

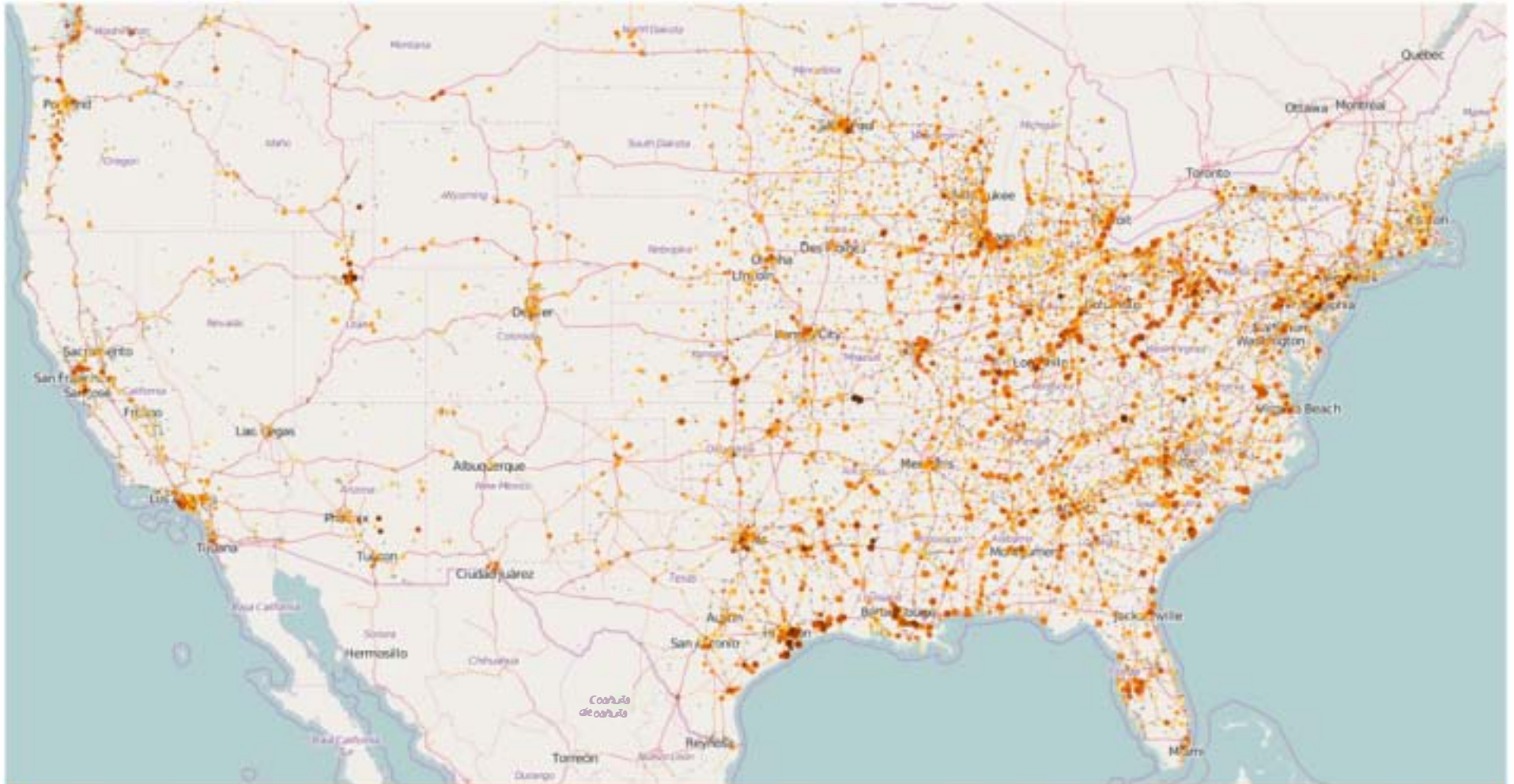


TOXIC TRENDS MAPPER

Empowerment of Vulnerable Communities Through Data Access

TOXIC TRENDS MAPPER

THERE ARE CURRENTLY 17,000 FACILITIES REPORTING TO TRI AND VIEWABLE IN THE WEB MAP



This web map visually represents industrial air pollution information to citizens across the United States by mapping the relative risk from air pollution that industrial facilities pose to the human health of their communities and how those risks might change over time. Facility pollution information comes from the Toxic Release Inventory (TRI), an inventory by the United States Environmental Protection Agency (EPA) and the States to collect data annually on releases and transfers of certain toxic chemicals from industrial facilities.



