

Gaming Climate Futures

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Project Overview

“Gaming Climate Futures” is a **science-diplomacy engagement** and research project to explore the relationship between global temperature targets and climate tipping points. Responding to the knowledge needs of the global climate governance community, we create an engagement process centered on an interactive serious game. This engagement process will provide political actors with opportunities to

- (a) Learn** about the nature and importance of climate tipping points, and
- (b) Imagine** the kinds of futures their collective decisions could create.

Project Goals

- Science-diplomacy engagement
- Create an environment for learning, thinking, feeling, imagining
- Design a serious game that works at a global scale
- Research: study the effects of the engagement process

Project Phases

1. Gearing Up (Jan-Mar 2017)	2. Gauging Info Needs (Apr-Jul 2017)	3. Game Design (Aug 2017 – Apr 2018)	4. Game Play (May 2018)	5. Observation of Impacts (May 2018 – May 2019)
<ul style="list-style-type: none">• Interdisciplinary literature review and synthesis• Preparation of Phase 2 (interview protocols, ...)	<ul style="list-style-type: none">• Interviews with climate change negotiators	<ul style="list-style-type: none">• Game design workshops• Engagement of students• Engagement of external experts• Recruitment	<ul style="list-style-type: none">• Game play workshops at climate negotiation session in Bonn• Study immediate effects	<ul style="list-style-type: none">• Study long-term effects of game play on players and the negotiation process
✓	✓			

Interdisciplinarity



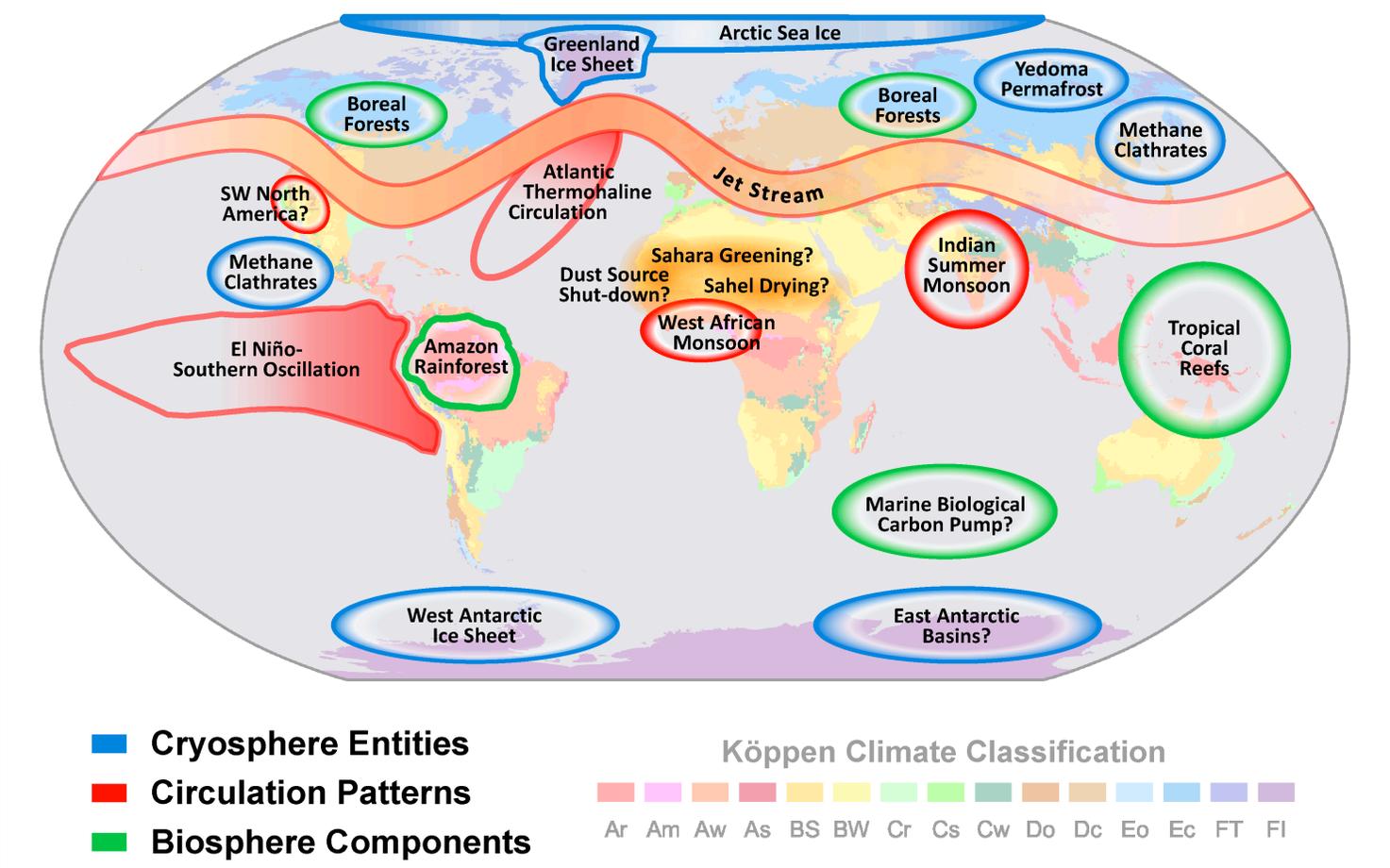
- Climate change science (Matthew Huber)
- IAMs and Global Trade (Dominique van der Mensbrugghe)
- Engineering & robust decision-making (David R. Johnson)
- Natural Resources Social Science (Linda Prokopy)
- International Relations (Manjana Milkoreit)
- Library Science (Jason Reed)
- Serious Game Design (David Farrell)
- Scenarios and Futures (Joost Vervoort)



