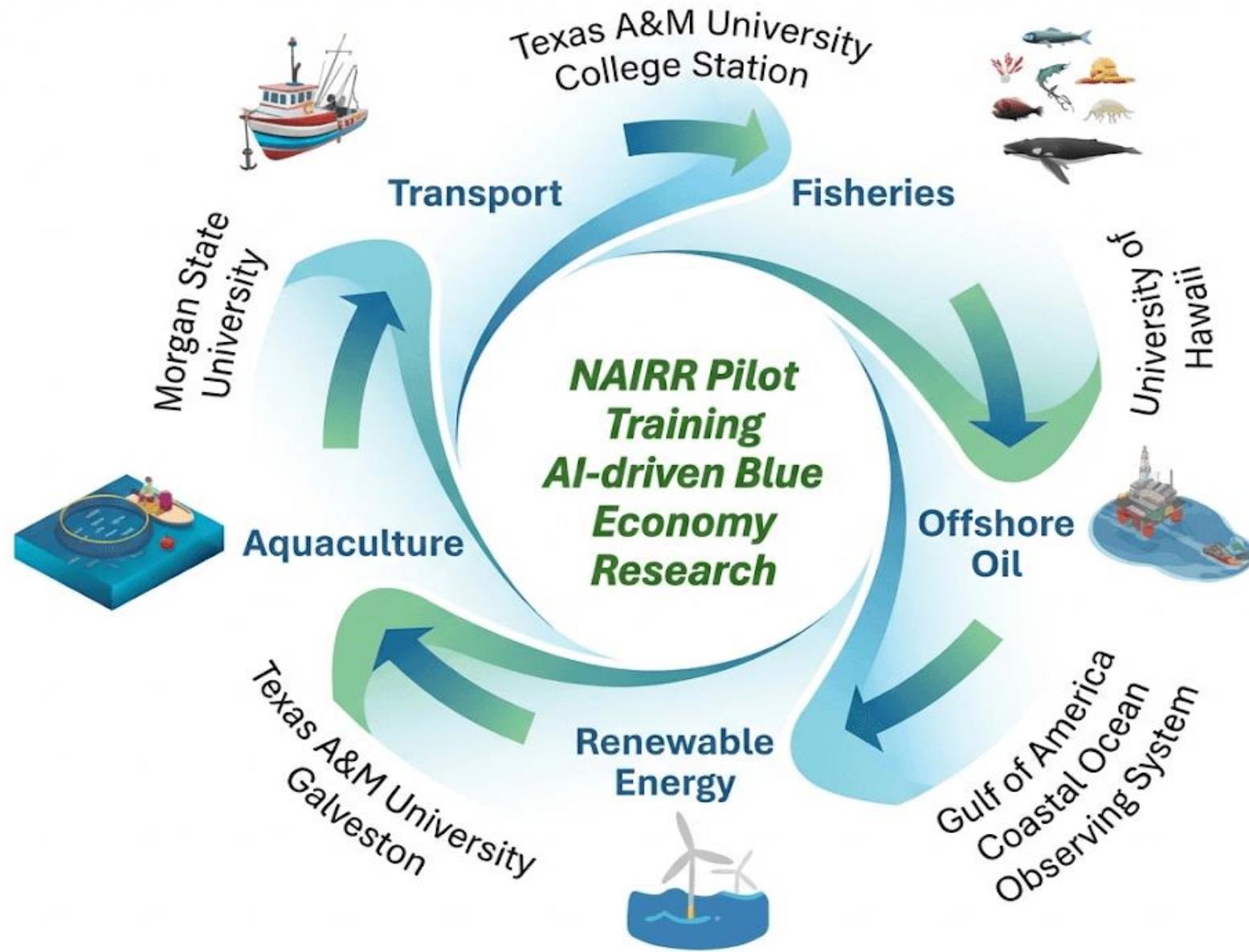




NAIRR Pilot Expansion: Utilizing NAIRR Pilot Resources for Building Sustainable Blue Economy

Zhe Zhang
Associate Professor
Department of Geography
Texas A&M University
March 2, 2026







