

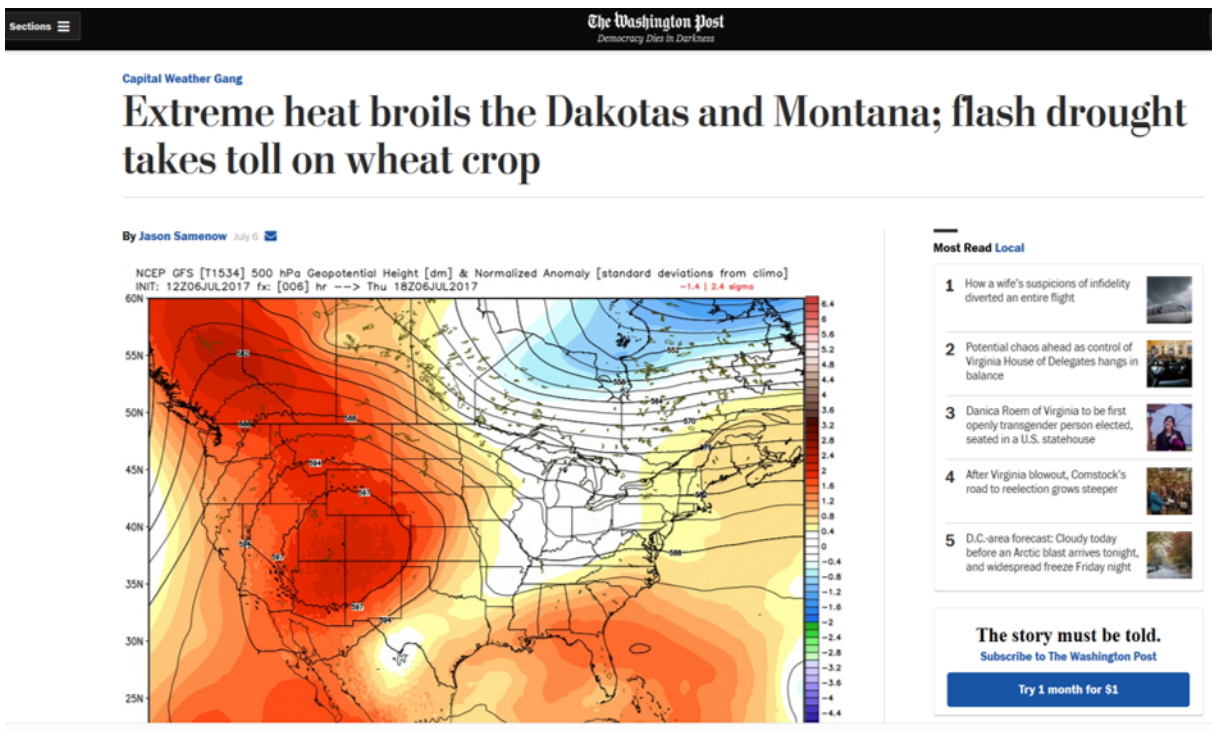
# Research Experience: Understanding Flash Drought

## The Project

**Flash droughts** are rapidly intensifying droughts that develop over the course of a few days to weeks. They can have devastating consequences for agriculture and water resources.

Ongoing and future climate change, [will likely increase the risk of flash drought](#).

The reason for the rapid drought development during flash drought is poorly understood, but we think [that feedbacks between the land-surface and atmosphere](#) are at least partially to blame.



**The Washington Post, 2017-07-06**

Figure 1: Flash Drought Coverate, Washington Post 2017-07-06

The National Science Foundation has recently funded a [research project](#) in collaboration with the University of Wisconsin-Madison to help uncovering the role of land-atmosphere feedbacks on drought development and intensification; **and you can be part of this research!**