OUR GOAL

To allow residents living in vulnerable communities access to a data source that will help monitor chemical releases, assess health impacts, communicate potential risks, and help residents advocate for improved local, state, and national policies.



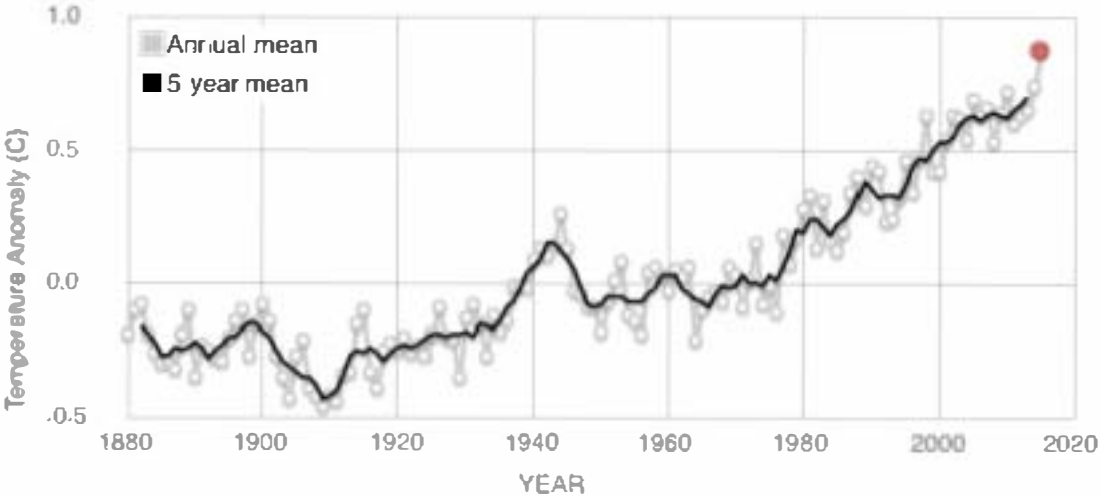
Image Credit: ESA

The Earth's climate has changed throughout history. Just in the last 650,000 years there have been seven cycles of glacial advance and retreat, with the abrupt end of the last ice age about 7,000 years ago marking the beginning of the modern climate era – and of human civilization?

GLOBAL TEMPERATURE INCREASE

GLOBAL LAND-OCEAN TEMPERATURE INDEX

Data source: NASA's Goddard Institute for Space Studies (GISS).
Credit: NASA/GISS



