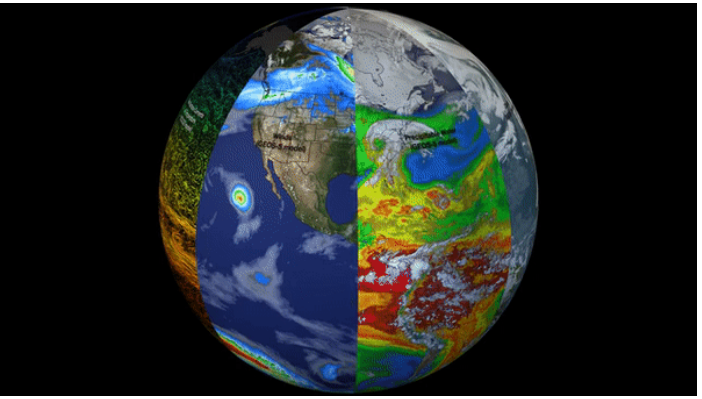


AI AI AI AI AI:

Ready or Not, The Future is Coming!

Nagaraja Rao Harshadeep (Harsh)

Global Lead (Disruptive Technology)

harsh@worldbank.org

THE WORLD BANK

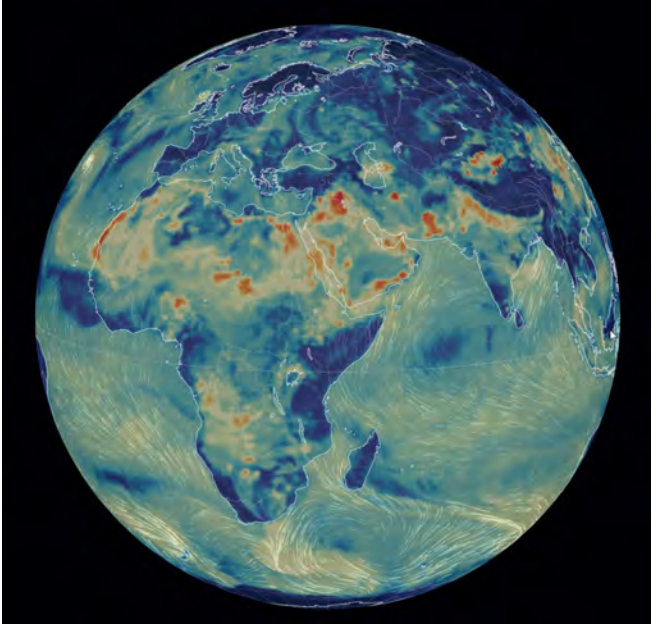
IBRD • IDA | WORLD BANK GROUP

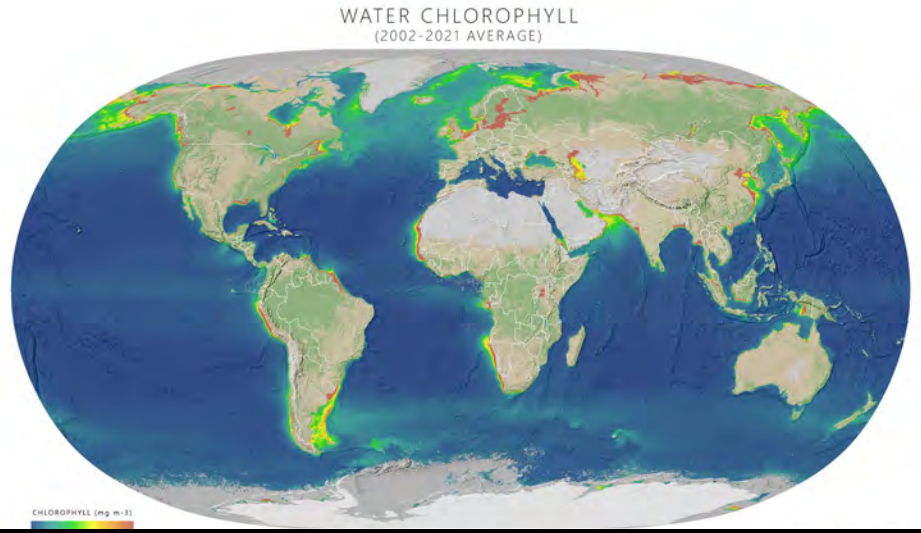
1818 Society Annual Meeting

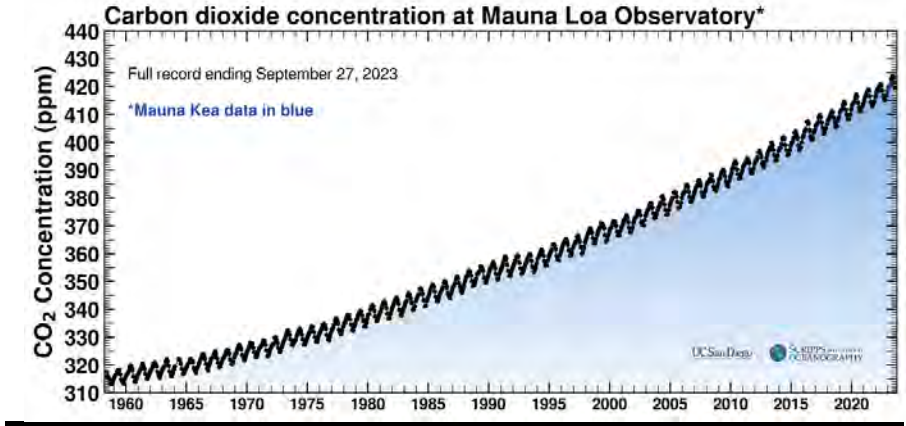
Nov 9, 2023

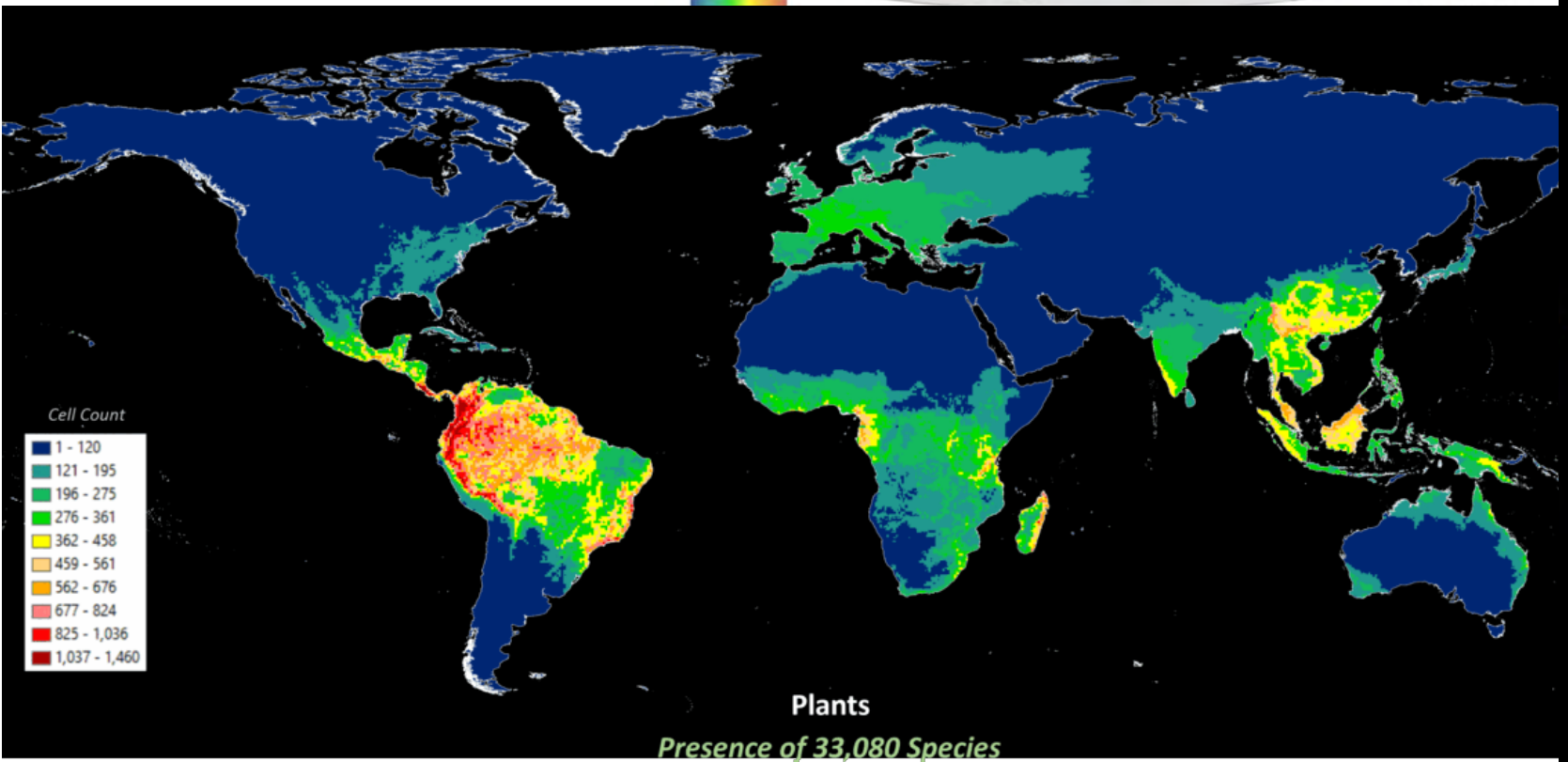
OUR DREAM
IS A WORLD FREE OF POVERTY
ON A LIVABLE PLANET

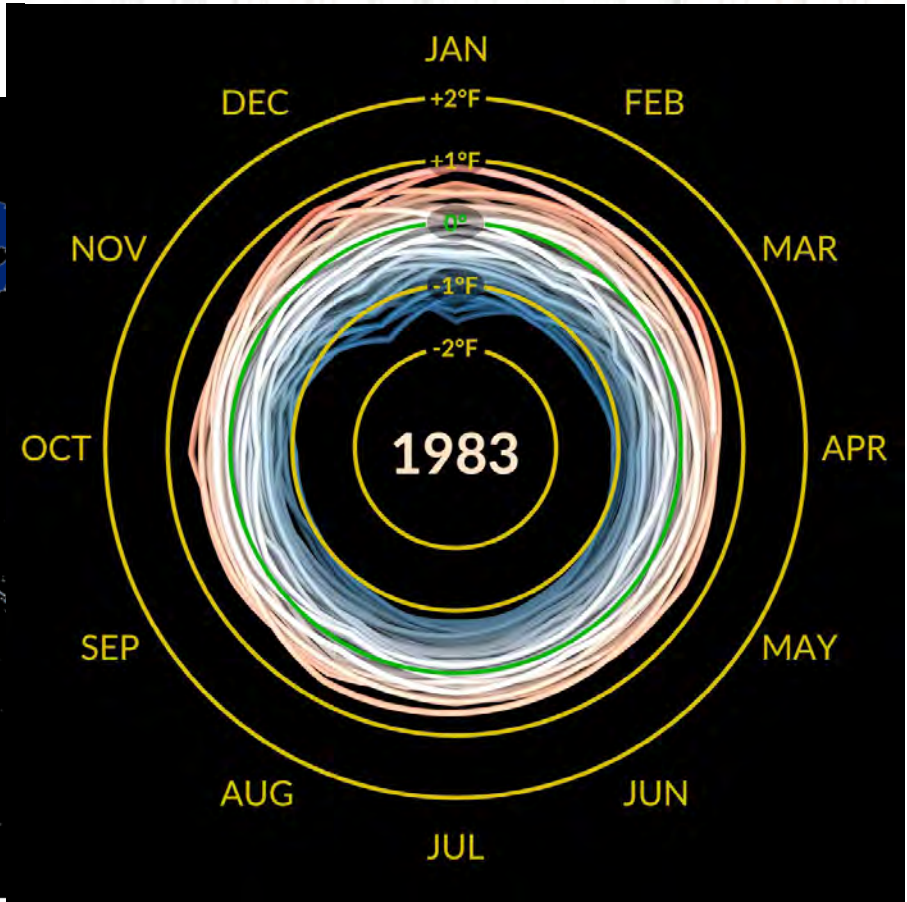
Towards a more livable planet!







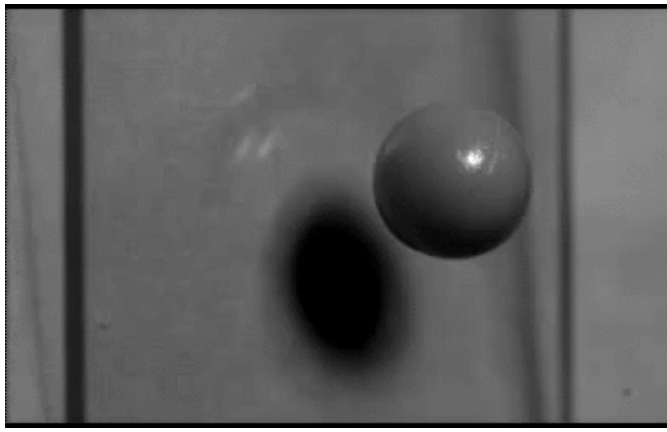


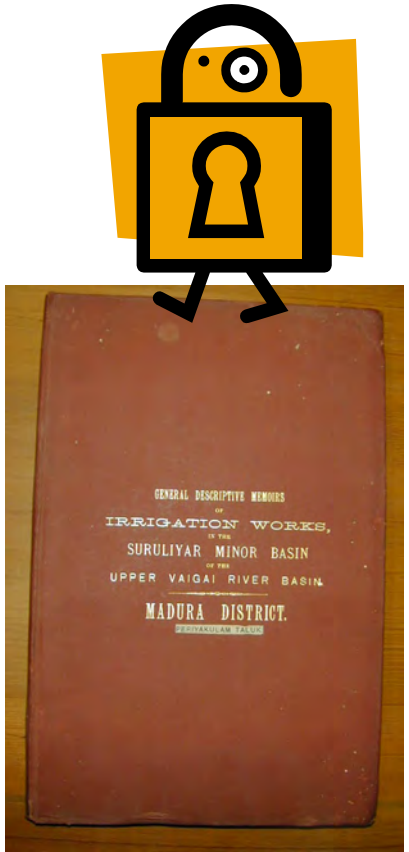


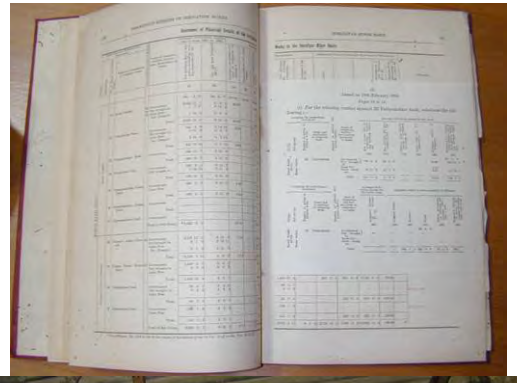
What's Broken?

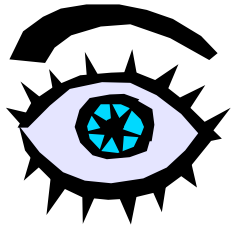
Challenges: Information

- **Data coverage and quality**
- **Meaningful use of modern information and analytical tools**
- **Public access to data, tools, and knowledge products**



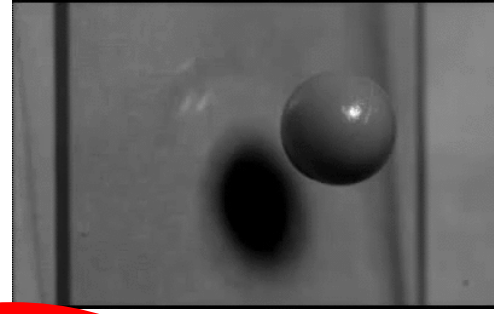




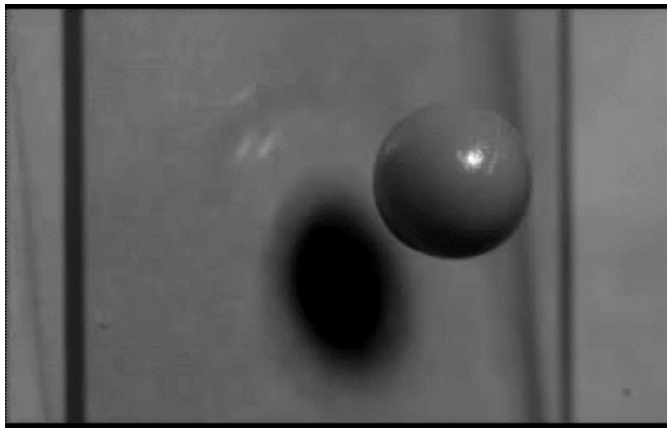


Challenges: Institutions

- Vision of Hydromet and analytical ***Services*** needed (rather than just starting from equipment and models)
- **Limited technical and managerial capacity for modern water resources data and analytical knowledge tools** (e.g. in Government, Academia, Private Sector, General Public; access to global expertise)
- **Institutional coordination and collaboration** (across spatial and sectoral boundaries)
- **Meaningful stakeholder participation**
- **Sustainability Focus**
- **Effective leadership at all levels - sometimes a culture of "data-free analysis" and "analysis-free decision-making"**

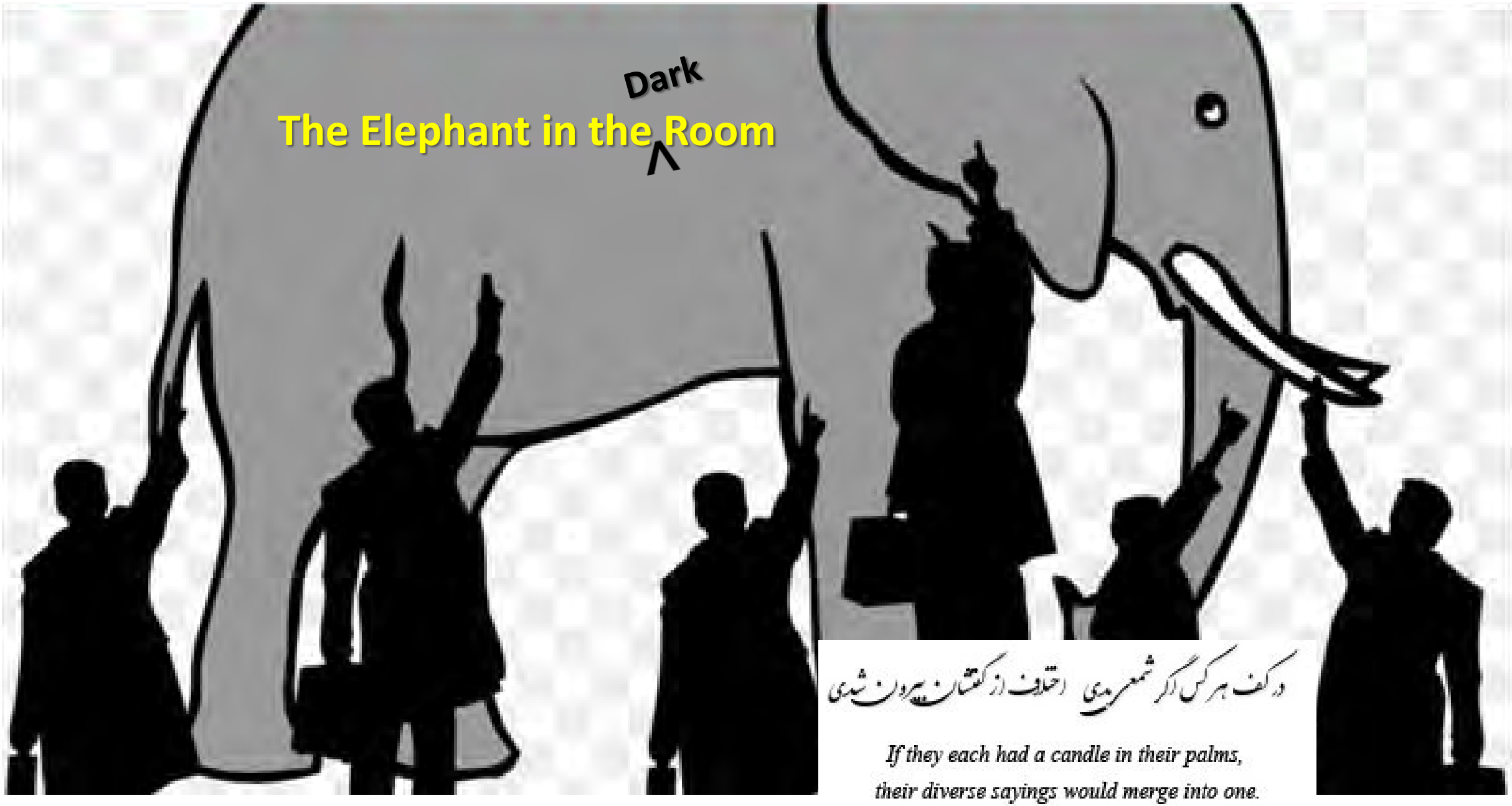


Challenges: Investments



- Inadequate **monitoring, forecasting, and analysis** systems
- Poor **office infrastructure and equipment**
- Huge **infrastructure deficit** (power, transport, agriculture, sustainable land management...)
- Investment planning & operational **coordination**

Transcending narrow sectoral perspectives…



Multiple sectors, multiple institutions, linked by water and natural resources…

A Typical Watershed/Basin…

Agriculture Department

Livestock Department

Forest Department

Rural Water Supply Department

Urban Water Supply Department

Irrigation Department

Power Department/Utilities

Industry Department

Fisheries Department

River Restoration

Protected Areas Mgmt.

Environment Department

Transport Department

Tourism Department

Central, State, district, local govts.

Surface & Ground water Investment Institutions

Basin/Sub-basin Organizations

Watershed User Associations/Catchment Committees, WUAs

Transboundary Institutions

Farmers, Private Sector, Local Govt., NGOs, Academia, General Public …

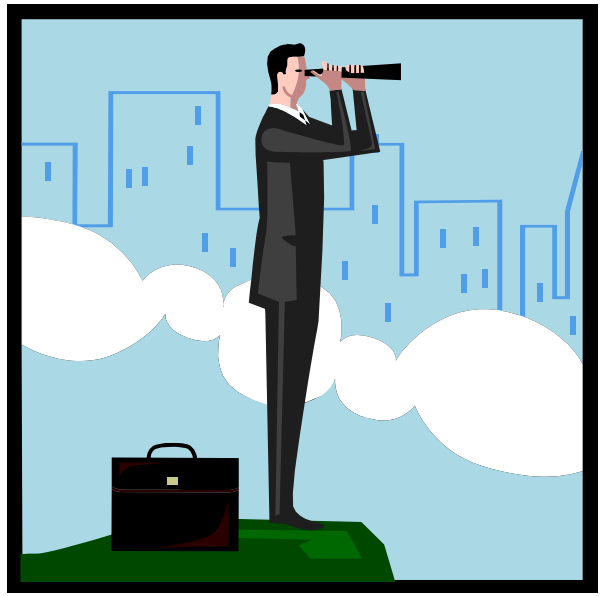
…Need to support a shared vision of the 3Is: *information*, *institutions*, and *investments*…

Challenges

- Major Climate/Sustainability Challenges
- Getting insights from patchy, fragmented data…
- Communicating effectively with stakeholders (including a new generation)
- Leveraging a rapidly-changing world of technology and global good practices
- Remote/hybrid work while home alone

Looking Ahead…

Modernizing Approaches to Address these Challenges…
The 3 Is…



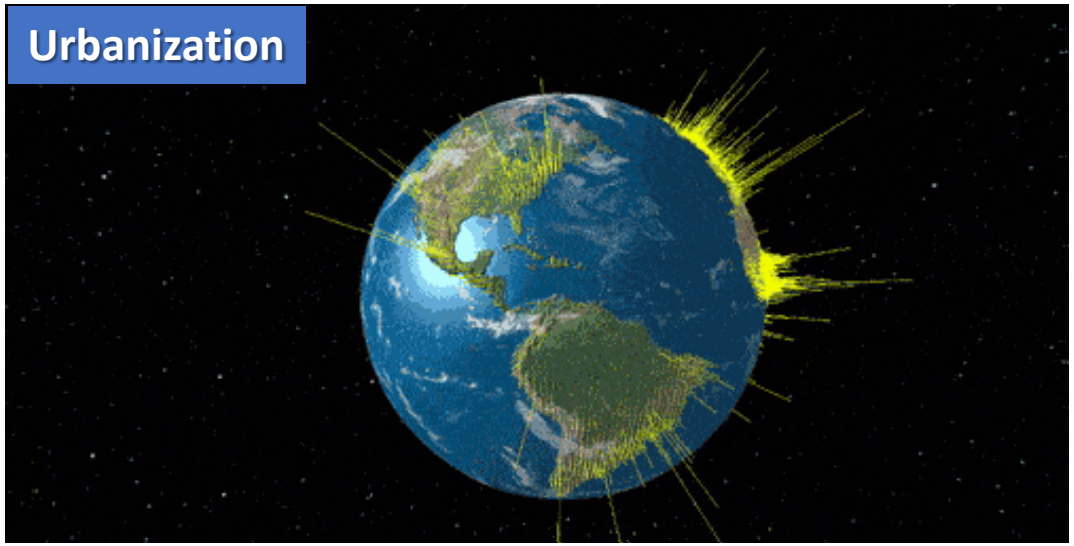
Information & Analysis

Institutions & Policy

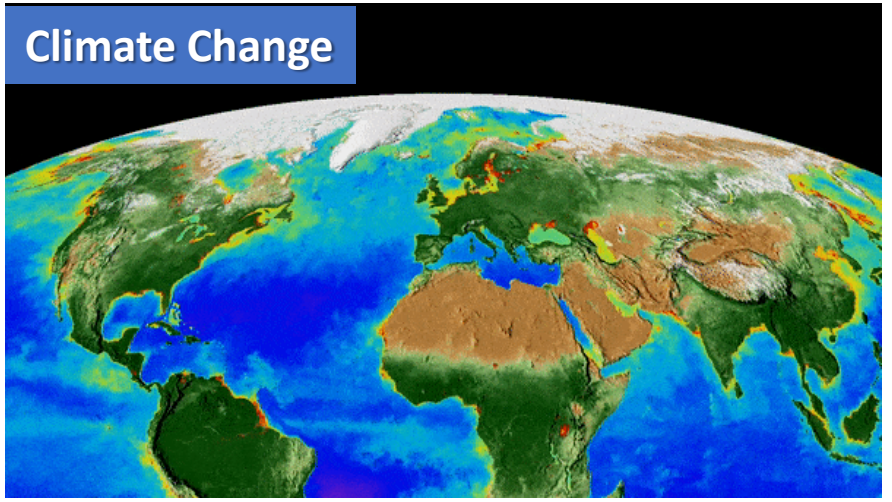
Investments & Operations

There are many ongoing changes…

Urbanization



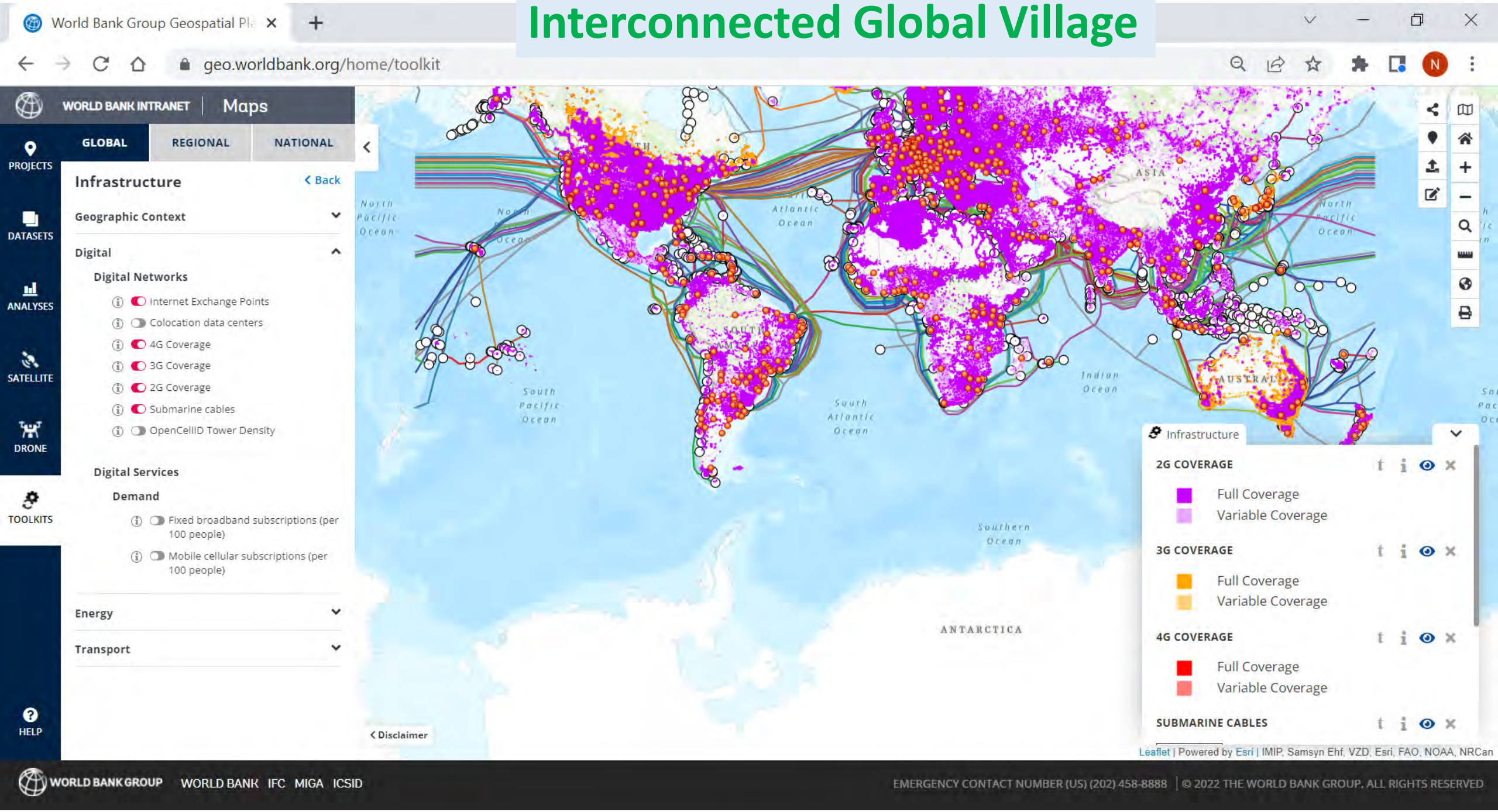
Climate Change



Rising Expectations

Disruptive Technology

Interconnected Global Village



A new world of “Disruptive Technology”

