

Introduction to the IEEE Geoscience and Remote Sensing Society (GRSS)



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IEEE GRSS Past-President (2023-2024)

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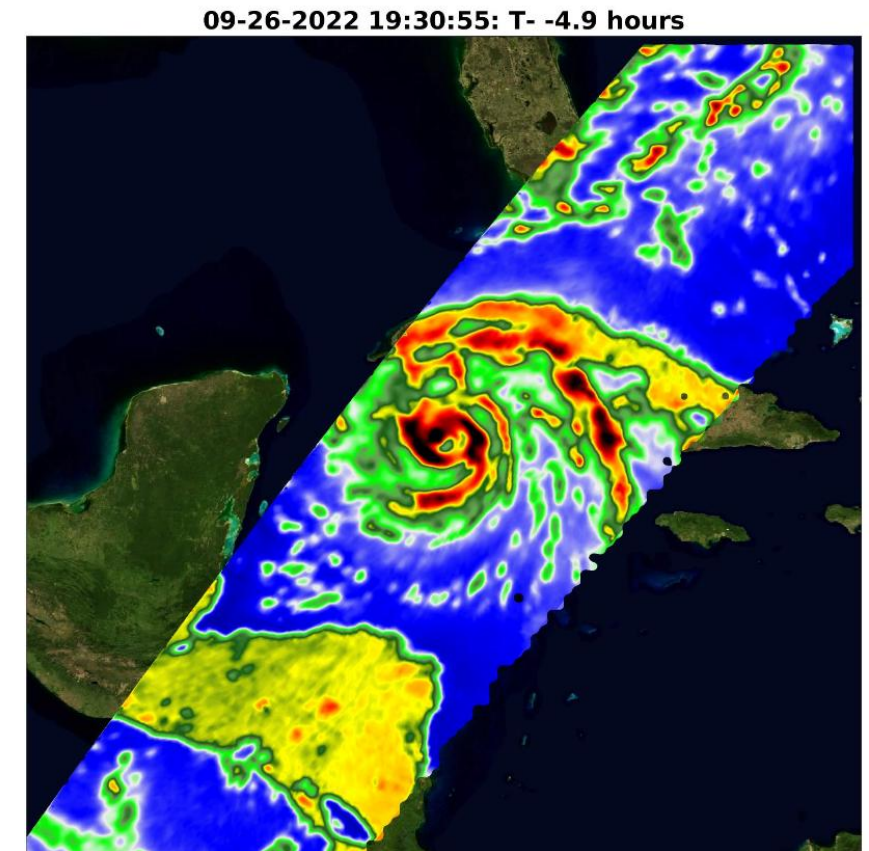


What is Remote Sensing?

- We design and utilize instruments on satellites, airplanes and the ground to gather information about the Earth's atmosphere, oceans and land
- Remote sensing involves an international network to share data to develop a more complete picture of our Earth
- Remote sensing affects you in ways you may not always realize by informing weather forecasts, drought and disaster areas, crop yields, land use and more
- Remote sensing allows for a synoptic view of the Earth

Example of Hurricane Imagery Using Microwave Sensors

- Space based passive microwave sensors detect rain-bands of hurricane IAN



Courtesy NASA

Prominent Specialties in Remote Sensing

- **Microwaves, Antennas**
 - Microwave Sensor Design
- **Detectors, Optics, Focal Plane Arrays, Microelectronics**
 - Visible, IR, UV Sensor Design
- **Aerospace Engineering**
 - Space Vehicles, Sensors and Missions
- **Data Analysis, Algorithms**
 - Hyperspectral, Multi-temporal, Big Data, Data Fusion, Classification
- **Earth Science**
 - Cryosphere, Atmosphere, Oceans, and Land
 - Weather and Climate modeling