Broadening Adoption of Cyberinfrastructure and Geospatial Artificial Intelligence for Disaster Management

Zhe Zhang
Associate Professor
Department of Geography
Texas A&M University
March 4, 2026



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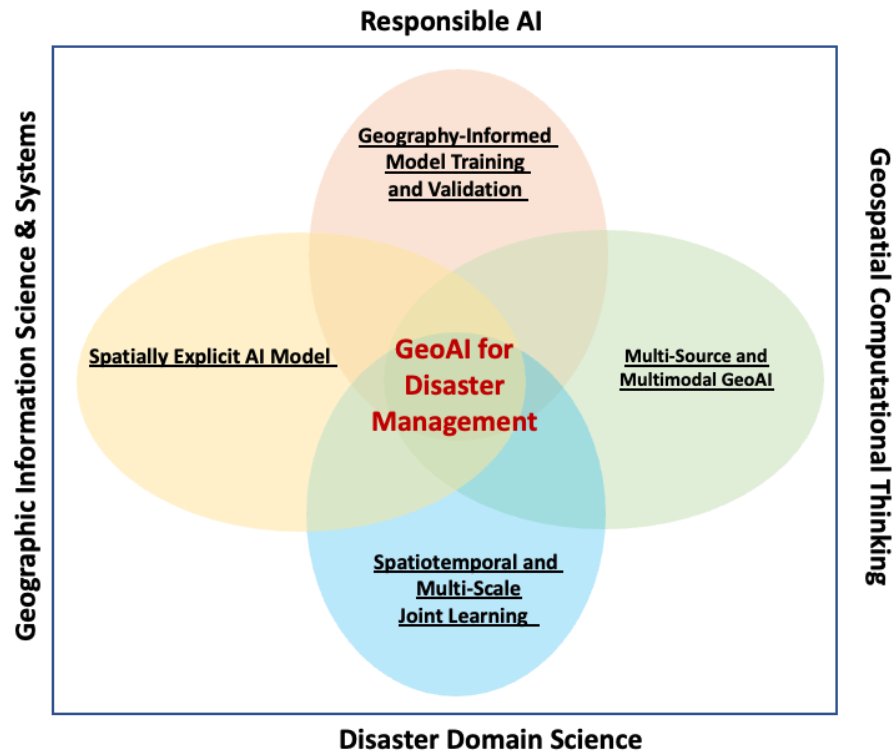
CyberTraining: Broadening Adoption of Cyberinfrastructure and Geospatial Science Research and Workforce for Disaster Management



Zhe Zhang (PI), Department of Geography, Texas A&M University

Honggao Liu (Co-PI), High-Performance Research Computing, Texas A&M University

Shaowen Wang (Co-PI), Department of Geography & Geographic Information Science, University of Illinois Urbana-Champaign



Project Website: <https://dev.ctdm.org/>

NSF ACES Accelerating Computing for Emerging Sciences (Texas A&M High Performance Research Computing)

- Offer an accelerator testbed for numerical simulations and **AI/ML workloads**
- Provide consulting, technical guidance, and training to researchers
- Register for an NSF ACCESS account
- ACES is supported by NSF # 2112356



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KNOWLEDGE FRONTIERS

I-GUIDE Platform

-  Spatial AI Challenge
-  Virtual Consulting Offices (VCOs)
-  I-GUIDE Summer Schools
-  Convergence Curriculum
-  Aging Dam Infrastructure
-  Geospatial Knowledge Hypercube
-  Extreme Events & Disaster Resilience
-  Robust Geospatial Data Science
-  Telecoupling and Cross-scale Understanding of Sustainability

I-GUIDE Platform

The [I-GUIDE Platform](#) provides an open science and collaborative environment for geospatial data-intensive convergence research and education focused on sustainability and resilience challenges and enabled by advanced cyberGIS and cyberinfrastructure. The Platform serves the broad geospatial and sustainability research and education communities by supporting FAIR data principles and democratizing access to advanced cyberGIS & cyberinfrastructure and cutting-edge geospatial AI & data science capabilities. With the Platform you can “**map**”, “**connect**” and “**discover**” multidisciplinary knowledge elements produced by the I-GUIDE project and the broader I-GUIDE community.

