

MAKE DATA ART

KIM ROTH

PENNSYLVANIA STATE UNIVERSITY, UNIVERSITY PARK

ECOTS REGIONAL CONFERENCE 2026

BUCKNELL UNIVERSITY

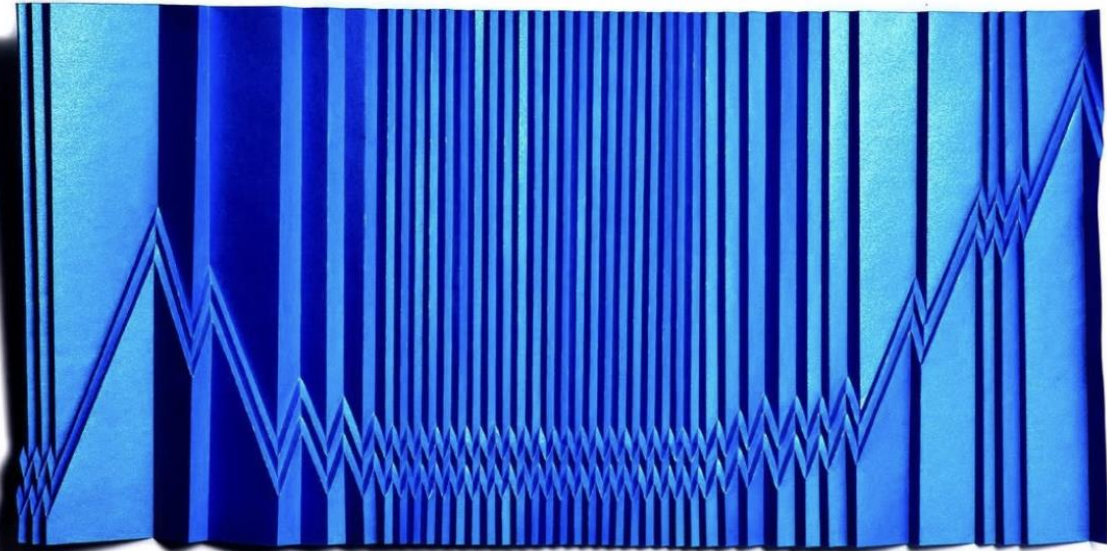
JUNE 11, 2026

WHY DATA ART?

- AESTHETICALLY PLEASING
- WIDER AUDIENCE
- ACCESSIBLE
- ANYONE CAN TRY IT
- MORE MEMORABLE

CASES OF COVID IN CREASING

BY UYEN NGUYEN (WINWIN)



winorigami



I just submit this to the Bridges Art Exhibition for this year, and a few of the people I've shown have encouraged me to post it. It was made using an algorithm I developed while in isolation to design origami patterns that follow mathematical equations or graphical data. These designs were modeled off of the data for the number of new cases of COVID-19 in the US (red, above) and NY (blue, below) from March 1, 2020 to January 20, 2021. I got my reference data from [@nytimes](#)

I call it "Cases of Covid in Creasing".

[#origami](#) [#paper](#) [#folding](#) [#paperfolding](#)
[#mathart](#) [#mathartdesign](#) [#data](#) [#covid_19](#)

