.
From 1980 (top) to 2016.



arctic pulse

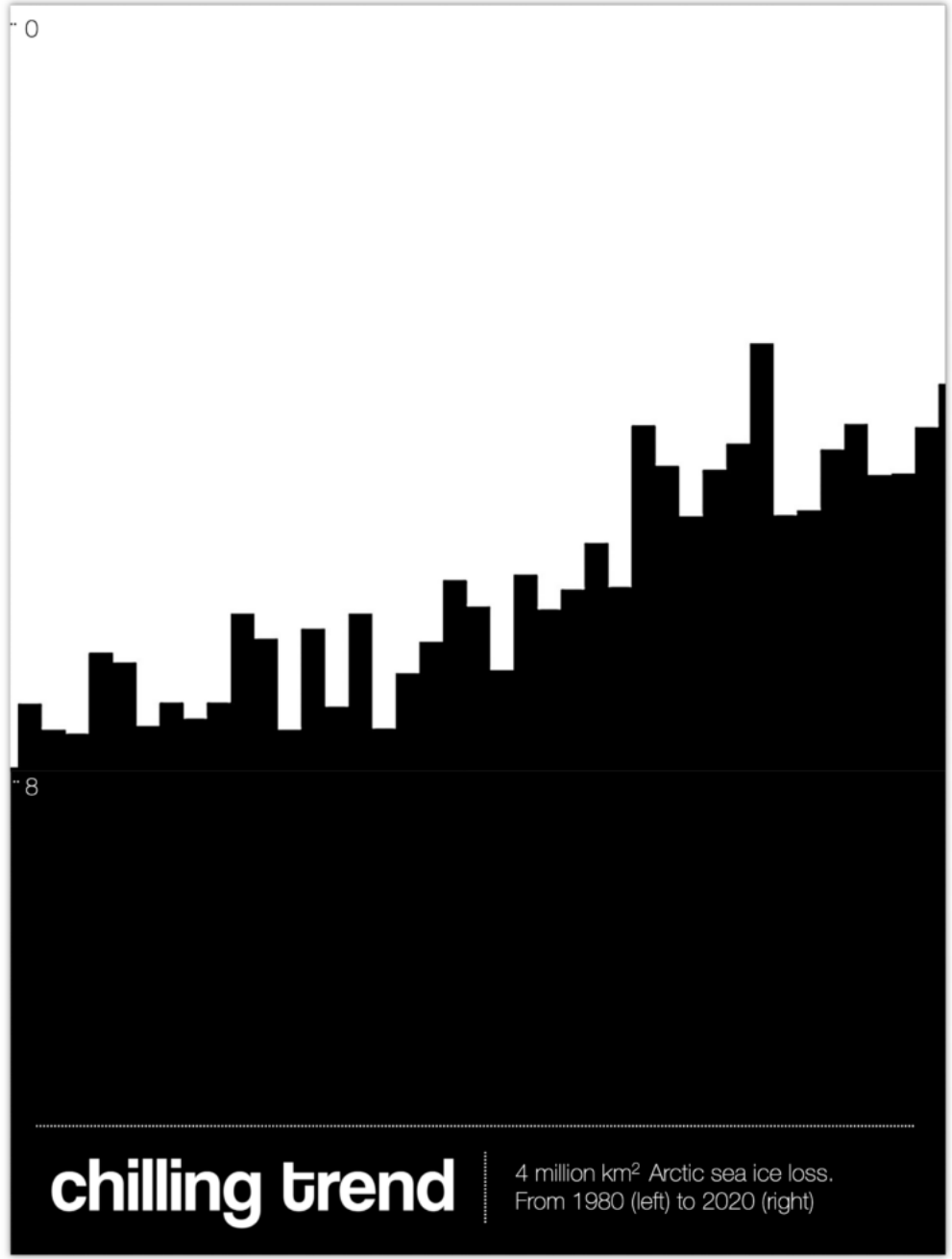
Two squares – 1980 (biggest) & 2016 (smallest).
Proportional sea ice loss. With pulse animation.



