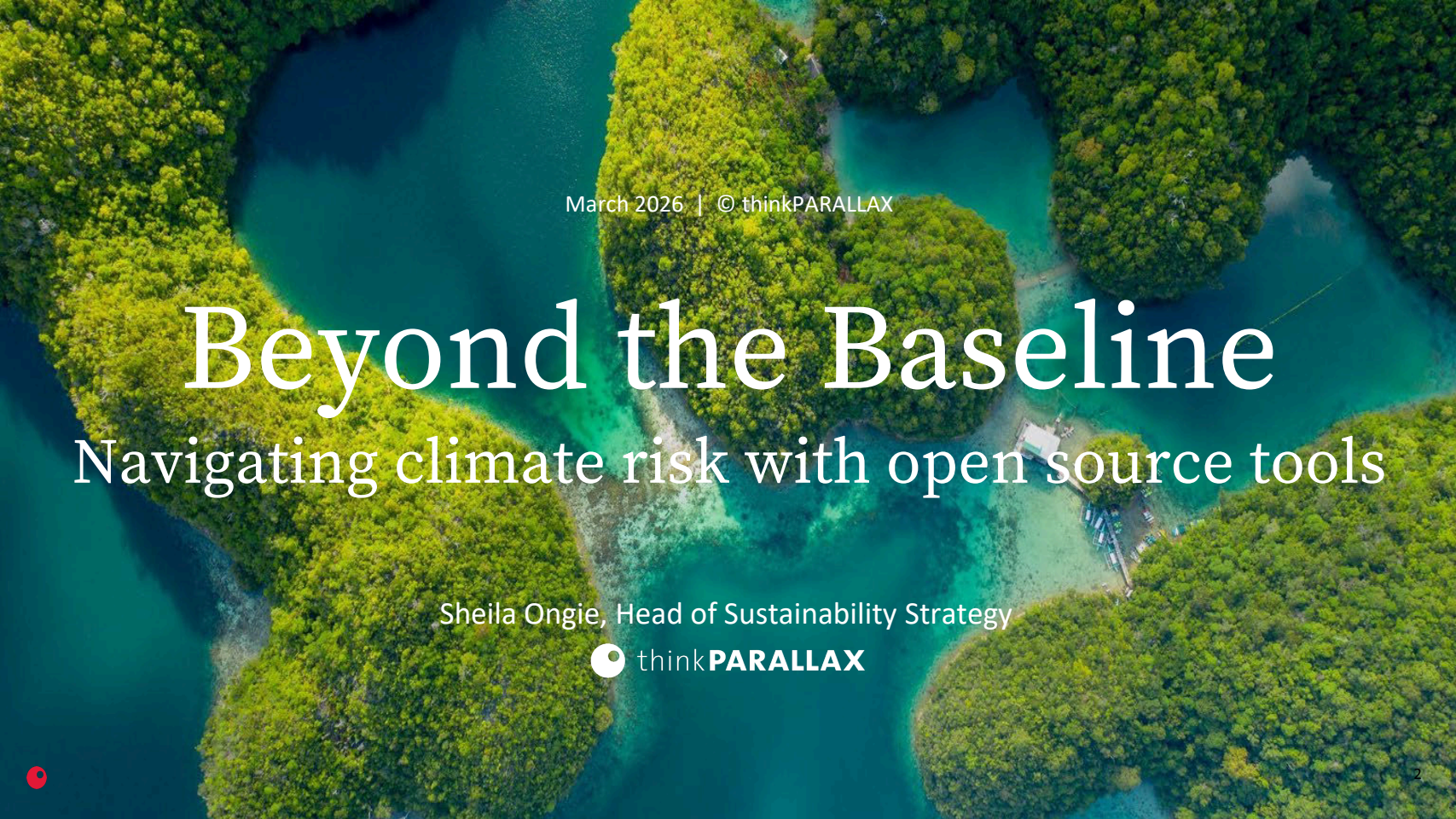
NAVIGATING CLIMATE RISK WITH OPEN-SOURCE TOOLS

Sheila Ongie
thinkPARALLAX

Emma Stein
Vita Coco

CLIMATE COLLABORATIVE™
Commit. Act. Impact.



March 2026 | © thinkPARALLAX

Beyond the Baseline

Navigating climate risk with open source tools

Sheila Ongie, Head of Sustainability Strategy

thinkPARALLAX

Following this session you will have:

- ❑ **Practical understanding of climate risk**
- ❑ **Real examples to draw from**
- ❑ **Knowledge of tools to assess CR**
- ❑ **A business case for action**

Welcome!

Climate risks impact business resilience

Part 1: Climate risks & opportunities

Climate risks

PHYSICAL

Chronic

Increase in pests/diseases

Long term drought

Changing growing zones

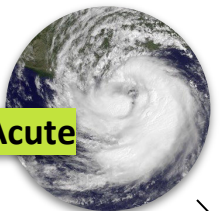
Changing growing zones

Rising sea levels

Desertification

Extended storm seasons

Long term hazard trends



Acute

Heat waves

Flash flooding, river flooding, coastal flooding

Wildfires

Tornadoes, derechos, hurricanes, cyclones

Extreme storm events

Incidents of hazards

Climate risks

TRANSITION

Market

Impacts to supply, demand and pricing

Cost of inputs/reduced margin
Availability of inputs
Demand changes
Sales impacts

Technology

Pressure to keep up with rapid tech evolution

Increased CapEx
Increased OpEx

Reputation

Meeting expectations of customers, clients, employees

Reduced loyalty/sales
Increased OpEx (PR, comms, hiring)

Legal

Regulations driving business activities

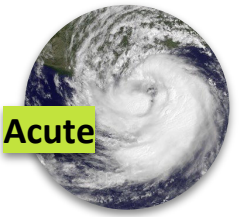
Increased CapEx
Increased OpEx
Additional costs
Reputational concerns

Climate risks

Risks from not mitigating climate change

PHYSICAL

Long term hazard trends such as rising sea levels



Incidents of hazards such as storms, wildfires or heat waves

Risks from society's response to addressing climate change

TRANSITION

Impacts to supply, demand and pricing

Pressure to keep up with rapid tech evolution

Meeting expectations of customers, clients, employees

Regulations driving business activities

Climate opportunities

Resource Efficiency

More efficient production and resource consumption

Energy Source

Lower emissions energy sourcing, policies, and tech

Products and Services

Lower emissions products and climate solutions

Markets

Market access and use of incentives

Resilience

Resource reliability and energy efficiency

Partner conversations (1 min each)

Choose 1 question below

1.