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March 13, 2021



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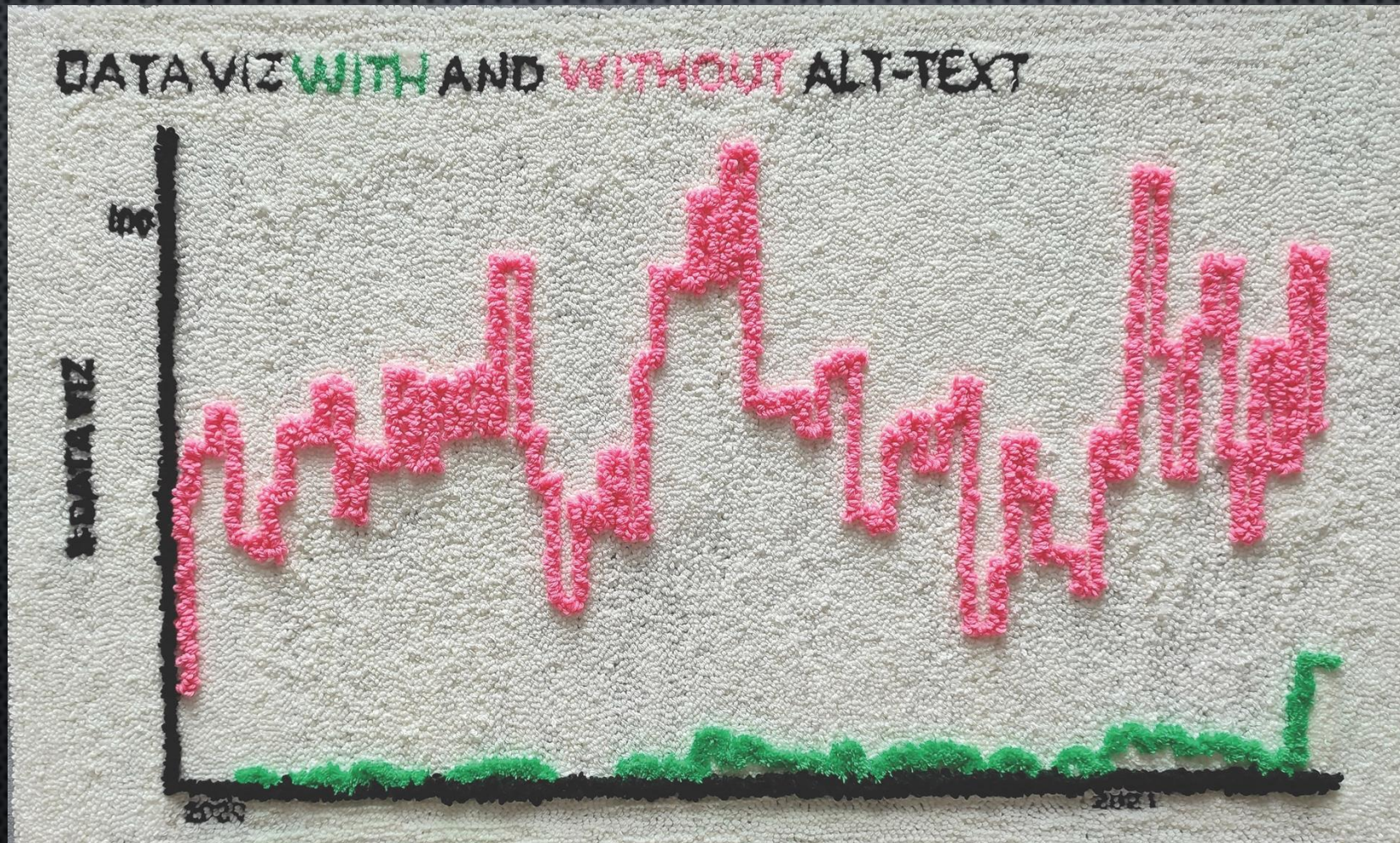
TRANSGENDER DAY OF REMEMBRANCE BY CATHRYN PLOEHN AND KELSEY CAMPBELL



[https://datascienceby
design.org/blog/trans
gender-day-of-
remembrance](https://datasciencebydesign.org/blog/transgender-day-of-remembrance)