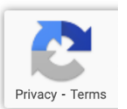
VCO:

- Weds Apr 9: Automating IPUMS USA Data Extraction and Management Workflows in R 
- Introducing Transfer Learning: Bridging ImageNet Innovations with Geospatial Analysis on the I-GUIDE Platform (Recorded VCO) 
- Weds Apr 2: Adaptive Capacity in Telecoupled Human & Environmental Systems 

Platform Content:

- Visualization and Quick Plots 
- Rethinking Spatial Composite Indicators with the Lens of Machine Learning 

<https://platform.i-guide.io>



CyberTraining Workshops



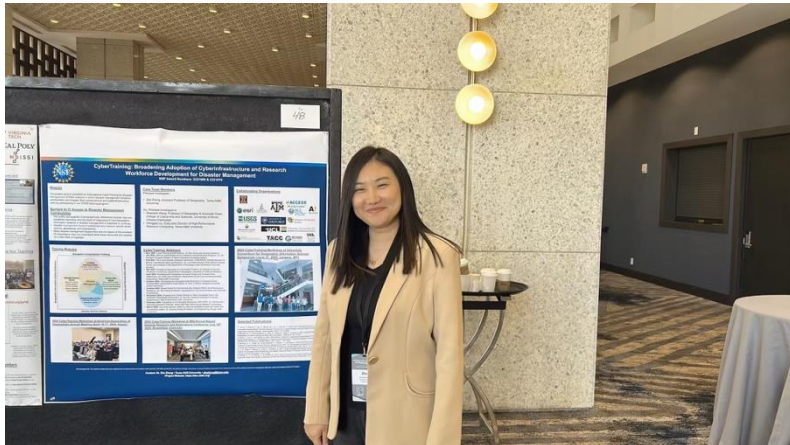
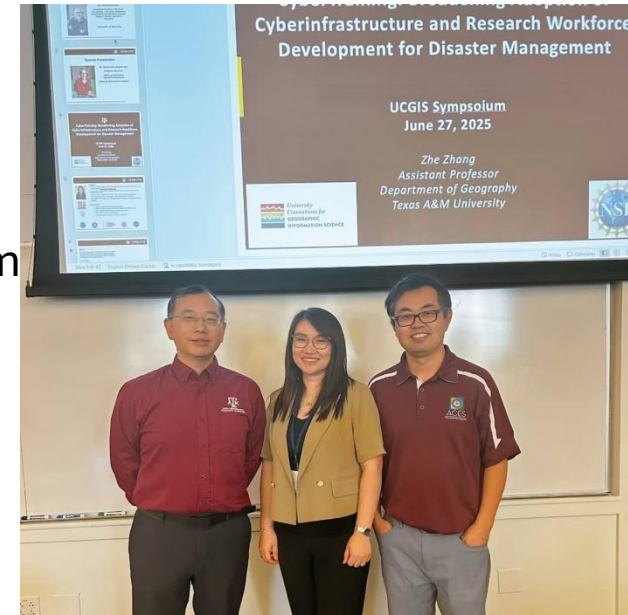
2024 AAG Annual Meeting, Hawaii,
April 16-17, 2024



49th Annual Natural Hazards Research
and Applications Workshop,
July 14-17, 2024



UCGIS Symposium
June 23–27
Laramie



CyberTraining
PI Meeting, July 27-28 2025, Denver



I-GUIDE Forum
June 17 - 19, 2025, Denver



Texas A&M CyberTraining Summer School, August 2025

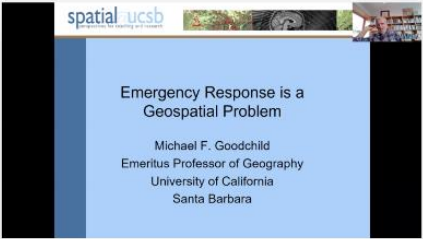
CyberTraining Webinars



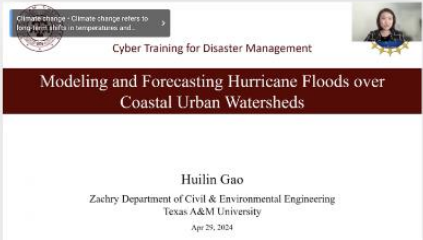
Potential and Threats Related to C
2024-11-08
Dr. Henrikki Tenkanen
During the last few decades, there has been incr...