“Disrupt” data value chains

- ***Data Collection***: Monitoring/Surveys (in-situ sensors/IoT/Biometrics, earth observation (satellite, aerial, UAVs), crowdsourcing, digitization…
- ***Data Management:*** Telemetry, 5G, cloud services, open data, Blockchain, …
- ***Data Analysis:*** Big data, Geospatial/ AI/Machine Learning, modeling/ scenario analysis, script repositories, Cloud/Edge/Quantum computing…
- ***Data Access:*** Open data APIs, data visualization, gamification, mixed reality-AR/VR, …
- ***Outreach:*** Platforms/Social Media/Portals/ Apps/e-books/Competitions…

“Disrupt” production value chains

- 3D/4D printing/additive manufacturing…
- “Digital Twins”
- Automation/SCADA…
- Robotics/ Autonomous transport…
- Advanced materials/nanotech/ biotech/genomics/energy tech/ green tech, ag tech…

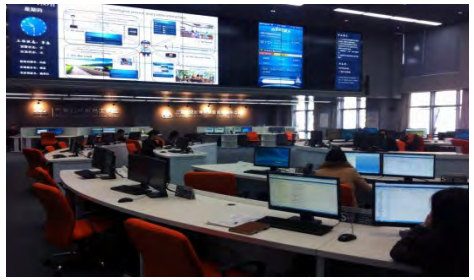
http://www.appsolutelydigital.com/dt/

“Disrupt” stakeholder value chains

- Virtual social networks/ Digital Platforms…
- Sharing economy…
- Crowdsourcing, gamification, competitions (e.g. *hackathons*, *appathons…*)
- Mobile money, fintech, cryptocurrency…
- Blockchain enabled value chains
- Maker movement/DIY/Tech Incubators…
- Virtual learning/re-skilling…

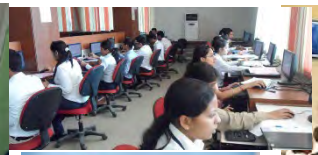
Disruptive tech could change Development

Making "smart development" wrt climate, water and natural resources, energy, food, waste, mobility, knowledge, services, networks..



Online Services

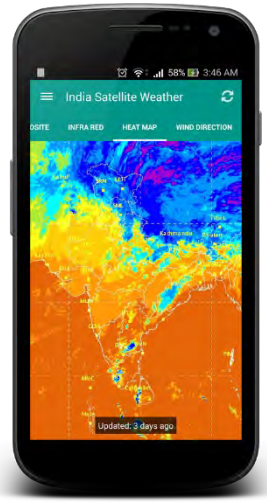
Green Energy



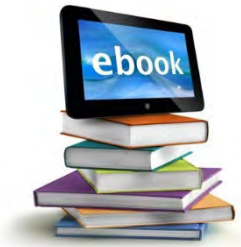
Broadband & Smartphone Access

Apps, e-services & e-learning

Planning



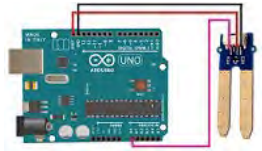
Access to a new world of Data, Information, Knowledge and Services



3D Printed Infrastructure

Sensors/IoT

(e.g. for soil moisture)



Drones/UAVs

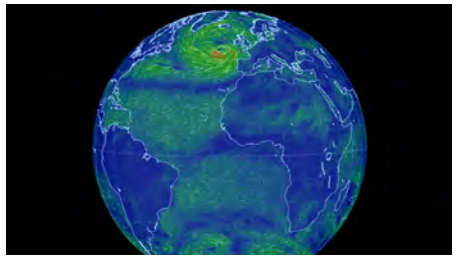
(e.g. for monitoring, seeding, delivery)

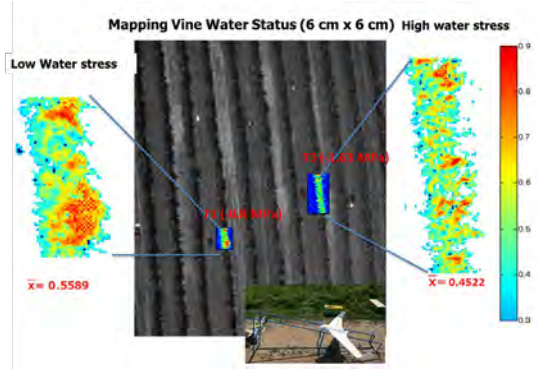
Sharing Economy

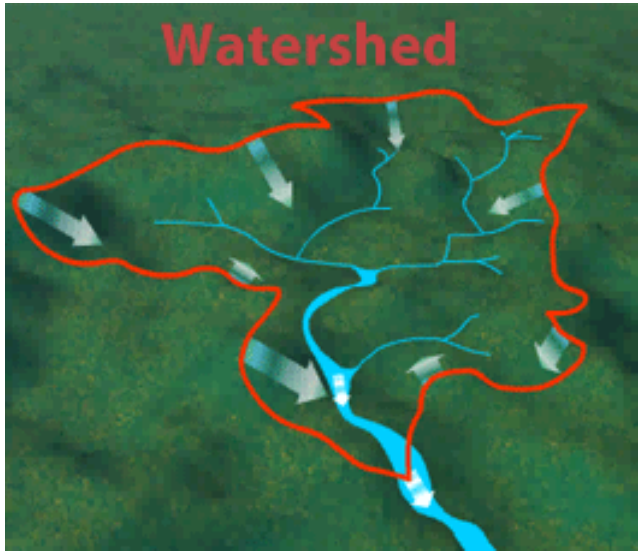
Disruptive Tech can change individual “sectors”

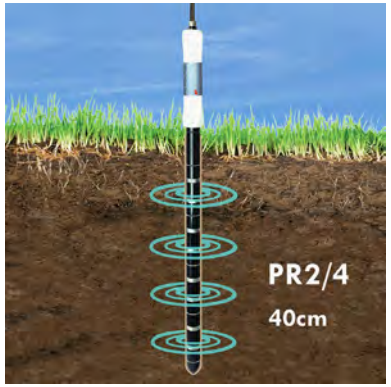
e.g. Agriculture

Doing things differently…









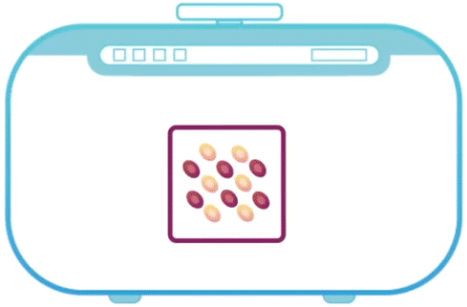
Disruptive Tech can change individual “sectors”

e.g. Agriculture

Doing different things…

Platforms

CHANGE THE WAY
WE PRODUCE MEAT



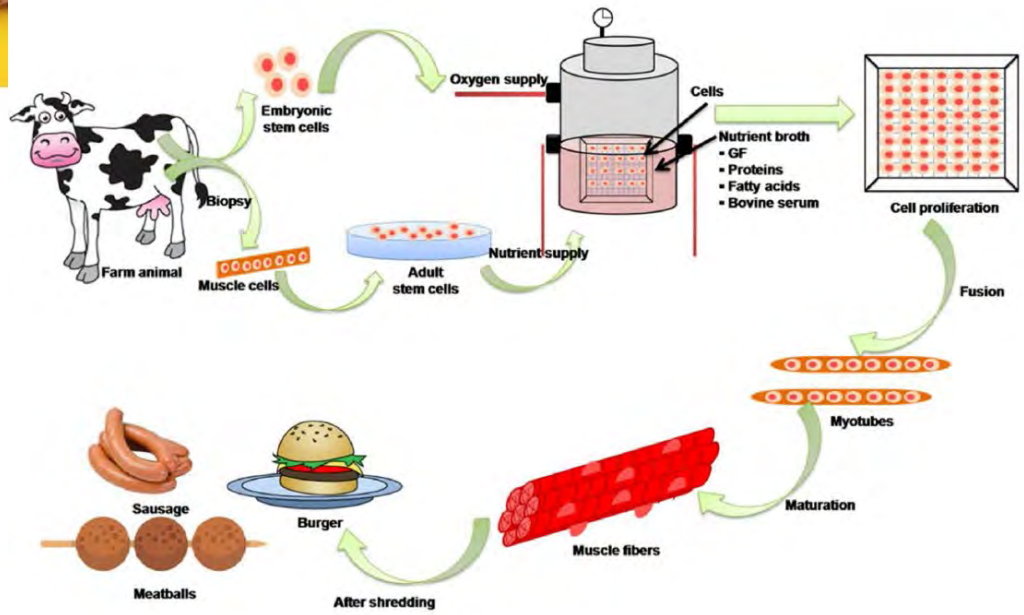
Watch This Space!

04.01.15

The $325,000 Lab-Grown Hamburger Now Costs Less Than $12

A real burger made without the cruelty and pollution is now within reach.

[TOP PHOTO: NEVODKA VIA SHUTTERSTOCK]



Many multi-sectoral implications (incl. for the Amazon!)

A third of global agricultural water use is for fodder!

70% of agricultural land is used for pasture (~28m km^2)!

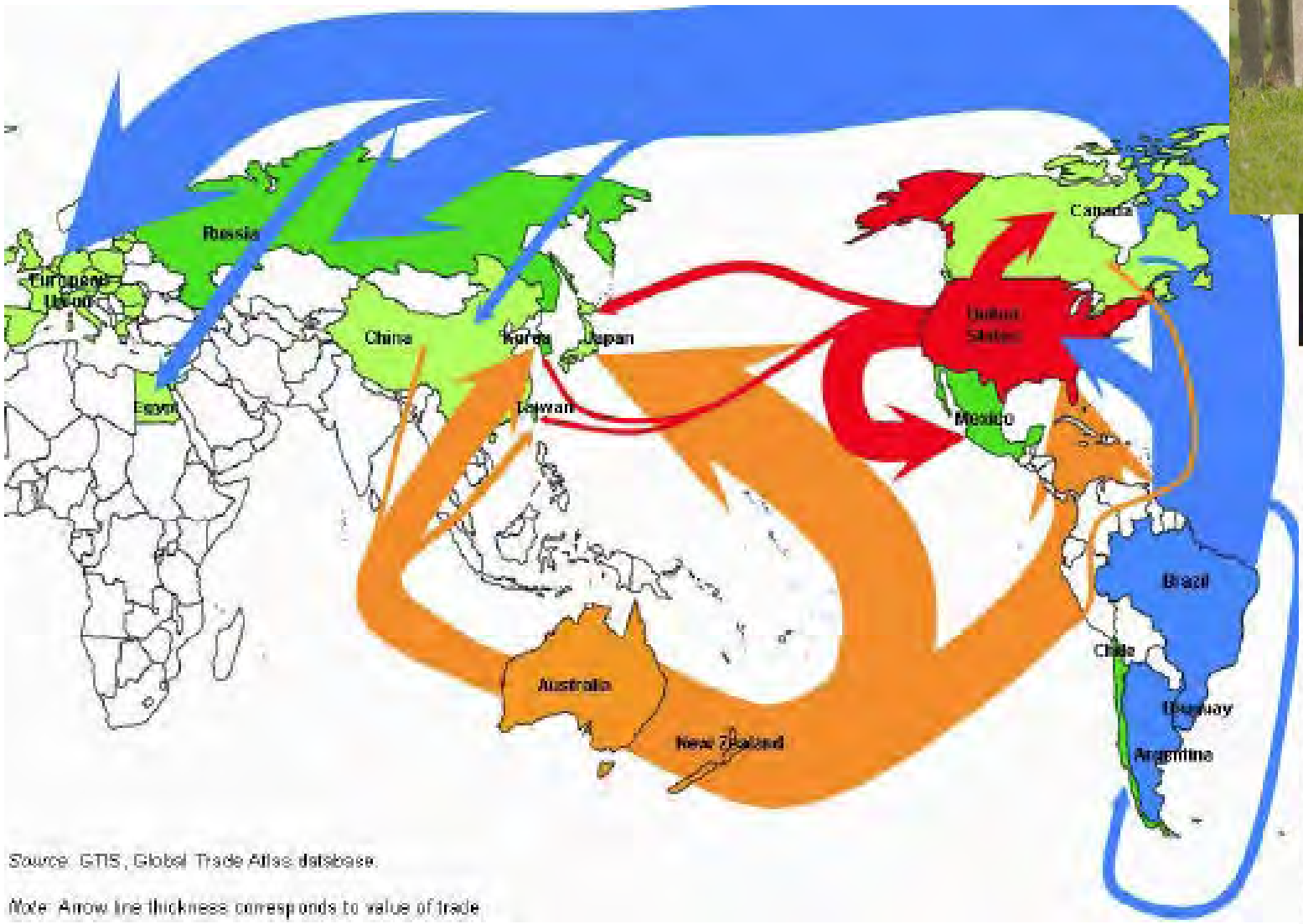
	Water Use	GHG Emissions	Land Use	Production Cost
ANIMAL-BASED	1799 gallons	16 pounds	260² ft	$1.05
LAB-GROWN	324 gallons	3.52 pounds	2.6² ft	$12

Usage, emissions, cost per pound of meat

SOURCES: CB Insights, Water Footprint Network, Business Insider, Forbes, Food Climate Research Network (FCRN), Quartz

Livestock:

- Supports 1.3 billion people
- 40% of global value of agricultural output



Source: GTIS, Global Trade Atlas database.

Note: Arrow line thickness corresponds to value of trade

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'Cultured meat' could spell end of traditional cattle farming within decades, scientist behind lab-grown beef burger says

AM By the National Reporting Team's Dominique Schwartz

Posted 27 Mar 2015, 1:08am

The Dutch scientist who served up the world's first laboratory-grown beef burger says "cultured meat" could spell the end of traditional cattle farming within decades.

That is the confronting message Maastricht University Professor Mark Post has for the Northern Territory Cattlemen's Association, which is holding its annual conference in Darwin.

"I do think in 20, 30 years from now we will have a viable industry producing alternative beef and there will be a growing market for it and eventually a really large market," he said.

PHOTO: Professor Post believes the lab-grown beef could be produced for $80 a kilogram.

The new oil…

We have NO data…

Of course we have data…

Data, data everywhere…

Information & Analysis Trends

What's Out?

Are we part of the problem?

Paper Records/Publication

Inadequate and Inaccessible Data

"Retail" info systems & modeling

Reliance on Websites and Pdfs

"Have you registered first?"

"Tell me why you need the data"

What's In?

Can we be part of the solution?

Online interoperable OGC data service formats/ Open APIs

Free and subscription services

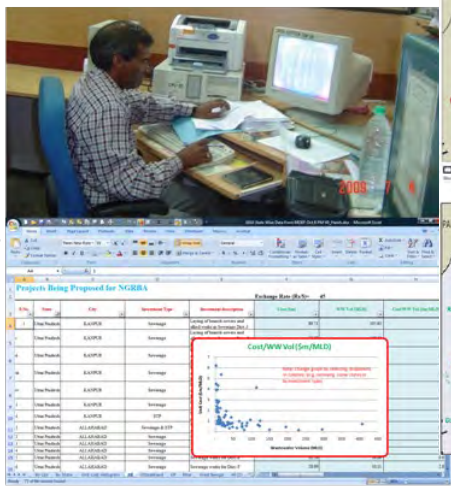
"Wholesale" Cloud Analytics

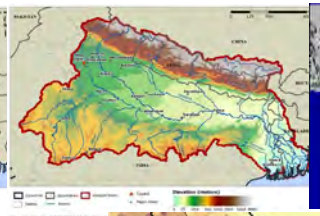
Separate data services and consumption platforms (e.g. dashboards, Interactive documentation)