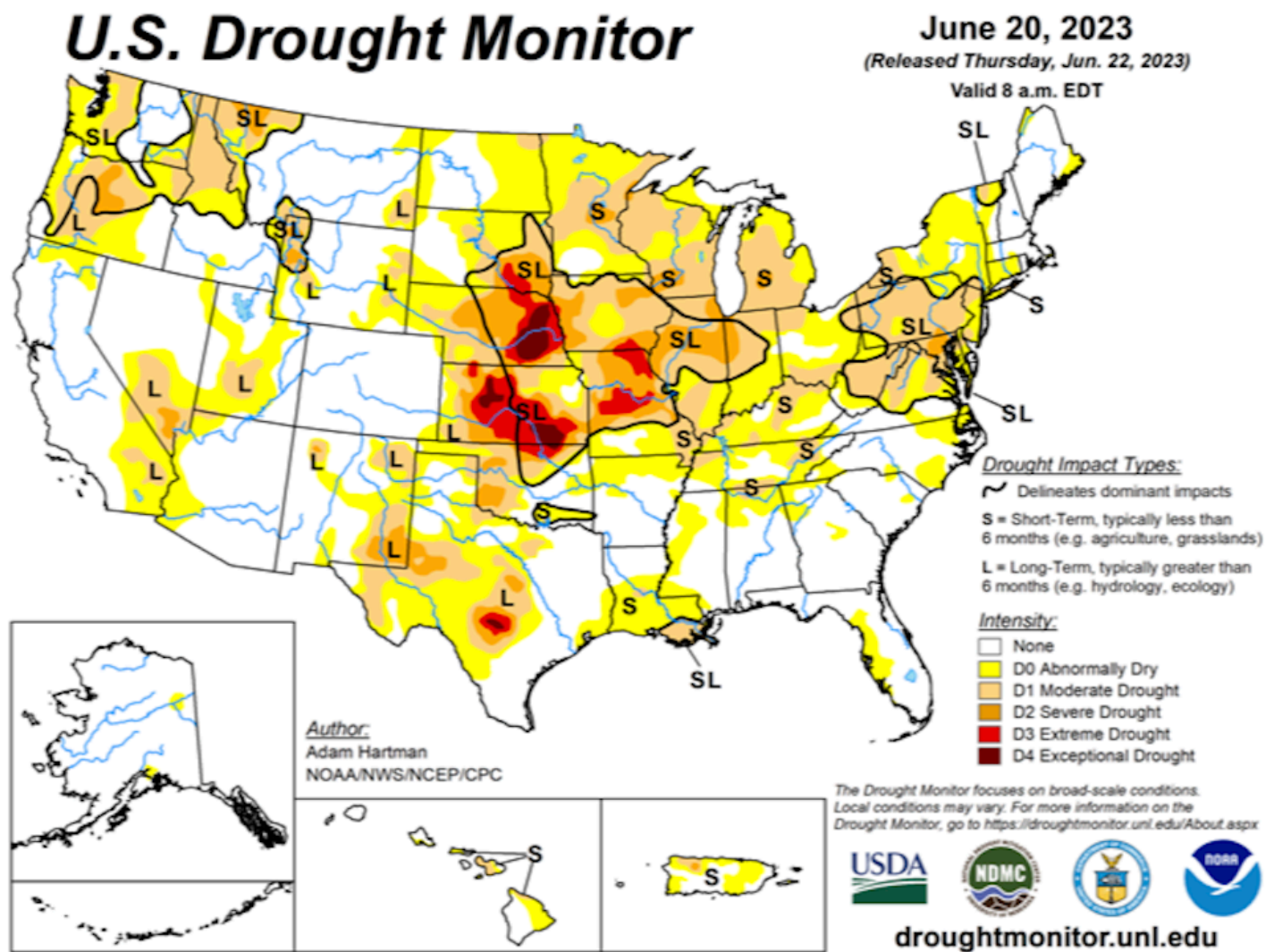


Figure 2: A developing flash drought during the summer of 2023 that affected the Mid-West agricultural belt

## Where We Are Now

During the last year, we (Two ISAT students and me) worked together to

- analyze climate data (temperature, rainfall, and humidity) to characterize two recent drought events in the U.S. Great Plains.
- prepare a poster presentation that the students will present in New Orleans at the 24<sup>th</sup> Annual Student Conference during the [American Meteorological Society's 2025 Annual Meeting](#).

## What You Will Need

- JMU Student at Sophomore or Junior level
- Interest in Climate & Climate Impacts
- Interested in hands-on data work
- Some experience in Python Programming and Statistics demonstrated through relevant course work (e.g. *ISAT 251 & 252*) or other means.
- Time to commit at least 5 hours per week during the Spring 2025 Semester with opportunity for a paid summer research experience.
  - The project is funded for 2 years.

## What You Will Get Out of This

- Contribute to a National Science Foundation funded research project, that aims to better understand this important climate impact.
- Learn about working with climate data
- Opportunity to develop and showcase your research skills
- Pay: \$16/hour

## Contact

Contact Dr. Tobias Gerken ([gerkentx@jmu.edu](mailto:gerkentx@jmu.edu)) for additional details and how to apply.