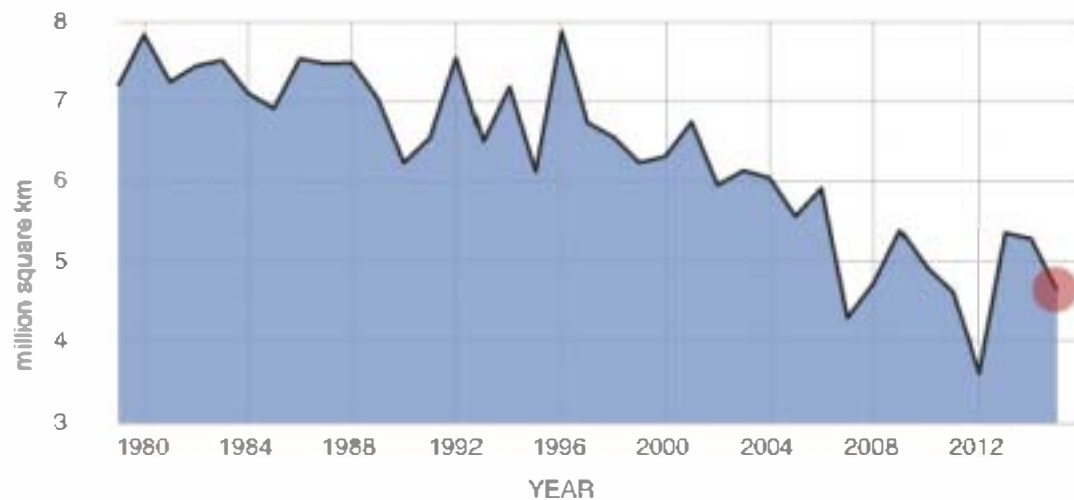
ARCTIC SEA ICE DECREASE

AVERAGE SEPTEMBER EXTENT

Data source: Satellite observations. Credit: NSIDC

RATE OF CHANGE

↓ 13.4
percent per decade



LAND ICE SHEETS DISAPPEARING

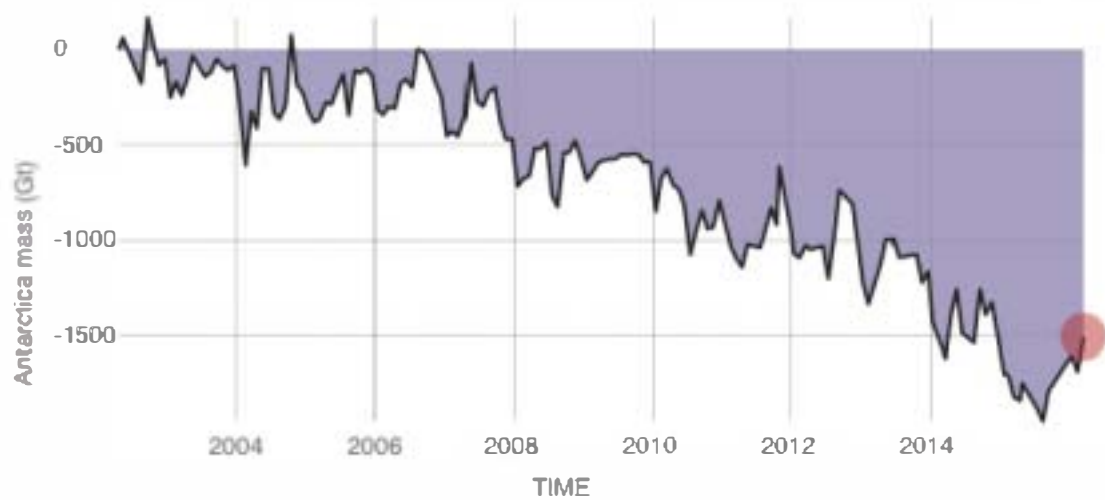
ANTARCTICA MASS VARIATION SINCE 2002

Data source: Ice mass measurement by NASA's GRACE satellites.
Credit: NASA

RATE OF CHANGE

↓ 118.0

Gigatonnes per year
margin: ± 79



SEA LEVELS RISING

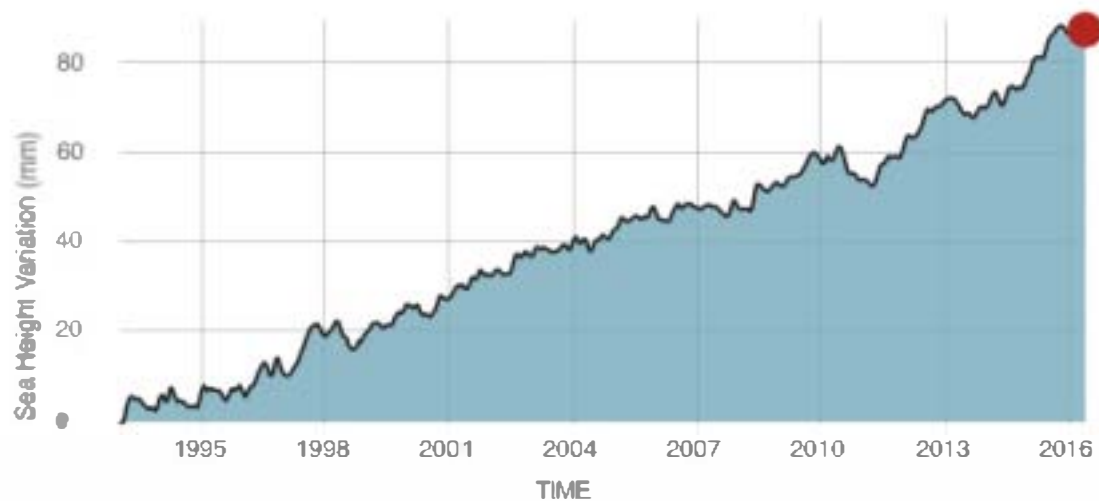
SATELLITE DATA: 1993-PRESENT