What types of **acute or physical risk** have you experienced in a business context? What was the result?

2.

What types of **transition risks** have you experienced in a business context? What was the result?

3.

What are your biggest **challenges** to identifying risks?

Part 2: Fireside Chat
with Emma Stein from Vita Coco

Part 3: Mapping and modeling risks

Helpful, free resources

Probable Futures: probablefutures.org

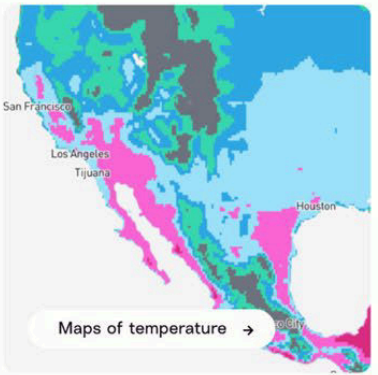
EN-Roads: https://en-roads.climateinteractive.org/

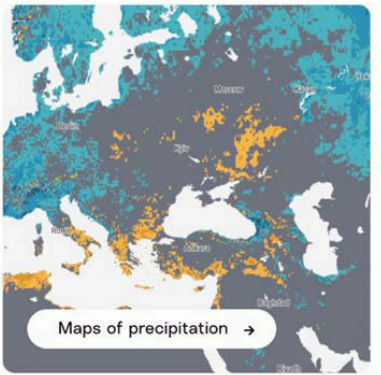
Climate Central: climatecentral.org

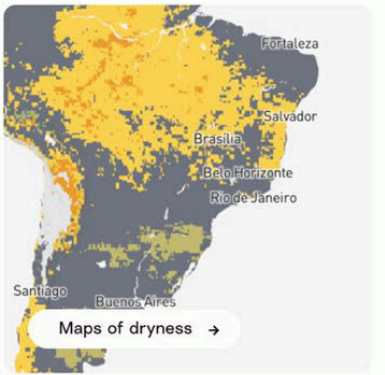
NGFS Climate Scenarios: https://www.ngfs.net/ngfs-scenarios-portal/explore/

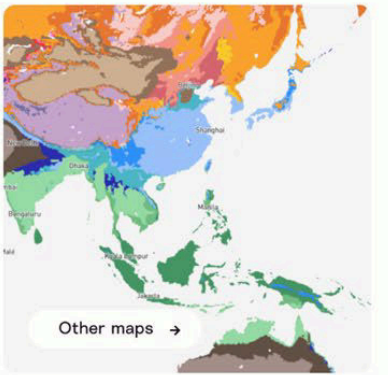
Implementing the Recommendations of the TCFD, tables A1.1 and A1.2 (PDF)