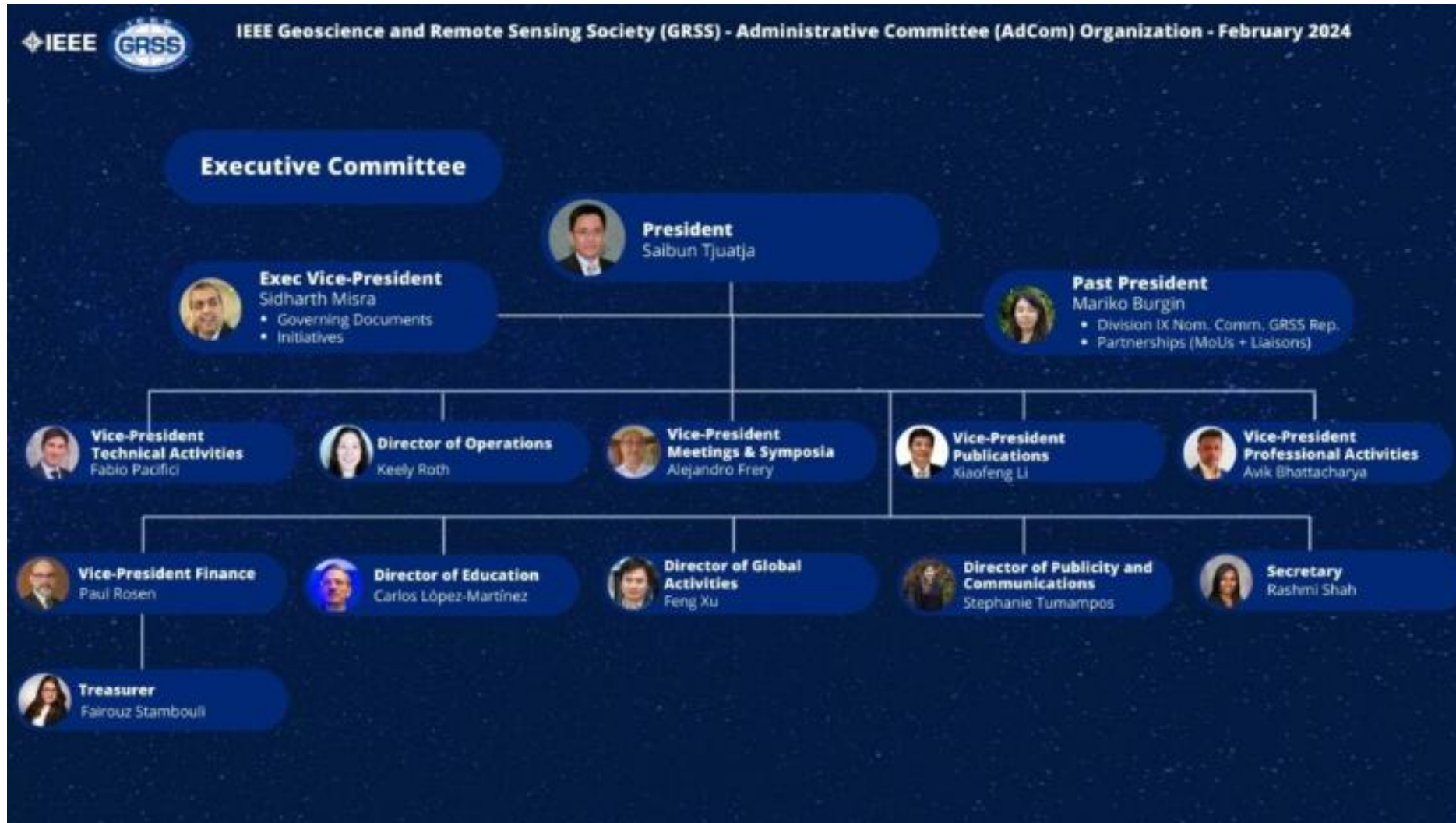
About GRSS



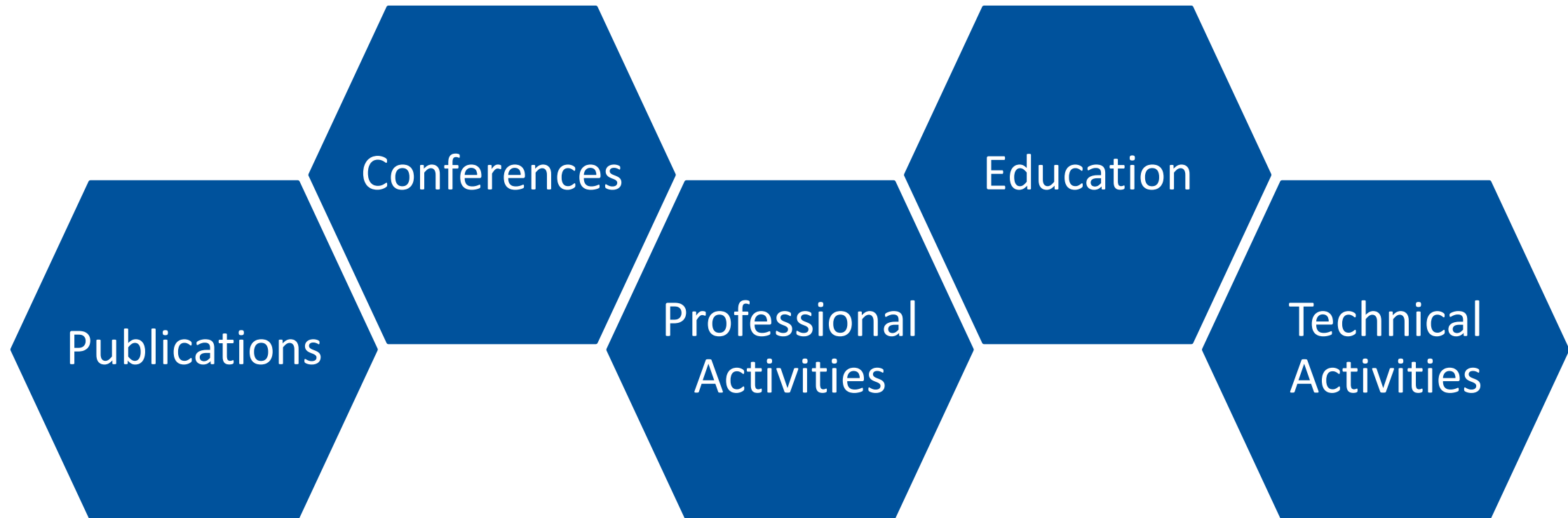
- The Geoscience and Remote Sensing Society (GRSS) is a **Technical Society** of the Institute of Electrical and Electronics Engineers (IEEE)
- GRSS **fosters engagement of its members** for the benefit of society through science, engineering, applications, and education as related to the development of the field of geoscience and remote sensing
- GRSS is a **group of scientists, researchers and practitioners** with common interests and a common framework for building a community

GRSS Leadership

<https://www.grss-ieee.org/>



IEEE GRSS is:



GRSS does many things but it is really about.....

GRSS: A Community of Communities

- Industrial Community – Provides Connections
 - GRSS Live Webinar Series; Workshops; SpaceNet; TIE Events; Industry Speakers
- Student Community – Offers Continuing Education
 - GRSS Schools; GRSS Resource Center; IEEE Learning Network; Student Grand Challenges
- Young Professional Community – Facilitates and Connects
 - YP Mixers; Social Media Team; Career Events; Mentoring
- Global Research Community – Enables Networking and Leadership
 - Publications; Conferences; Awards; Technical Activities; Information Resources

