Carbon Budgets Consistent with 1.5°C, 2.0°C Climate Goals: what are they and how difficult is it to achieve them?

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Under the Paris Agreement nations agreed to “holding the increase in the global average temperature to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels.’’ Limiting warming to a specific threshold requires setting a cap on the total amount of carbon that can be emitted into Earth’s atmosphere over all times (“carbon budget”). In this talk, I will establish the geophysical basis for the carbon budget concept, estimate global and domestic carbon budgets consistent with the 1.5°C, 2.0°C climate targets, and discuss implications for climate policy.