Tipping Points & Global Temperatures

- **Climate Tipping Points:** A large-scale change in the climate system that takes place over a few decades or less, persists for at least a few decades, and causes substantial disruptions in human or natural systems. (IPCC AR5)
- **Global Temperature Goals:** “Holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels” (Art 2 (1) Paris Agreement on Climate Change)

Climate Tipping Points



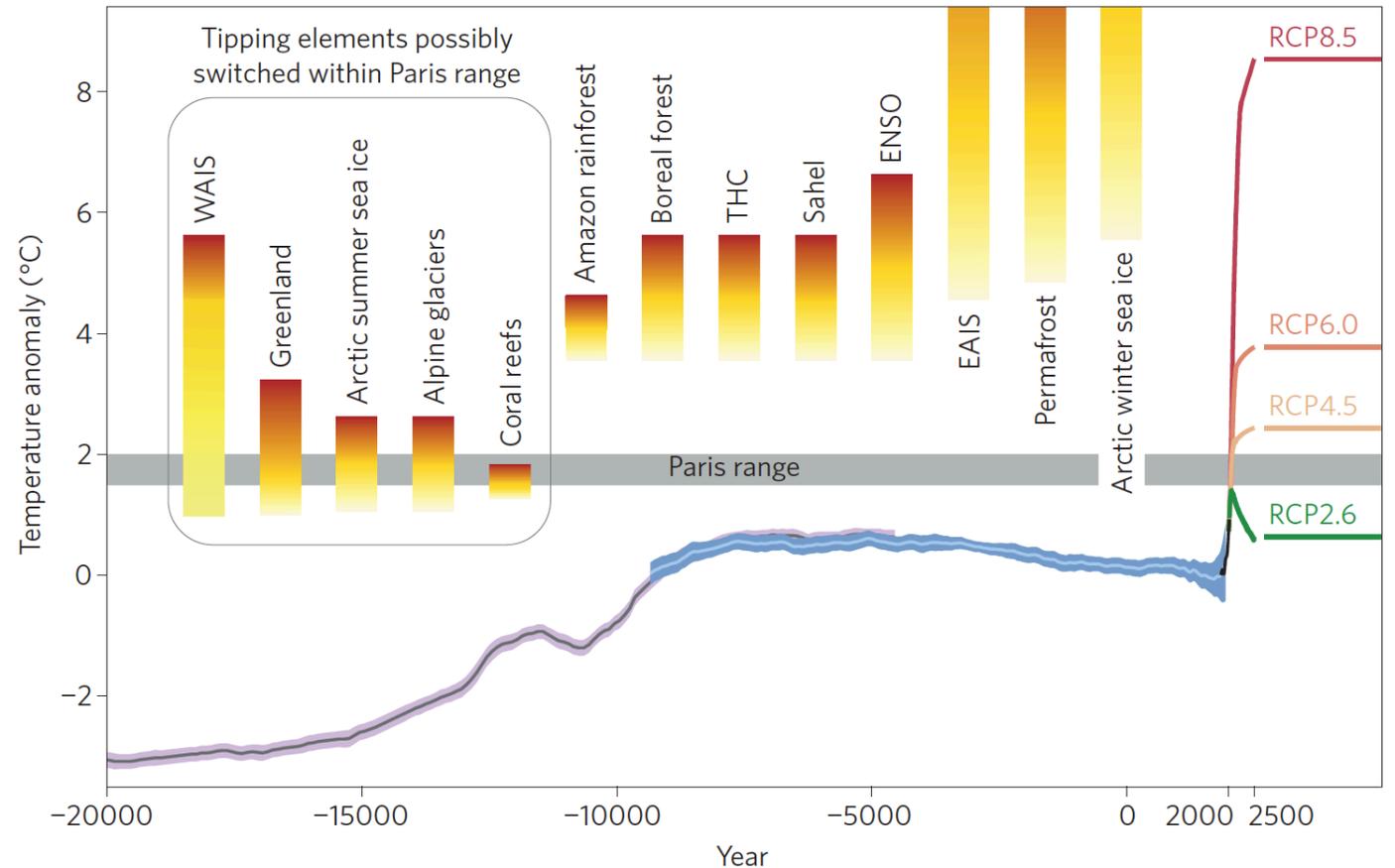
Source: Potsdam Climate Impact Research Institute, "Climate Tipping Elements – The Achilles Heel of the Earth System"

Climate Tipping Points

Key Characteristics of Climate Tipping Points:

- Multiple Stable States
- Abruptness of change
- Magnitude of impacts
- Irreversibility

Source: Schellnhuber et al., 2016



Learning Goals

- **Learn** about the nature of climate tipping points
 - Time of unfolding
 - Magnitude and diversity of impacts
 - Need for action (to avoid) long before you feel the pain
 - Power of decisions today over the distant future
- **Feel** concern and urgency
- **Imagine** what human life experience could be like around 2100

Game Design – General Features

- Face-to-face setting (simulated real-world decision-making)
- About 30 players
- 3-4 hours
- Supported by a simple computational climate model
- Imagining the future – participants contribute to world building for ~2100



Q&A

Thank you!