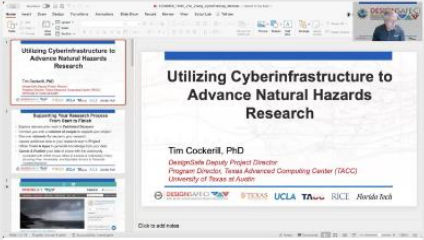
The Future Disaster Research Wo
2024-02-02
Dr. Lori Peek
The National Science Foundation-funded CONV...



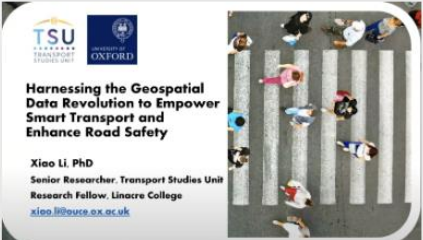
Emergency Response is a Geospa
2024-03-20
Dr. Michael Goodchild
Emergency response is often discussed in terms ...



Modeling and Forecasting Hurrica
2024-04-29
Dr. Huilin Gao
To best mitigate the damage from hurricane-indu...



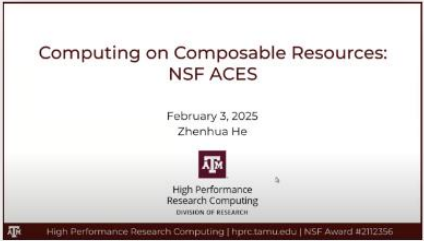
Utilizing Cyberinfrastructure to Ac
2024-01-24
Dr. Tim Cockerill
This webinar provides an overview of the capabili...



Harnessing the Geospatial Data R
2024-10-04
Dr. Xiao Li
With the advancement of new and scalable data ...



CyberTraining: SpaceTimeAI for H
2024-10-21
Dr. Tao Cheng
Tao Cheng (HDR, PhD, FRGS, FICE, CEng) is a ...



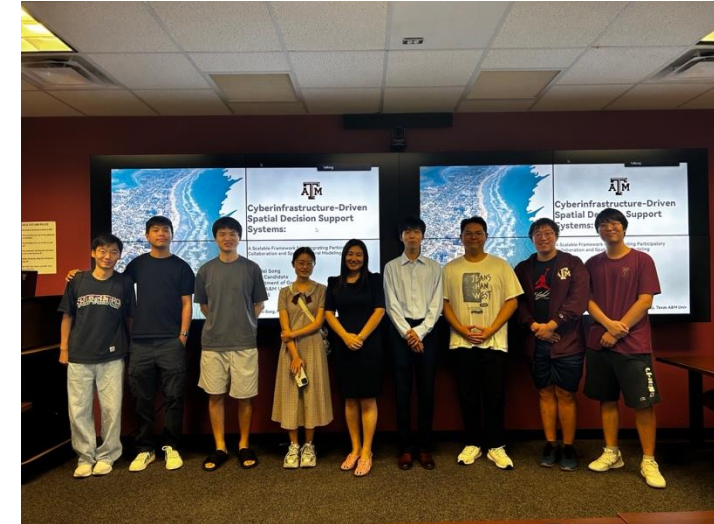
Computing on Composable Resoi
2025-02-03
Dr. Zhenhua He
Introduction to using HPRC clusters includes poli...



Improving highway safety by redu
2025-03-19
Dr. Zhuping Sheng
Landslides is one of major geohazards that pose ...

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CIDI-Spatial Family 😊



Collaborators



Thank You!

Questions to
Dr. Zhe Zhang

zhezhang@tamu.edu