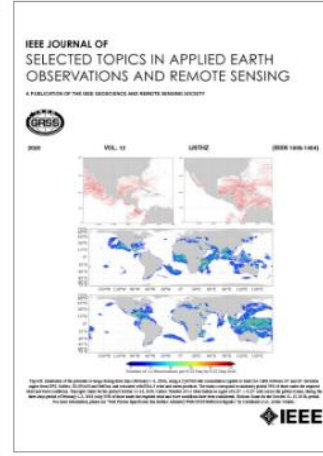
GRSS Disseminates Premium Science



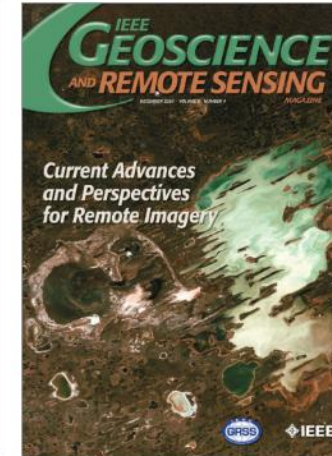
Transactions on Geoscience & Remote Sensing



Geoscience and Remote Sensing Letters



Journal of Selected Topics in Applied Earth Observations and Remote Sensing



Geoscience and Remote Sensing Magazine



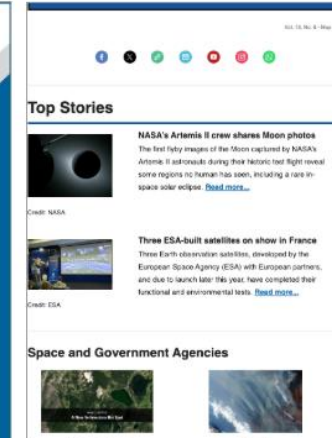
Journal of Miniaturized Air and Space Systems



Transactions on Radar Systems



Geoscience and Remote Sensing Section within IEEE Access



Geoscience and Remote Sensing eNewsletter

International Geoscience and Remote Sensing Symposium (IGARSS) 2025

IGARSS 2025 Home ▾ General ▾ Registration ▾ Tutorial Proposals Important Dates For Authors ▾ Destination ▾ Sponsors/Exhibitors ▾ Summer School ▾

2025 IEEE International Geoscience and Remote Sensing Symposium
3 - 8 August 2025 • Brisbane, Australia

IGARSS Brisbane 2025

IEEE

IEEE GRSS

What do I love about Brisbane?

Engaging

Engaging

Engaging

Welcome to Brisbane, IGARSS 2025!

IGARSS 2025 Stats

- Accepted Papers: 3005
- Sessions: 302 Oral, 191 Poster
- Paper Submissions: 3968
- Three categories: 2113 Full Papers, 755 1-Page Abstracts, 137 Journal Articles



International Geoscience and Remote Sensing Symposium (IGARSS) 2026



2026 GRSS flagship conference to be held in Washington DC

2 Example IEEE-GRSS Initiatives

■ GRSS Student Grand Challenge

- Competitively awarded funds to Chapters or Chapters that are organizing
- Grand Challenges so far have involved UAVs, PocketQube (PQ), Remote Sensing of Plastics and Debris in water, Tracking Whales, using PQ to Detect RFI

<https://www.grss-ieee.org/community/groups-initiatives/ieee-grss-student-grand-challenge/>

■ Inspire Develop Empower and Advance (IDEA)

- Down to Earth Podcast – innovative ideas for Geoscience
- Developing activities in Latin America
- Women mentoring Women program

<https://www.grss-ieee.org/community/groups-initiatives/idea/>

What Can GRSS Do For Your Technical and Local Community?

- Support continuing education of students and Young Professionals
 - In addition to GRSS schools: through conferences, journals, the GRS magazine, webinars, ...
- Promote problem solving abilities and algorithms by the members
 - via the data fusion contest, dedicated events at our conferences, industry speakers, and distinguished lecturers
- Help connecting companies and young, motivated people
 - via YP events, student grants, TIE forum, and webinars
- Connect the different communities of EO practitioners and researchers and make everyone aware of the most up-to-date and “hot” topics of interest
 - via the e-Newsletter, the GRS magazine, and our web site

An Invitation to Join Our Community!

GRSS can help you...

- Share and promote your ideas, systems, and data sets
- Meet with other communities and gain from their perspectives
- Build collaborations
- Learn from each other
- Work with like-minded researchers and developers to make a difference in the world through remote sensing

IEEE: Technology for the Benefit of Humanity