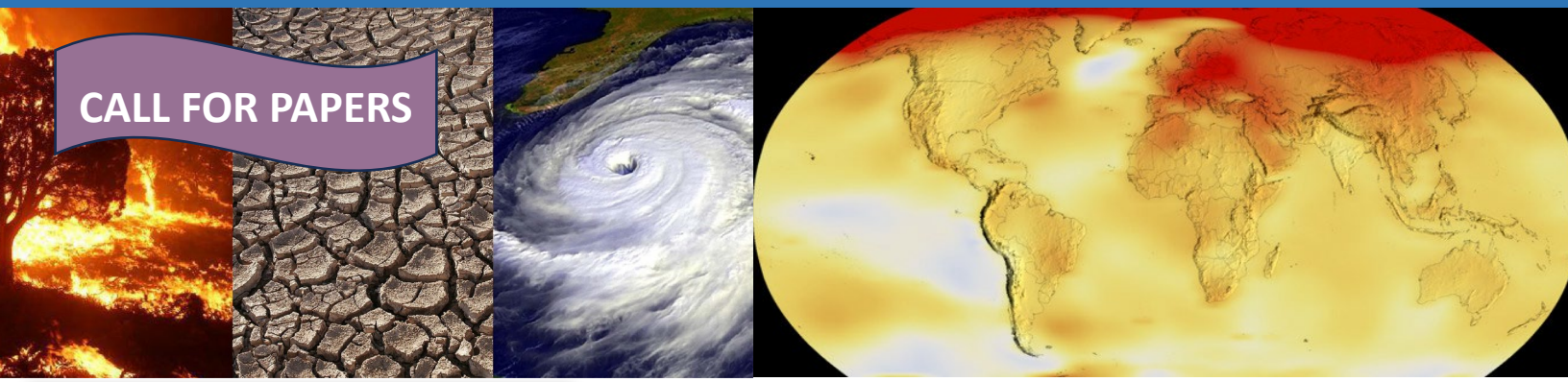
Climate Change Standards Initiative (CCSI) @ the 2024 NIST/IEEE Conference on Computational Imaging Using Synthetic Apertures (CISA)

National Institute of Standards and Technology | Boulder | Colorado | 20-23 May 2024



The IEEE Signal Processing Society, the IEEE Geoscience and Remote Sensing Society (GRSS), the GRSS Standards Committee, the IEEE Synthetic Aperture Standards Committee, and the IEEE Synthetic Aperture Technical Working Group, together with the National Institute of Standards and Technology (NIST) invite you to the picturesque NIST campus in Boulder, Colorado for the ***Climate Change Standards Initiative (CCSI).*** CCSI will feature 5 workshops related to monitoring climate change using synthetic aperture radar and synthetic aperture radiometry data. The goal is to initiate new working groups that develop standards for assessing climate change and support market solutions to mitigate the impact. The Climate Change Standards Initiative (CCSI) is accepting papers until ***February 29*** related to:

1. **The Climate Change Measurement Process** – this workshop takes a deeper look at the technical challenges inherent in measuring environmental parameters from space that are relevant to determining climate change. The focus is on technology, hardware, and the computational steps necessary to form images of the Earth's oceans and land surface. The workshop will maintain a clear focus on the role standards play in this area.
2. **Interpreting SAR and Radiometry Data** – this workshop will review the issues associated with interpreting measured data and the computed images. A significant portion of the workshop will be devoted to machine learning and artificial intelligence techniques. This topic covers a wide range of capabilities and is a timely area for standardization.
3. **Uncertainty in the Data** – even in the best of circumstances the notion of measuring a ground truth parameter is impractical. Instead, careful analysis must be performed to ascertain the uncertainties embedded in measured data. These uncertainties may be due to random or systematic errors that are inherent in the hardware but also in the underlying physics of the measurement. This workshop will define these concepts further and describe the NIST Microwave Uncertainty Framework (MUF) which is an exemplary and globally recognized framework that accounts for the uncertainties involved in measuring radio frequency (RF) signals.
4. **5G Interference and Contaminated Data** – the proliferation of 5G base stations throughout the world has greatly increased the probability that extraneous 5G signals will interfere with space-borne SAR and radiometry platforms. This workshop will examine the potential severity of 5G interference and methods for mitigating its impact. A focus on the technical gaps that could benefit from standardization will be maintained throughout the workshop.
5. **Sustainable Real Estate Development in the Era of Climate Change -** eco-friendly practices like recycling, energy efficiency, reliance on renewables, and resilient design must be integrated into buildings of the future. This approach mitigates the environmental impact of new construction, adapts the housing market to climate challenges, and enhances the long-term value of real estate assets. Key components include green building certification, smart technologies, and community engagement.

Prospective authors should visit https://2024.ieeecisa.org/ for more details and to submit manuscripts. The minimum length of the initial manuscript is 2 pages and up to 4 pages are allowed, including figures, with a 5th page for references only. Templates are provided at https://2024.ieeecisa.org/paper-submission/. All manuscripts must adhere to IEEE formatting guidelines. The CCSI at CISA will be an in-person event and authors must attend to present their papers live at NIST. Authors who give a presentation at CCSI will have their paper published in IEEE Xplore. For additional questions, please send email to info@2024.ieeecisa.org to contact the co-chairs; **Alexandra Artusio-Glimpse**, **Paritosh Manurkar**, **Samuel Berweger**, **Siri Jodha Khalsa**, **Corina Nafornita**, **Peter Vouras, and Kumar Vijay Mishra**.