Transregional Collaborative Research Centre TR 172

Arcti \mathcal{C} Amplification: \mathcal{C} limate Relevant Atmospheric and Surfa \mathcal{C} e Processes, and Feedback Mechanisms $(\mathcal{A}\mathcal{C})^3$

Toward a more holistic understanding of an Arctic climate system in rapid transition

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CRRF – RPCL Rural Conference, Guelph October 14th, 2016













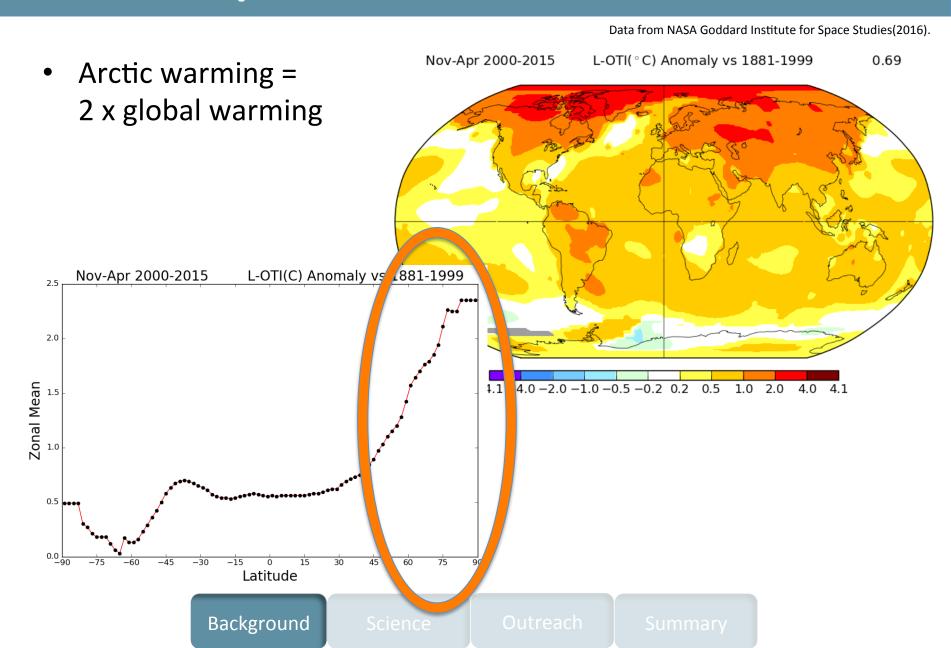
Outline

- 1. Motivation for $(AC)^3$
- 2. Structure and science of $(AC)^3$
- 3. $(AC)^3$ to the world
- 4. Summary



ArctiC Amplification:
Climate Relevant Atmospheric and SurfaCe Processes and Feedback Mechanisms (AC)³

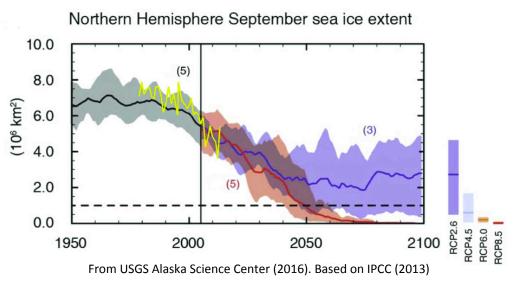
Why $(AC)^3$?

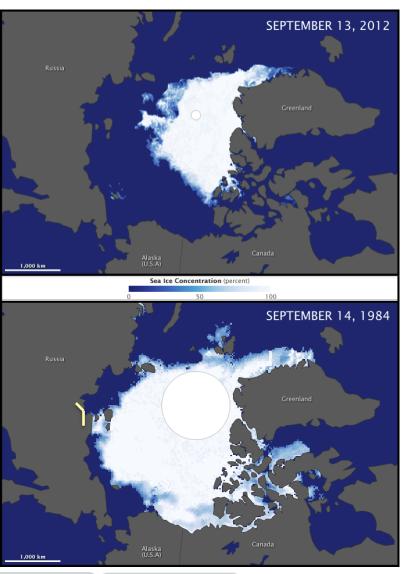


Arctic warming =2 x global warming

From NASA Earth Observatory (2012).