Probable Futures



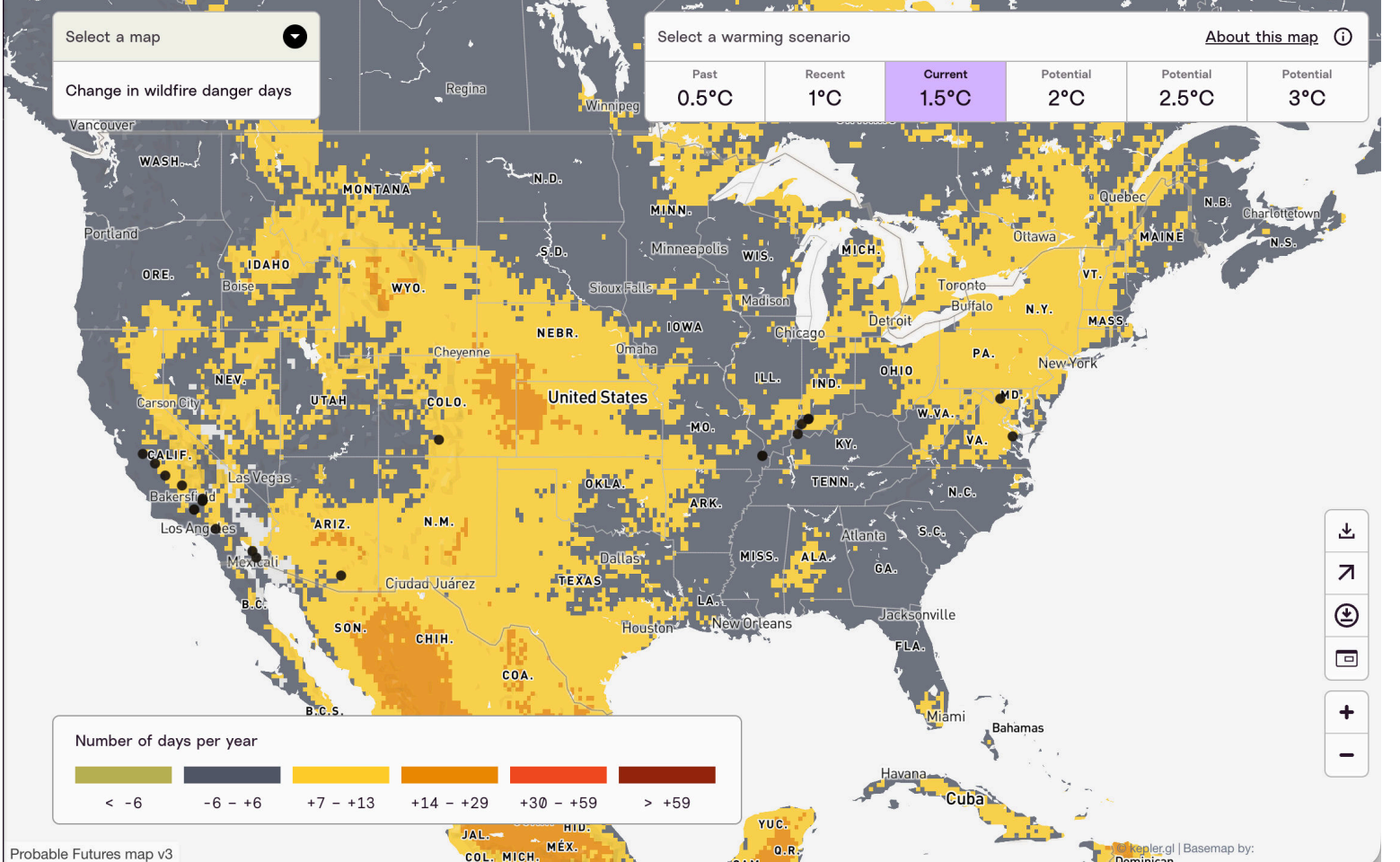


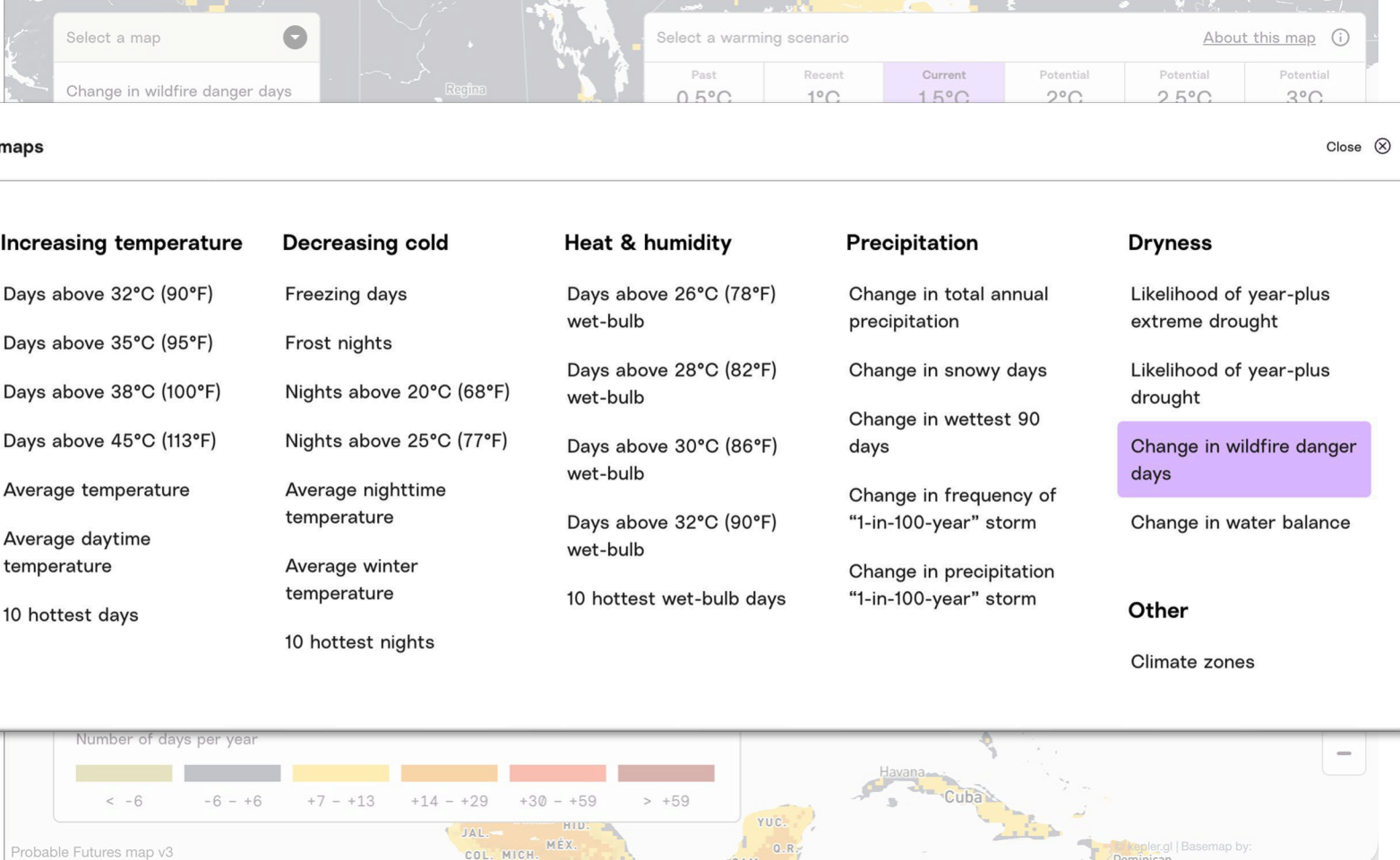


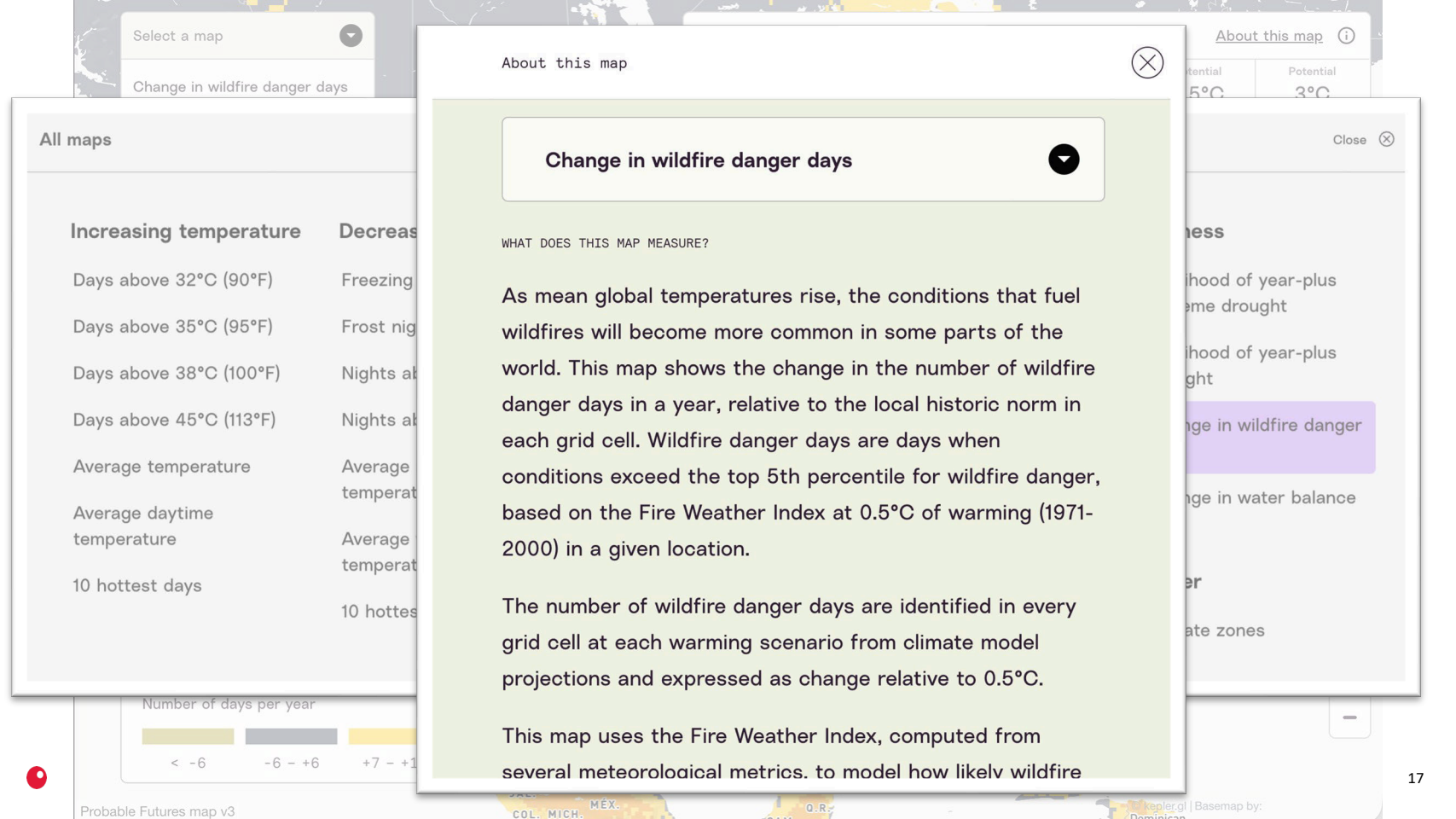


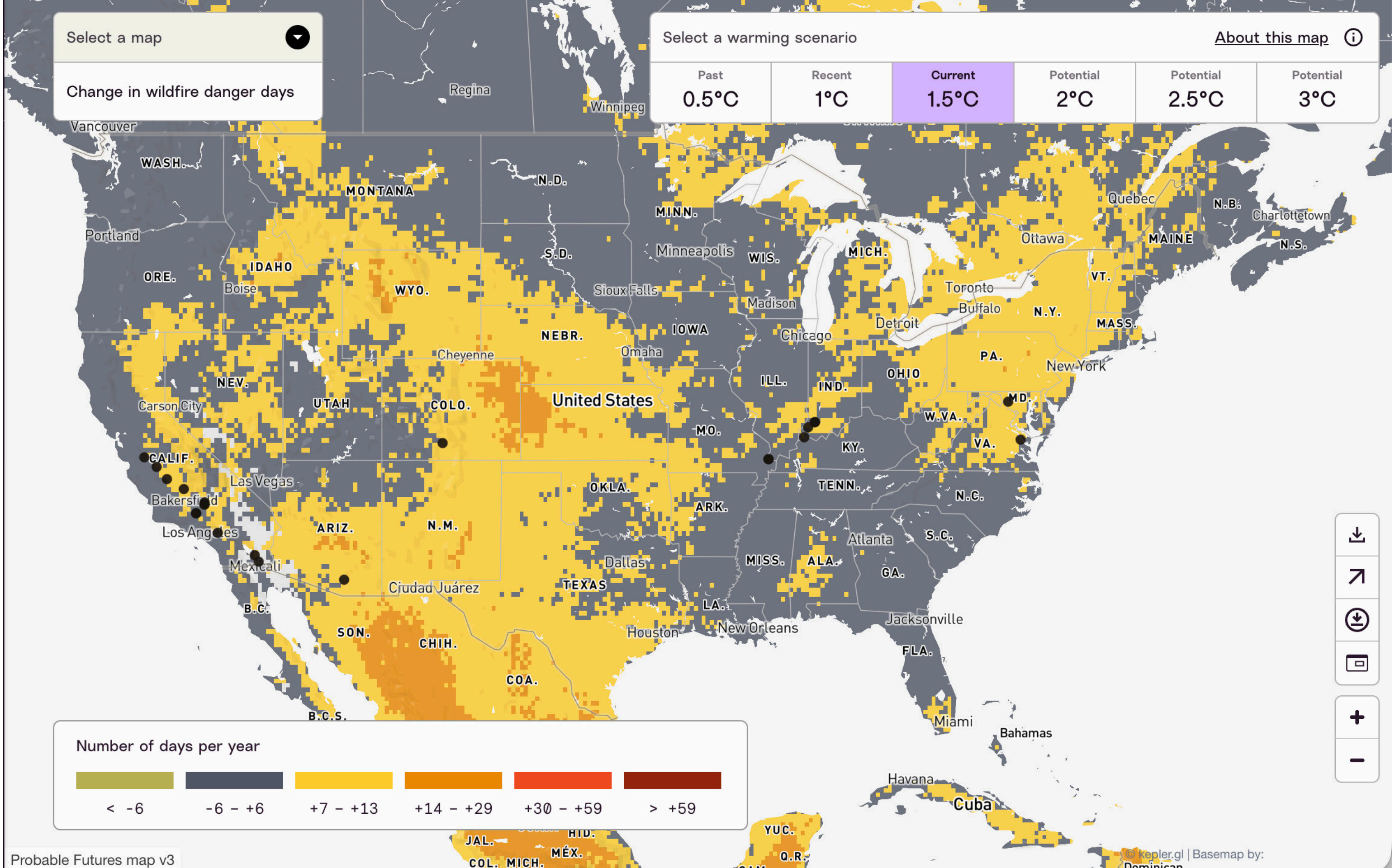
Probable Futures is a non-profit climate literacy initiative offering **digital materials**, **data tools**, and customized engagements to individuals and organizations.

