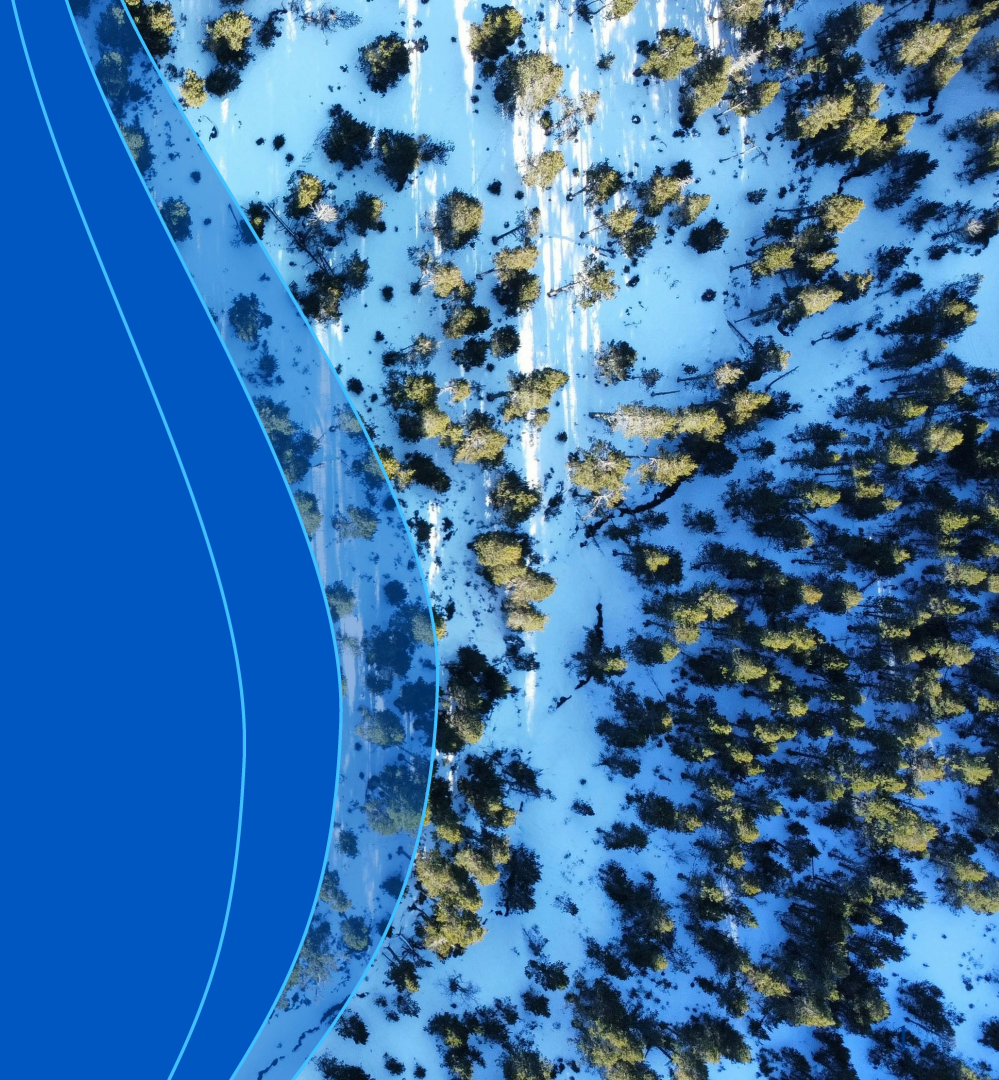14 JANUARY 2026

Responsible AI for Actionable Climate Science

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Epistemic: relating to knowledge or knowledge generating processes

The key to accelerating climate progress with AI is managing *epistemic* and *ethical risk* in the development and use of our data, models and tools.

Managing Epistemic and Ethical Risk

Intelligibility: understanding what AI-derived information tells us, its assumptions, limitations and potential failure modes

Representational Fitness: assessing whether training and validation data adequately capture the phenomena we are trying to understand that the communities experience

Fitness-for-Purpose: evaluating adequacy of our tools and data for specific decision contexts, looking at consequences of error, uncertainties, and who bears the risk

Responsible Integration: building epistemic infrastructure for transparent uncertainty characterization, understanding of limitations, and ethical risk assessment