Data source: Satellite sea level observations.
Credit: NASA Goddard Space Flight Center

RATE OF CHANGE

↑ 3.5

millimeters per year
margin: ± 0.4





AVAILABILITY HEURISTICS

A mental shortcut that relies on immediate examples that come to mind. **When** making a decision, a number of related events or situations might immediately spring to the forefront of your thoughts.

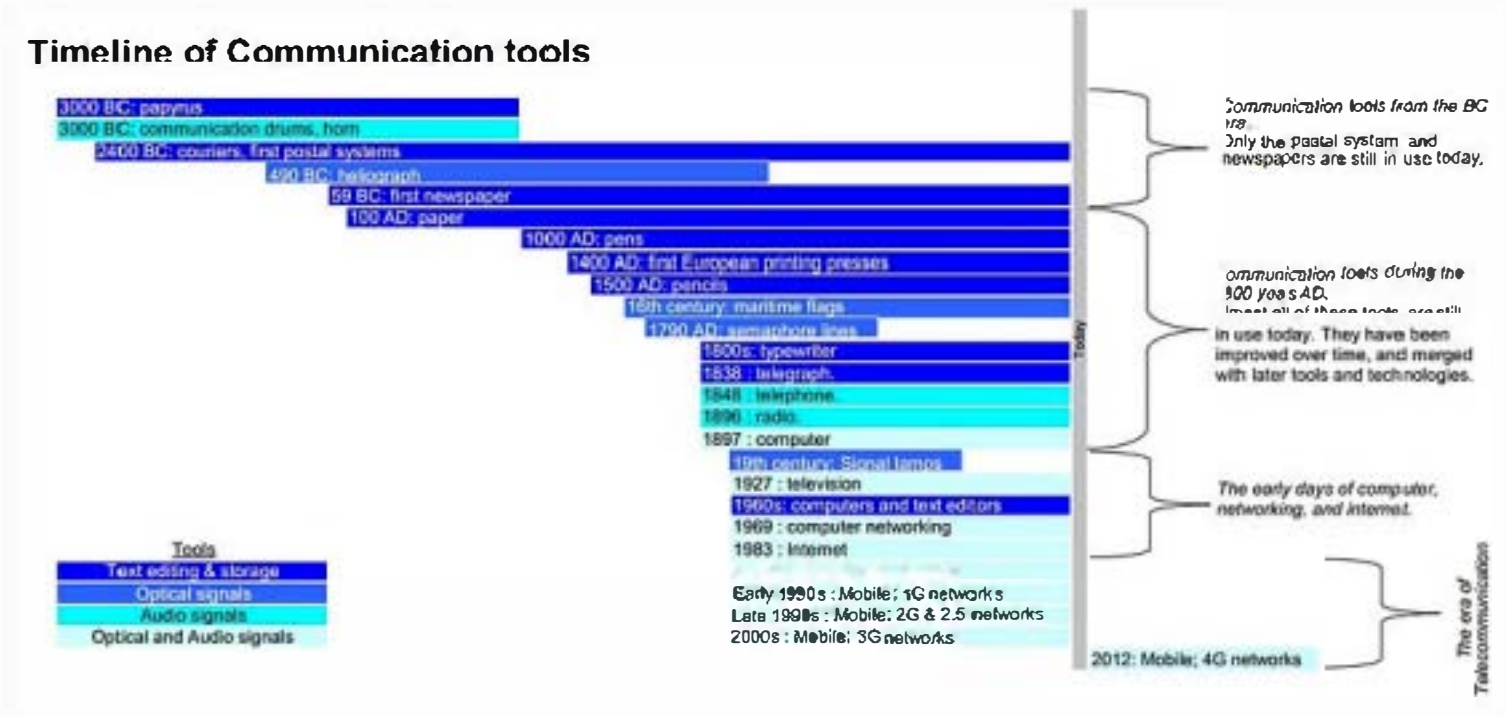
OUR CURRENT GLOBAL ENVIRONMENTAL PROBLEM HAS
NO PRECEDENCE OR RELATED SITUATION MAKING
IT DIFFICULT TO SOLVE