sea ice loss

1980 – 2016

This simple graphic depicting the reduction of Arctic sea ice between 1980 and 2016, highlights the urgency of the Arctic sea ice loss crisis. As our planet's temperature continues to rise due to climate change, the Arctic is losing sea ice.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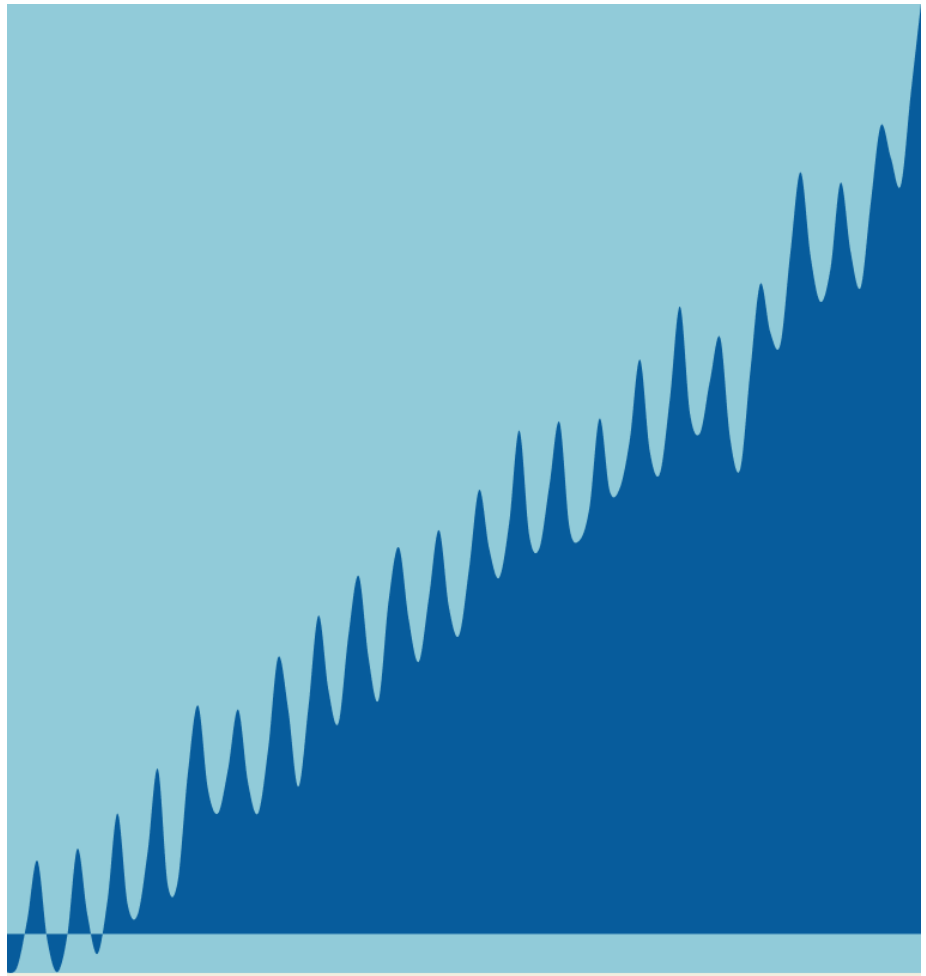
8
chilling trend
4 million km² Arctic sea ice loss.
From 1980 (left) to 2020 (right)



global median sea level

1993 – 2015

This simple graphic depicting the reduction of Arctic sea ice between 1980 and 2016, highlights the urgency of the Arctic sea ice loss crisis. As our planet's temperature continues to rise due to climate change, the Arctic is losing sea ice.