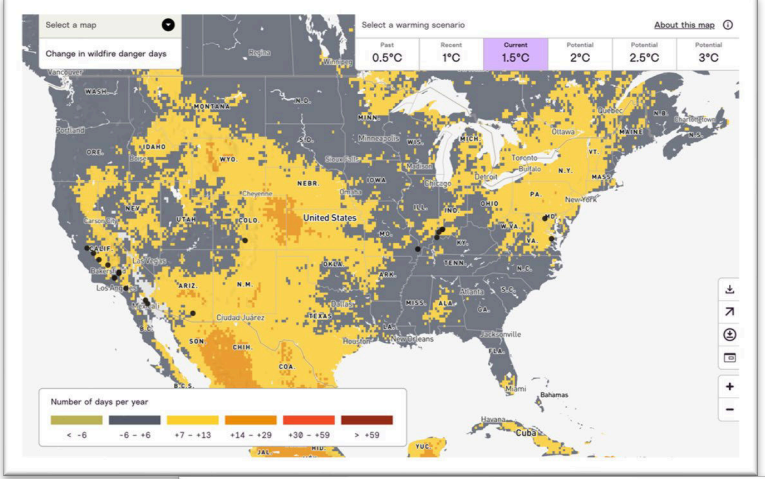
Learn more at: https://probablefutures.org/
Sign up for a **free pro account** at: http://pro.probablefutures.org


Select a map
Change in wildfire danger days
Select a warming scenario
About this map
Past
0.5°C
Recent
1°C
Current
1.5°C
Potential
2°C
Potential
2.5°C
Potential
3°C
Number of days per year
< -6
-6 – +6
+7 – +13
+14 – +29
+30 – +59
> +59
Probable Futures map v3
kepler.gl | Basemap by:
United States
Vancouver
Regina
Winnipeg
Portland
Boise
Sioux Falls
Minneapolis
Madison
Chicago
Detroit
Toronto
Ottawa
Quebec
Charlottetown
Buffalo
New York
Carson City
Cheyenne
Omaha
Las Vegas
Bakersfield
Los Angeles
Mexicali
Ciudad Juárez
Dallas
Houston
New Orleans
Atlanta
Jacksonville
Miami
Bahamas
Havana
Cuba
WASH.
MONTANA
N.D.
MINN.
S.D.
IDAHO
ORE.
WYO.
WIS.
MICH.
VT.
MAINE
N.S.
N.B.
N.Y.
MASS.
PA.
NEBR.
IOWA
ILL.
IND.
OHIO
MD.
W.VA.
VA.
NEV.
UTAH
COLO.
CALIF.
MO.
KY.
TENN.
N.C.
S.C.
OKLA.
ARK.
ARIZ.
N.M.
MISS.
ALA.
GA.
TEXAS
LA.
FLA.
B.C.
SON.
CHIH.
COA.
B.C.S.
JAL.
MÉX.
COL.
MICH.
HID.
YUC.
Q.R.

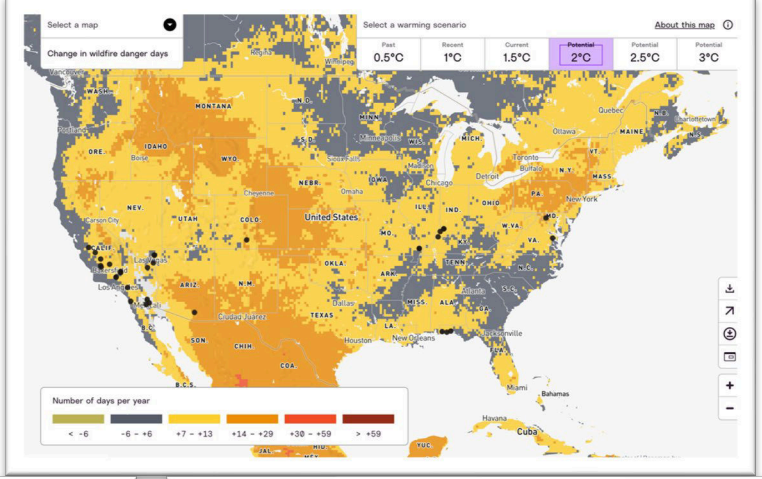

Select a map
Change in wildfire danger days
Regina
Select a warming scenario
About this map
Past
0.5°C
Recent
1°C
Current
1.5°C
Potential
2°C
Potential
2.5°C
Potential
3°C
All maps
Close
Increasing temperature
Days above 32°C (90°F)
Days above 35°C (95°F)
Days above 38°C (100°F)
Days above 45°C (113°F)
Average temperature
Average daytime temperature
10 hottest days
Decreasing cold
Freezing days
Frost nights
Nights above 20°C (68°F)
Nights above 25°C (77°F)
Average nighttime temperature
Average winter temperature
10 hottest nights
Heat & humidity
Days above 26°C (78°F) wet-bulb
Days above 28°C (82°F) wet-bulb
Days above 30°C (86°F) wet-bulb
Days above 32°C (90°F) wet-bulb
10 hottest wet-bulb days
Precipitation
Change in total annual precipitation
Change in snowy days
Change in wettest 90 days
Change in frequency of “1-in-100-year” storm
Change in precipitation “1-in-100-year” storm
Dryness
Likelihood of year-plus extreme drought
Likelihood of year-plus drought
Change in wildfire danger days
Change in water balance
Other
Climate zones
Number of days per year
< -6
-6 – +6
+7 – +13
+14 – +29
+30 – +59
> +59
Havana
Cuba
JAL.
MÉX.
COL.
MICH.
HID.
YUC.
Q.R.
Probable Futures map v3
kepler.gl | Basemap by:


Select a map
Change in wildfire danger days
About this map
Potential
3°C
All maps
Close
Increasing temperature
Days above 32°C (90°F)
Days above 35°C (95°F)
Days above 38°C (100°F)
Days above 45°C (113°F)
Average temperature
Average daytime temperature
10 hottest days
About this map
Change in wildfire danger days
WHAT DOES THIS MAP MEASURE?
As mean global temperatures rise, the conditions that fuel wildfires will become more common in some parts of the world. This map shows the change in the number of wildfire danger days in a year, relative to the local historic norm in each grid cell. Wildfire danger days are days when conditions exceed the top 5th percentile for wildfire danger, based on the Fire Weather Index at 0.5°C of warming (1971-2000) in a given location.
The number of wildfire danger days are identified in every grid cell at each warming scenario from climate model projections and expressed as change relative to 0.5°C.
This map uses the Fire Weather Index, computed from several meteorological metrics, to model how likely wildfire
Number of days per year
< -6
-6 – +6
Probable Futures map v3
kepler.gl | Basemap by:

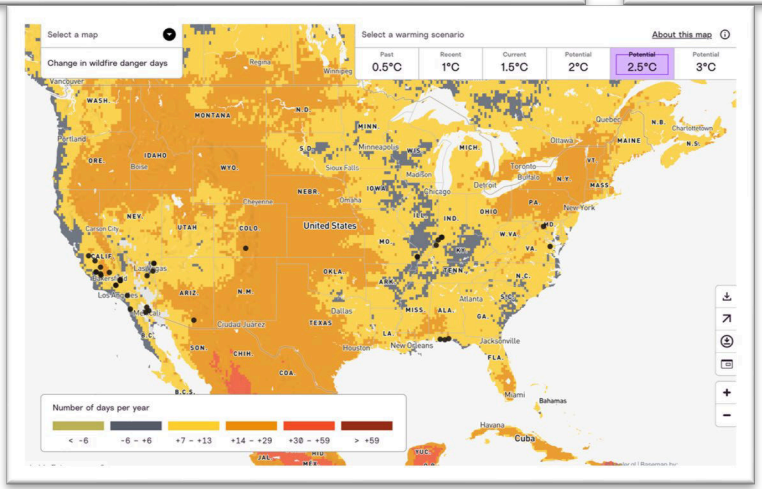

Select a map
Change in wildfire danger days
Select a warming scenario
About this map
Past 0.5°C
Recent 1°C
Current 1.5°C
Potential 2°C
Potential 2.5°C
Potential 3°C
Number of days per year
< -6
-6 – +6
+7 – +13
+14 – +29
+30 – +59
> +59
Probable Futures map v3
© kepler.gl | Basemap by:
United States
Vancouver
Regina
Winnipeg
WASH.
MONTANA
N.D.
MINN.
Portland
ORE.
IDAHO
Boise
WYO.
S.D.
Minneapolis
WIS.
MICH.
Quebec
N.B.
Charlottetown
Ottawa
MAINE
N.S.
VT.
Toronto
Buffalo
N.Y.
MASS.
Sioux Falls
Madison
Detroit
Chicago
IOWA
NEBR.
Omaha
Cheyenne
PA.
New York
OHIO
IND.
ILL.
NEV.
Carson City
UTAH
COLO.
MD.
W.VA.
VA.
MO.
KY.
CALIF.
Las Vegas
Bakersfield
Los Angeles
OKLA.
TENN.
N.C.
ARK.
ARIZ.
N.M.
Atlanta
S.C.
MISS.
ALA.
GA.
Mexicali
Dallas
TEXAS
Ciudad Juárez
B.C.
LA.
New Orleans
Houston
Jacksonville
SON.
CHIH.
FLA.
COA.
Miami
B.C.S.
Bahamas
Havana
Cuba
YUC.
Q.R.
JAL.
HID.
MÉX.
COL.
MICH.


Select a map: Change in wildfire danger days

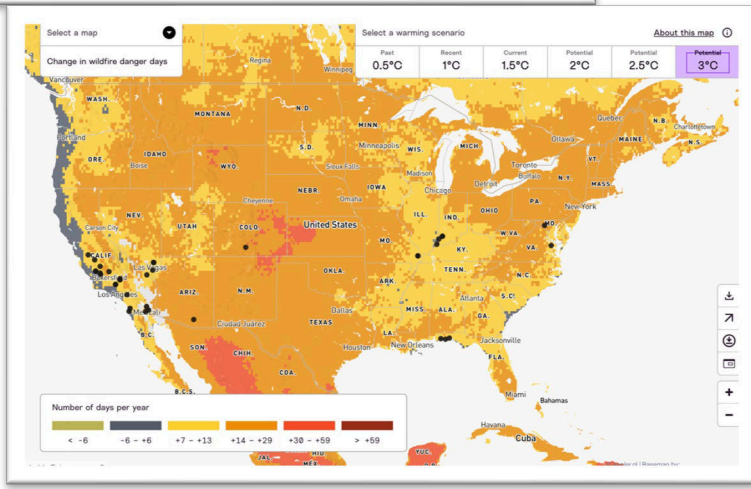
Select a warming scenario: Current 1.5°C