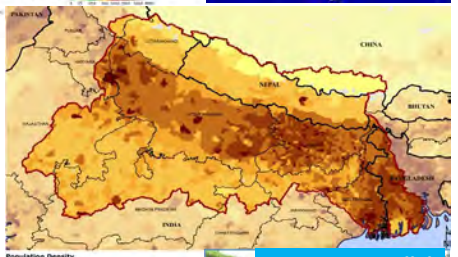
Data Rescue

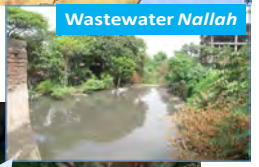
Digitizer

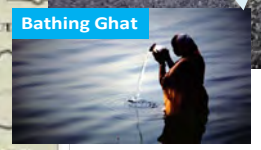
Scanner





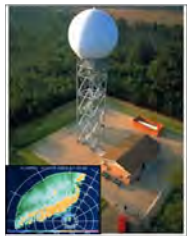




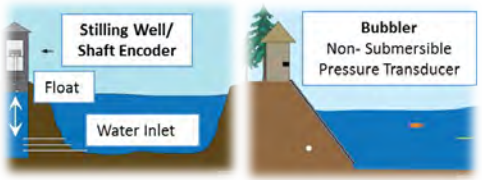


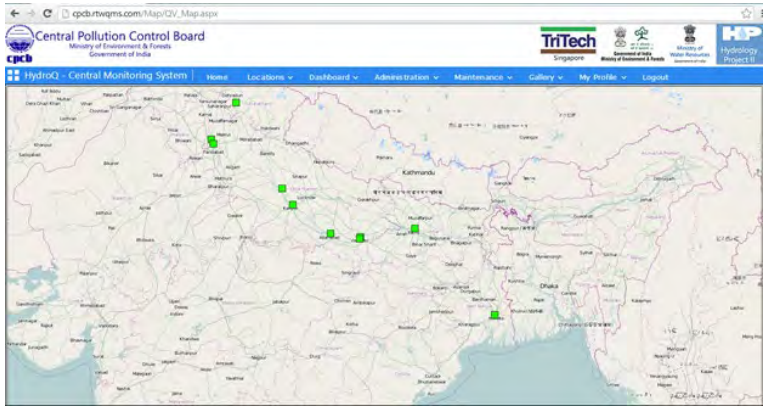
“Bottom-up” Monitoring Systems

Automatic Rain Gauges


Doppler Radar

Snow Pack





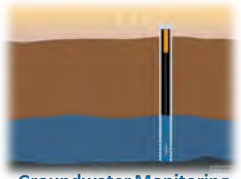
Shore-mounted Radar

Bridge-mounted Radar

Non-Contact Measurement of Stage & Discharge

ADCP

Automatic Cableway System

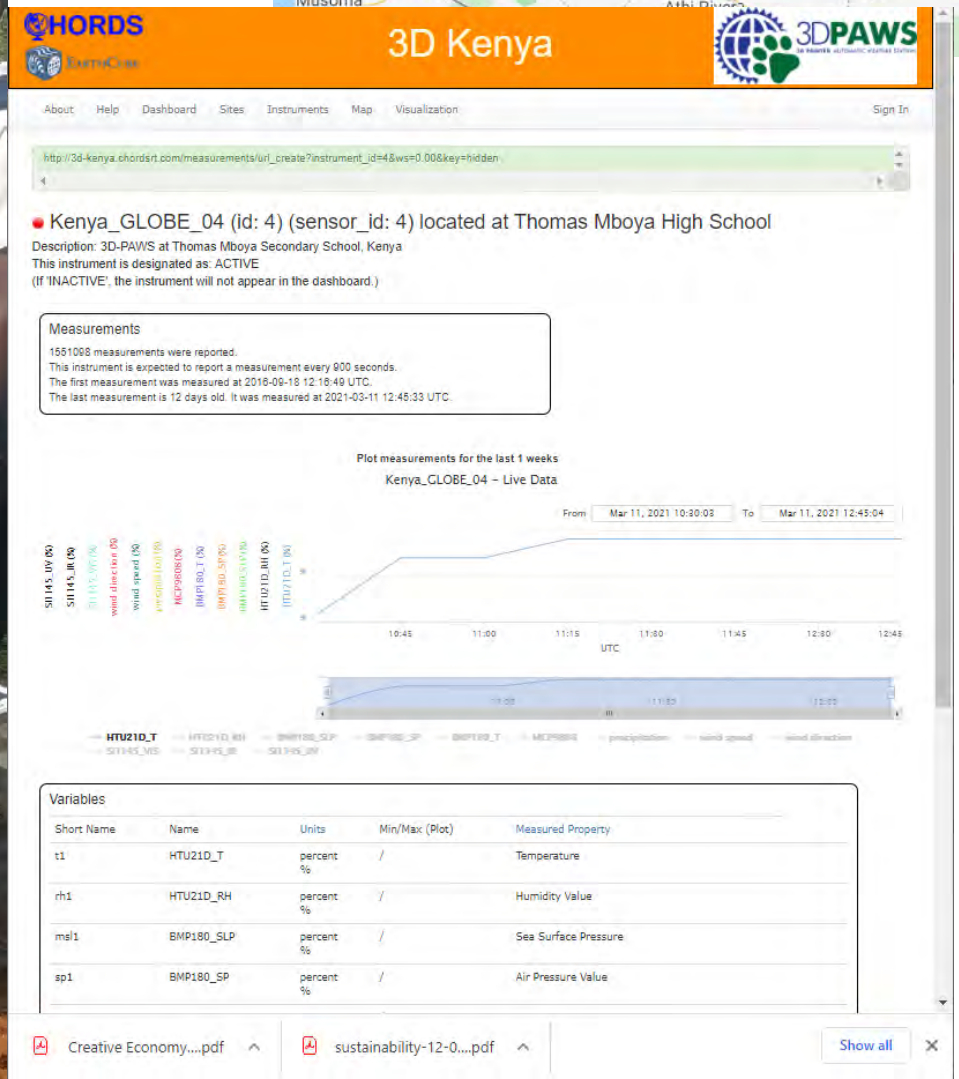

Groundwater Monitoring

Water Quality Monitoring

Field Kits

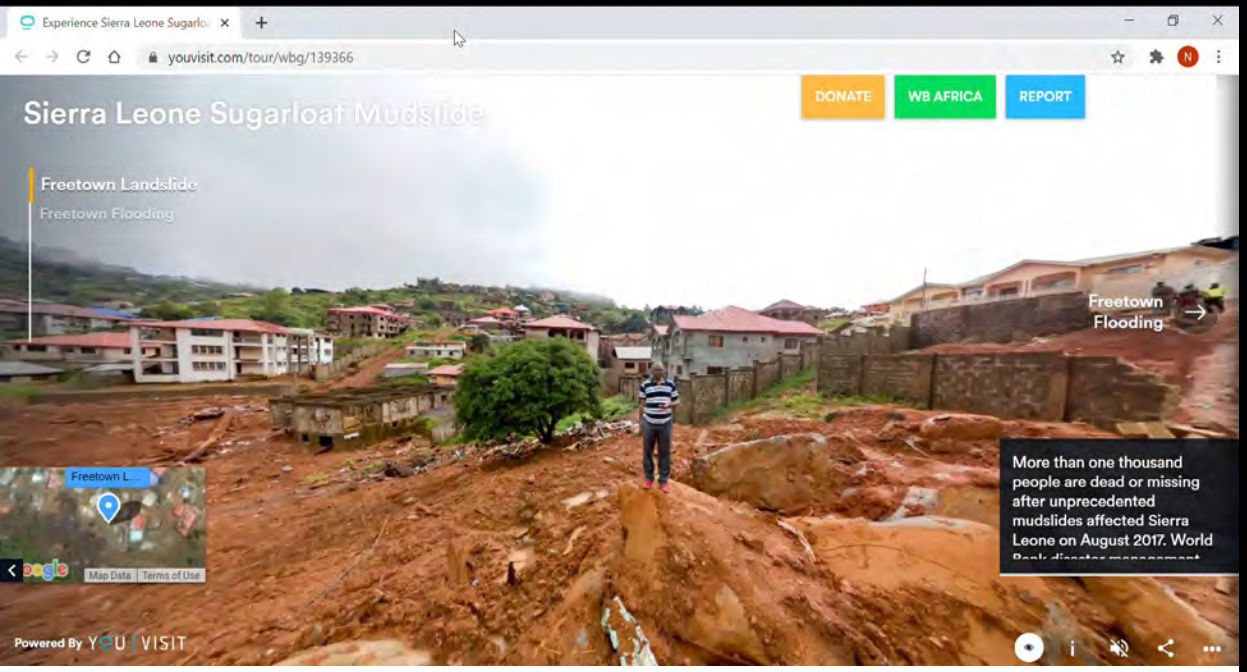
Laboratories

Crowdsourcing Monitoring

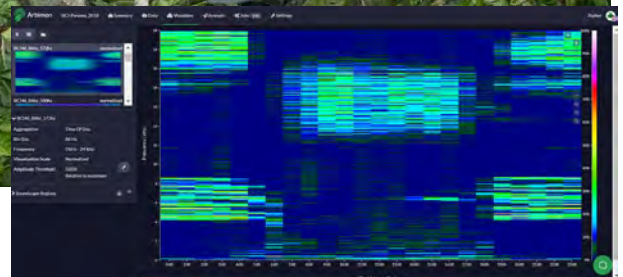


3D Printed Monitoring Stations, Kenya

3D PAWS

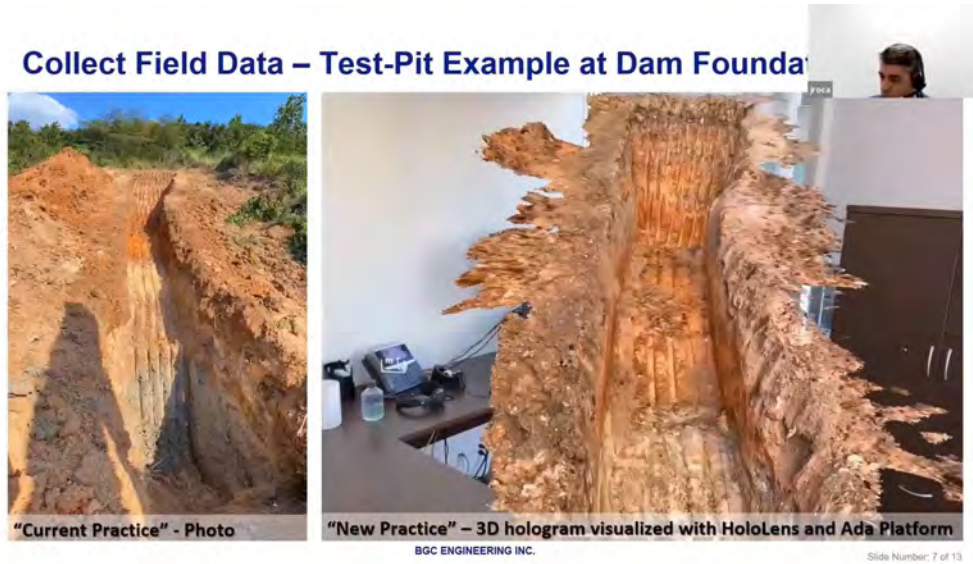


360º Cameras for photos/videos



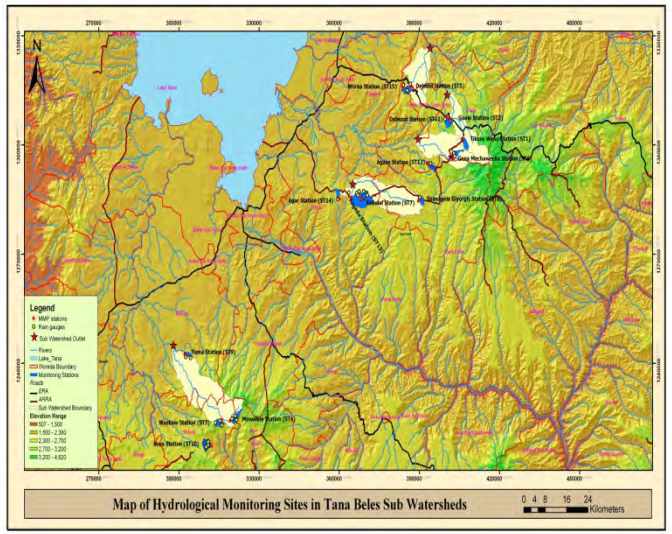
Bioacoustics

eDNA



Phone/Tablet LiDAR

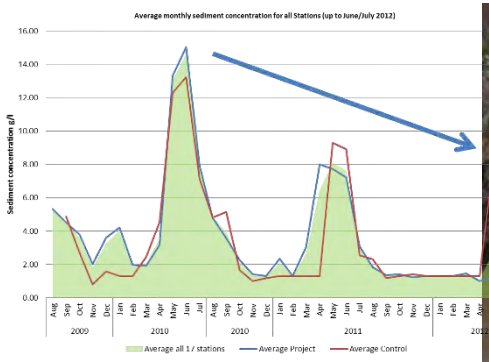
Community Monitoring



	2009	2010	2011	2012	Total
Staff	3132	11812	12409	6522	33875
Turbidity	3131	12069	12469	6624	34293
Rain	3116	>12777	>15000	>15000	>47000
Flow					>500
Sed samples	1425	4176	3139	1216	9956

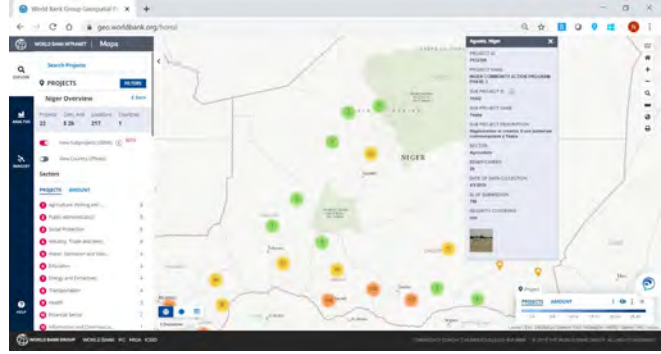
Secchi Jug for turbidity

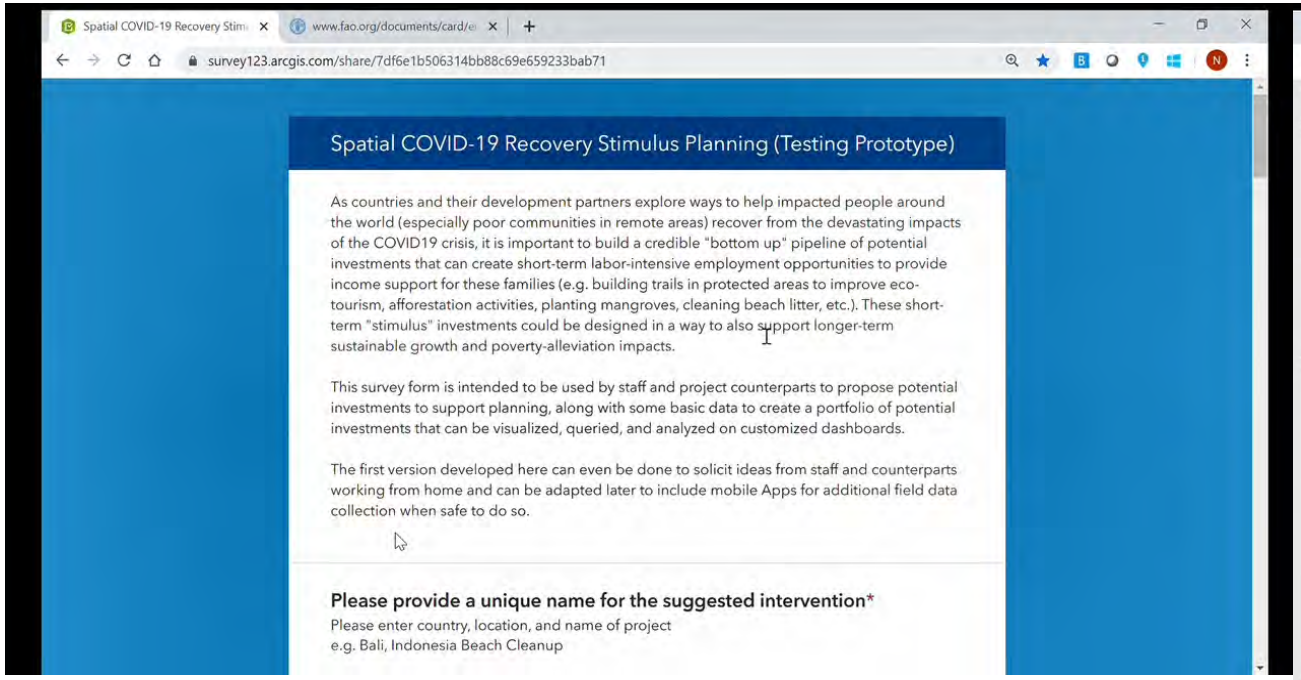
Sediment Concentration Analyses

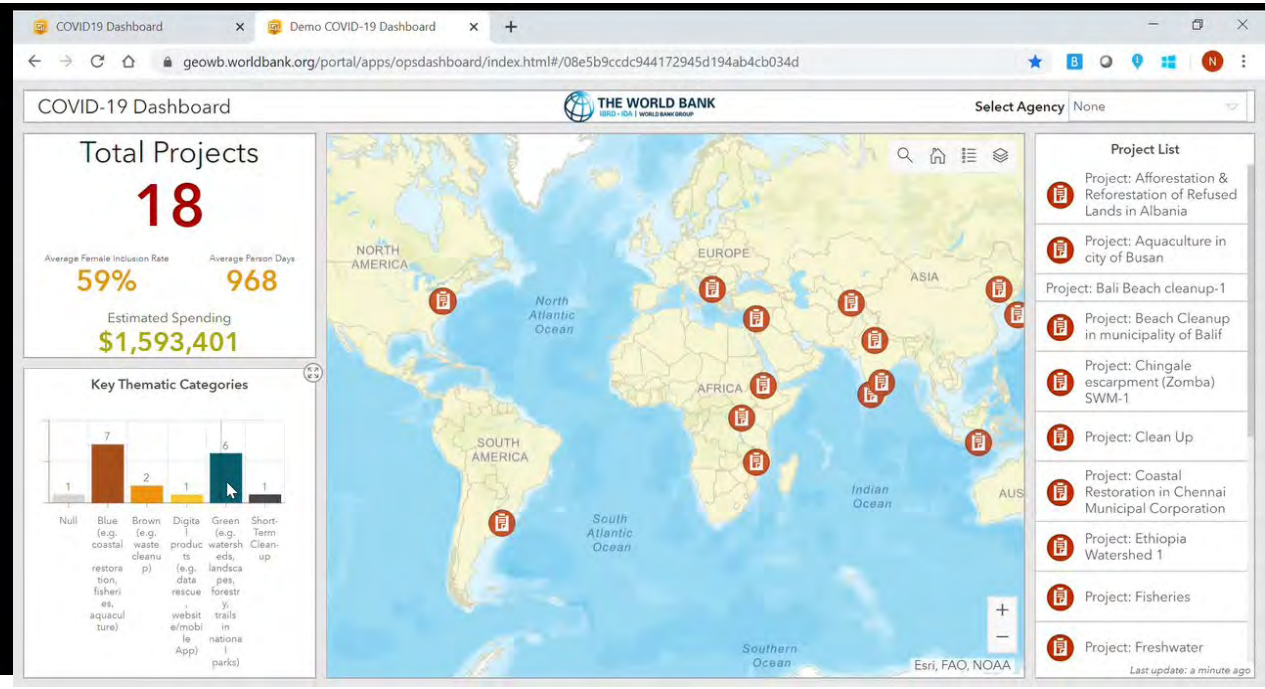


Field/Virtual Surveys

- Online Spatial Surveys
- Mobile ODK – KoboToolBox –Survey123…

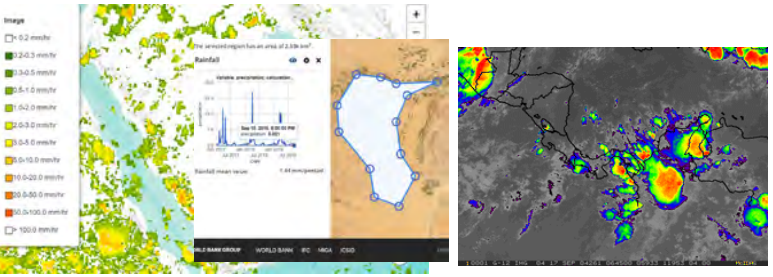




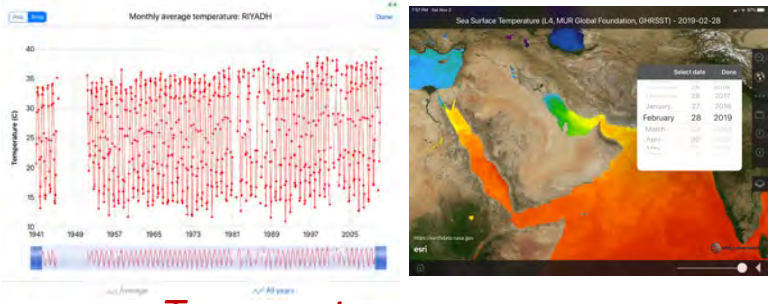


“Top-down” Earth Observation & Other Global Analytics Services

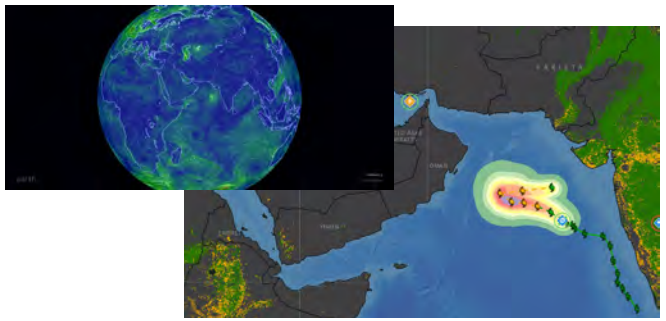
Climate



Precipitation & Forecasts

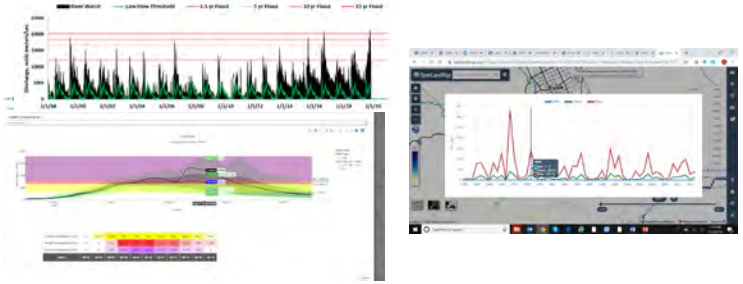


Temperature

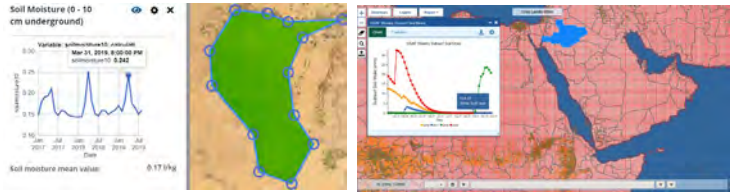


Storms

Hydrology



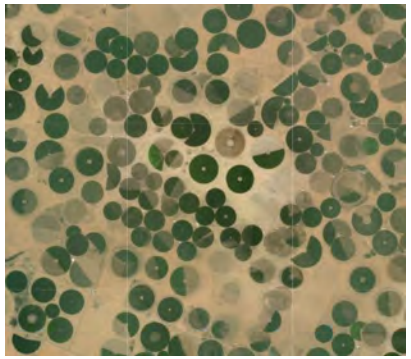
Levels, Flow & Inundation & Forecasts



Soil Moisture

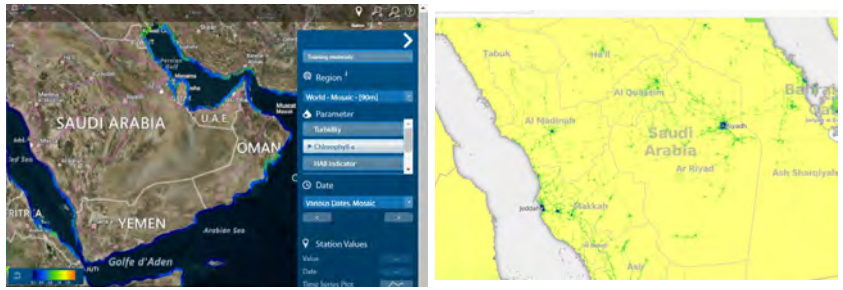
Evapo-transpiration

Other



Land Cover

NDVI, EVI, GRACE, etc.

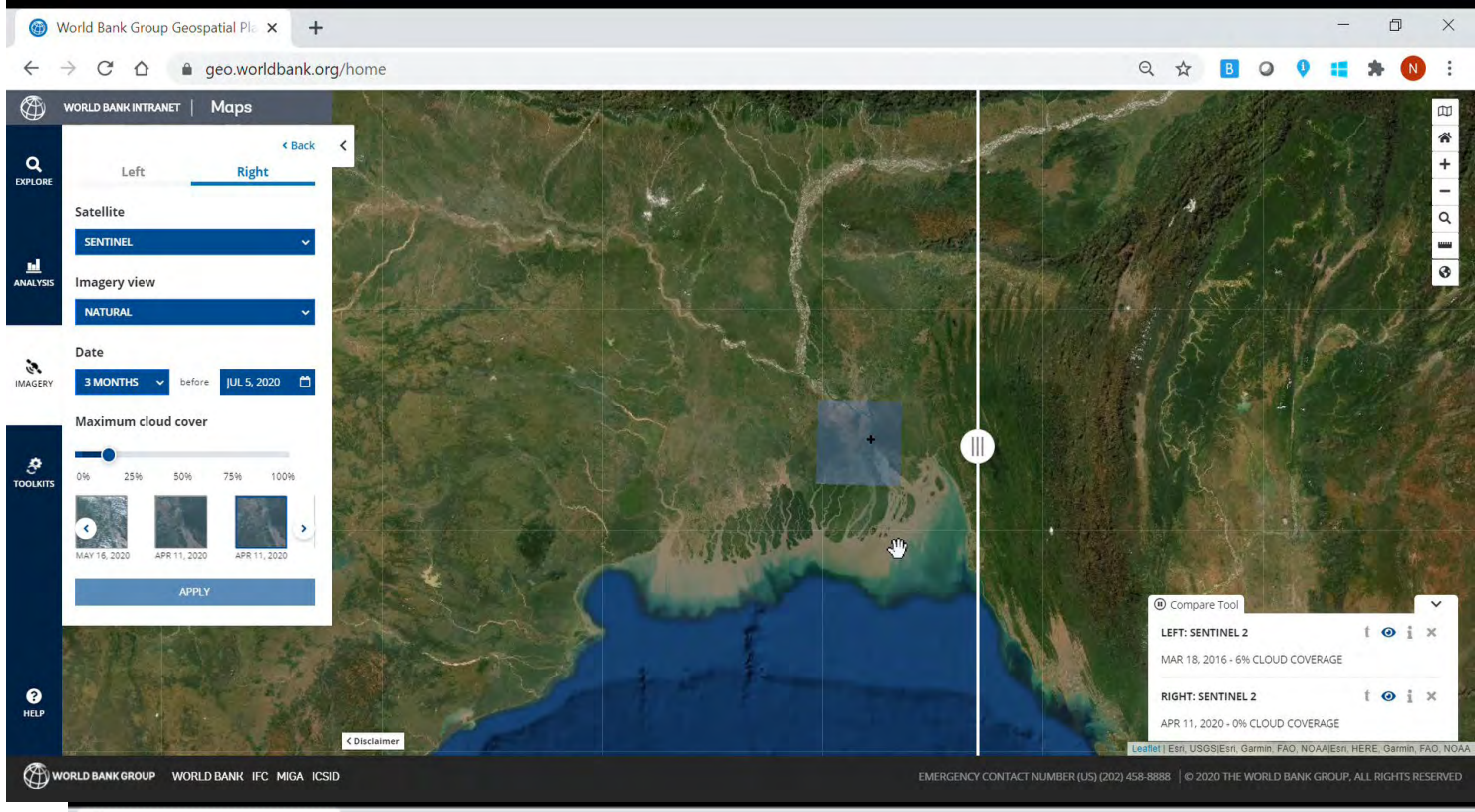


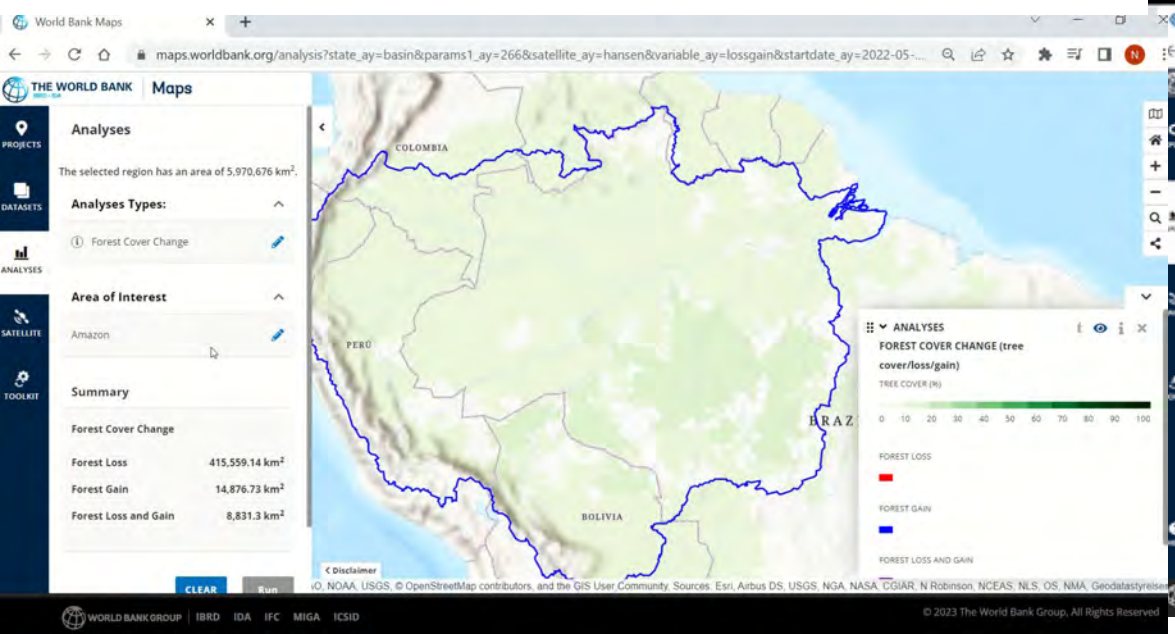
Social, Economic, Environmental, etc.