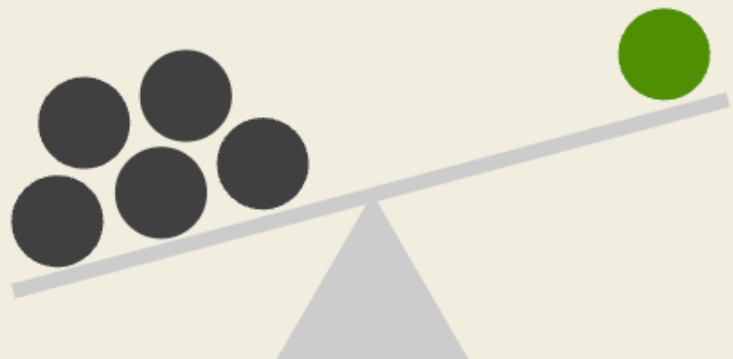
3

sea level trend

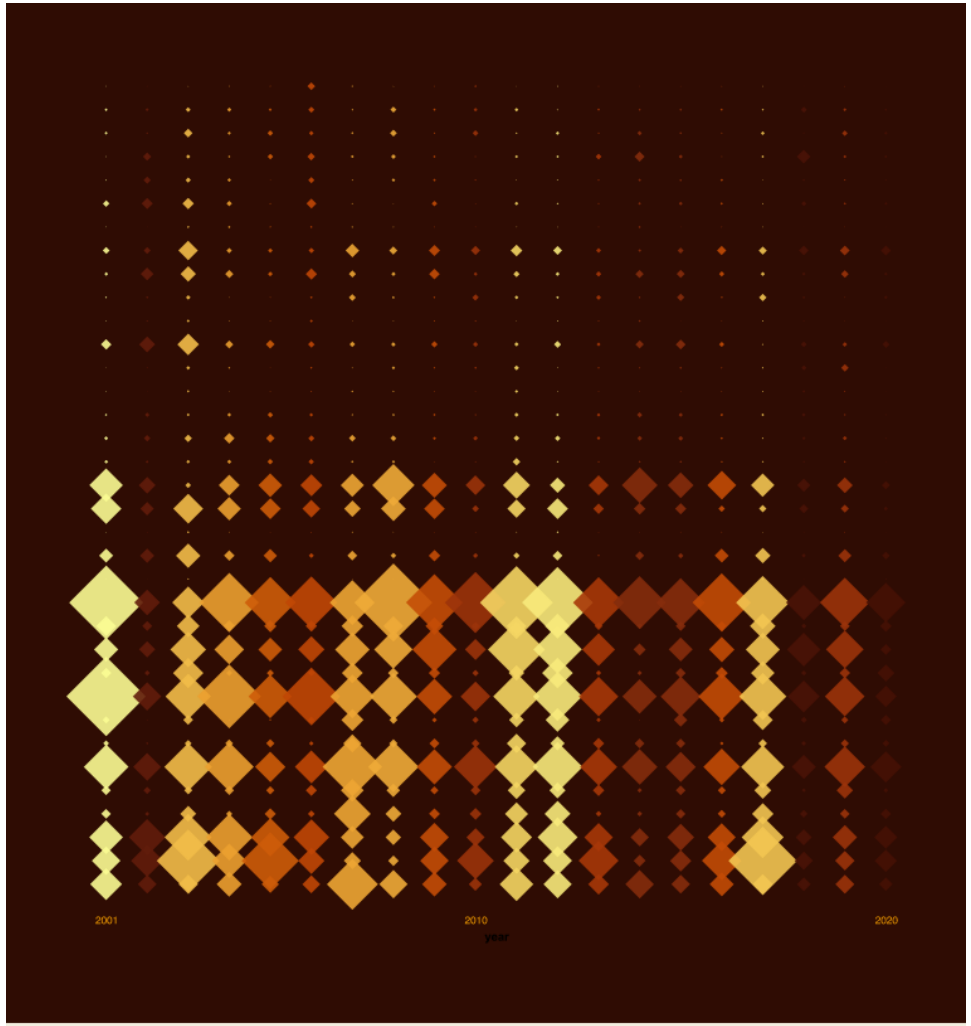
Over 3mm per year global mean rise.
1993 to 2015.

virtually coastal

Sea level rises along virtual altimetry stations of Europe. Mostly.