Select a map: Change in wildfire danger days

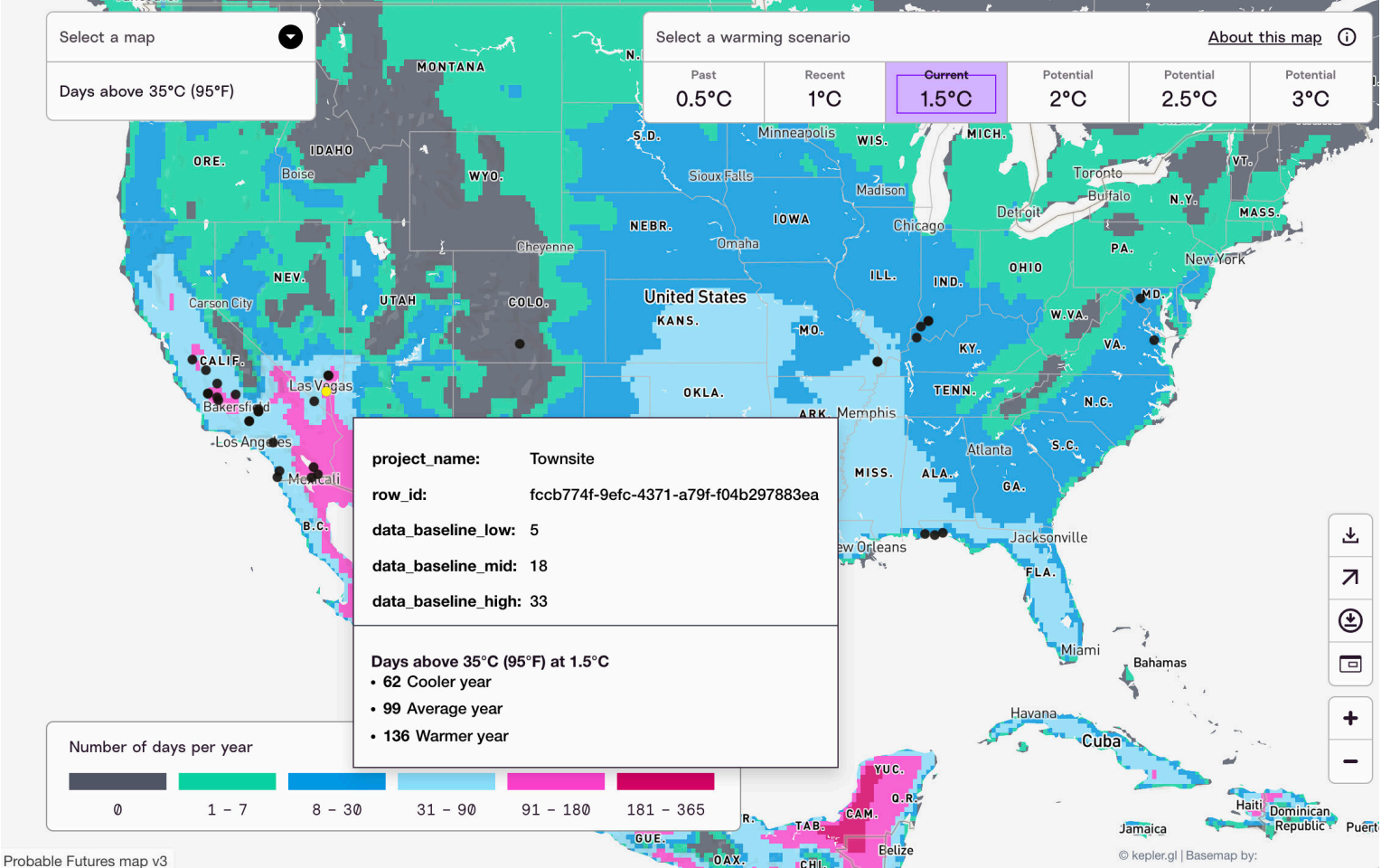
Select a warming scenario: Potential 2°C


Select a map: Change in wildfire danger days

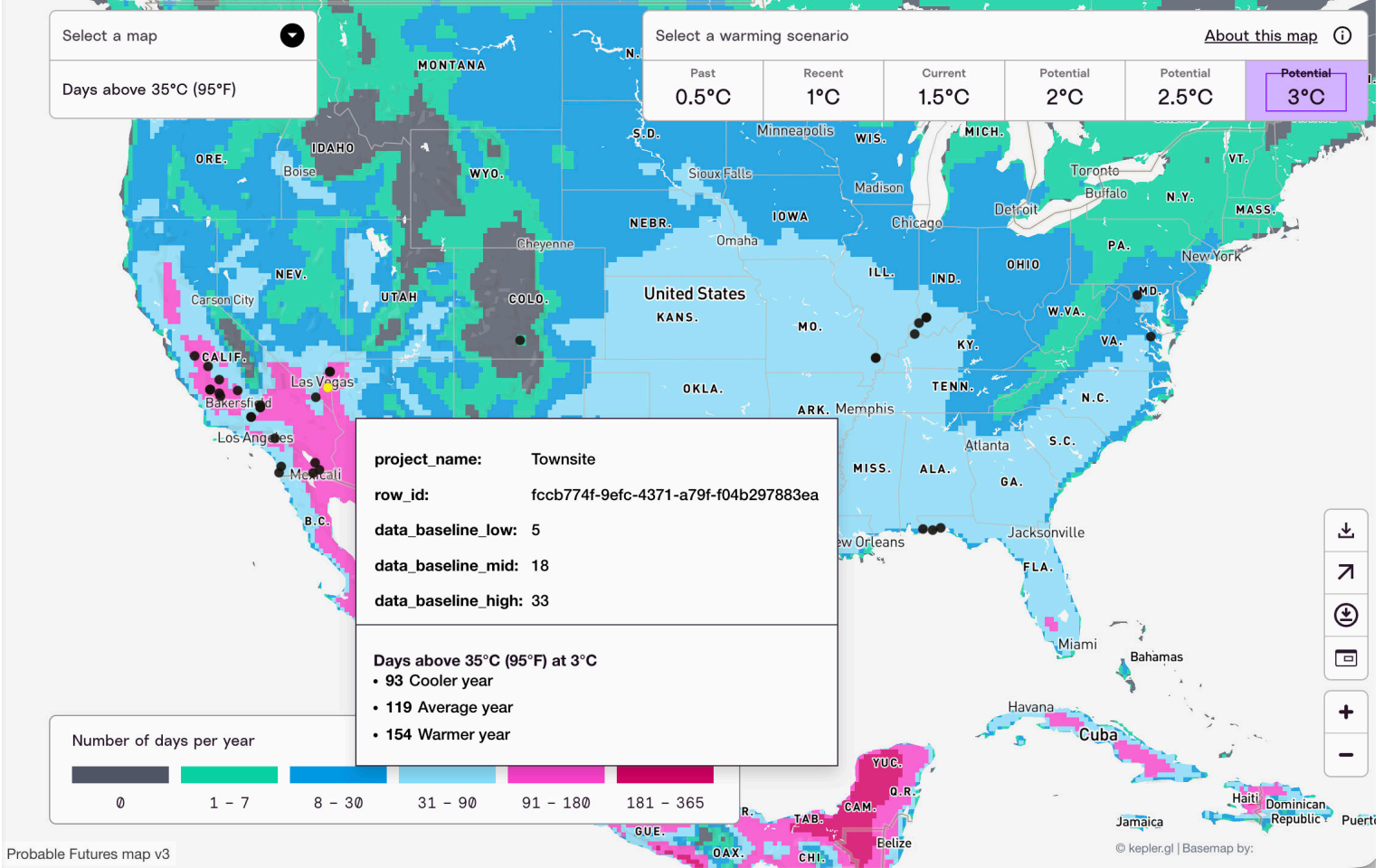
Select a warming scenario: Potential 2.5°C