CHANGE HEURISTICS
CHANGE THE WORLD

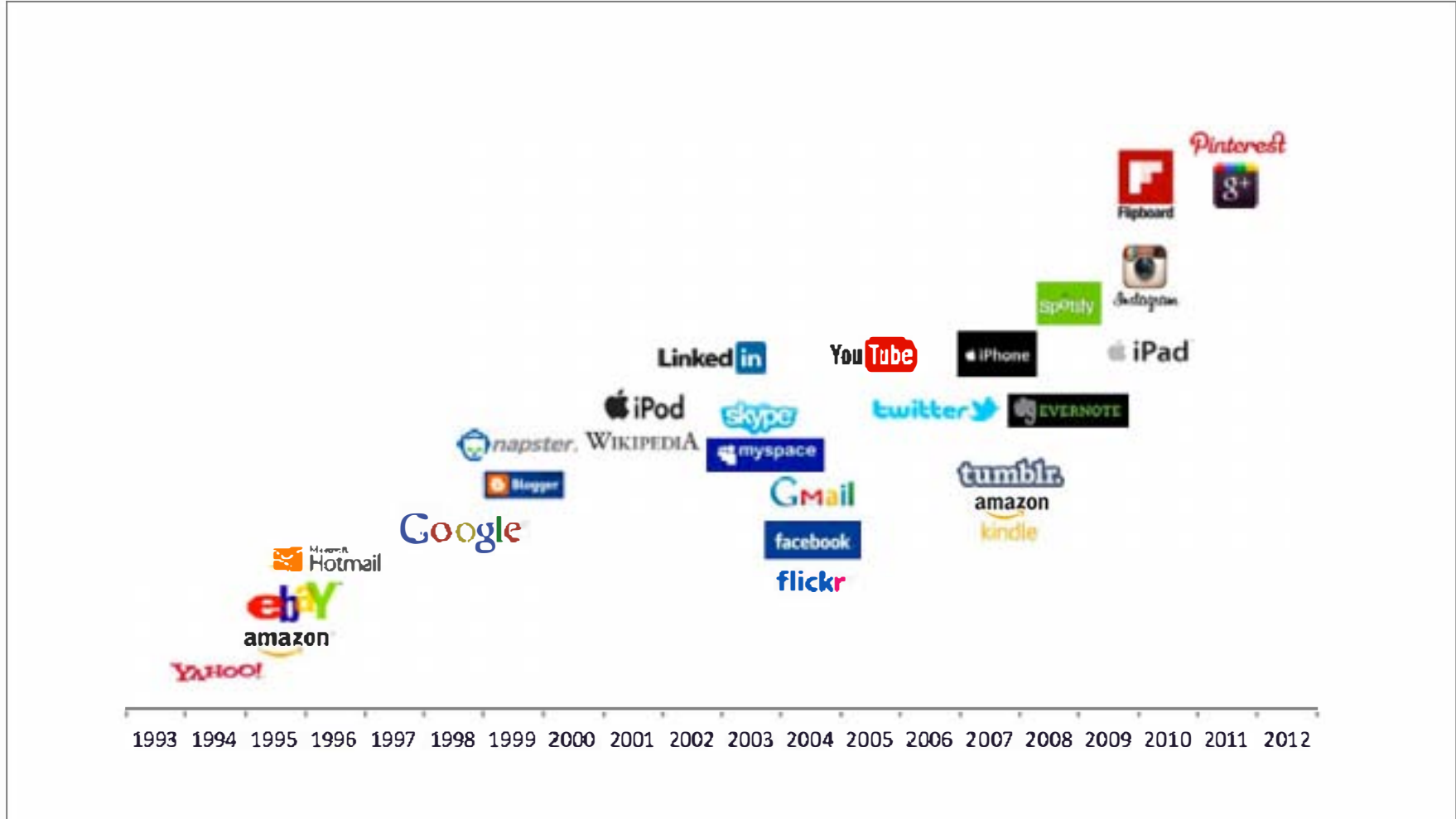


SMOKE SIGNALS → DIGITAL SIGNALS

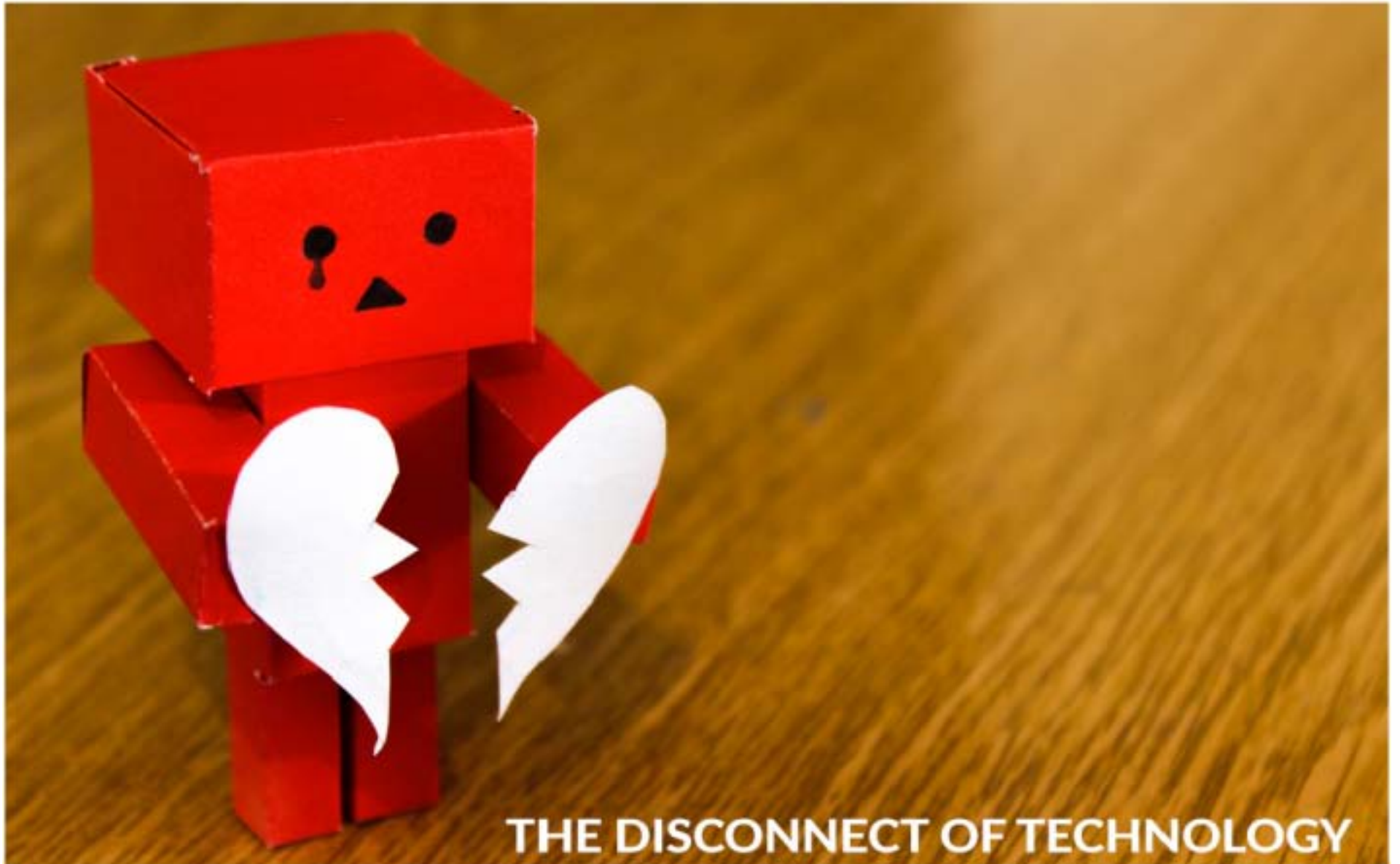
Timeline of Communication tools



In the span of about 175 years the digital signal evolved from telegraphs to 4G networks. It took 500 years to go from pen to pencil.



CHANGES IN DIGITAL COMMUNICATION IN THE LAST 20 YEARS



THE DISCONNECT OF TECHNOLOGY

A study at UCLA indicated that up to 93 percent of communication effectiveness is determined by nonverbal cues. Another study indicated that the impact of a performance was determined 7 percent by the words used, 38 percent by voice quality, and 55 percent by the nonverbal communication.



A person is shown from the waist down, sitting and reading an open book. The scene is dimly lit, with the person's legs and the book's pages being the primary light sources. The background is dark and out of focus, suggesting an indoor setting like a library or study.

NO REFERENCE

OUR CURRENT GLOBAL ENVIRONMENTAL PROBLEM
HAS NO PRECEDENCE OR RELATED SITUATION MAKING
IT DIFFICULT TO SOLVE

A woman with long, wavy brown hair is shown in profile, looking down at her smartphone. She is standing on a rooftop terrace with a railing, looking out over a cityscape at sunset. The sky is a warm orange and yellow, and the city lights are visible in the distance. The text "I want-to-know moments" is overlaid on the image in a large, bold, orange font.