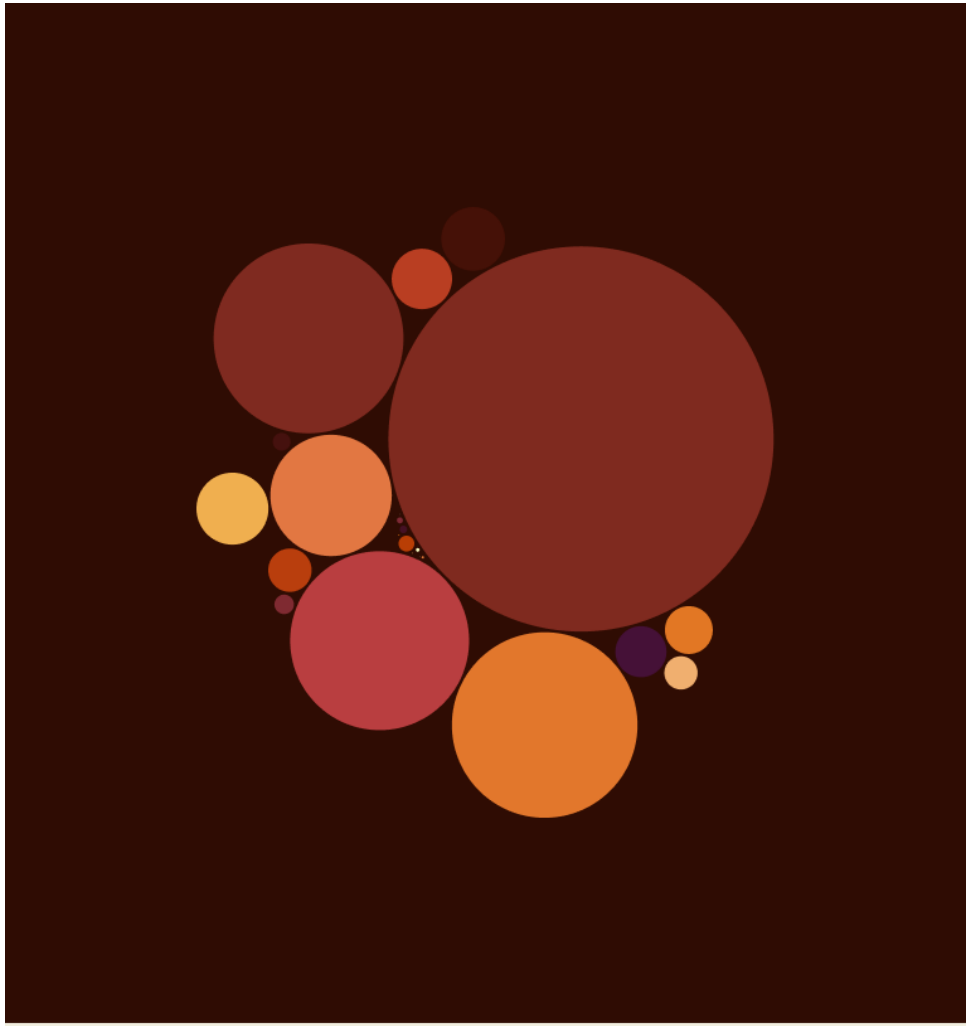
tree loss vs.
reforestation



burned area in europe

2001 – 2020

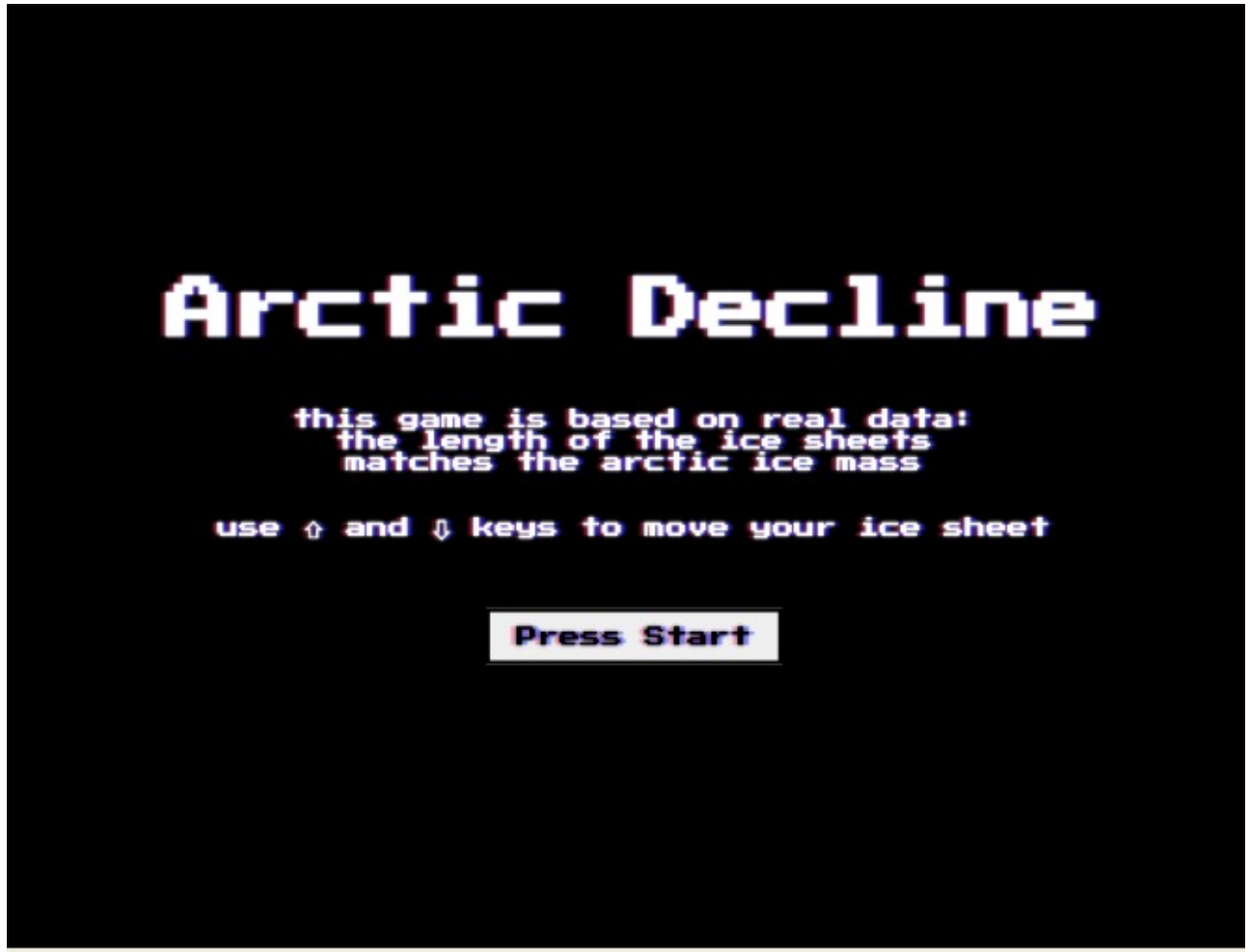
This little image uses data on burned area for European countries from 2001 to 2020 to illustrate how each country was affected by fire. Countries are oriented in rows and years as columns. A bigger diamond shows more burned area. The colors represent the sum of burned area in Europe in the respective year.



