The Global Climate Change (GCC) Community is part of ASA’s Climatology and Modeling Section with more than 650 members. The goal of the GCC community is to provide a forum for better understanding of the climate change effects in agriculture and for the discussion of approaches for mitigating and adapting climate change with respect to agronomic systems. The community’s interests include simulation modeling for assessment of climate change impacts and adaptations, observational and experimental measurement of response of terrestrial processes and functions to climate change (e.g., evapotranspiration, soil carbon cycling, plant community dynamics, and crop yield), and understanding the consequences and adaptation of agroecosystems to unpredicted extreme weather events.

Focus Areas

The community has a strong focus on the development of accurate quantitative analyses of climate change effects on agronomic systems through experimental, and modeling approaches.

Relevance of the GCC Community

As a consequence of global climate change, extreme weather events of catastrophic magnitude are occurring more frequently. The continental U.S. has experienced two 500-year floods in just 15 years, and drought in the Great Plains and the southwestern United States from 2000–2004 was the most severe in the past 800 years. Agriculture, which is an important sector of the U.S. economy, is most vulnerable to climate variability and extremes, particularly droughts and floods, and we don’t yet know how to best manage different agro-ecosystems to combat the adverse effects of climate change and provide ecosystem services to food security.