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SWEEPING UNTUFTED CHARTS UNDER THE RUG BY VIOLETA ROIZMAN



LIBRARY OF MISSING DATASETS BY MIMI ỌNỤỌHA



<https://www.bitforms.art/artwork/the-library-of-missing-datasets-v-3-0>

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2019 CHICAGO BEARS
WIN PROBABILITY
CURVES
BY GREGORY
MATTHEWS

WEATHER RELATED DATA ART



Joint work with Bianca Thompson



Weather or Knot
Scott Rhor



Weather Blanket C2C Style
Sarah Patrick



Whatever the Weather
Temperature Projects
Stephanie Shiman

9

Pictures from the associated ravelry pages

SOME HISTORICAL WEATHER PATTERNS



Champlain Ice Scarf

Michael Glennon

10



Tempestries

Heidi Roland

From Tempestry Project

Part of Wool and Water
Pictures from the associated Ravelry page

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PLANETARY FEVER COWL BY STEPHANIA FREGOSI



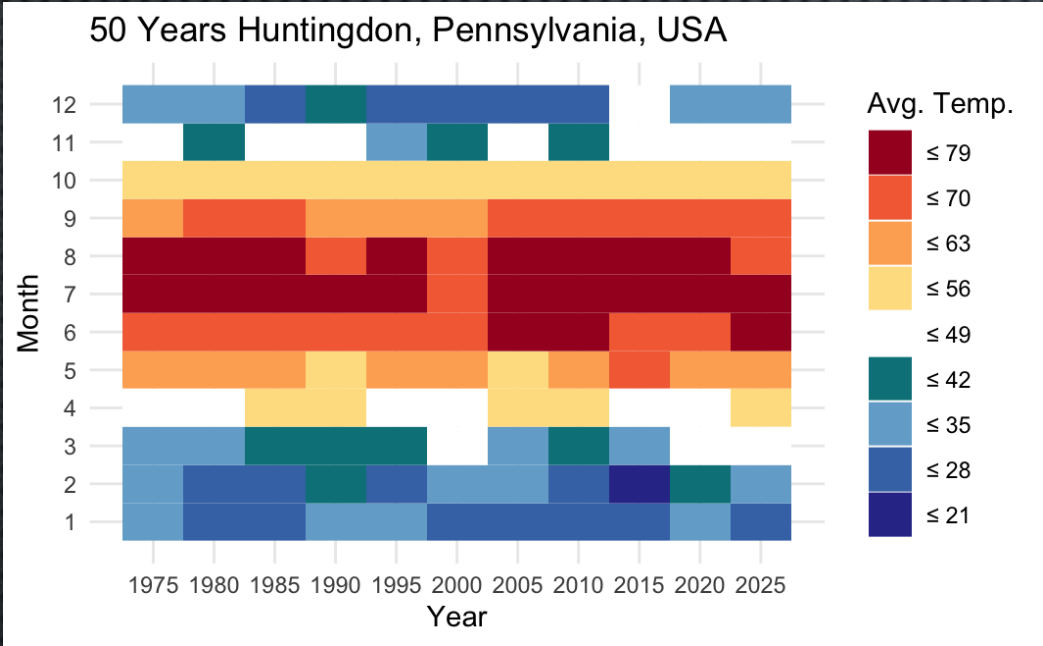
Pattern: <https://ravel.me/planetary-fever-cowl> Yarn: <https://threefatesyarns.com>

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MY FIRST HEATMAP

- MADE FOR ILLUSTRATING MATHEMATICS: REUNION/EXPANSION
- DATA FROM OPENMETEO API
- USING AVERAGE TEMP BY MONTH
- HUNTINGDON, PA (WHERE I LIVED)
- EVERY 5 YEARS SINCE 1975 (IN HONOR OF MY 50TH BIRTHDAY IN 2025)

