

From FAIR to CARE: Advancing IPCC AR7 Data Stewardship for Open Science

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The Intergovernmental Panel on Climate Change (IPCC) assesses the science related to climate change including its impacts, future risks, and options for adaptation and mitigation. The IPCC assessment reports aim for the highest standards of scientific excellence, balance, and clarity¹. Core principles include openness and transparency in its assessment process². In the Sixth Assessment Report (AR6) IPCC Task Group on Data Support for Climate Change Assessments (TG-Data) promoted the best practices in open science by implementing FAIR (Findable, Accessible, Interoperable, Reusable) principles and continues to do so in the current Seventh Assessment Report (AR7)³. This improves the technical discoverability and reuse of IPCC data. However, they do not fully address questions of equity, power, and responsibility in data governance. The CARE principles—Collective Benefit, Authority to Control, Responsibility, and Ethics—provide a complementary framework that centers the rights, interests, and wellbeing of communities affected by data production and use.

This paper examines how CARE can be integrated into data workflows during the IPCC AR7 cycle. We identify key gaps related to community representation, governance, and ethical reuse—particularly for data involving Indigenous knowledge systems, local communities, vulnerable regions, and contexts in the Global South. Building on these findings, we propose practical pathways for operationalizing CARE alongside FAIR, including governance options, targeted metadata extensions, and clear guidance for data contributors, curators, and secondary users.

Aligning FAIR and CARE can strengthen trust, legitimacy, and inclusivity across the IPCC' s open science ecosystem. By moving beyond technical openness toward responsible stewardship, the AR7 data infrastructure can better support equitable participation and ethical reuse, while providing a transferable model together with other large-scale, policy-relevant scientific assessments such as Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)⁴.

References

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Keywords: IPCC AR7 data, FAIR and CARE principles, TG-Data and DDC, Indigenous knowledge, Global South, Open Science