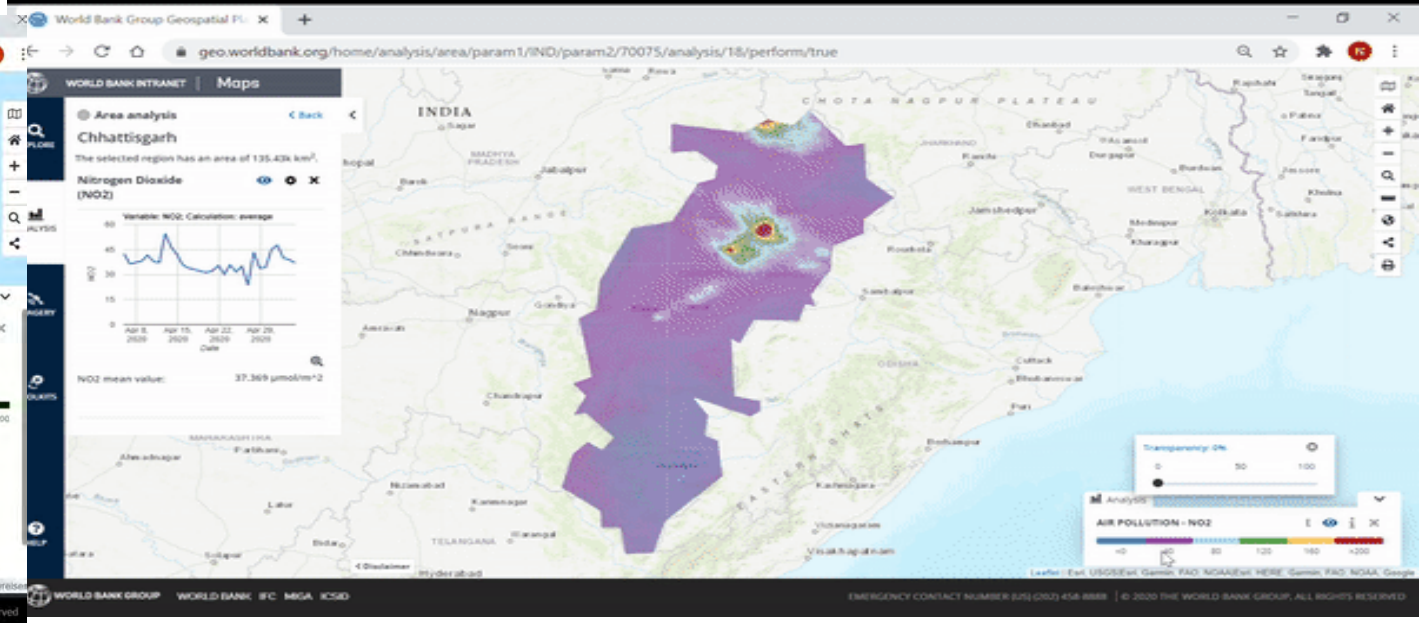
World Bank Geospatial Platform

https://maps.worldbank.org/

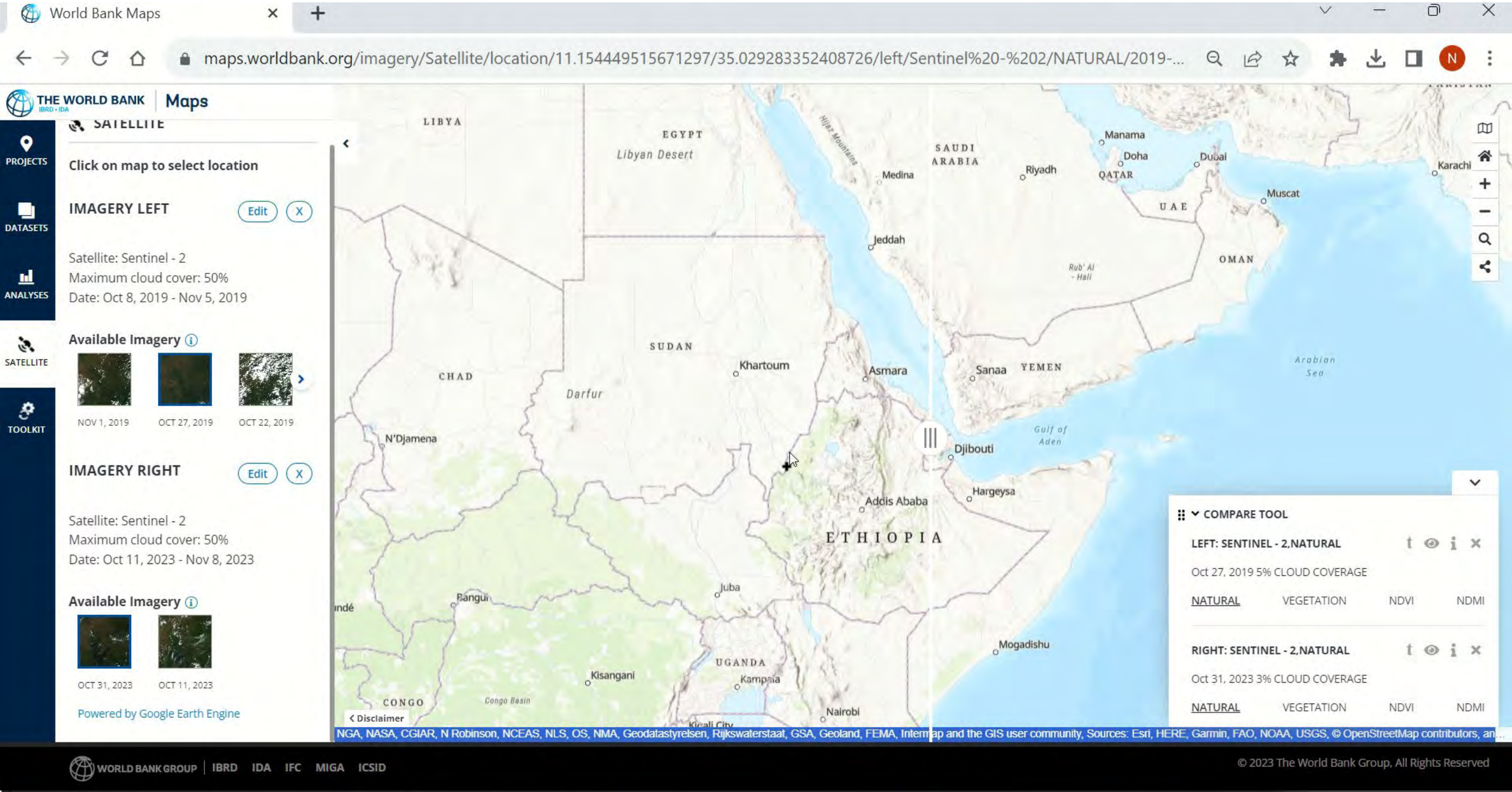
https://geo.worldbank.org/

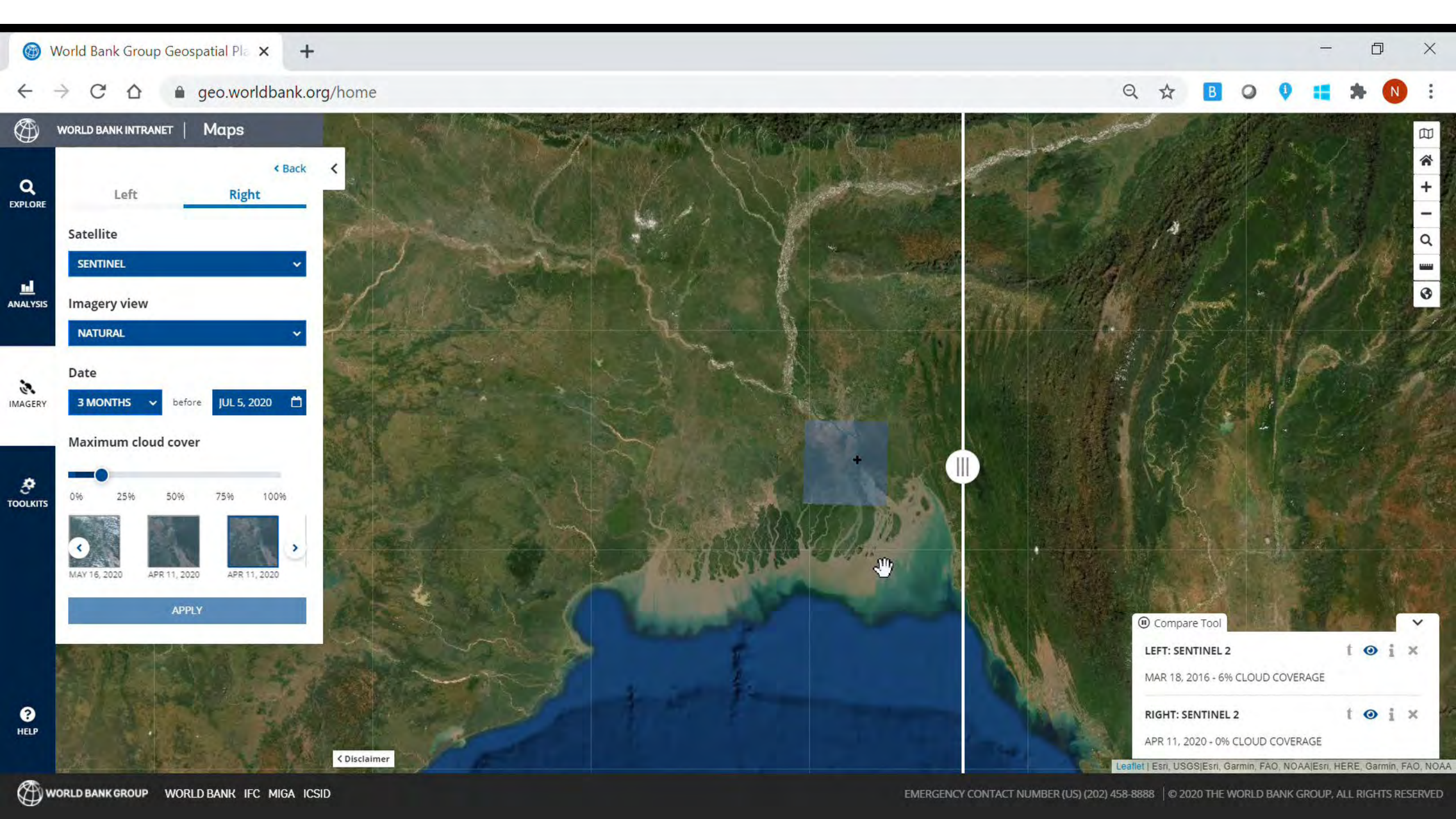






World Bank Geospatial Platform: https://maps.worldbank.org/




World Bank Group Geospatial Pla
geo.worldbank.org/home
WORLD BANK INTRANET | Maps
EXPLORE
ANALYSIS
IMAGERY
TOOLKITS
HELP
Back
Left
Right
Satellite
SENTINEL
Imagery view
NATURAL
Date
3 MONTHS
before
JUL 5, 2020
Maximum cloud cover
0%
25%
50%
75%
100%
MAY 16, 2020
APR 11, 2020
APR 11, 2020
APPLY
Disclaimer
Compare Tool
LEFT: SENTINEL 2
MAR 18, 2016 - 6% CLOUD COVERAGE
RIGHT: SENTINEL 2
APR 11, 2020 - 0% CLOUD COVERAGE
Leaflet | Esri, USGS|Esri, Garmin, FAO, NOAA|Esri, HERE, Garmin, FAO, NOAA
WORLD BANK GROUP
WORLD BANK IFC MIGA ICSID
EMERGENCY CONTACT NUMBER (US) (202) 458-8888
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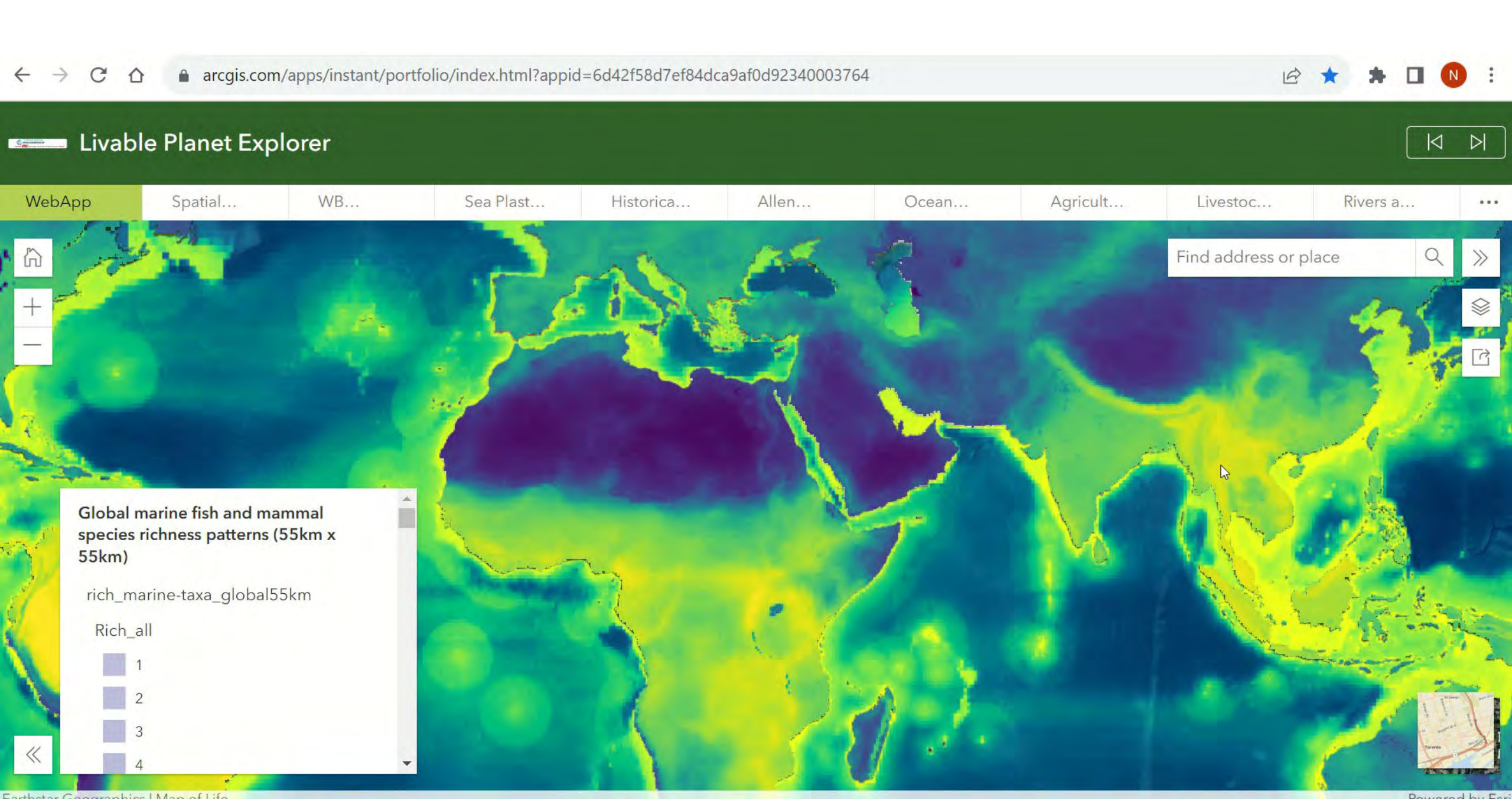
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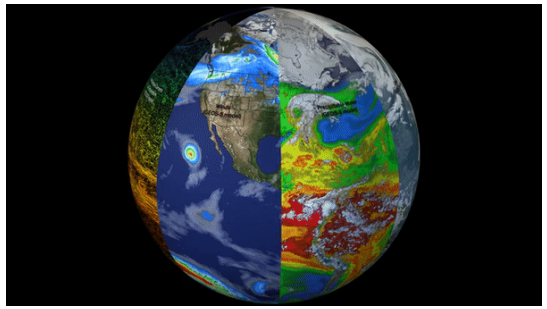
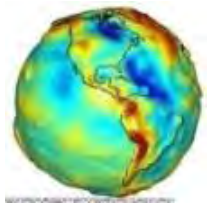
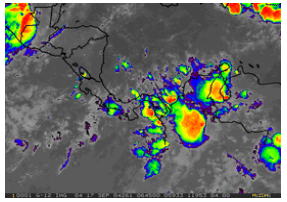
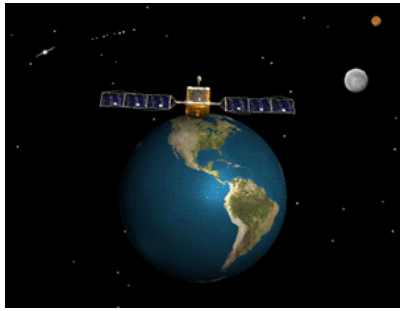
Livable Planet Explorer
WebApp
Spatial...
WB...
Sea Plast...
Historica...
Allen...
Ocean...
Agricult...
Livestoc...
Rivers a...
Find address or place
Global marine fish and mammal species richness patterns (55km x 55km)
rich_marine-taxa_global55km
Rich_all
1
2
3
4



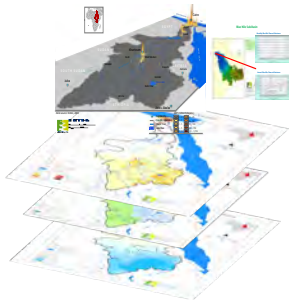
"Top-Down" Data Acquisition System



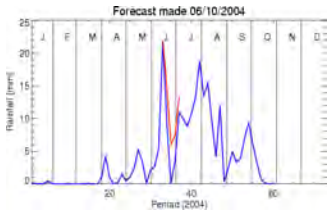




Satellite & Aerial Earth Observation



Data Rescue
GIS and other datasets



Data Management

Analytics/Models

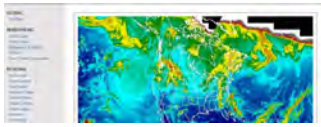
Big Data
Data Science

Platforms
APIs

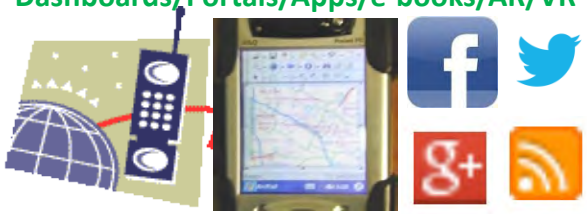
Cloud Services

Machine Learning
& other AI

ChatBots
Crowdsourcing



Dashboards/Portals/Apps/e-books/AR/VR



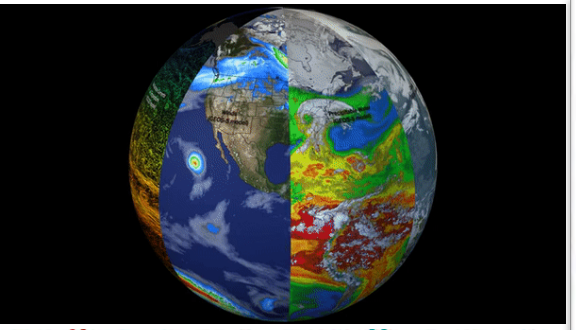
Stakeholder Alerts

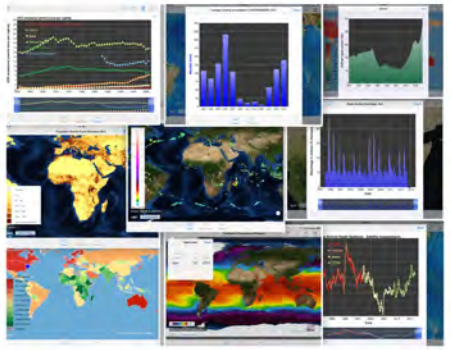
Operational Control Rooms

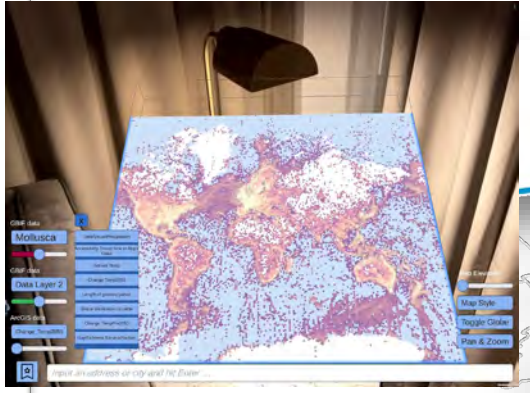
Manual Monitoring
Crowdsourcing

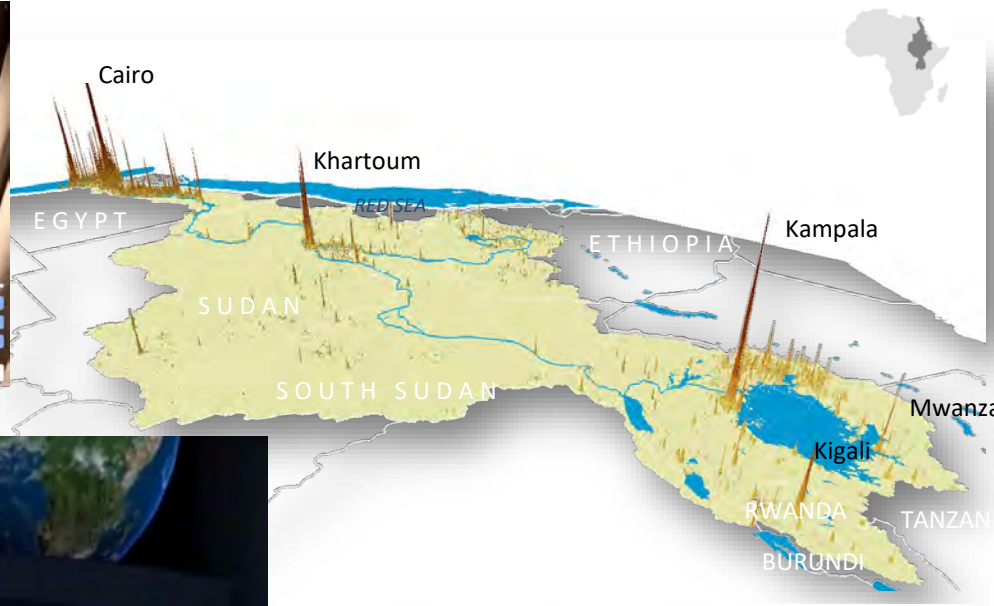
Automated Monitoring

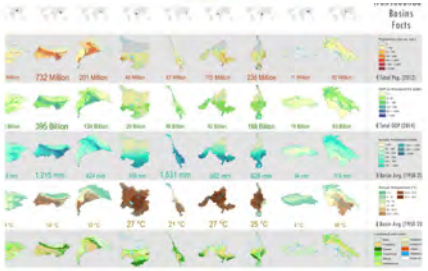
"Bottom-up" Data Acquisition System → IoT

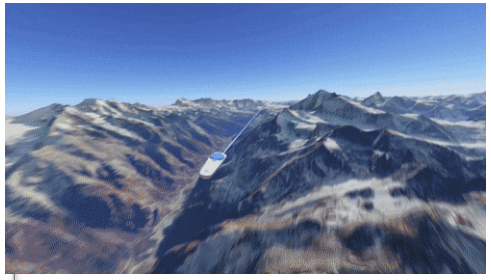




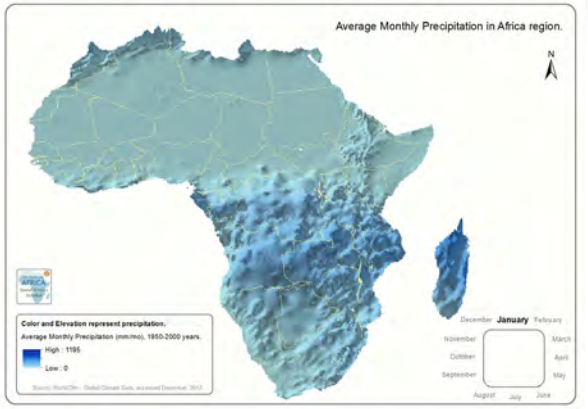

Mollusca
Data Layer 2
Map Style
Toggle Globe
Pan & Zoom

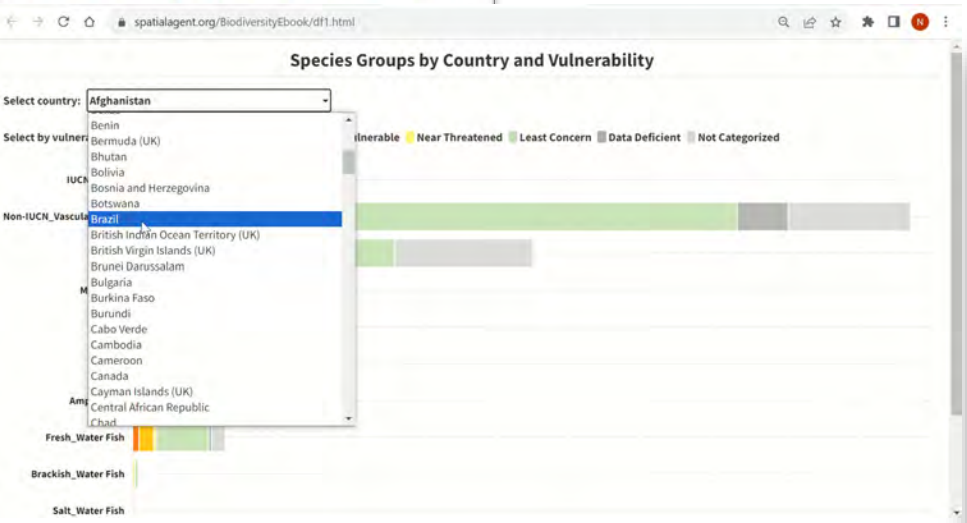

Cairo
Khartoum
RED SEA
EGYPT
ETHIOPIA
Kampala
SUDAN
SOUTH SUDAN
Mwanza
Kigali
RWANDA
TANZAN
BURUNDI



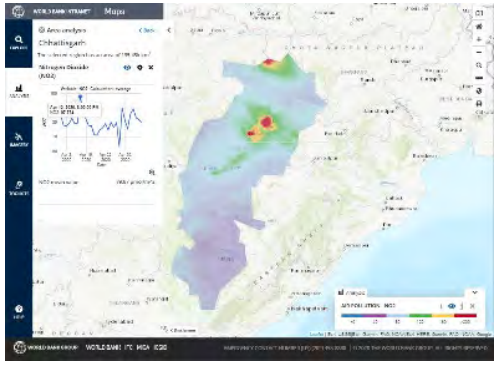


Pause (k)

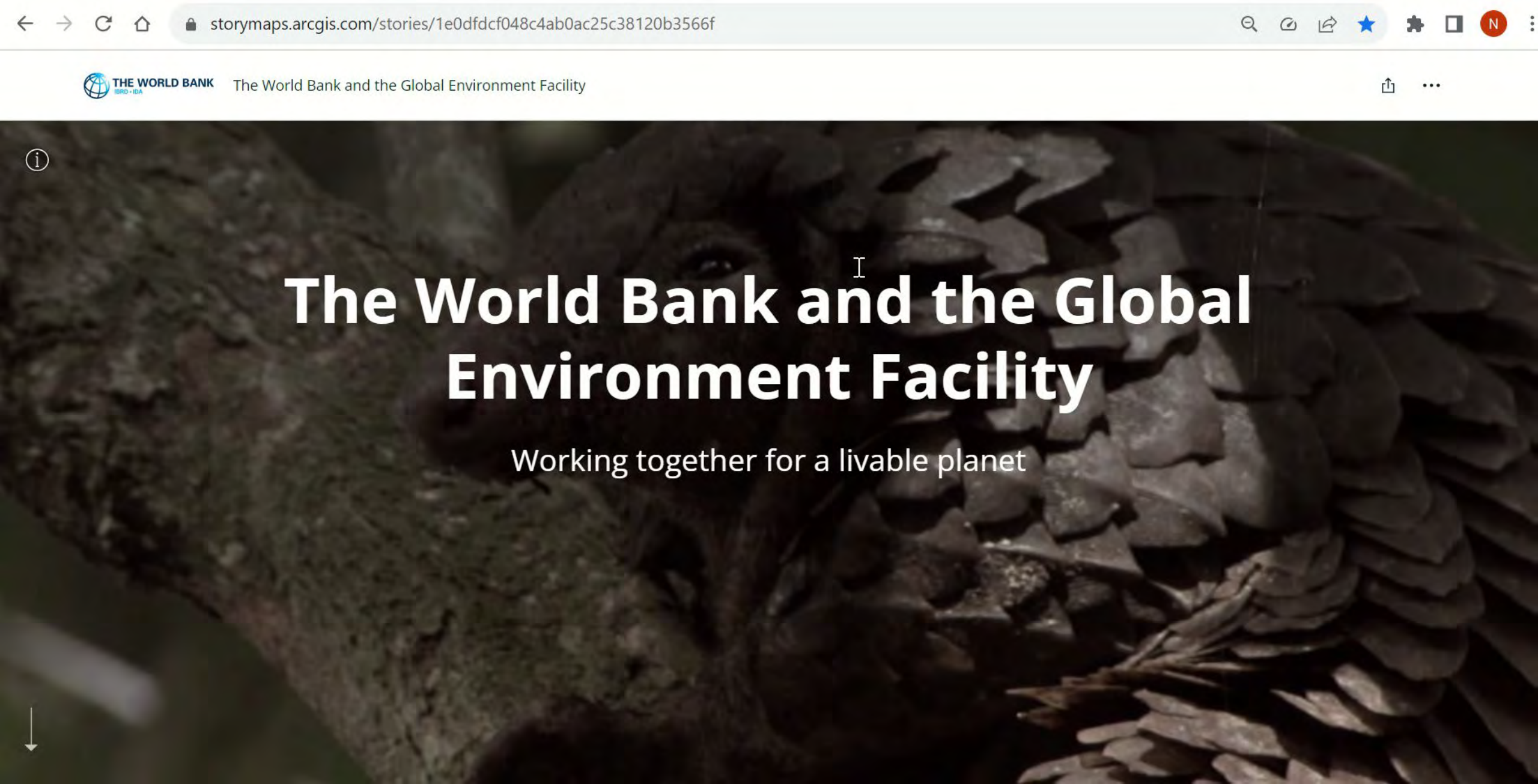

Average Monthly Precipitation in Africa region.
Color and Elevation represent precipitation.
Average Monthly Precipitation (mm/mo), 1950-2000 years.
High : 1195
Low : 0
January


spatialagent.org/BiodiversityEbook/df1.html
Species Groups by Country and Vulnerability
Select country:
Afghanistan
Select by vulnerability:
Near Threatened
Least Concern
Data Deficient
Not Categorized
Benin
Bermuda (UK)
Bhutan
Bolivia
Bosnia and Herzegovina
Botswana
Brazil
British Indian Ocean Territory (UK)
British Virgin Islands (UK)
Brunei Darussalam
Bulgaria
Burkina Faso
Burundi
Cabo Verde
Cambodia
Cameroon
Canada
Cayman Islands (UK)
Central African Republic
Chad
Fresh_Water Fish
Brackish_Water Fish
Salt_Water Fish

ANALYSIS OF INTERNATIONAL FUNDING TO TACKLE ILLEGAL WILDLIFE TRADE
Chord Chart
Geographical Distribution
Charts
Bubble Chart
Search
Map Search
Select
Split by
Recipient Category
Color by
Recipient Category
Radius by
Total Funding
National government
International NGO
Intergovernmental Organization
Researchers or research groups
National or local NGO
Private sector

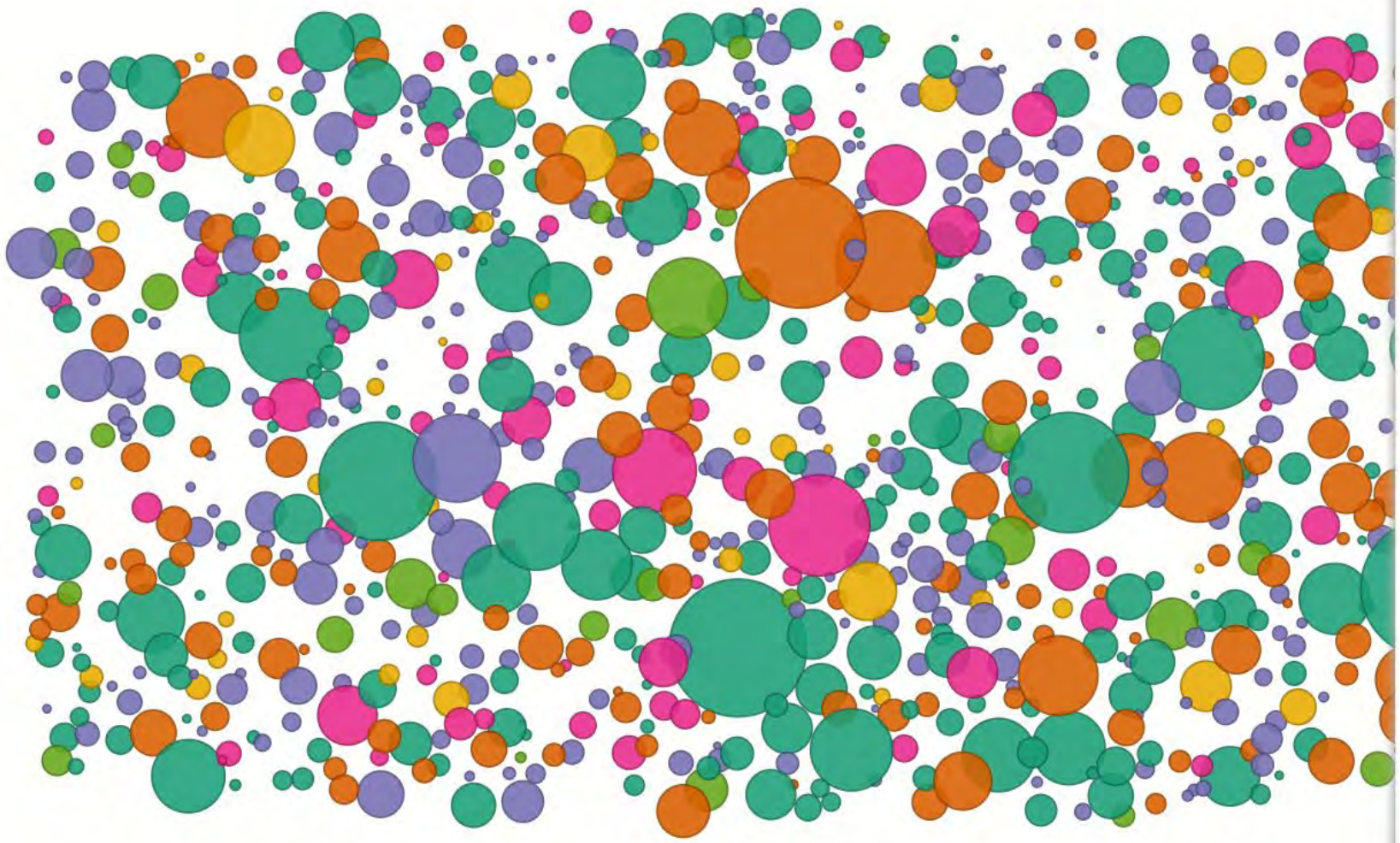


Illustrative Interactive Storymap: https://storymaps.arcgis.com/stories/1e0dfdcf048c4ab0ac25c38120b3566f



GEF Data Bubbles Visualizer

spatialagent.org/GEFVIZ/bubbles.html



Select

Split by

Show All

Color by

Focal Area

Radius by

Total Financing

Filter by

Focal Area

Show

All

- Climate Change
- Multi Focal Area
- Biodiversity
- International Waters
- Land Degradation
- Chemicals and Waste

Writing Effective Prompts for Generative AI - ITS Technology and Innovation Lab

07:16

Take control | Pop out | Chat | People 83 | Raise | React | View | Notes | More | Camera | Mic | Share | Leave

What is AI?