FROM HEATMAP TO BLANKET

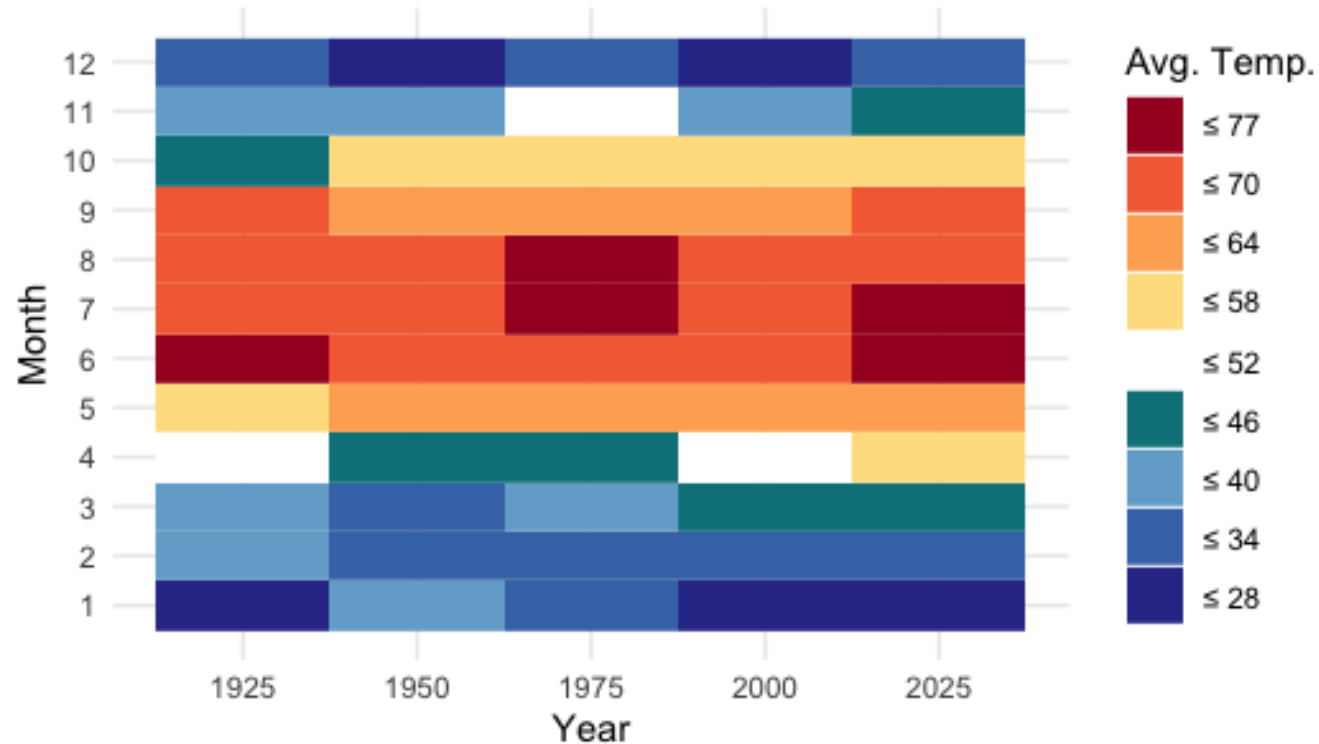


ILLUSTRATING MATHEMATICS REUNION/EXPANSION AT ICERM

- MET PEOPLE FROM THE OLNEYVILLE, RI FLOODING PROJECT/VECINA PROJECT DURING SNACK BREAK
- THEY WERE INTERESTED IN THE WEATHER RELATED ART
- THEY CAME TO MY TALK
- I CAME TO THEIR FINAL PRESENTATION
- BIANCA HELPED BUILD A SHINY APP
- DEVELOPING A COMMUNITY ART PROJECT USING IT