Select a map: Change in wildfire danger days

Select a warming scenario: Potential 3°C



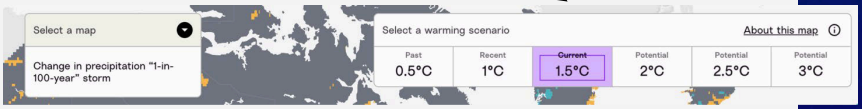
Probable Futures map v3



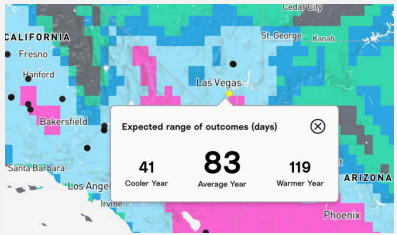
Probable Futures map v3

Try it out

1. Navigate to probablefutures.org
2. Select a map & warming scenarios

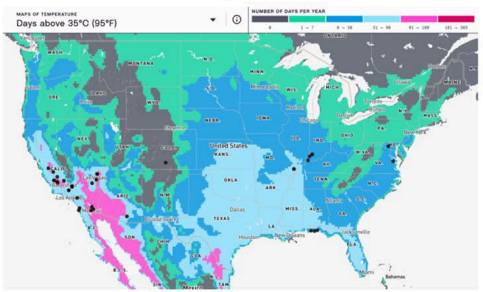


3. Zoom into locations of interest



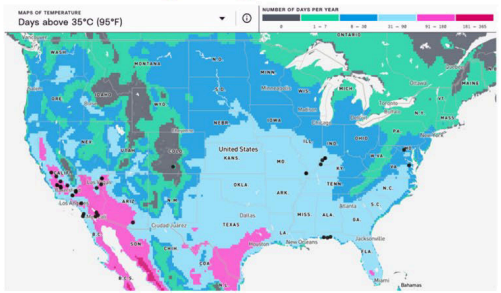
4. What story are the projections telling?

Projected extreme heat days by site



1.5°C warming

7 sites experiencing 89+ days per year over 95°F



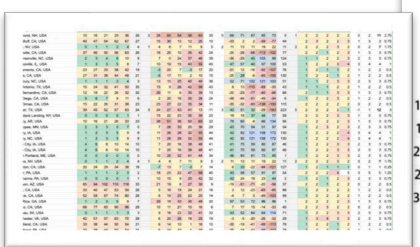
3°C warming

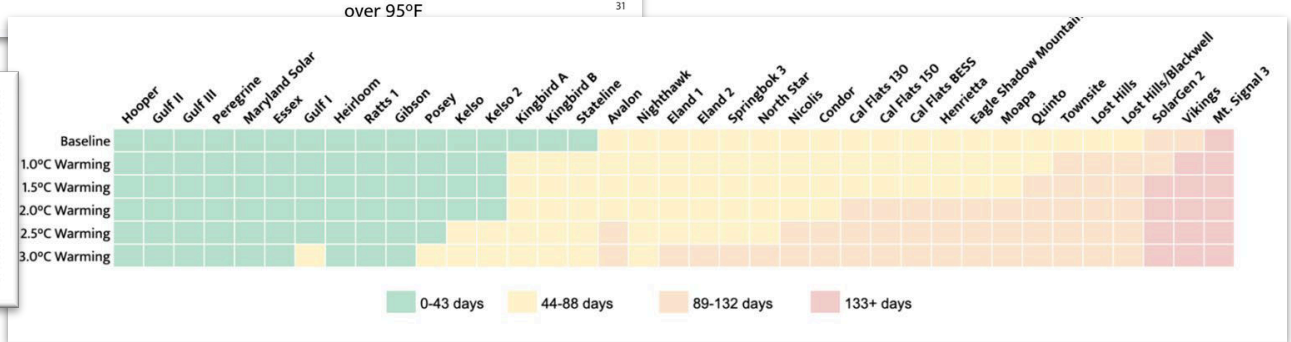
20 sites experiencing 89+ days per year over 95°F

31

With a free Probable Futures Pro account you can:

- Import sites
- Download the site data for each map
- Save projects to return to later





Small group discussions (5-10 minutes)

1.

Where are your company's key sourcing regions or physical assets located?

2.

What physical risks are most relevant to those regions?

3.

What internal stakeholders would need to be involved today, or if risk exposure increased?

What questions or observations would you like to share?

Large group Q&A

Part 3: The business case

Climate risks impact business resilience

Thank you

Sheila Ongie, Head of Sustainability Strategy
sheila@thinkparallax.com

thinkPARALLAX