

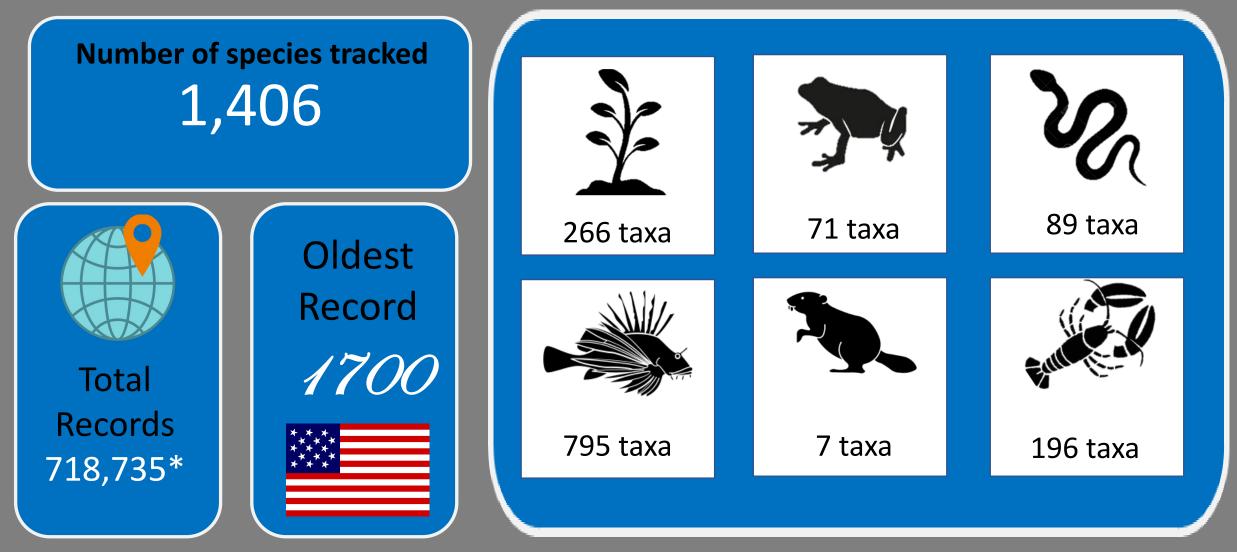
USGS Nonindigenous Aquatic Species (NAS) Spring Update: New Species Occurrences in the Gulf States

Wes Daniel and Cayla Morningstar

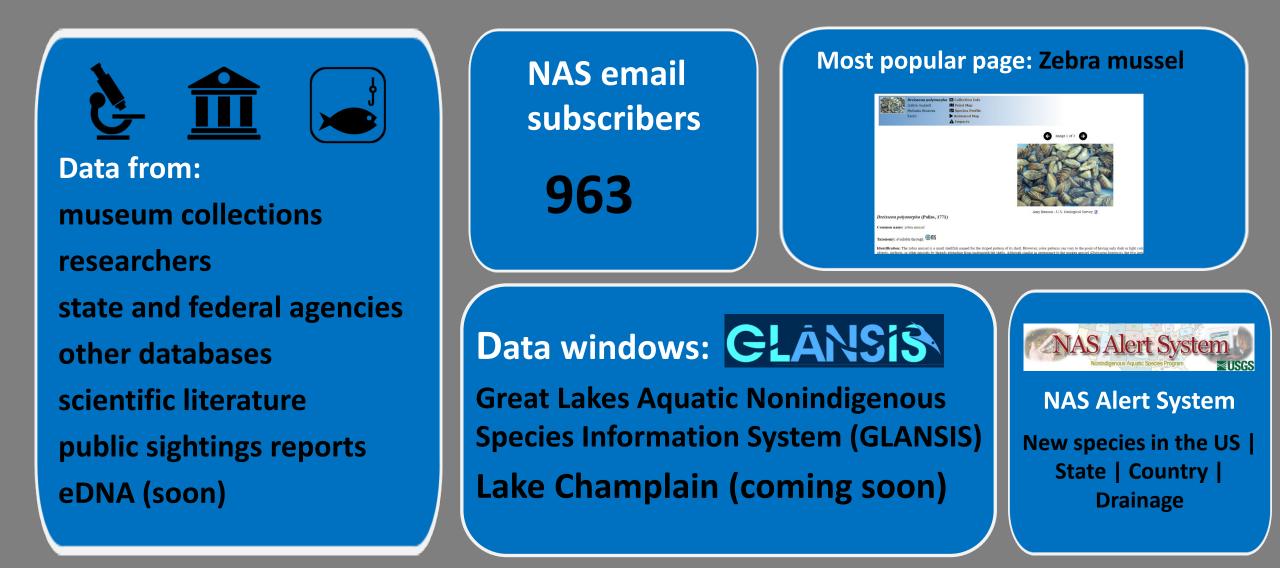
USGS, Wetland and Aquatic Research Center

