Future Earth
Advancing Civic Understanding Of the Anthropocene

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Earth now is dominated by both biogeochemical and anthropogenic processes, as represented in these two images from a simulation of aerosols. Dust (red) from the Sahara sweeps west across the Atlantic Ocean. Sea salt (blue) rises into the atmosphere from winds over the North Atlantic and from a tropical cyclone in the Indian Ocean. Organic and black carbon (green) from biomass burning is notable over the Amazon and Southeast Asia. Plumes of sulfate (white) from fossil fuel burning are particularly prominent over northeastern North America and East Asia. If present trends of dust emissions and fossil fuel burning continue in what we call the Anthropocene epoch, then we could experience high atmospheric CO2 levels leading to unusual warming rarely experienced in Earth’s history. This book focuses on human influences on land, ocean, and the atmosphere, to determine if human activities are operating within or beyond the safe zones of our planet’s biogeochemical, chemical, and physical systems.

Volume highlights include:
• Assessment of civic understanding of Earth and its future
• Understanding the role of undergraduate geoscience research and community-driven research on the Anthropocene
• Effective communication of science to a broader audience that would include the public, the K-12 science community, or populations underrepresented in the sciences
• Public outreach on climate education, geoscience alliance, and scientific reasoning

Future Earth is a valuable practical guide for scientists from all disciplines including geoscientists, museum curators, science educators, and public policy makers.