Institute Overview for the National Geospatial Advisory Committee (NGAC)

Robert Cardillo
Ken Olliff
Vasit Sagan
Digital Data Explosion Leads to a Global Geospatial Competition

“The U.S. is on the verge of being permanently *eclipsed in geodesy and in the downstream geospatial technologies*. This threatens our national security and poses major risks to an economy that is strongly tied to the geospatial revolution, on Earth and, eventually, in space.”

Bevis et al., White paper: ‘America’s loss of capacity and international competitiveness in geodesy, the economic and military implications, and some modes of corrective action’, 2022

“In early history, good data was hard to generate. Today there is too much unexplored data; it is hard to derive trustworthy information.”

Ocean of digital data require GeoAI to navigate

Technology & Data Explosion

Exploring & Recording

Navigation Technology

Technology Revolution

Ocean of digital data require GeoAI to navigate

TAYLOR GEOSPATIAL INSTITUTE
Vibrant Regional Geospatial Ecosystem

NGA
$1.75B campus

June 2016

Research and Academia

April 2022

Innovation communities

June 2020

Industry Gateway

Affiliated Activities
Vision of the Taylor Geospatial Institute

To be the nation’s leader in geospatial science research and accelerate the St. Louis region’s development as a global geospatial center of excellence.
Mission of the Taylor Geospatial Institute

To advance geospatial science through multi-institutional, interdisciplinary collaborations in order to create innovative, real-world solutions to societal grand challenges.
Eight-Institution Research Collaborative

Nation’s Leading Geospatial Research Collaborative
Rooted in St. Louis and the Midwest
Addressing Grand Societal Challenges
Built with a Strong Geospatial Engine

- Enables new applications and research in different domains
- Addresses national gaps in geospatial science
“Perhaps the most shocking example of the U.S. decline relative to China is that the number of Ph.D. geodesists in the entire DOD, including the National Geospatial-Intelligence Agency (NGA), is now approaching zero.”

Bevis et al., White paper: ‘America’s loss of capacity and international competitiveness in geodesy, the economic and military implications, and some modes of corrective action’, 2022

To counter this crisis a consistent, lasting stream of government funding in geospatial sciences is needed.
TGI Is Investing in People

INTERNAL FUNDING

• Block grant (2022)
• Seed grants (2023)
• Post Doc program
• Visiting Scholars
• Start-up packages

Leveraging Investments from Philanthropy, Government, and Private-Public Partnerships
**TGI is Investing in Infrastructure**

**GEOSPATIAL DATA ANALYTICS LIBRARY**

**DATA**

- Access to Existing Dataset
- Custom Data Collection

**PROCESSING**

- GeoAI: AI, ML, DL, ... HPC
- Research Computing
- Expertise
- Equipment
- Custom Data Collection
- Results, Visualization

**Problem:** Why? It takes 80% of research time to find/assemble quality analysis-ready data

**Outcome:** Researchers have more time to focus on the actual research and implications

**INSIGHTS, VISUALS, AND MORE TIME TO FOCUS ON THE RESEARCH**

www.taylorgeospatial.org
Taylor Geospatial Institute: A Unique Geospatial Research Consortium

- A unique geospatial research consortium with a research impact that is larger than the sum of its eight institutions
- Leveraging investments from philanthropy, government, and private-public partnerships
- Jump-starting the talent development engine
- Accelerating the St Louis region on its trajectory towards being a global geospatial center of excellence

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Questions?