GSARP May 2024

USGS Nonindigenous Aquatic Species Database

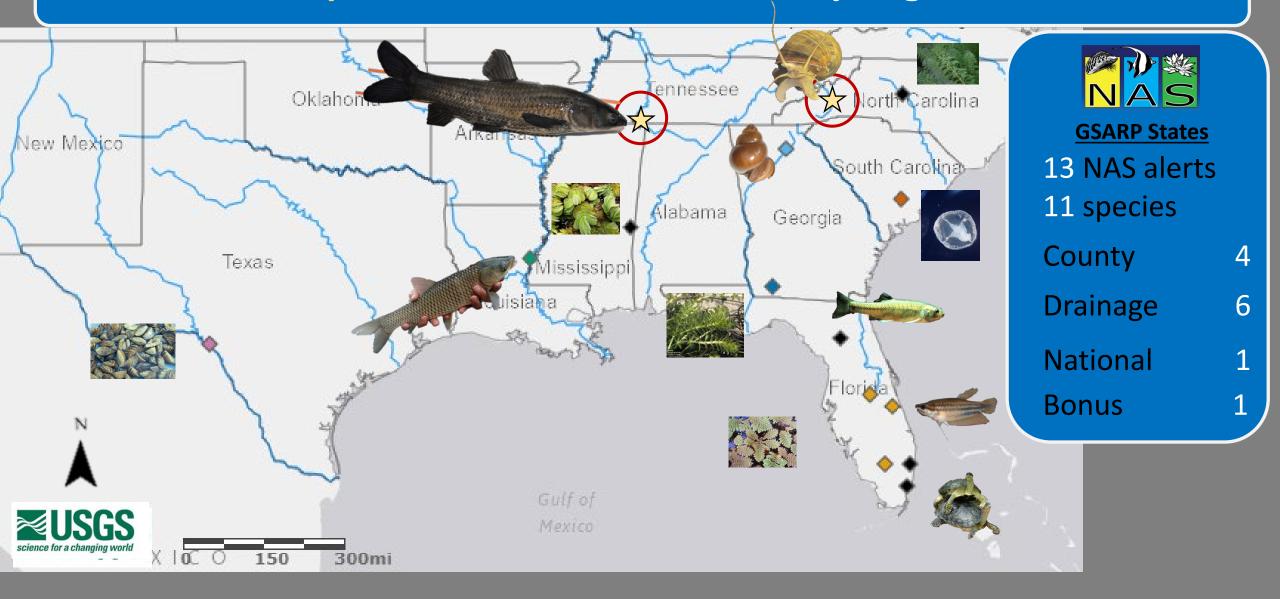


USGS Nonindigenous Aquatic Species Database



New Species Alerts: Dec 1st 2023- Spring 2024

-



New to U.S.

Rhinoclemmys funerea (Black Wood Turtle)