burned area in europe

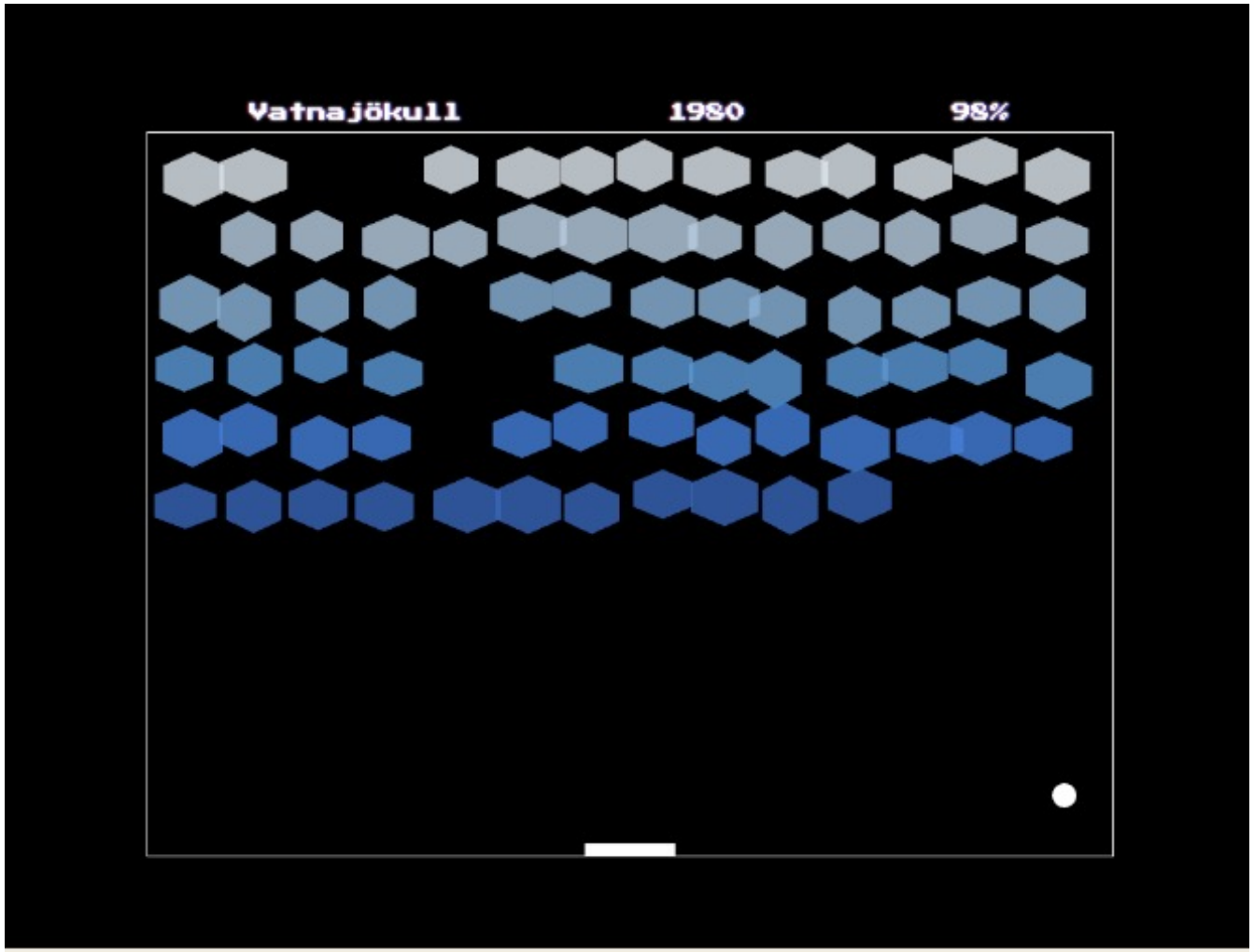
2012

This little image uses data on burned area for European countries from 2001 to 2020 to illustrate a circular pattern for each year. The size of each the circle represents the burned area of that year for a single county.



arctic decline

interactive game



glacier-b-gone

interactive game

LITTLE PICTURES – LESSONS LEARNED

- KISS
- One clear message
- Don’t be too clever; Don’t be too abstract
- If fewer words work, the visualization is doing its job

- All driven with open access data from ESA Eumetsat C3S
  - Greatest hits CSVs – democratizes data
  - But dealing with bespoke requests?
  - Maybe preset python scripts (just change the time, location)
  - Tutorials climate data to upskill?

Little Pictures –next steps

- Build your own climate “Little Picture” competition
- *Pick data. Apply tool. Submit picture.*
- Kick off Sept 2023 | ECMWF & EUMETSAT invited co-hosts
- Exhibit examples at
  - ARS Electronica Festival, Linz
  - European Journalism Centre Summit, Lisbon
- Culminates in a Dataviz Masterclass & competition winner announcement and showcase of entries this Winter