"AI is a branch of science which deals with helping machines find solutions to complex problems in a more human-like fashion."

MC C3-214 (18) (VC) Private

Elif Nisa Po...

View all

Oleksandra Postavnicha

The Big AI Picture…

AI Types:

By Capability

- **Narrow AI**
- **Artificial General Intelligence (AGI)**
- **Artificial Super Intelligence (ASI)**

By Function

- **Reactive AI**
- **Limited Memory Machines**
- **Theory of Mind**
- **Self-aware AI**

…

Machine Learning/Deep Learning/Neural Networks

Pattern recognition/Object detection/Classification (text, images, voice, - scans, camera traps, face recognition, geospatial, …)
Translation…
NLP/Sentiment Analysis
…

Generative AI

Large language models
Text/Image/Art/Audio/Video/Presentations/ Documents/Music…
Summarization
Coding
Chatbots
Geospatial
…

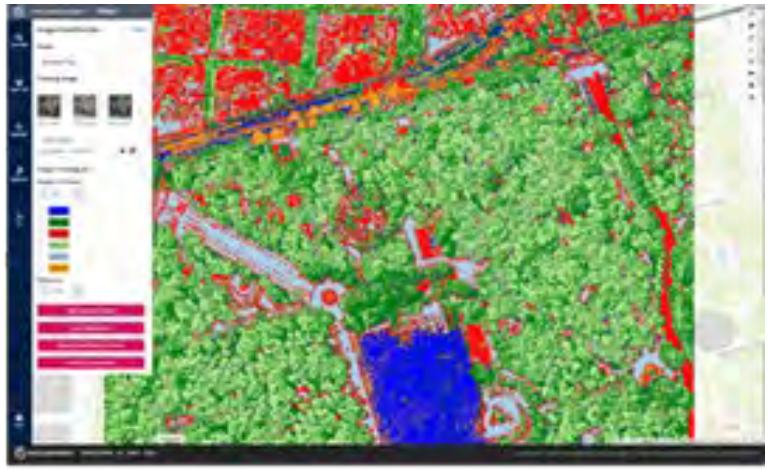
Accelerated AI-driven changes WILL change the World and the World Bank! …sooner than we think!

Machine Learning

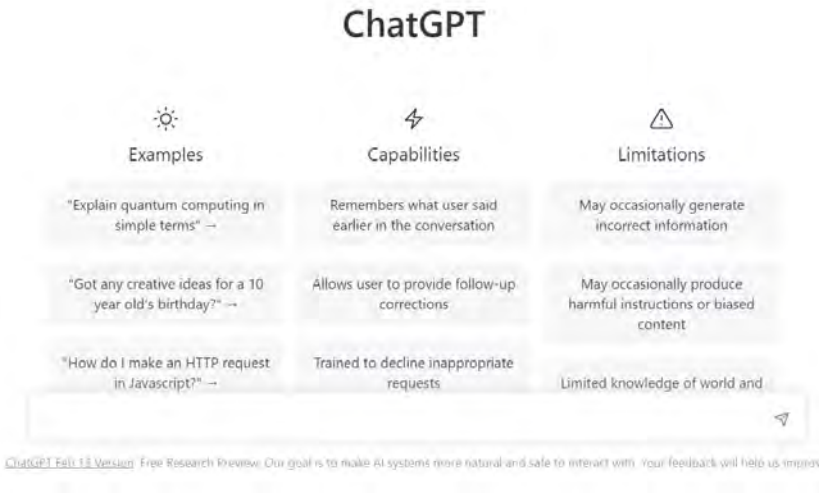
AI-Enabled Text and Data Mining of documents, news & social media

AI-Enabled Chatbots
Natural Language Processing

Training Data for Machine Learning Classification



Land Cover Classification using Training Data



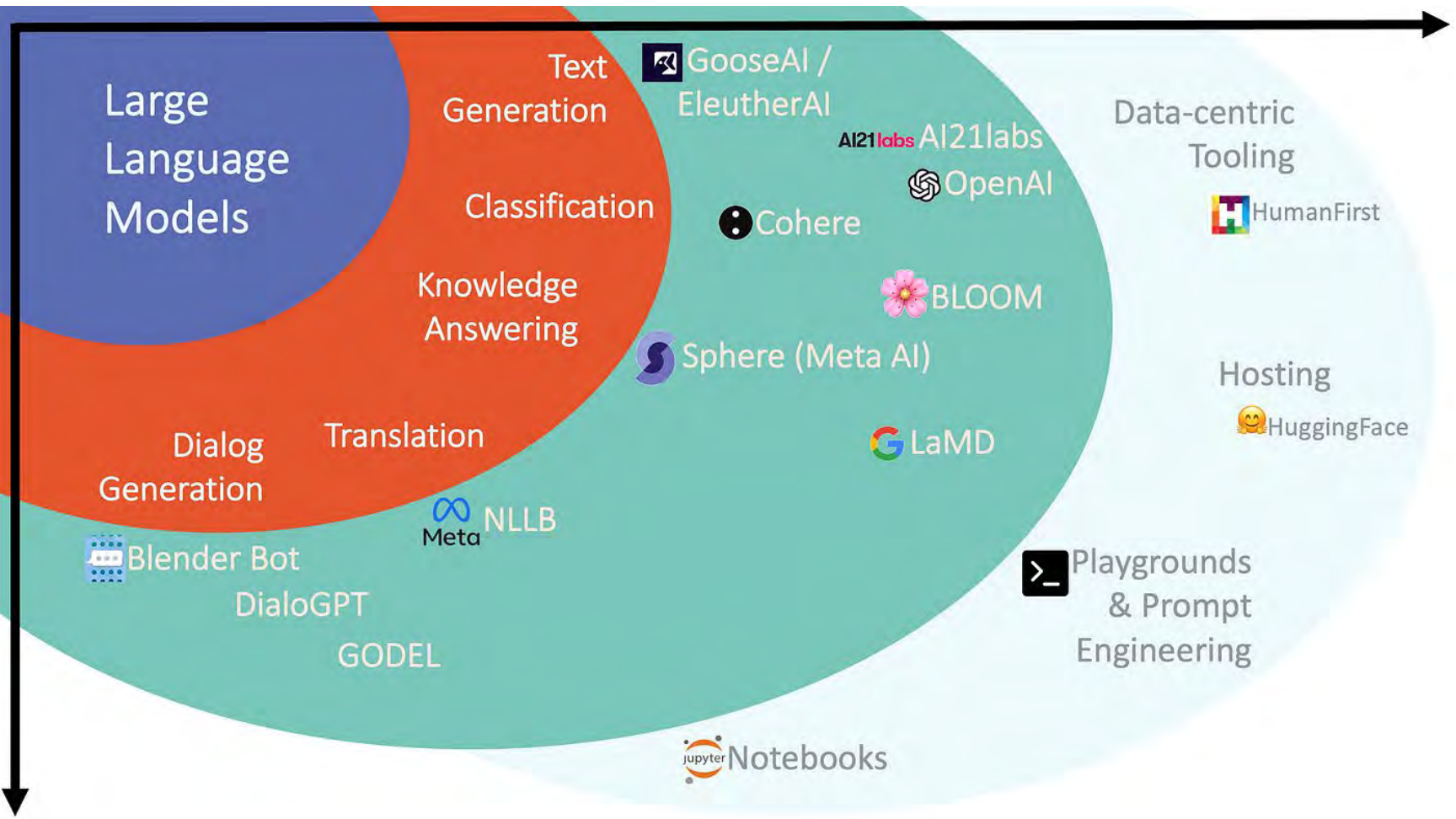
Machine-Learning Image Classification – e.g. from Earth Observation, Photos, …
CNN, ANN, Deep Learning…

Use of Geospatial AI for Object Identification

The Basics of Generative AI

ChatGPT

Generative Pretrained Transformer



Google REALM, BARD, LaMDA, PaLM
Meta RAG, LLaMA
DeepMind
…

2015: Open AI
2018: GPT-1
2019: Microsoft-OpenAI Partnership
2021: DALL-E
Nov 30, 2022: Chat GPT

2023
Jan 20: Perplexity.ai
Mar 13: ChatGPT 4.0
Mar 14: Bing with GPT-4
Mar 21: Google Bard
…

Popularity of "Generative AI" in the US

Source: Google Trends, company websites

AIMultiple

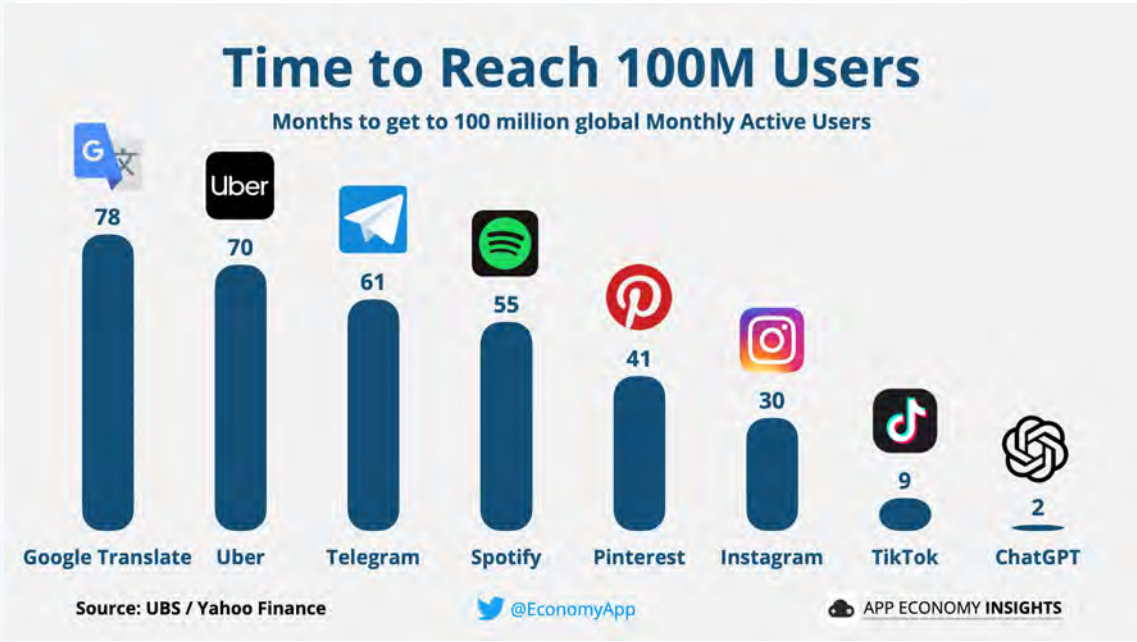
ChatGPT Sprints to One Million Users

Time it took for selected online services to reach one million users

	Launched	
Netflix	1999	3.5 years
Kickstarter*	2009	2.5 years
Airbnb**	2008	2.5 years
Twitter	2006	2 years
Foursquare***	2009	13 months
Facebook	2004	10 months
Dropbox	2008	7 months
Spotify	2008	5 months
Instagram***	2010	2.5 months
ChatGPT	2022	**5 days**

* one million backers ** one million nights booked *** one million downloads

Source: Company announcements via Business Insider/Linkedin



Generative AI Links

Large Language Model (LLM)

- Chat GPT
- Google Bard
- Perplexity AI
- Bing AI

Text to Image

- Dall-E 2
- Midjourney
- Gamma AI
- Stable Diffusion

Text to Video

- Designs AI

Others

- iNaturalist

Responsible Use of Generative A

Not secure | 172.64.150.28:6080/php/urlblock.php?args=AAAAdwAAABCgxZsvz3AtJsSXvPVTHYRWAAAAEDlyVrQWEUAAOBR5K0KfEO8AAABH...

Responsible Use of Generative AI Tools

In line with Senior Leadership guidance, generative AI tools offer opportunities and also come with risks.

Staff must follow the guidelines below while using such technologies:

- Don't upload WBG restricted information including "Strictly confidential," "Confidential," or "Official use only," or any client and/or personal data when using publicly available generative AI.
- Be cautious when using generative AI outputs before incorporating them into official work, as they may contain inaccurate, biased, or discriminatory conclusions.
- Disclose the use of generative AI tools when you have incorporated their output into official work, for copyright and attribution requirements.
- Refer to the WBG Acceptable Use Directive on the rules and terms for acceptable use of Information and Technology Services and privacy, security, and data collection requirements.

Watch this video and visit AI/ where you will find "Mai," the WBG enterprise version of ChatGPT, which you must use when handling WBG restricted information and/or personal data. For any IFC client or partner related tasks, IFC staff are required to use ChatIFC, the IFC enterprise version of ChatGPT.

By clicking on "CONTINUE", I acknowledge and agree to follow these guidelines

CONTINUE

ChatGPT

chat.openai.com/?model=gpt-4

GPT-3.5 GPT-4

ChatGPT PLUS

Give me ideas
for what to do with my kids' art

Come up with concepts
for a retro-style arcade game

Help me pick
a gift for my dad who loves fishing

Brainstorm incentives
for a customer loyalty program in a small bookstore

Give me a

ChatGPT can make mistakes. Consider checking important information.

AI Evolution Timeline

chat.openai.com/c/297a2c82-4d37-4521-aa53-e8f0a639f283

Web Browsing

HA

As a picture

Finished browsing

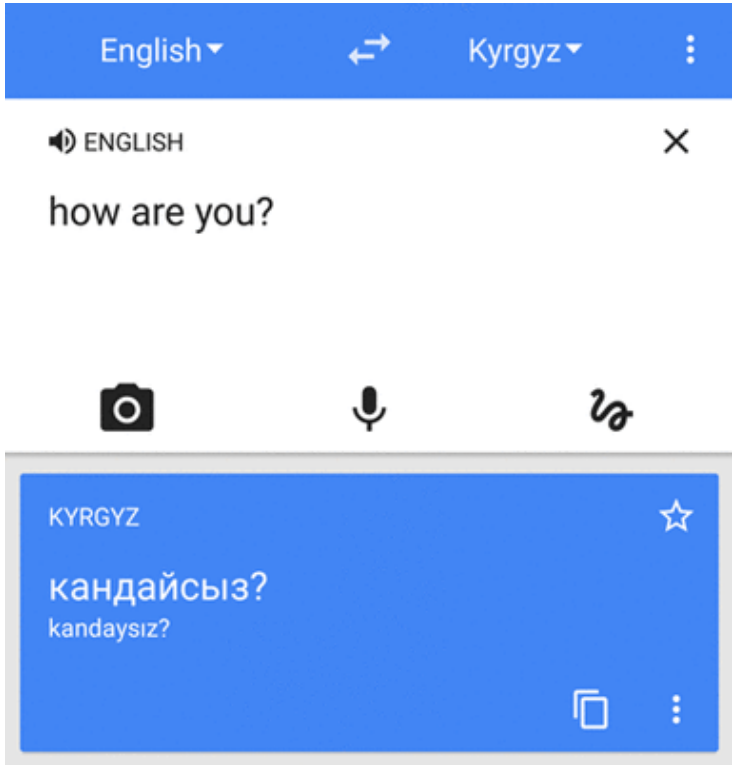
I have found a timeline visualization that includes significant AI breakthroughs from 1950 to the present on the AI Watch website of the European Commission. You can view this timeline and even download the dataset for a comprehensive overview of the evolution of artificial intelligence. It classifies the breakthroughs according to various domains and is inspired by multiple online sources. To see the detailed timeline, please visit AI History Timeline on ai-watch.ec.europa.eu[1].

Regenerate

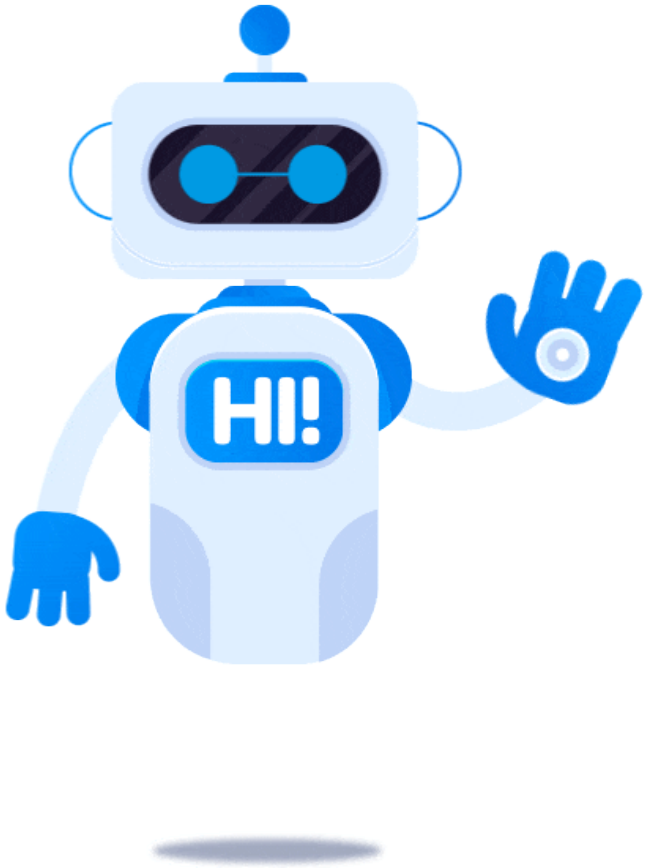
Send a message

ChatGPT can make mistakes. Consider checking important information.

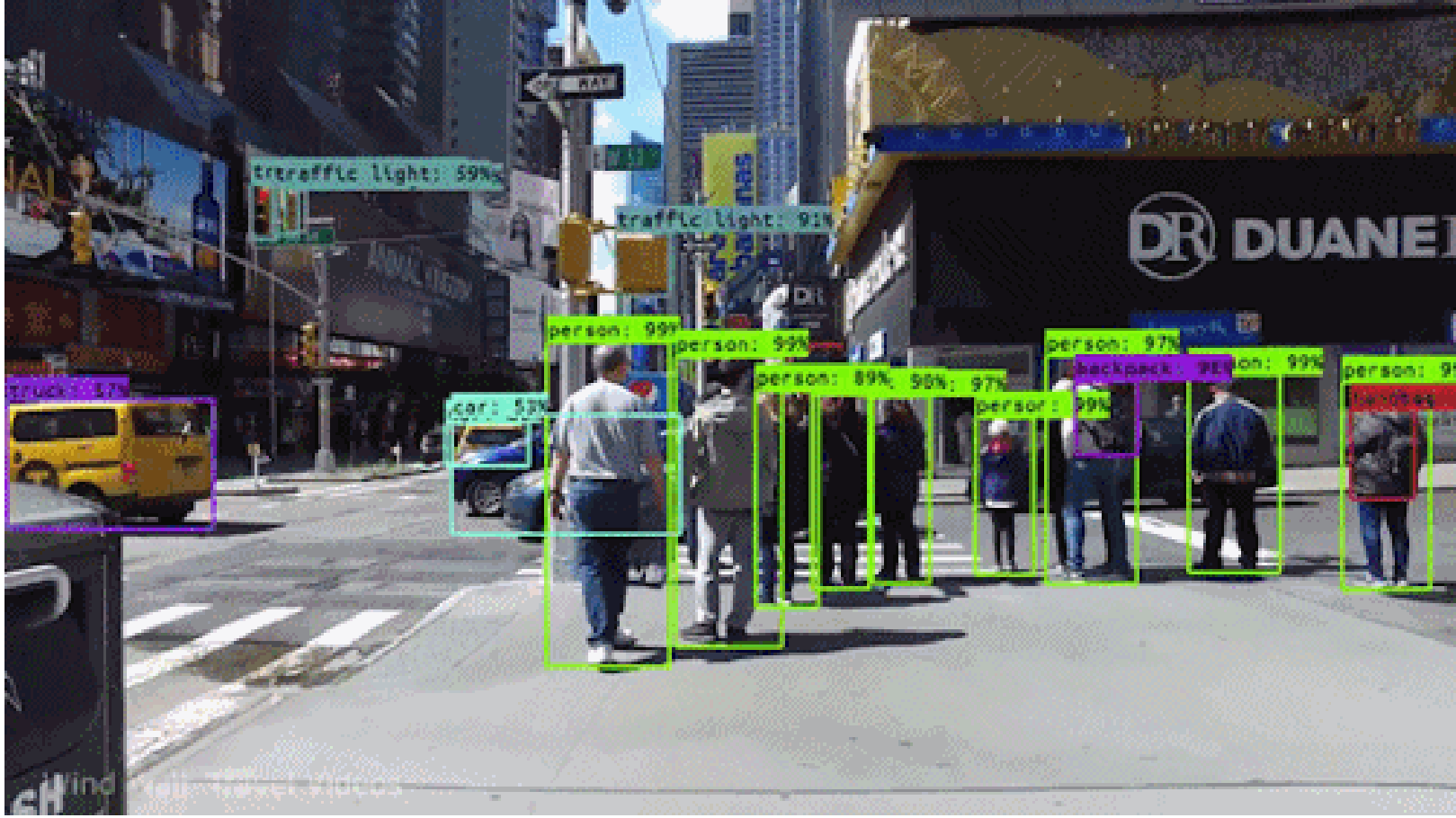
Translation

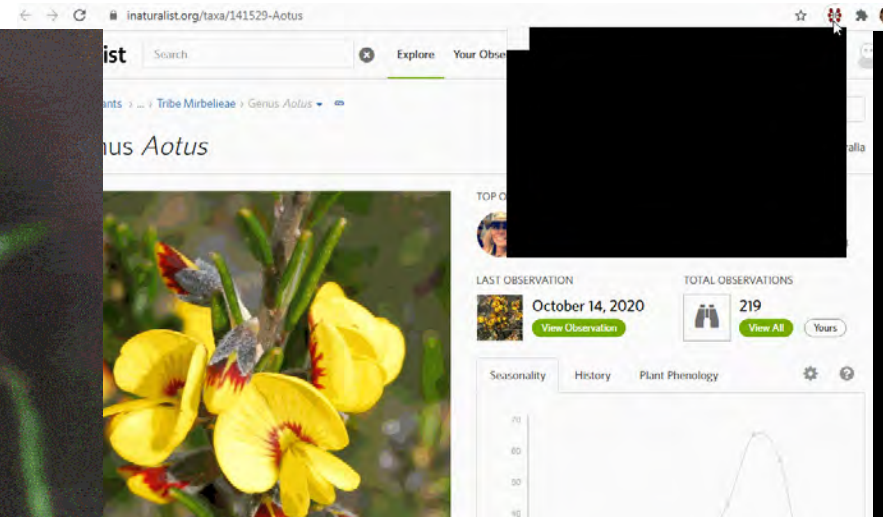


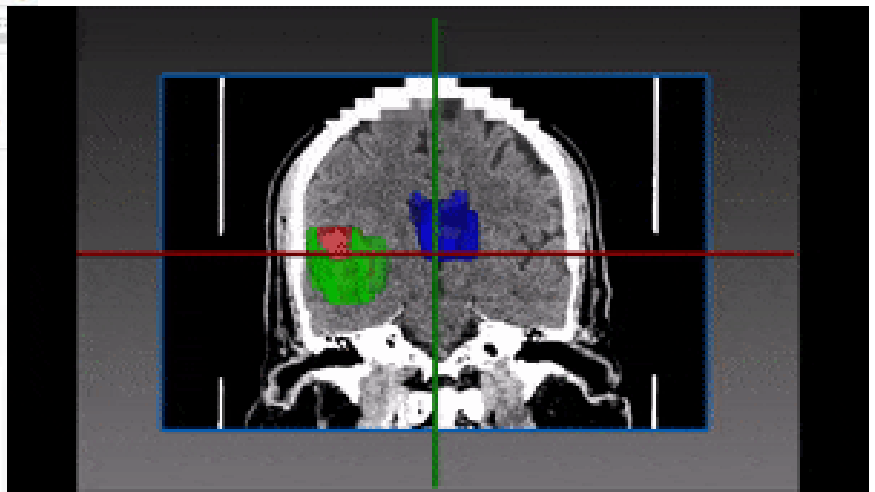
Chatbots



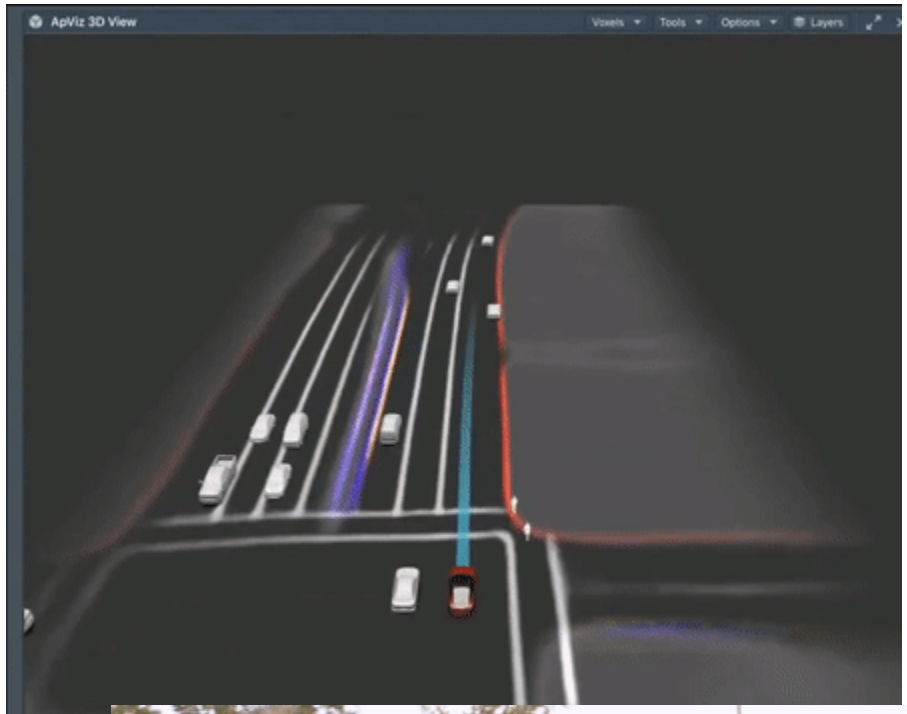
Object/Pattern Recognition







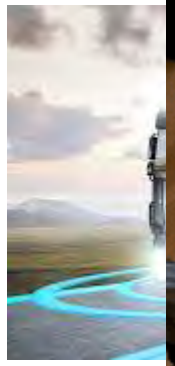
Driverless Cars

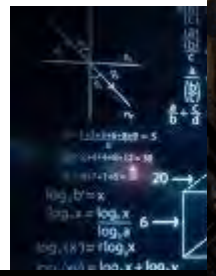


…Delivery Services

Reimagine Development

=> Reimagine Education, Health, Transport, Energy, Agriculture, Environment/Natural Resources, Climate, Finance/Banking, Contracts/Transactions, Forecasts, Services…