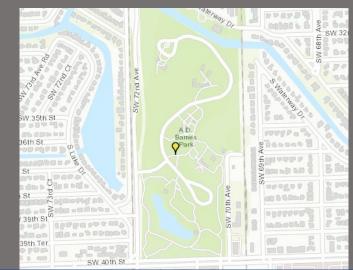




https://www.inaturalist.org/observations/199717081

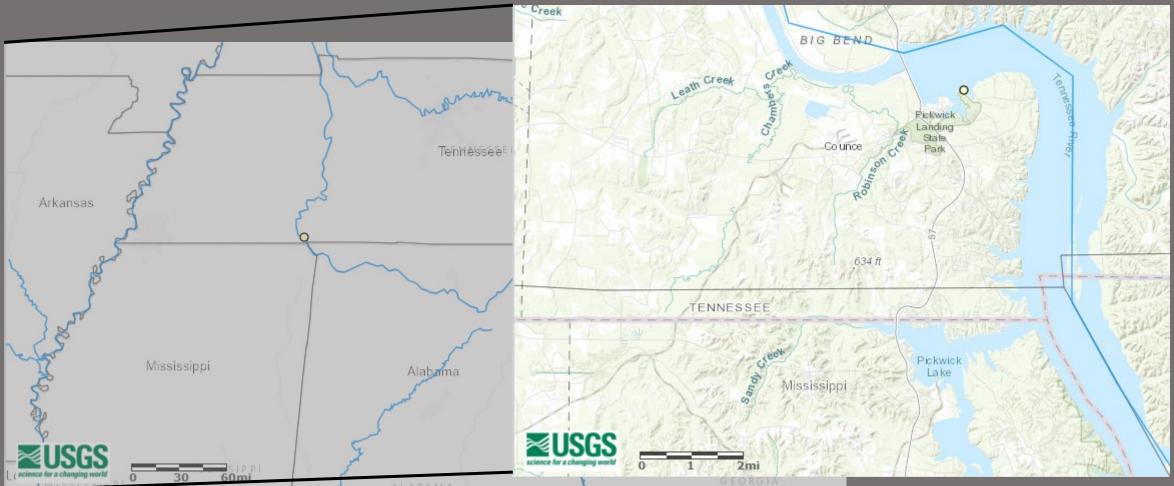
íNaturalist

A.D. Barnes Park by Florida International University



Black Carp in the Tennessee River Near Mississippi and Alabama in Pickwick Lake





BUCP041724-00

аганама

New to Drainage in MS

Salvinia molesta (giant salvinia)



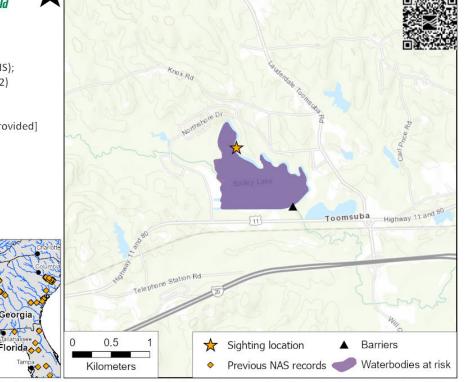
≊USGS



Specimen ID: 1728498 Species: Salvinia molesta Common name: giant salvinia Alert Level: County: Lauderdale (MS); Drainage: Sucarnoochee (03160202) Alert Date: 2024-03-19 State/Province: Mississippi Locality: [No locality description provided] Latitude (N): 32.428 Longitude (W): -88.5239 Collection Date: 2023-06-16 Comment: Bailey Lake



NAS Alert Risk Mapper (ARM)



Data Disclaimer: These data are preliminary or provisional and are subject to revision. They are being provided to meet the need for timely best science. The data have not received final approval by the U.S. Geological Survey (USGS) and are provided on the condition that neither the USGS nor the U.S. Government shall be held liable for any damages resulting from the authorized or unauthorized use of the data.

The map shows waterbodies at short-term risk of invasion from the species sighting. The at-risk areas are determined by species mobility and drainage barriers (dams).

Naturalist

https://www.inaturalist.org/observations/167817261

New to Drainage in GA

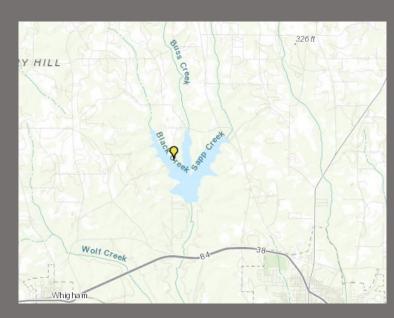
Hydrilla verticillate verticillate (whorled hydrilla)