I want-to-know moments

Consumer behavior has changed forever. Today's battle for hearts, minds, and dollars is won (or lost) in **micro-moments**—intent-driven moments of decision-making and preference-shaping that occur throughout the entire consumer journey.

CREDIT: GOOGLE KEYNOTE 2016

**When somebody adds another
plate to the sink**



while I'm washing the dishes

**WHY COULDN'T THE BIKE STAND
ON ITS OWN?**

BECAUSE IT'S TWO TIRED.



**BECAUSE OF THIS
POSE IM DOING**



**IM 1 OF THE MOST
POPULAR MEMES EVER**

quickmeme.com

airPOLLUTION

The Toxic Trends Mapper presents industrial air pollution information to citizens across the United States by mapping the relative risk from air pollution that industrial facilities pose to the human health of their communities and how those risks might change over time. Facility pollution information comes from the Toxic Release Inventory (TRI), an inventory by the United States Environmental Protection Agency (EPA) and the States to collect data annually on releases and transfers of certain toxic chemicals from industrial facilities.

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TOXIC TRENDS MAPPER

measure industrial air pollution in your area

Brought to you by the Deep South Center for Environmental Justice | DSCJ.org

EDUCATION

...circles with colors that correlate to a risk level based on modeled output data from the EPA's Risk Assessment (RSE) model for assessing TRI data. The data is broken into 7 sizes and 7 colors, to reflect changes in the amount so the map user will be able to see if they are getting better or worse over time, or if their communities are getting safer and cleaner. Smaller circles represent lower risk, larger circles indicate more pounds of toxic chemicals released. The size of the circle represents an order of magnitude increase in risk. Lighter circles represent polluters who are posing more risk, darker circles represent polluters who are posing more risk. The size of the circle represents an order of magnitude change in risk.

Currently
D facilities
to TRI

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By creating visually stimulating social media campaigns we can capture an audience in their "I want to know moment".



TOXIC TRENDS MAPPER

Empowerment of Vulnerable Communities Through Data Access

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