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**SCIENCES • ENGINEERING • MEDICINE**

**Board on Atmospheric Sciences and Climate**

Fall Meeting 2021

OPEN SESSION

**Tuesday, November 30**

**Tipping Points in the Climate System: a scoping discussion**

The Academies has previously conducted two consensus studies on the topic of tipping points (or thresholds, abrupt changes) in the climate system: *Abrupt Climate Change: Inevitable Surprises* (2002), and *Abrupt Impacts of Climate Change: Anticipating Surprises* (2013). In this joint session with the Polar Research Board, speakers will consider the scientific advances that have been made since these previous studies, and ways that a new Academies activity could make a value contribution on this topic.

**3:00 PM ET      Session Overview**

Cyndi Atherton, Heising-Simons Foundation

**3:05 PM      Reflections on how tipping point issues are addressed in IPCC AR6 (including social dimensions and implications for decision-making)**

Rob Lempert, RAND Corporation

Diana Liverman, University of Arizona

- How is this issue addressed in the upcoming IPCC AR6 Working Group 2 report?<sup>1</sup>.
- What are some examples of “social tipping points”, and how might they interact with physical and ecological system changes?
- What are some possible implications of such issues (and the “deep uncertainties” they raise) for climate change mitigation and adaptation planning?
- Are there important questions not covered in the IPCC reports that you think an Academies activity could help address?

**3:35 PM      Reflections from previous NASEM studies**

Jim White, University of Colorado Boulder [Chair, 2013. *Abrupt Impacts of Climate Change*]

Richard Alley, Penn State University [Chair, 2002. *Abrupt Climate Change*]

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<sup>1</sup> The IPCC AR6 AG1 report was released in August 2021 and is available here: <https://www.ipcc.ch/report/ar6/wg1/>. The WG2 report will be released in February 2022.

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- What do you see as the most significant advances in the science on tipping points in recent years? What are the most critical current research frontiers to consider?
- What future Academies activities could make a valuable new contribution in this realm?

4:05 PM

**Climate and national security perspective**

Jennifer DeCesaro, Director for Climate Security and Resilience, National Security Council

- What are some possible implications of climate system tipping points in the context of national security?
- What might be some key opportunities for an Academies activity to help support planning and/or decision making related to preparing for tipping points and their impacts?

4:15 PM

**Discussion**

5:00 PM

**Adjourn**