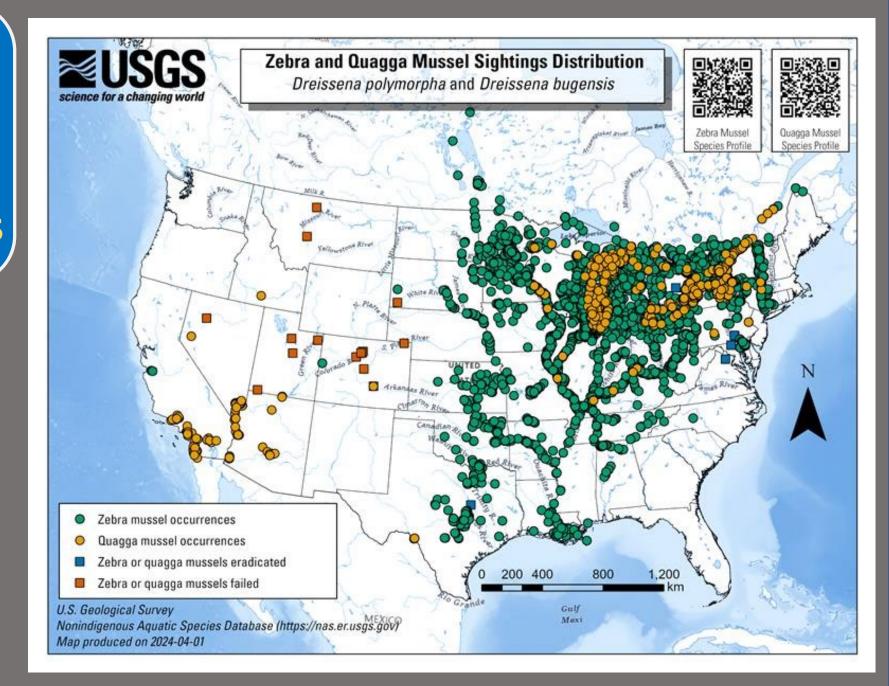
https://www.inaturalist.org/observations/150447255



íNaturalist

In Upper Ochlockonee Upper Tired Creek Zebra and Quagga mussel StoryMap and Distribution maps

Ask Cayla for the link to the StoryMap





Black Carp near Tenn

Salvinia molesta (giant salvinia)



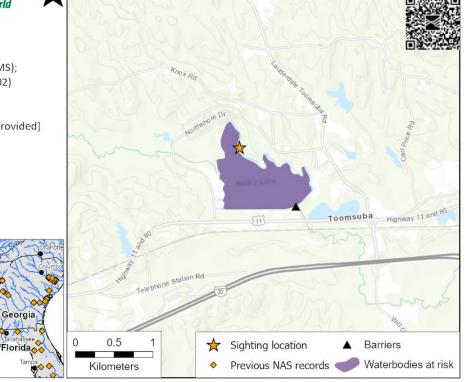
≊USGS



Specimen ID: 1728498 Species: Salvinia molesta Common name: giant salvinia Alert Level: County: Lauderdale (MS); Drainage: Sucarnoochee (03160202) Alert Date: 2024-03-19 State/Province: Mississippi Locality: [No locality description provided] Latitude (N): 32.428 Longitude (W): -88.5239 Collection Date: 2023-06-16 Comment: Bailey Lake



NAS Alert Risk Mapper (ARM)



Data Disclaimer: These data are preliminary or provisional and are subject to revision. They are being provided to meet the need for timely best science. The data have not received final approval by the U.S. Geological Survey (USGS) and are provided on the condition that neither the USGS nor the U.S. Government shall be held liable for any damages resulting from the authorized or unauthorized use of the data.

The map shows waterbodies at short-term risk of invasion from the species sighting. The at-risk areas are determined by species mobility and drainage barriers (dams).

Naturalist

https://www.inaturalist.org/observations/167817261



 $\overline{}$



NAS - Nonindigenous Aquatic Species

Home Alert Sy	rstem Database & Queries	Taxa Information	Report a Sighting Scre	eening Tool (SEINeD)	
Query Species Layers	Map Specimen Reco	rds			No. of the second se
Species Observations		9.00	Calgary	0	
Clustered Specimen Records Clustered Specimen Records Clustered Clustered Specimen Records Clustered Specim			Vancouver	•	
6 to 10 11 to 19			Seattle 8 0	Missouri O O	
20 or more O Selected			snafe C		Montreal
			T	0 00 000	
 Individual Specimens ⁽²⁾ Selected 			the second se	GREAT	Boston
	-		0	Conver UNITED	Philadelphia
 Dreissena polymorpha 			San Francisco O colorado	Atkansas	Washington
zebra mussel Mollusks-Bivalves			O Color		
Exotic Specimen Records			Los Angeles		Atlanta
UBC8 Level Records					
<pre>eDNA Records (■ = Detect, ■ = Nondetect)</pre>				Re Co Coust	
				Monterrey	Miami
				Ménistroy Gulf of México México	0 Havana
					Havana O CUB A
				Guadalajara o Mexico City	Port-au- Prince Santo Domingo
	T 11000			- Andrews	
	science for a changing world	600mi		Guate	mala Caribbean Sea
SGS					