AI AI AI AI AI

Automate Repetitive, Routine Tasks

Improving Efficiency

Cheaper, faster, better Services

Improved Estimates/Forecasts

New Jobs

Continuous learning

Wearable AI

Powering Robotics/Automation

Help address global challenges

Hallucinations

Bias

Privacy

Misinterpretation

Cybersecurity

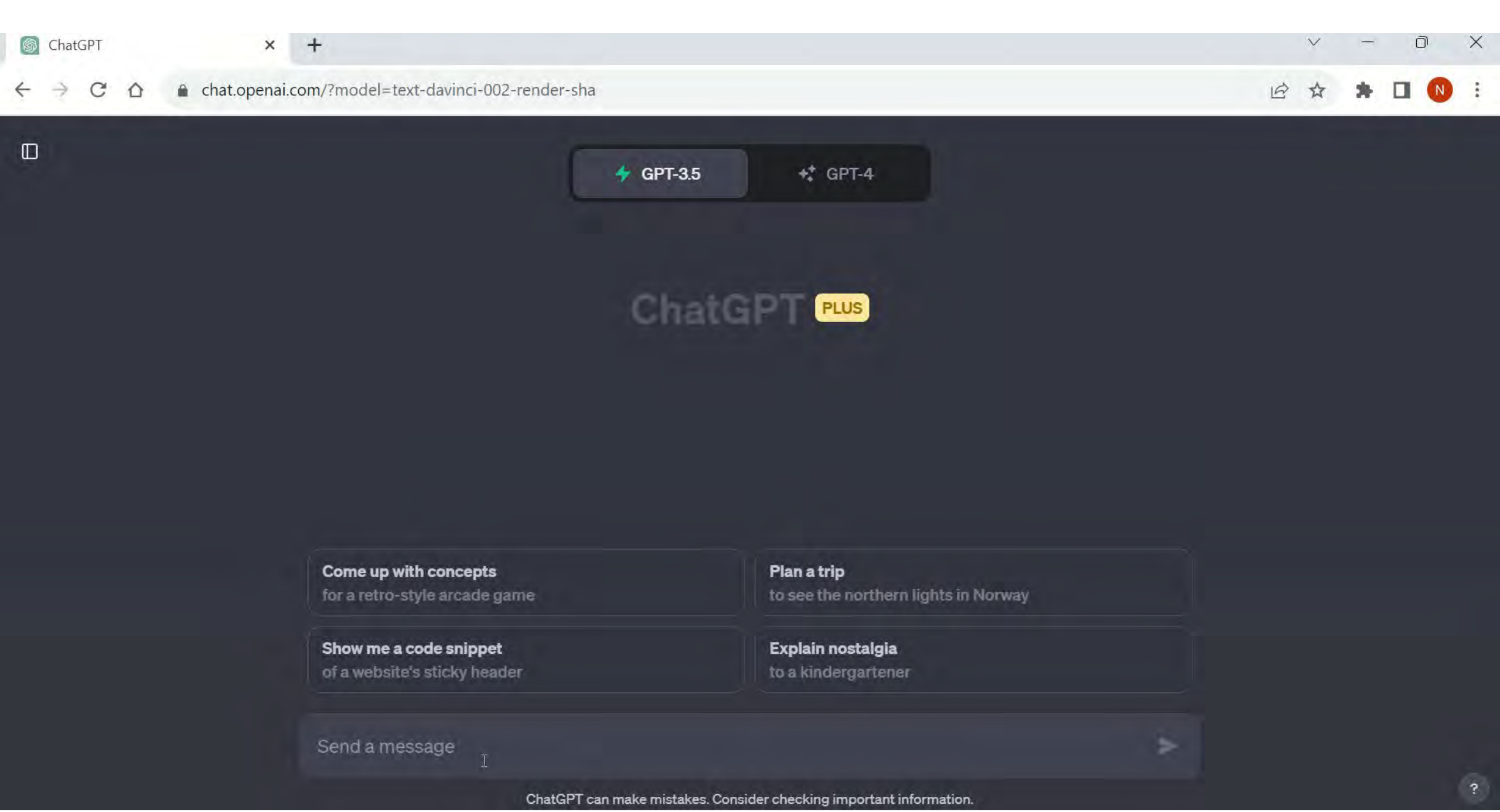
Intellectual Property

Digital Divide

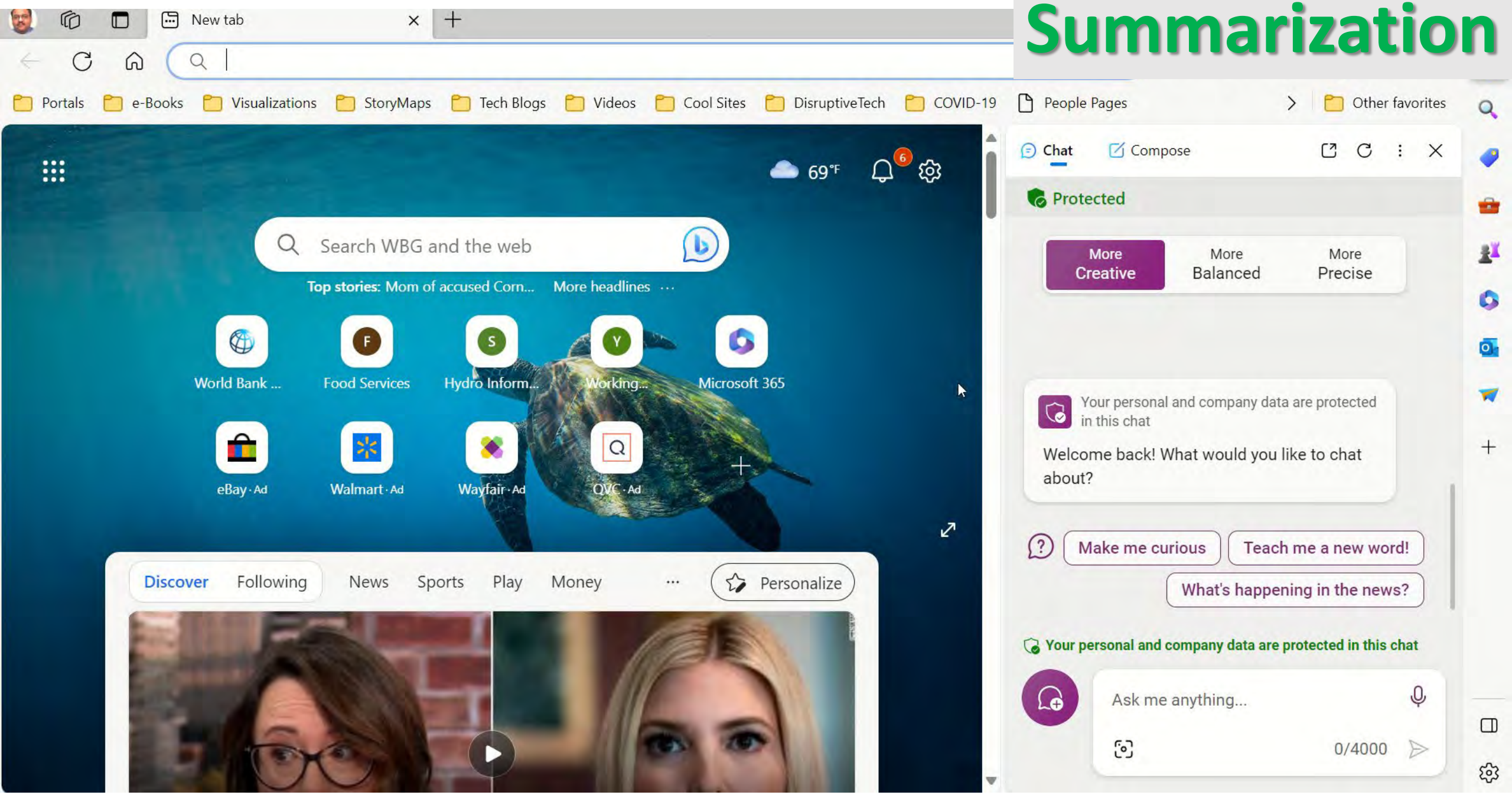
Human Rights

Job/Skill Obsolescence

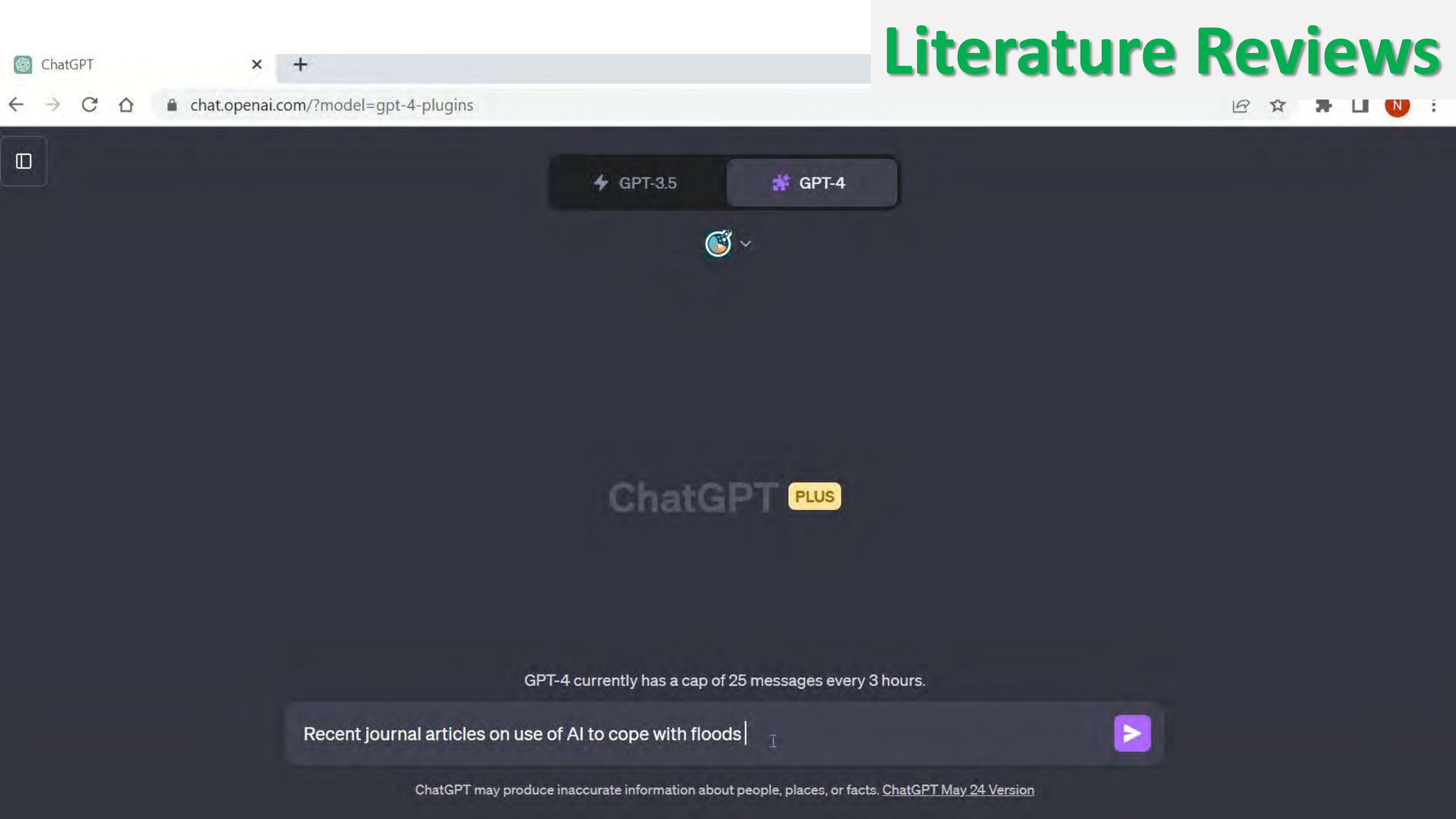
Existential Threat


ChatGPT
chat.openai.com/?model=text-davinci-002-render-sha
GPT-3.5
GPT-4
ChatGPT PLUS
Come up with concepts
for a retro-style arcade game
Plan a trip
to see the northern lights in Norway
Show me a code snippet
of a website's sticky header
Explain nostalgia
to a kindergartener
Send a message
ChatGPT can make mistakes. Consider checking important information.

Summarization



Literature Reviews



Using Generative AI to Generate Images

(e.g. DallE-3 on ChatGPT 4)

draw a landscape with snow-capped mountains, a flowing river, forests, and farms

less snow on the mountains

add a few people and boats

Spatial Chat?

Queryable California Demo

planet. Queryable Earth: combining satellite imagery and next-generation AI

Watch later Share

What was the hottest year on average in Los Angeles between 2003 and 2022?

"2012 was the hottest year on average in Los Angeles between 2003 and 2022."

Land Surface Temperature, Planet Labs

What was the hottest year on average in Sacramento between 2003 and 2015?

The hottest year on average in Sacramento between 2003 and 2015 was 2015.

Land Surface Temperature, Planet Labs

How did the average land surface temperature in Sacramento change between 2005 and 2015?

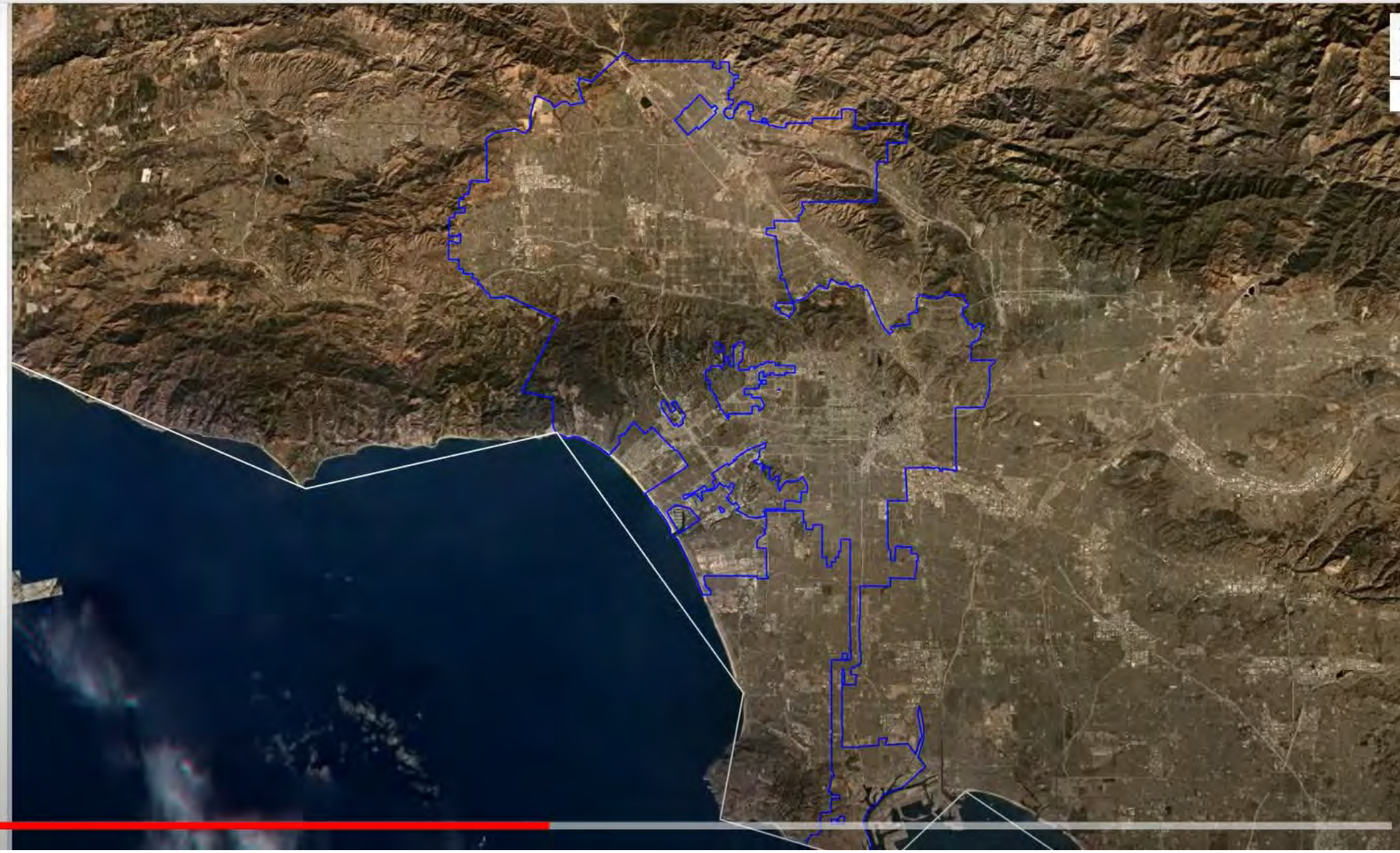
The average land surface temperature in Sacramento increased by 1.6 degrees Celsius between 2005 and 2015.

Land Surface Temperature, Planet Labs

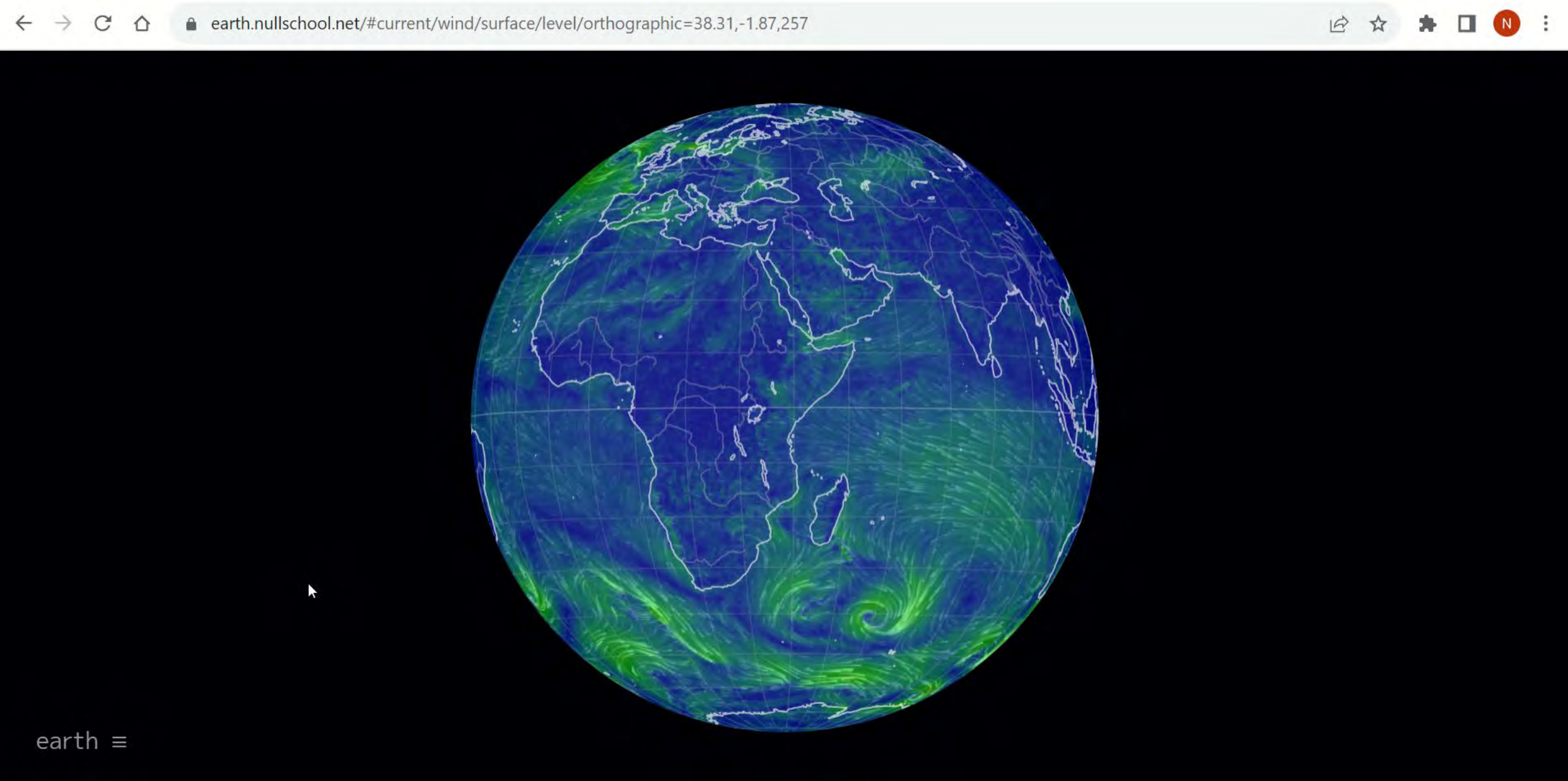
What was the average land surface temperature in Sacramento in 2005?

The average land surface temperature in Sacramento in 2005 was 10.68 degrees Celsius. Land surface temperature is the temperature of the land cover, which includes soil, vegetation, and other materials found on the ground.

