Earth’s changing climate is leading us into a new regime of impacts that pose unique challenges and decisions to society. As environmental scientists pursue fundamental understanding of atmospheric processes, they increase their effectiveness by being aware of how their research connects to these decisions. The best decisions require us to frame and describe our understanding in a manner relevant for the problems at hand and, above all, to communicate it effectively to stakeholders and decision makers. In this presentation, I will present guiding principles and a diverse set of examples, related to the Montreal Protocol, global aviation, climate intervention, and the National Climate Assessment, with the hope of increasing awareness of environmental science-based decision making and providing encouragement for the challenges ahead.

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