

TRIBAL WETLAND PROGRAMS WEBINAR SERIES

# Geospatial Mapping Tools and Techniques for Tribal Wetland Programs

June 15, 2023

3:00pm – 4:30pm ET

Hosted by the National Association of Wetland Managers and Saint Mary's University of Minnesota GeoSpatial Services



# WEBINAR #6: Geospatial Mapping Tools and Techniques for Tribal Wetland Programs



## Webinar Overview:

As GIS technology advances, geospatial tools have become more useful and accessible for wetland managers. These tools and techniques can be particularly valuable for monitoring and assessment applications, including data collection, analysis, modelling, and visualization for education and outreach. The results of these efforts may be utilized for other EPA core elements, such as prioritizing wetlands for voluntary protection and tracking regulatory enforcement activities. In this webinar, you'll hear from GIS practitioners and tribal staff about how they have used geospatial tools and techniques to advance tribal wetland programs.

## Webinar Presenters:

- Mike Knudson, Saint Mary's University of MN – GeoSpatial Services
- Ferin Davis Anderson, Shakopee Mdewakanton Sioux Community
- Dustin Carl, Chugach Regional Resources Commission



PHOTO CREDIT: THE WETLANDS INSTITUTE

# WEBINAR AGENDA



**Saint Mary's  
University**  
GEOSPATIAL SERVICES



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**Welcome & Introduction**  
(15 minutes)

**Presentations**  
(60 minutes)

**Q&A**  
(15 minutes)



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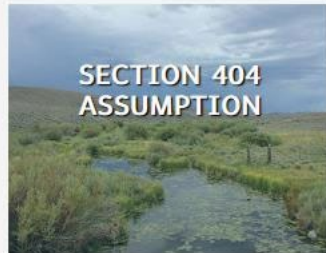
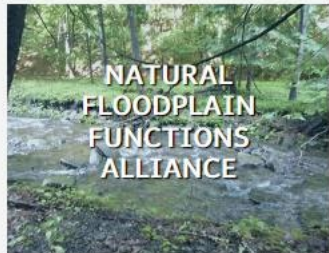
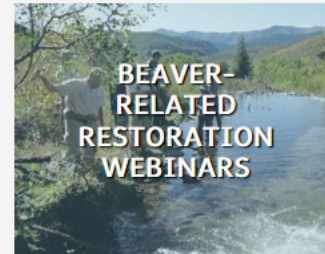


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# TODAY'S MODERATOR



**Saint Mary's  
University**  
GEOSPATIAL SERVICES



**Kathy Allen**  
Natural Resource Analyst,  
Saint Mary's University of  
MN - GeoSpatial Services



# TODAY'S PRESENTERS



**Mike Knudson**  
SMUMN – GeoSpatial  
Services



**Ferin Davis Anderson**  
Shakopee Mdewakanton Sioux  
Community



**Dustin Carl**  
Chugach Regional  
Resources Commission



CHANGING OVER TO  
PRESENTER'S COMPUTER...

*PHOTO CREDIT: DAN CARY*

THANK YOU!



**Saint Mary's  
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## National Association of Wetland Managers

(207) 892-3399

[www.nawm.org](http://www.nawm.org)

## Saint Mary's University of MN GeoSpatial Services

(507) 457-8746

[www.geospatialservices.org](http://www.geospatialservices.org)

# Guest Biographies



**Mike Knudson** holds a B.S. in Natural Resources from the University of Minnesota and an M.S. in Earth System Science and Policy from the University of North Dakota. His research integrated remote sensing and environmental monitoring to create a habitat suitability index for the Western Prairie Fringed Orchid on the Sheyenne National Grassland in eastern North Dakota. He also collaborated on research that analyzed annual terrestrial water budgets in the Coteau des Prairie of eastern South Dakota. Since joining GeoSpatial Services in 2021, Mike has contributed to Wetland Functional Assessments for the Shakopee Mdewakanton Sioux Community in Minnesota and the Three Affiliated Tribes of the Fort Berthold Reservation in North Dakota. In his free time, he enjoys traveling and wilderness exploration with his wife and two children, along with wood crafting and upland bird hunting.



**Ferin Davis Anderson** is the Supervisor of Environmental Sciences for the Land and Natural Resources Department. She has worked with the Community since 2016. She is also an enrolled citizen of the Turtle Mountain Band of Chippewa in North Dakota. Ferin is responsible for stewarding, restoring, and protecting natural areas including wetlands for the SMSC. The Land and Natural Resources Department has refined their wetland management program recently under the direction of Ferin and a team of scientists, specialists, and technicians from the SMSC. They were awarded two Wetland Program Development Grants through the US Environmental Protection Agency (USEPA) in 2019 and 2021. They have used these funds to work with contractors to develop several decision support tools including an updated NWI wetland inventory, a potentially-restorable wetland GIS layer, a SMSC wetland rapid assessment method that integrates cultural science and knowledge into the process, a wetland identification model that uses spatial data collected from a UAV (drone) and mounted LiDAR system, and they are currently producing a Wetland Program Plan to submit to the USEPA for review. Ferin works to weave traditional knowledge and western science to make better more holistic decisions regarding land management.



**Dustin Carl** is a Yupik Alaskan Native originally from Kipnuk, Alaska, and grew up in different communities around Alaska. He attended the University of Alaska Anchorage where he graduated with a B.S. in Biological Sciences and an M.S. in Biological Sciences after defending his thesis "Genomic Variation of Red-faced Cormorants in the Aleutian Archipelago and Bering Sea". Dustin has been a Chugach Regional Resources Commission (CRRC) Tribal Fish and Wildlife team member since January of last year, and with his time here he has led the CRRC projects on not only wetlands, but in fisheries, invasive species, subsistence outreach, environmental DNA, and Moose Populations. This work is being done to further the Chugach People's rights and access to a healthy subsistence population.

# Geospatial Mapping Tools and Techniques for Tribal Wetland Programs

*Presenter ~ June 15, 2023*



**Mike Knudson**  
SMUMN– GeoSpatial Services



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## Geospatial Tools and Technology for Tribal Wetland Programs

SMSC Land and Natural Resources Department  
Ferin Davis Anderson  
Supervisor of Environmental Sciences

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**Ferin Davis Anderson**  
Shakopee Mdewakanton Sioux Community

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