≥USGS

~

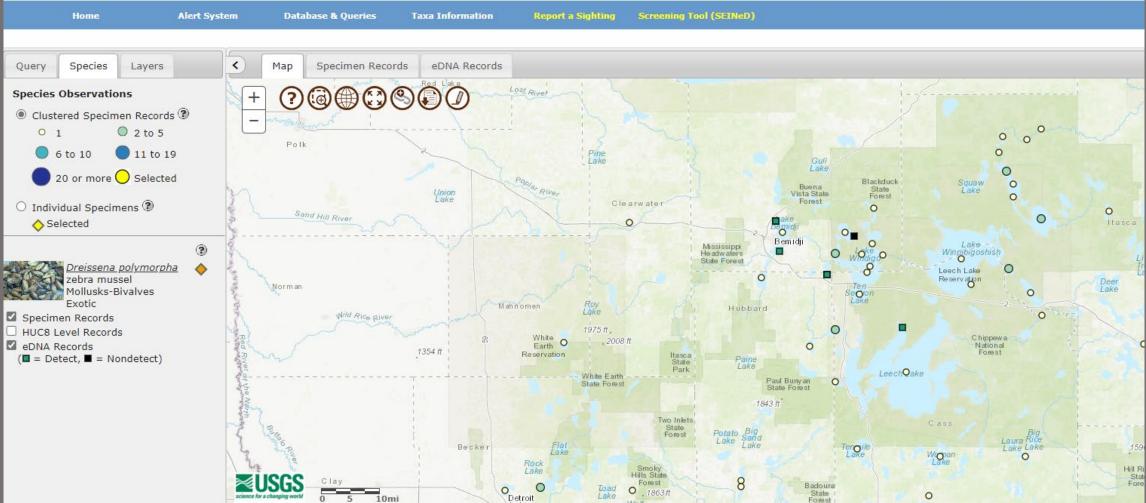


NAS - Nonindigenous Aquatic Species

Home Alert Sy	stem Database & Queries Taxa I	nformation Report a Sighting Screening Tool (SEINeD)
Query Species Layers	Map Specimen Records eE	DNA Records
Species Observations Clustered Specimen Records Clustered Specimen Reco	+ ?@@@\$\$© -	Calgary Vancouver Seattle Snare Z
 ○ Individual Specimens ⁽²⁾ ◆ Selected 		eDNA Data Disclaimer Boston Environmental DNA detection data does not indicate the organism is
 Dreissena polymorpha Zebra mussel Mollusks-Bivalves Exotic Specimen Records HUC8 Level Records eDNA Records 		Present, only its genetic material, and is not a substitute for visually observing the organism's presence. For more information regarding the standards for inclusion and integration of eDNA detection data into the NAS Database, please contact <u>Matthew</u> <u>Neilson</u> .
(■ = Detect, ■ = Nondetect)		Ok
		MÉXICO Guadalajara o Mexico City Prince o San
USGS	science for a changing world 0 300 600mi	Guatemala Caribbean Sea