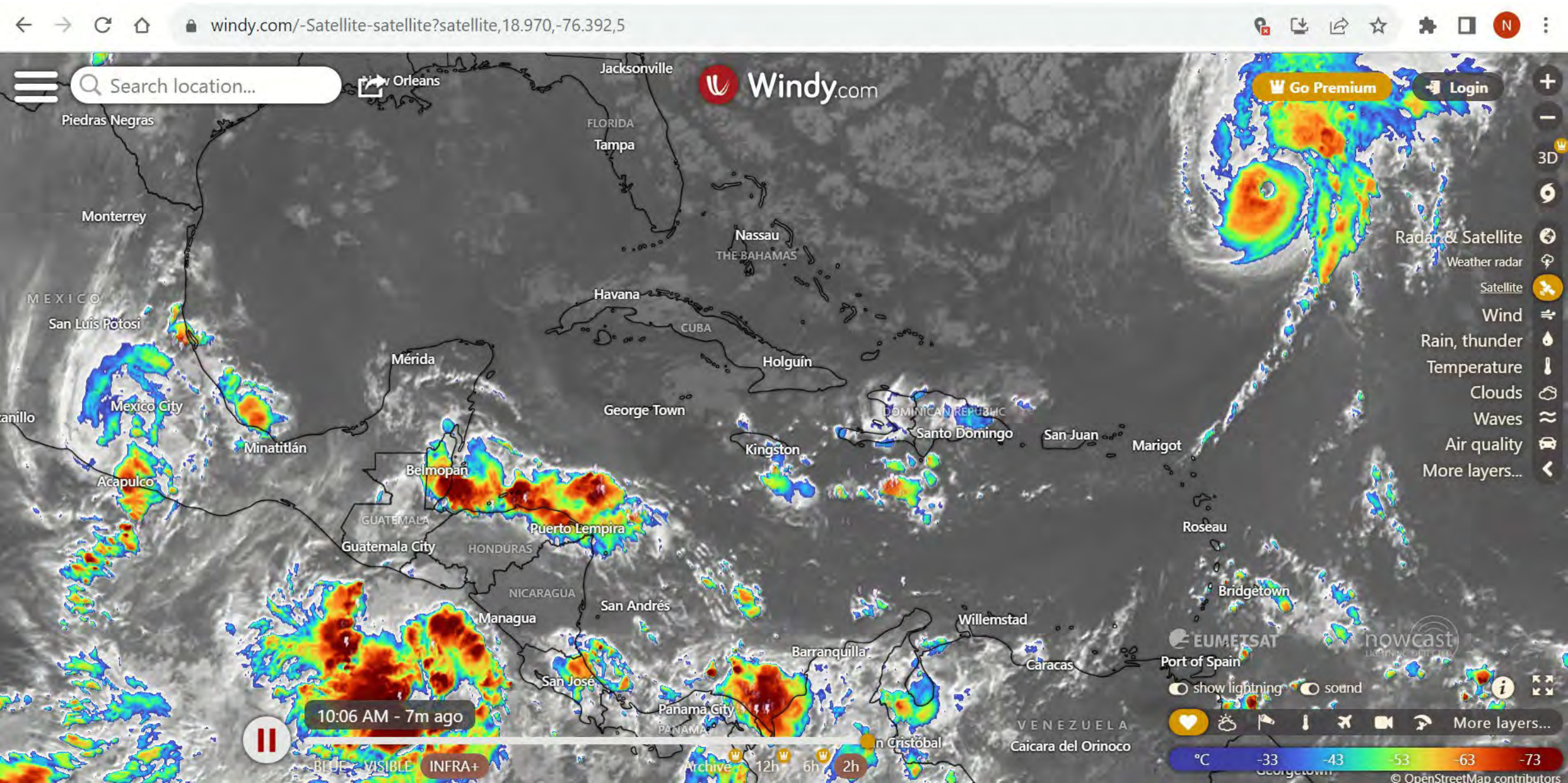
Land Surface Temperature, Planet Labs



Illustative Global Interactive Data Visualization Platforms: https://earth.nullschool.net/

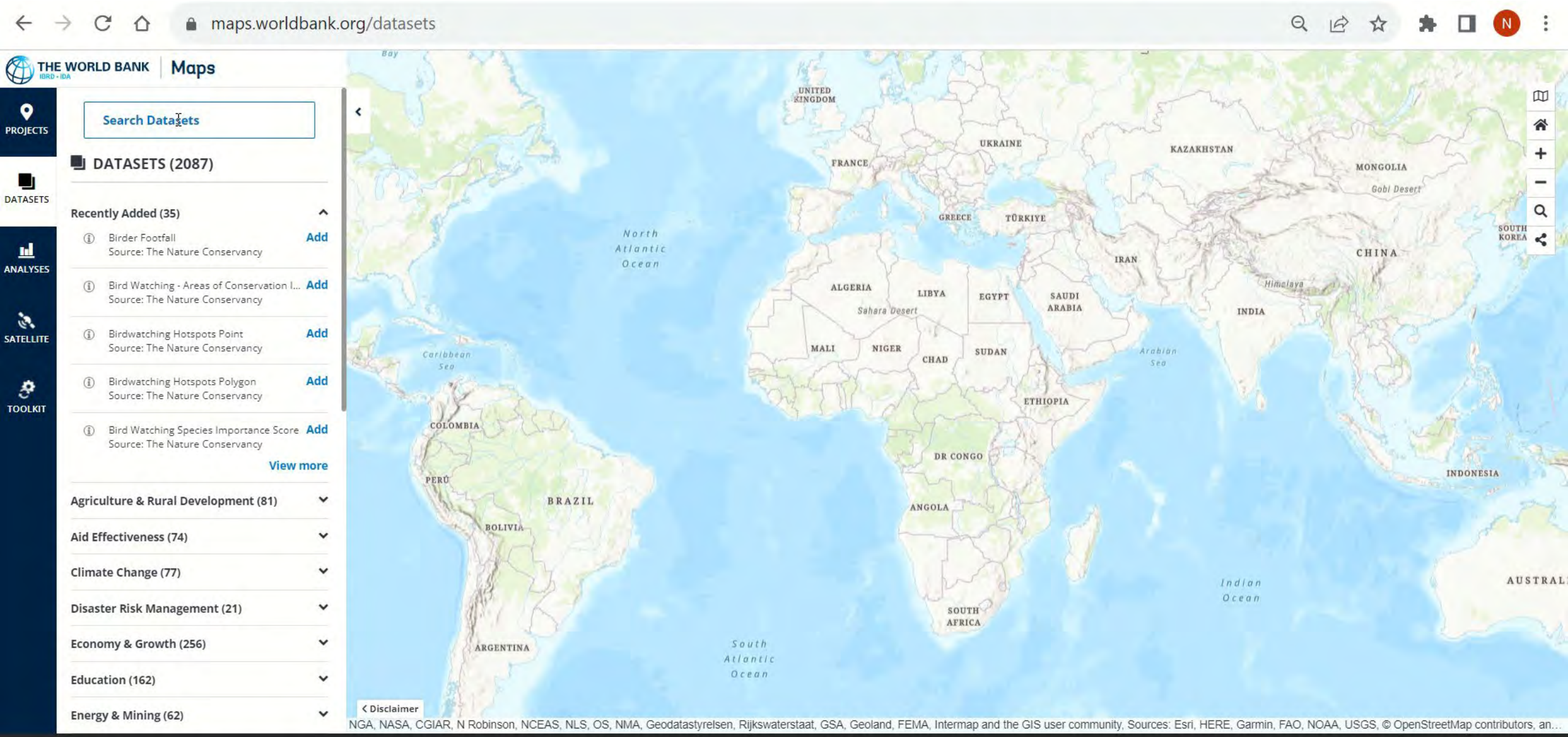


Illustrative Global Free and Subscription Platforms: https://www.windy.com/?24.607,-30.234,3



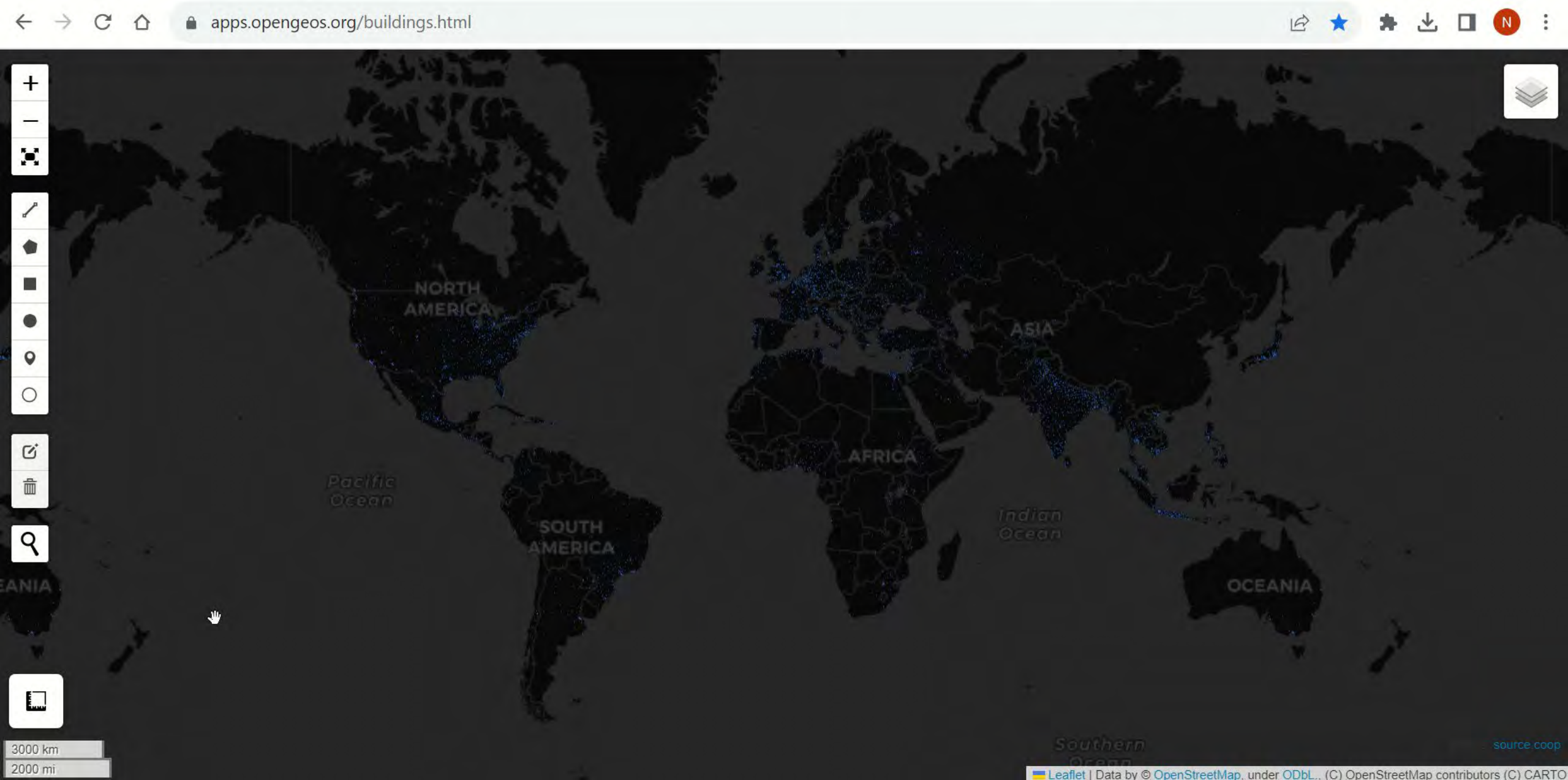
Imagine estimating flows for every river globally…

https://maps.worldbank.org/datasets/streamflow/geogl?viewMore=



Imagine a database of EVERY Building globally…

https://apps.opengeos.org/buildings.html



Sub-continental-scale carbon st
Tree Polygon Visualization
nature.com/articles/s41586-022-05653-6

Article | Open Access | Published: 01 March 2023

Sub-continental-scale carbon stocks of individual trees in African drylands

Compton Tucker, Martin Brandt, Pierre Hiernaux, Ankit Kariryaa, Kjeld Rasmussen, Jennifer Small, Christian Igel, Florian Reiner, Katherine Melocik, Jesse Meyer, Scott Sinno, Eric Romero, Erin Glennie, Yasmin Fitts, August Morin, Jorge Pinzon, Devin McClain, Paul Morin, Claire Porter, Shane Loeffler, Laurent Kergoat, Bil-Assanou Issoufou, Patrice Savadogo, Jean-Pierre Wigneron, ... Rasmus Fensholt

+ Show authors

Nature **615**, 80–86 (2023) | Cite this article

23k Accesses | **2** Citations | **371** Altmetric | Metrics

Abstract

The distribution of dryland trees and their density, cover, size, mass and carbon content are not well known at sub-continental to continental scales[1,2,3,4,5,6,7,8,9,10,11,12,13,14]. This information is important for ecological protection, carbon accounting, climate mitigation and restoration efforts of dryland ecosystems[15,16,17,18]. We assessed more than 9.9 billion trees derived from more than 300,000 satellite images, covering semi-arid sub-Saharan Africa

Download PDF

Associated Content

Carbon stocks of billions of individual African dryland trees estimated

Jules Bayala & Meine van Noordwijk
Nature | **News & Views** | 01 Mar 2023

Sections Figures References

Abstract
Main
Carbon stocks at the tree level
Current carbon map and model comparisons
Application at the tree level
Discussion
Methods

*New Script - Earth Engine Code

enai.com/chat/bb75d780-8e77-46c6-9123-2071e55b866c

NDVI values (indicating high vegetation), and yellow representing moderate NDVI values.

HA

google earth engine script to estimate NDVI in Gezira using Sentinel

Here's a sample script in JavaScript to estimate Normalized Difference Vegetation Index (NDVI) in Gezira using Sentinel-2 satellite imagery in Google Earth Engine:

javascript Copy code

```
// Load Sentinel-2 imagery
```

Stop generating

ChatGPT Feb 13 Version. Free Research Preview. Our goal is to make AI systems more natural and safe to interact with. Your feedback will help us improve.

Blogs

What can AI do for affordable ho

blogs.worldbank.org/psd/what-can-ai-do-affordable-housing-emerging-markets

WORLD BANK BLOGS

WORLDBANK.ORG

HOME ALL BLOGS TOPICS CONTACT WB LIVE

Published on **Private Sector Development Blog**

What can AI do for affordable housing in emerging markets?

SIMON WALLEY, OLIVIER VIDAL & OLIVIA NIELSEN | FEBRUARY 22, 2023

This page in: English

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To learn more about cookies, click here.

app · Streamlit

pluto.calpoly.io

Mode

Choose a mode

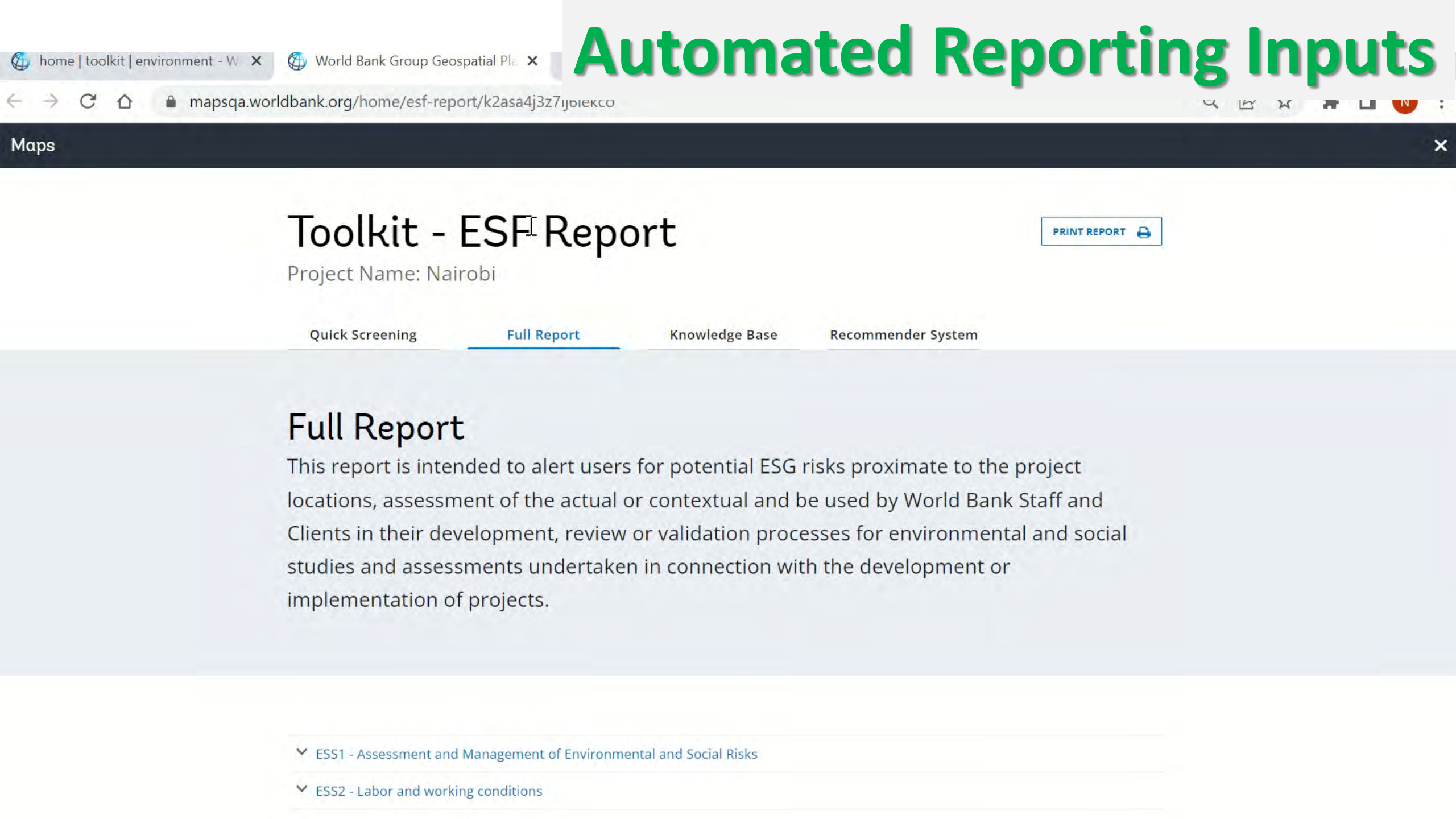
- Chat
- Draft

Pluto beta

Instructions: This tool is designed to help analysts to research existing project information. It is a test site and results should not be relied on. Feel free to ask any question to get summarized information from Pluto. All answers are based on official public documents only. Click the "Clear Conversation" button to clear the conversation history and start a new topic. Queries are limited to 1000 characters.

Design

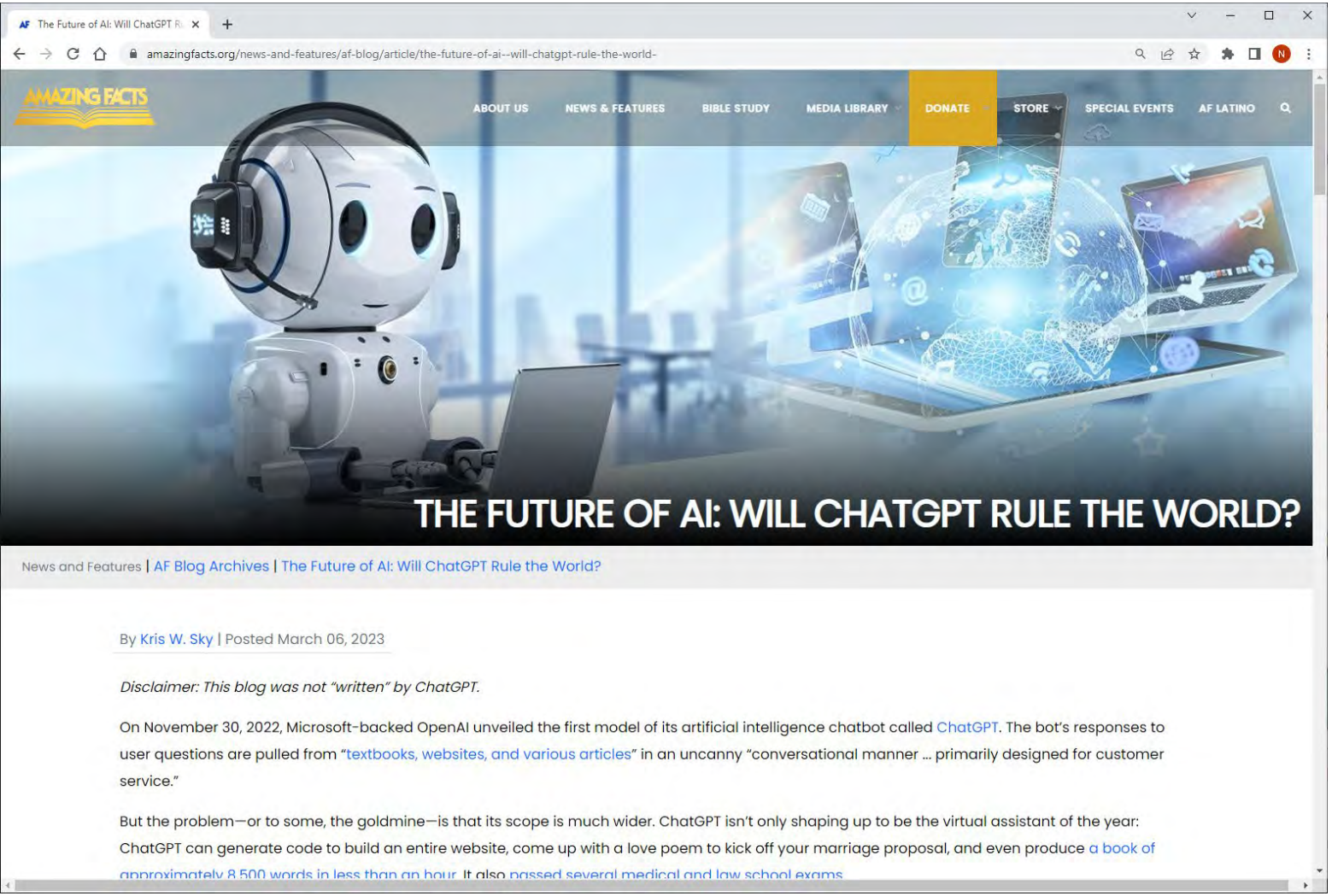
Automated Reporting Inputs



A.I. TURNS THIS SINGLE BULLET POINT INTO A LONG EMAIL I CAN PRETEND I WROTE.

A.I. MAKES A SINGLE BULLET POINT OUT OF THIS LONG EMAIL I CAN PRETEND I READ.

©marketoonist.com

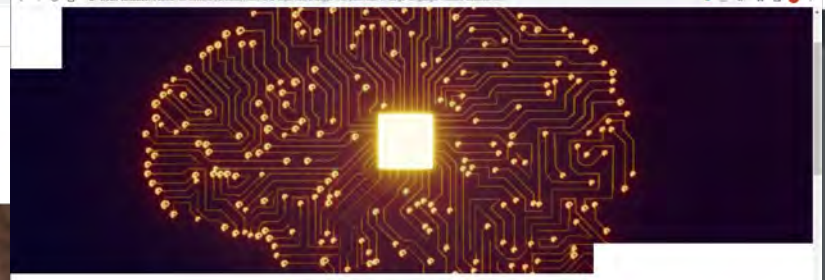


"To think this all began with letting autocomplete finish our sentences."

DAVOS 2023

Generative AI: a game-changer that society and industry need to be ready for

Jan 9, 2023



‹ Articles & stories

ChatGPT: The potential (and pitfalls) of large language models

Credit Suisse
Published: 22.03.2023

Share Print

OpenAI's ChatGPT is the fastest-growing app, ever. But despite being embraced by businesses and organizations across the world, ChatGPT poses risks and GPT large language models have some limitations. Considering the potential impact on society, rules and regulations are needed for artificial intelligence (AI) development – and for ChatGPT specifically.

PowerPoint Presentation

WORLD BANK GROUP
Information and Technology Solutions

Technology & Innovation Lab

Celebrating International Women's Day

Bridging the Gender Gap with Generative AI and ChatGPT technologies

technologyinnovation@worldbankgroup.org
ITS Technology & Innovation Lab
March 7, 2023

Official Use

WBG Information Technology Solutions Vice Presidency/CIO
Technology & Innovation Unit/Lab

FY23

Exploration Sandbox & Technology Advisory on Emerging Technologies Operationalization

FOCUS AREAS

ENTERPRISE IT — READ THIS — AI — JOBS — SKILLS — WEF

AI will drive 83 million "structural" job cuts in 5 years says WEF

AI to also drive huge job growth, along with sustainability...

HARVARD LAW SCHOOL

Home → Statement on Use of AI Large Language Models

Statement on Use of AI Large Language Models

Harvard Law School Statemen on Use of AI Large Language Models (like ChatGPT, Google Bard, and CastText's CoCounsel) in Academic Work, including Exams

Section V, Academic Honesty, of Harvard Law School's Handbook of Academic Policies states:
"Students are expected to abide by the highest standards of honesty and originality in t academic work and related communications and representations."

Section V.A, Violation of Examination Rules; Dishonesty in Examinations further states:

Massachusetts Institute of Technology

Education Research Innovation Admissions + Aid Campus Life News Alumni About MIT

MIT News

ON CAMPUS AND AROUND THE WORLD

Large language models are biased. Can logic help save them?

MIT researchers trained logic-aware language models to reduce harmful stereotypes like gender and racial biases.

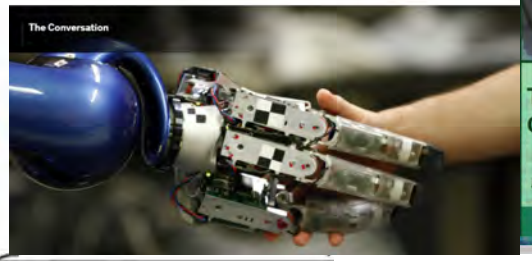
Rachel Gordon | MIT CSAIL
March 3, 2023

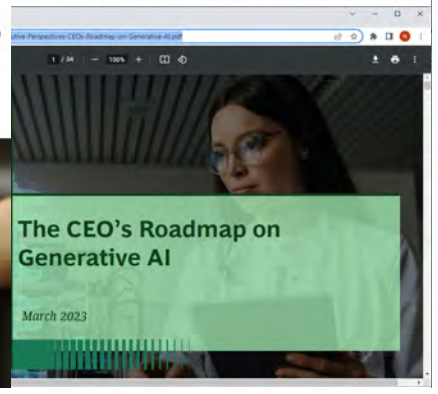
WORLD ECONOMIC FORUM

TECHNOLOGICAL TRANSFORMATION

By 2030, AI will contribute $15 trillion to the global economy

Aug 7, 2019





Goldman Sachs says generative A.I. could impact 300 million jobs — here's which ones

Published Tue, Mar 28 2023•10:03 AM EDT

Sophie Kiderlin
@IN/SOPHIE-KIDERLIN-B327B914A/
@SKIDERLIN

SHARE

Artificial intelligence could automate up to a quarter of work in the U. says. Dowell | Moment | Getty Images

As artificial intelligence products like ChatGPT aim to b everyday lives and we learn more about how powerful on everyone's mind: how AI could impact jobs.

"Significant disruption" could be on the horizon for the

Goldman Sachs

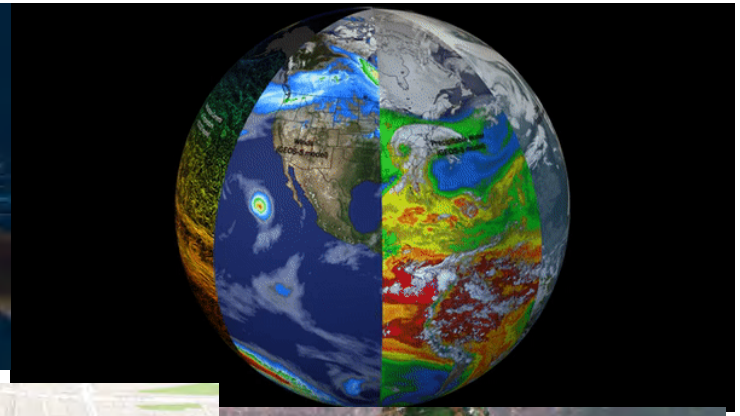
Generative AI could raise global GDP by 7%

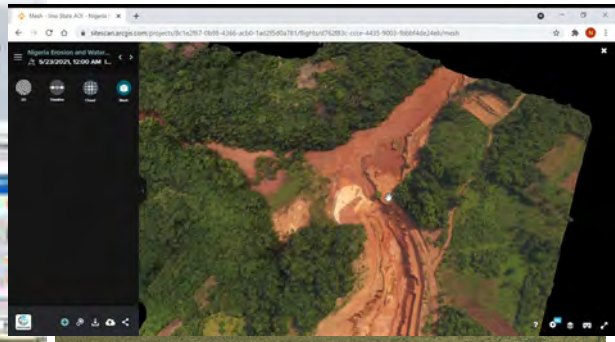
AI for Good

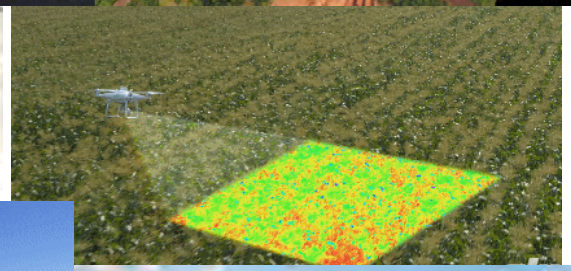
Global Summit Programme

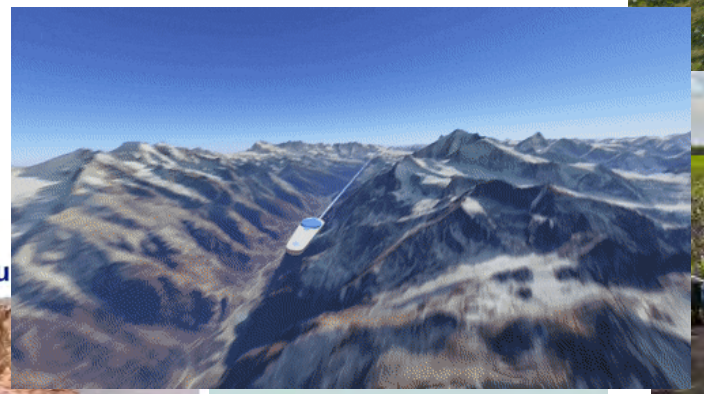
8 ways AI can help save the planet

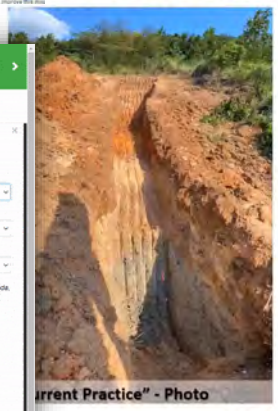
Digital Twins for EVERY Project/Sub-project?