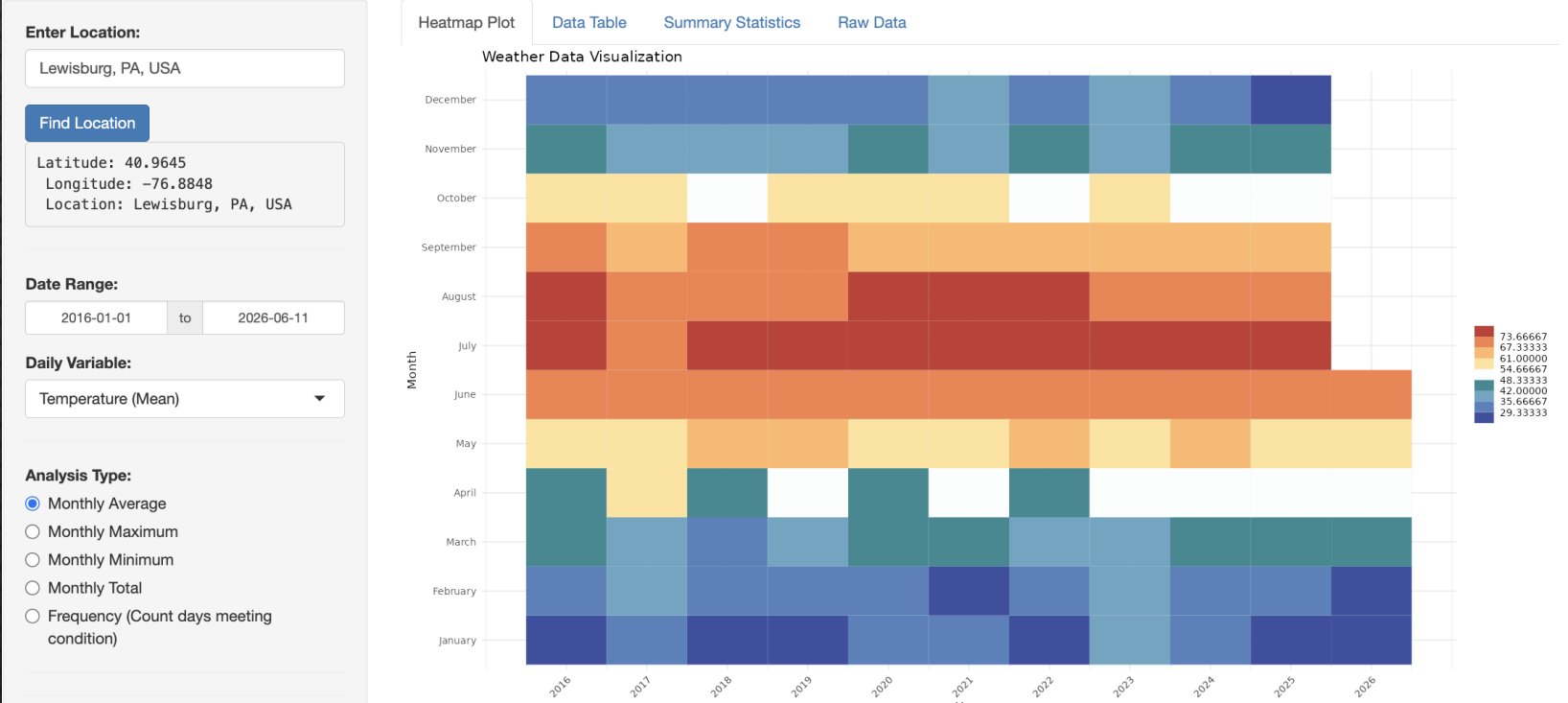
FROM HEATMAP TO BLANKET

100 Years University Park, Pennsylvania, USA



SHINY APP

Historical Weather Data Explorer



PROJECT OPTIONS

- GROUP:: LARGE HEATMAP CONSTRUCTION
- INDIVIDUAL: COLOR YOUR OWN HEATMAP FROM HISTORICAL DATA

INSPIRATION FOR GROUP PROJECT

Transparency

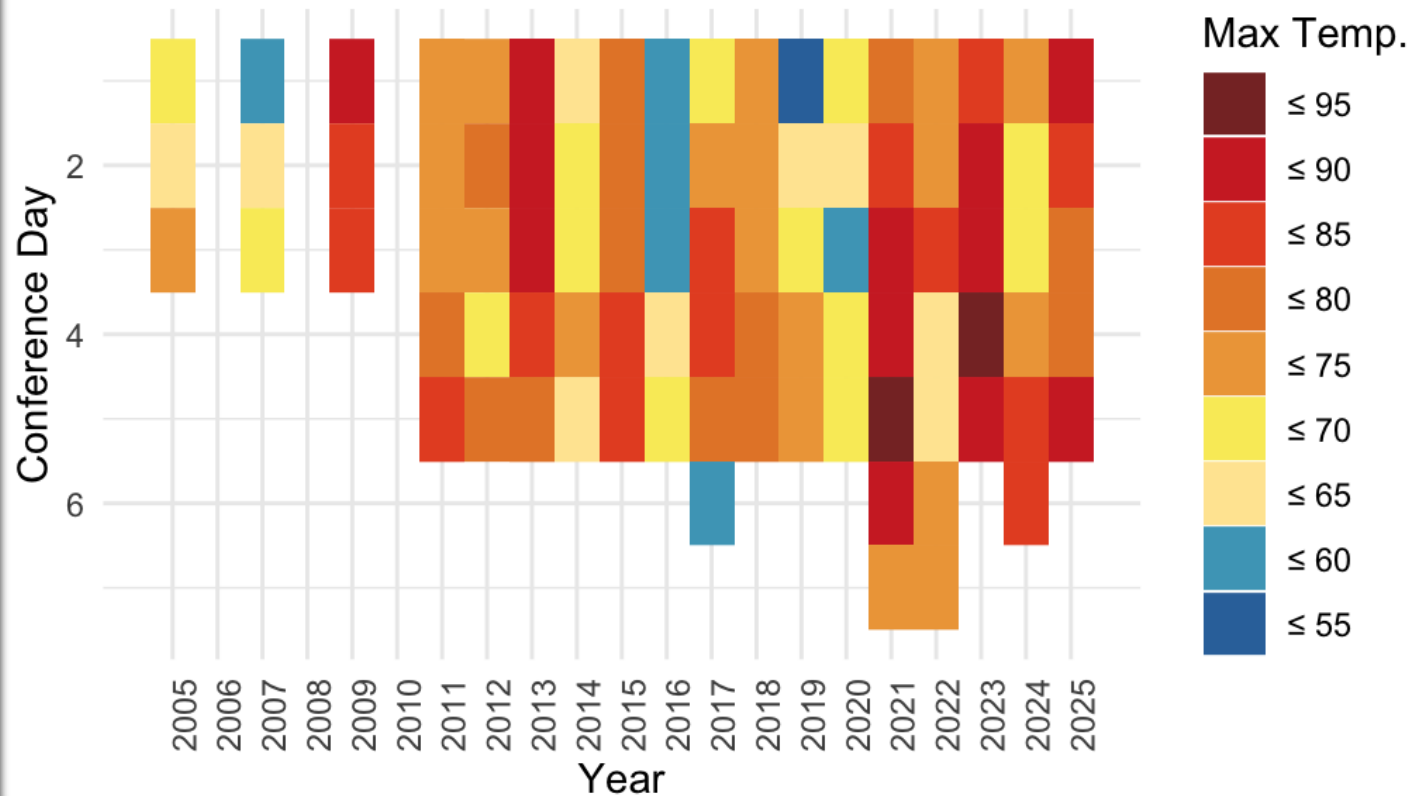
Made by Adorondack Youth Climate Summit
Activity by Michael Glennon

Part of Wool and Water

Picture from the Wool and Water Page



It's hot at COTS?



OUR GRAPH

TAKE AWAYS

- THINK OF DATA AS ART AND ART AS DATA
- MAKE THINGS
- FIRST THINGS MAY NOT BE PRETTY

TEMPERATURE BLANKET BY KERRI CREWS



THANKS!
KAE141@PSU.EDU

[HTTPS://KAROTH.GITHUB.IO](https://karoth.github.io)

[HTTPS://MATHEMALCHEMY.ORG](https://mathemalchemy.org)

SHINY APP

Historical Weather Data Explorer

