

# Building Trustworthy AI for Weather and Climate

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The vision of the NSF AI Institute for Research on Trustworthy AI in Weather, Climate, and Coastal Oceanography (AI2ES) is to develop novel, physically based AI techniques that are demonstrated to be trustworthy and that will directly improve prediction, understanding, and communication of high-impact weather and climate hazards. Launched in September 2020, AI2ES is conducting transformative convergent research across AI, environmental sciences, and risk communication on the nature of trust and what makes AI trustworthy for professional and scientific end-users. In this talk, we overview the highlights of our research achievements for year 2 as well as our achievements in broader impact and workforce development. These include the interviews of forecasters about trust in AI products, foundational work in uncertainty quantification and AI, the development of AI/ML predictive methods for impactful weather, ocean, and climate events, as well as extensive outreach efforts to all levels, including K-20 and workforce development. Our website, [ai2es.org](https://ai2es.org), contains more about the full scope of our research.