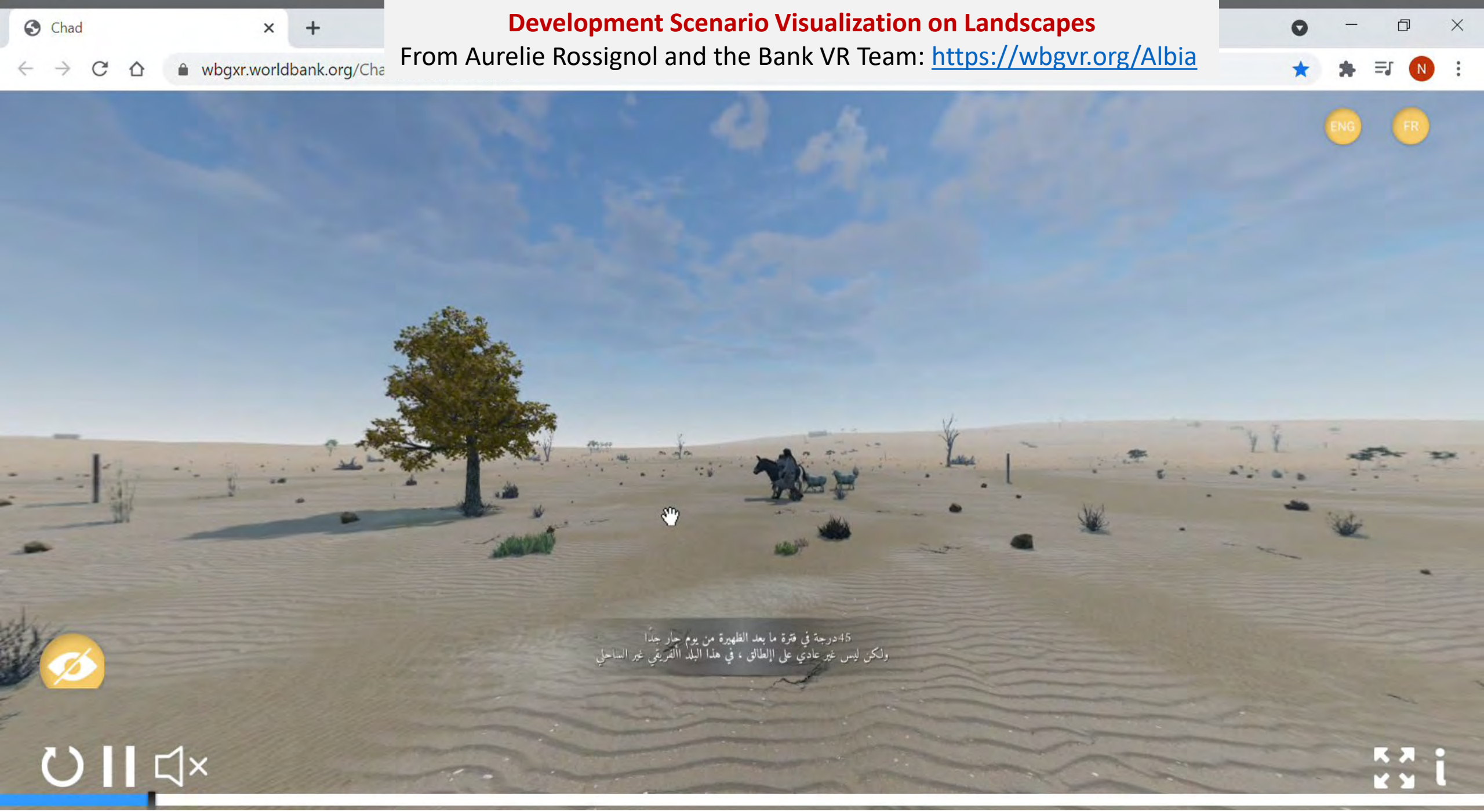


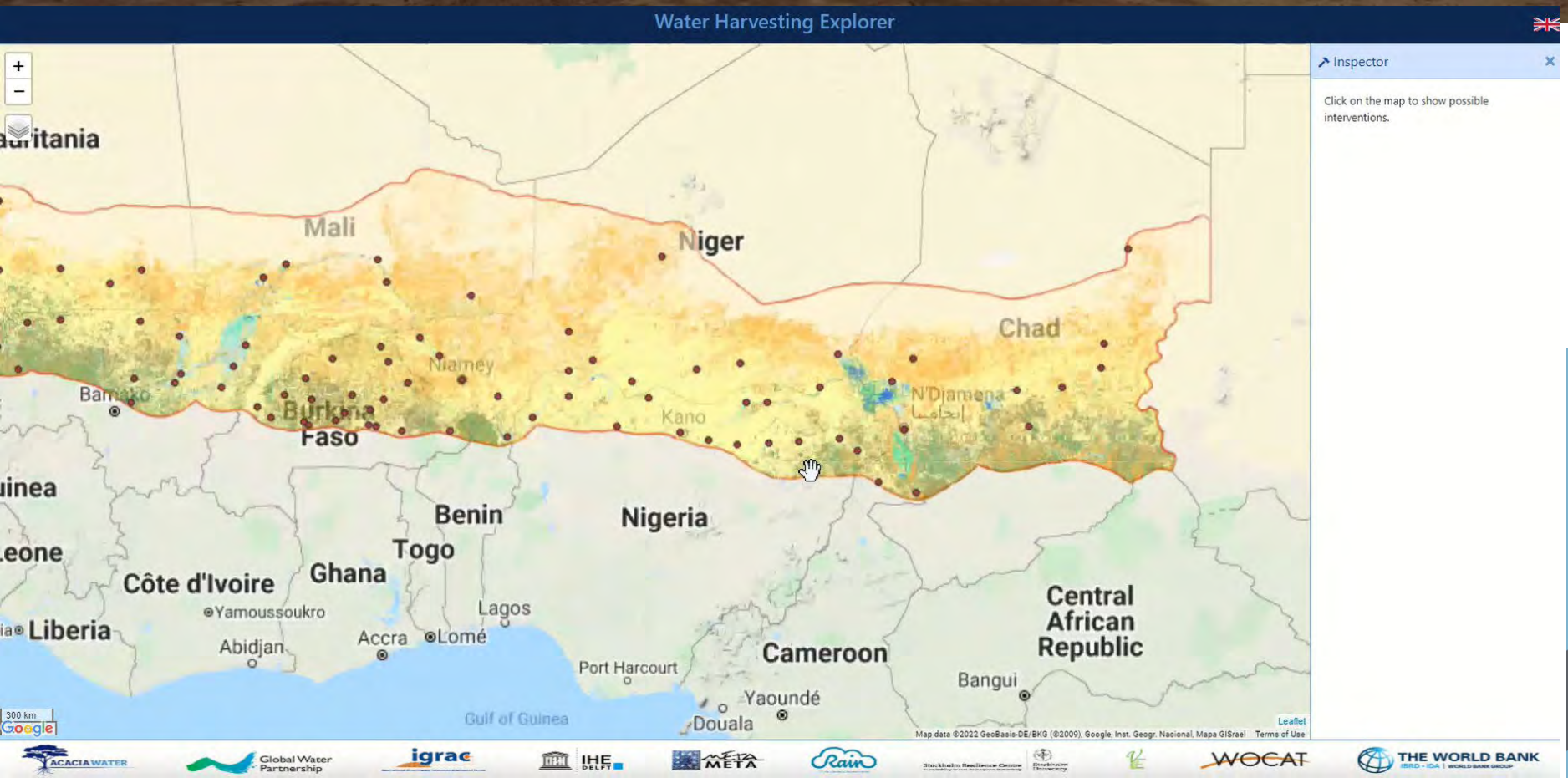




Development Scenario Visualization on Landscapes

From Aurelie Rossignol and the Bank VR Team: https://wbgvr.org/Albia





dMRV System (facilitated by EO, in-situ data/Apps, C Warehouse)

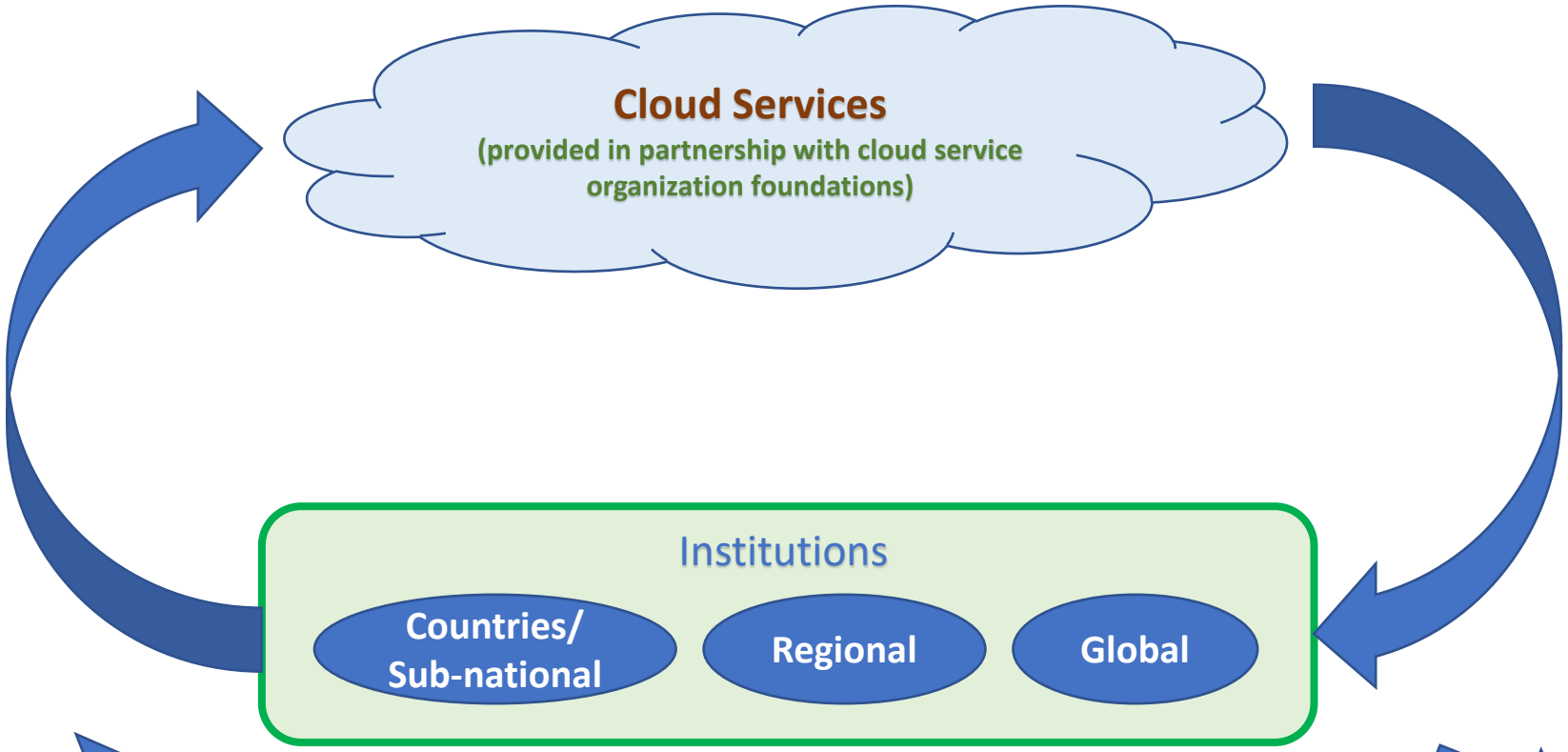
-
-
-

Digital Payments

Livable Planet Open Data Initiative

Support for Data Rescue, Formatting, Integration, Hosting as Online Services for Interoperability

(e.g. for data on climate, water/land/soils/ other natural resources, pollution, and other relevant socio-economic and infrastructure aspects of a livable planet)



Support for open data access *through open APIs/ services*

Support for Data Collection Services

(e.g. Monitoring Systems such as Hydromet systems, geospatial data generation, crowdsourcing, etc.)

Support for Capacity-Development and Data Partnerships

(e.g. for sectoral institutions working with partner agencies)

Support for Analytics/AI based Services/ Apps

(to provide High-Impact Services)

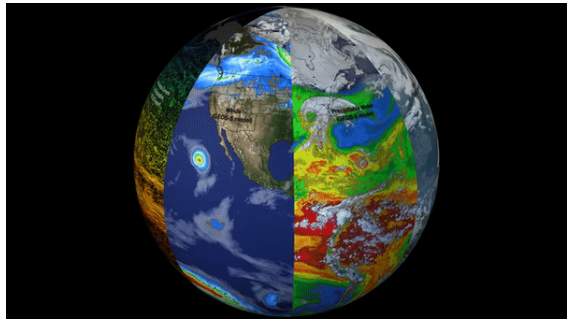
Livable Planet Global Services

What?

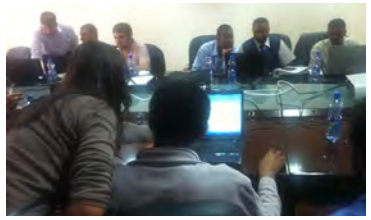
- Services for **Early Alerts** (e.g. related to floods/droughts/storms, some types of pollution)
- Digital Monitoring, Reporting, Verification (**dMRV**) services for climate action and associated co-benefits
- **Services for Nature** - nature based solutions; integrated watershed/basin/landscape planning and management; water and other natural resources, blue economy & biodiversity management; circular economy/ pollution management
- **Agricultural advisories** (even to smallholder farmers) related to weather, soil moisture, yield estimates, pests

How?

- Prioritizing a few initial services that can have quick, global impact and identify relevant partner organizations
- Strengthening relevant aspects of Livable Planet Open Data Services and partnerships
- Demonstration in a few countries and scaling up globally based on interest leveraging cloud services & responsible AI
- Tracking use and impact and refining/expanding services



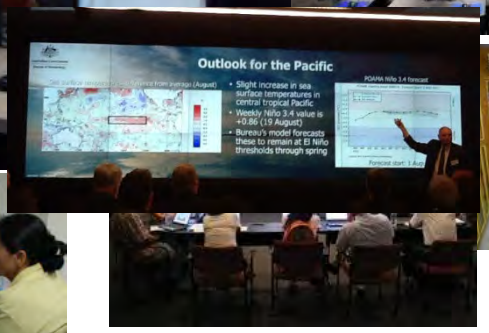
Modernizing Institutions



Collaborative Workspaces/Internships

Audio/Video-Conferencing/ Distance Learning/ Helpdesk

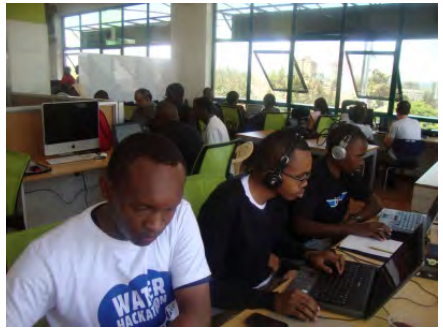
Computer Training Room



Document, Map & Digital Library

Innovation Marketplace

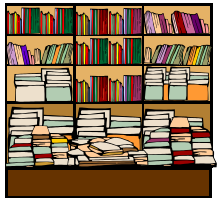
Situation/ Decision Rooms



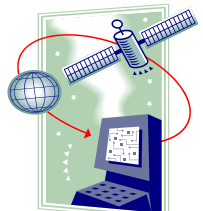
Competitions (e.g. Hackathons)

Collation

Knowledge Repository



Monitoring Hub



Analysis

Knowledge Tools/Products

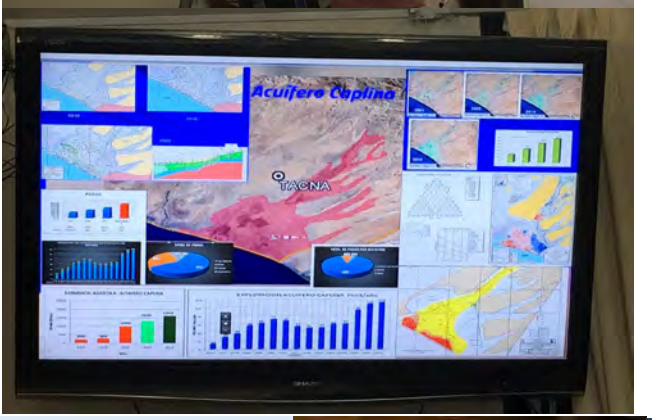
Targeted Research

Use

Outreach & Capacity-Building

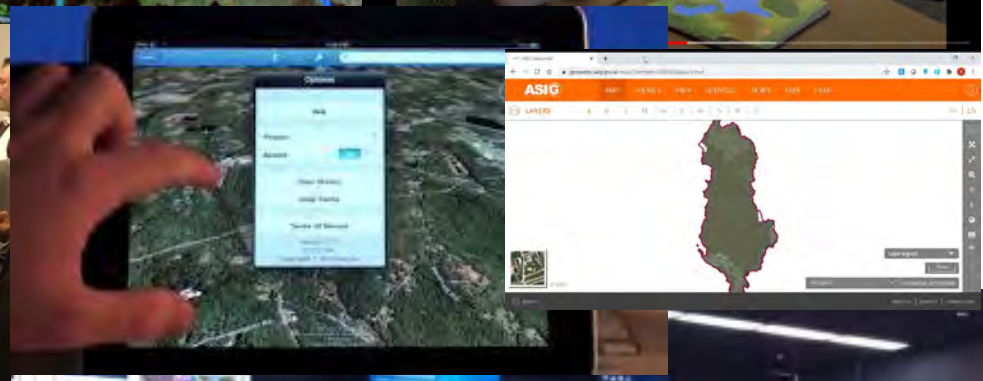
Institutional Support

Large Displays



TouchScreens

Physical Interactive Models

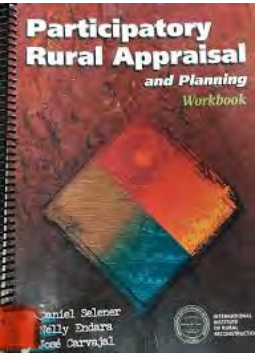


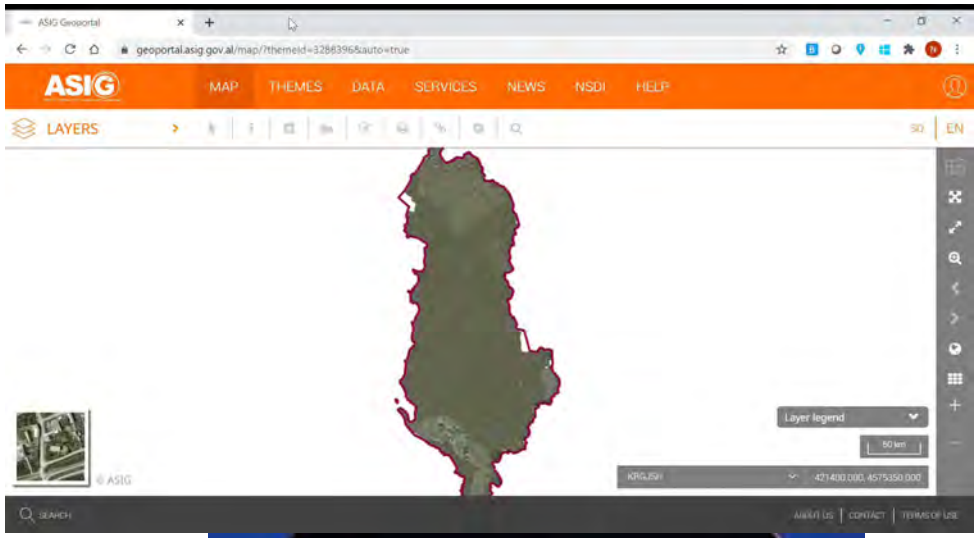
Touch Tables

VR

Touch Projectors

Improving Community Interactions





Imagine…

- Every smallholder farmer with free access to information for weather alerts, precision farming, yield estimation, market info and access, benchmarking, digital payments…
- Harnessing the “power of shame” to benchmark my area with other relevant areas…
- Instant access to global good practices and relevant stakeholder forums and expert advice…
- Leveraging the power of bright minds – working on new data-driven solutions for everything, everywhere, all at once…
- Moving to a culture of more information-based decision-making…

What does AI mean for us?

- Improve awareness (us, our teams, our clients) on the benefits and risks
- Leverage benefits
- Plan for and mitigate risks
- Closely monitor trends and impacts
- ***Enables*** and ***Requires*** us to work as one Bank!

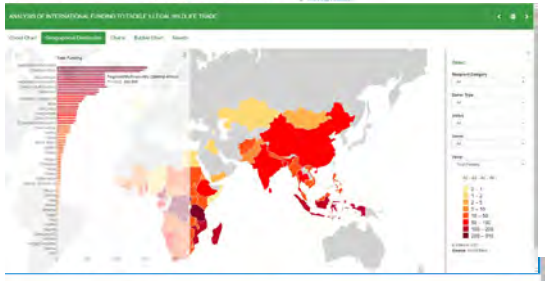
Preparing for Generative AI

- **Awareness of the Tech**
  - Dos (learn, experiment, document, discuss/collaborate…)
  - Don’ts (uploading private or non-public info, using without verification, copyright violations…)
- **Explore Implications for Sector**
  - Facilitating work (adapting as the tech evolves)
  - Jobs (vulnerability, opportunities)
- **Initiate Cautious, Responsible Use**
  - Helpdesks (incl. AI options, prompt engineering, case studies, training…)
  - Dialogue/Studies (research, summaries, brainstorming, chatbots…)
  - Operations/Investments
  - Regulatory Framework

World Bank Disruptive Tech Support Ecosystem

Alphabet Soup

- ITS
- DEC
- FCV (GEMS)
- GFDRR Labs
- GCS (WBXR, …)
- DD GP
- OLC
- Disruptive KIDS Helpdesk
- CoPs
- …
- <DT Network>
- Proposed Digitalization VPU

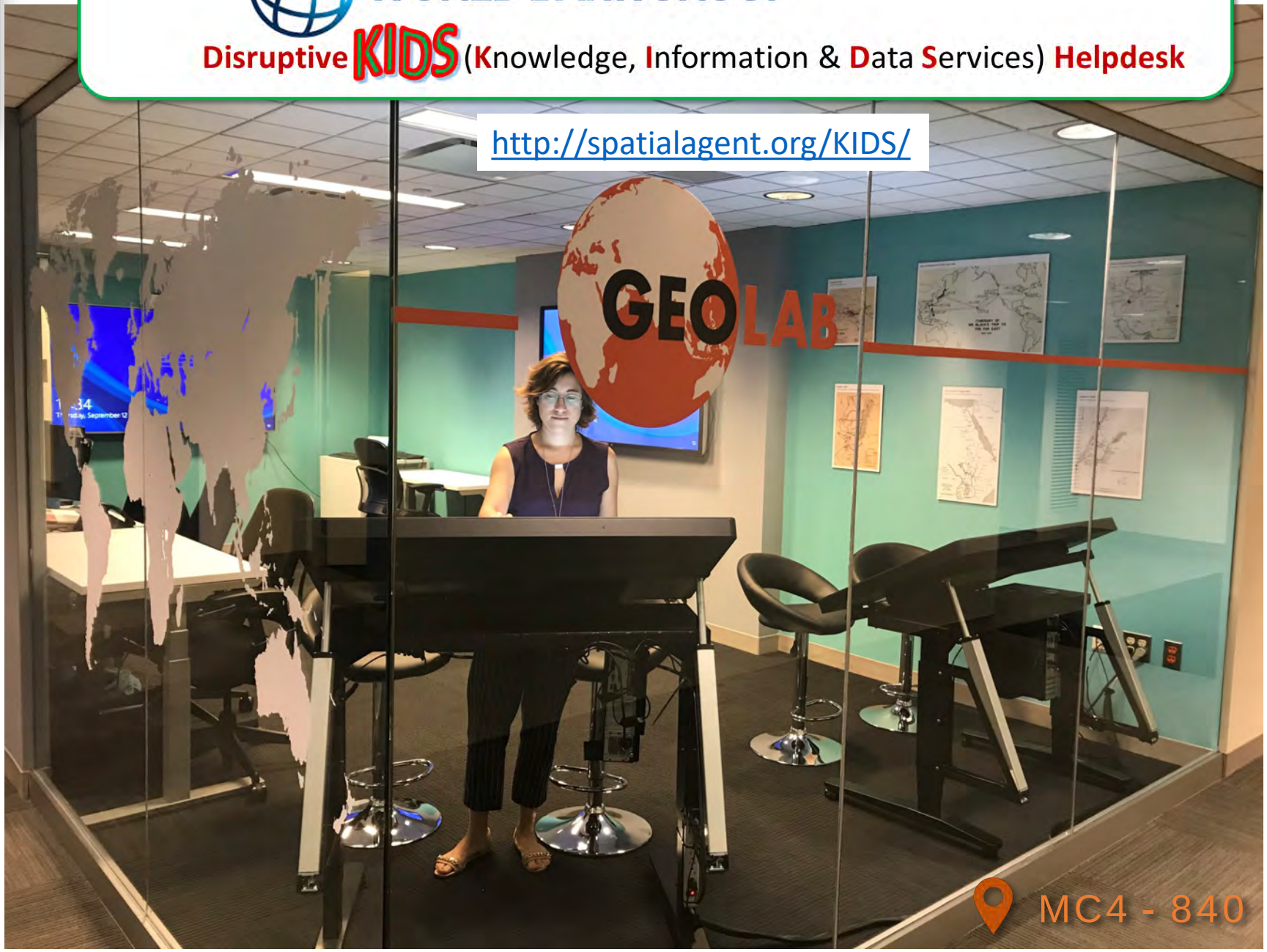


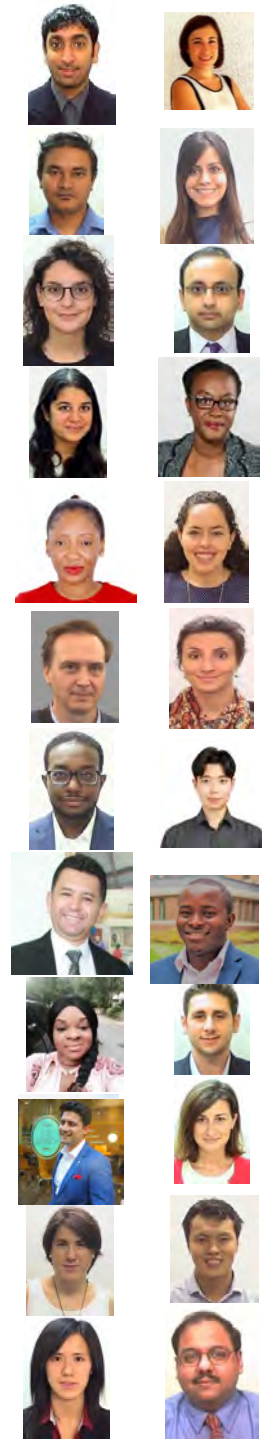
Disruptive Technology

WORLD BANK GROUP

Disruptive KIDS (Knowledge, Information & Data Services) Helpdesk

http://spatialagent.org/KIDS/





Happy Exploring in RetAIrement!!!

Disrupt or Be Disrupted!

Thanks!

http://www.worldbank.org/
https://www.worldbank.org/en/projects-operations/environmental-and-social-framework
https://maps.worldbank.org/
https://spatialagent.org/KIDS/

Disruptive Technology
WORLD BANK GROUP
Disruptive KIDS (Knowledge, Information & Data Services) Helpdesk