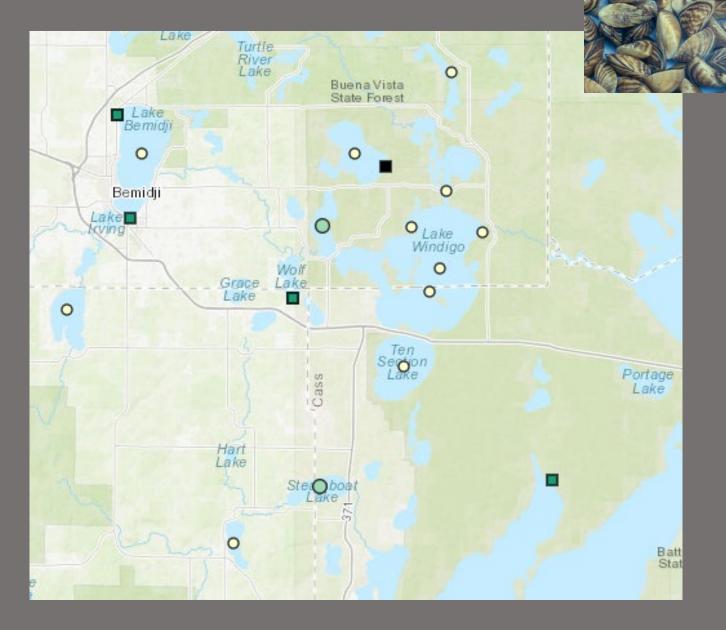
NAS - Nonindigenous Aquatic Species













 $\overline{\mathbf{v}}$

36 records 🥐 😱

~

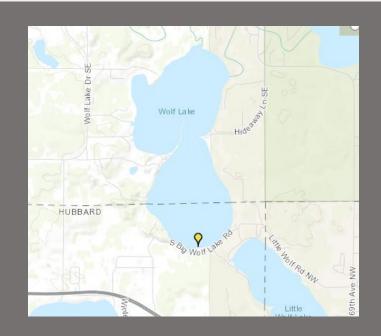
Detection ID	Scientific Name	<u>Country</u>	<u>State</u>	<u>County</u>
<u>769</u>	Dreissena polymorpha			
770	Dreissena polymorpha			
771	Dreissena polymorpha			
772	Dreissena polymorpha			
773	Dreissena polymorpha			
774	Dreissena polymorpha			
775	Dreissena polymorpha			
776	Dreissena polymorpha			
777	Dreissena polymorpha			
778	Dreissena polymorpha			

<u>Locality</u>

<u>Year</u>

HUC 8 Number

Drainage Name



2019			Accurate	DETECT	
2019			Accurate	DETECT	
2020			Accurate	DETECT	
2020			Accurate	DETECT	
2021			Accurate	DETECT	
2021			Accurate	DETECT	
2021			Accurate	NON-DETECT	
2019			Accurate	NON-DETECT	
2019			Accurate	NON-DETECT	
2019			Accurate	NON-DETECT	
Collection Day	27				
Collection Month	7				
Collection Year	2021				
Environmental Sample Type	Water				
Environmental Sample Amount	3000 Liters				
Environmental Sample Replicate	1				
Assay Type	qPCR				
Detection Status	Detect				
PCR Technical Replicates	3				
Number of Technical Replicates With Detections	3				
Average Concentration	24.33				
Reference 1	Ref. Number Author: Date: Title: Publisher:	: <u>42614</u> Howard, L., and 2023 Zebra mussel eD Flathead Lake B	NA detection		

Accuracy

Detection Status











Python bivittatus (Burmese Python)

- Open for new or older eDNA data from partners
- Communication plan with States



Puerto Rico and U.S. Virgin Islands

New to U.S.

Hemichromis fasciatus banded jewelfish

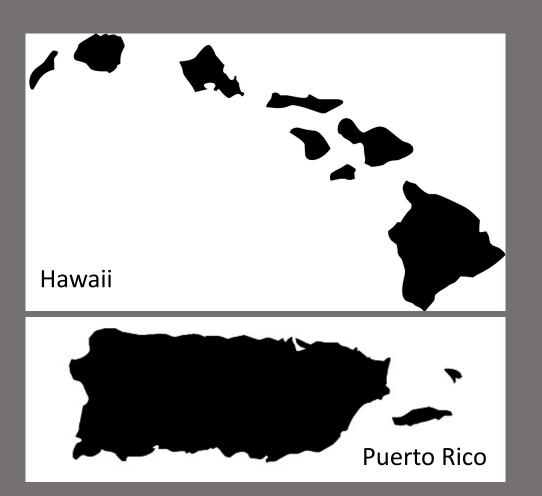
Geophagus steindachneri Redhump Eartheater













Xenia Coral Family Xeniidae Native to Indo-Pacific In aquarium trade





Dr. Wesley Daniel



Dr. Jonathan Freedman

Kristen Reaver

Mary Brown



Audrey Jordon

Arden Williams



Nonindigenous Aquatic Species Database



nas.er.usgs.gov



Students Logan Stratton

@USGSAquaticLife @USGS_NAS

WARC Advanced Applications Team

Christina Hunnicutt Joey Richard

WARC Leadership

Dr. Lynn Copeland Danielle Kitchen Melissa Chavis Dr. Deborah Epperson Craig Conzelmann Dr. Scott Wilson



Dr. Matthew Neilson



Ian Pfingsten





Dr. Emily Dean