 Towards a blue Arctic Ocean





Background

Science

Outreach

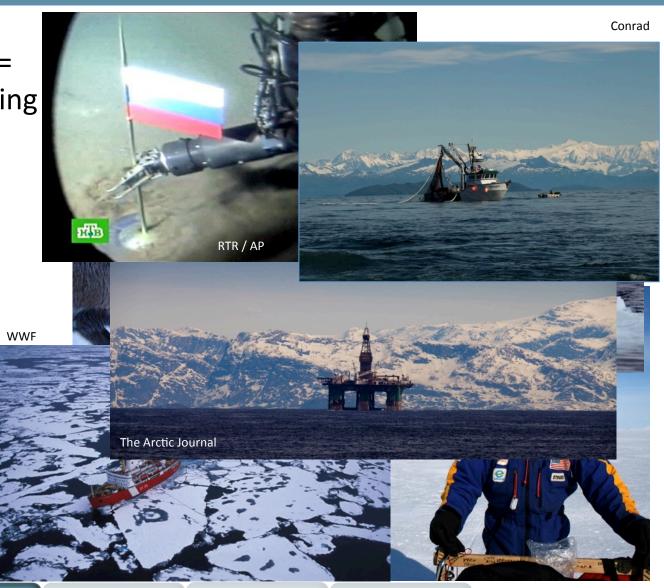
- Arctic warming =2 x global warming
- Towards a blue Arctic Ocean
- Opening up challenges and opportunities



Arctic warming =2 x global warming

 Towards a blue Arctic Ocean

 Opening up challenges and opportunities

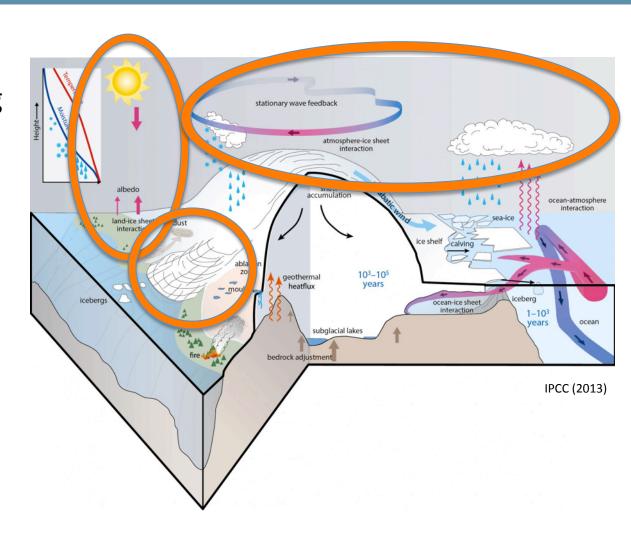


Background

Science

Dutreach

- Arctic warming =2 x global warming
- Towards a blue Arctic Ocean
- Opening up challenges and opportunities
- Impact on the climate system



What Is $(AC)^3$?

Research Centre $(AC)^3$

 5 German research institutions + international collaboration



UNIVERSITÄT LEIPZIG



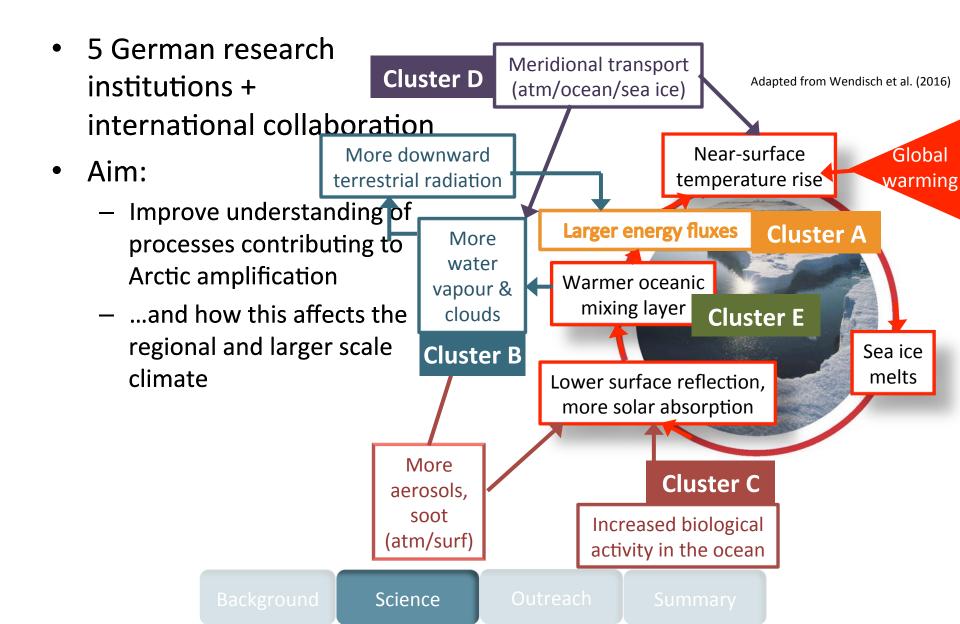




Leibniz Institute for Tropospheric Research



Research Centre $(AC)^3$

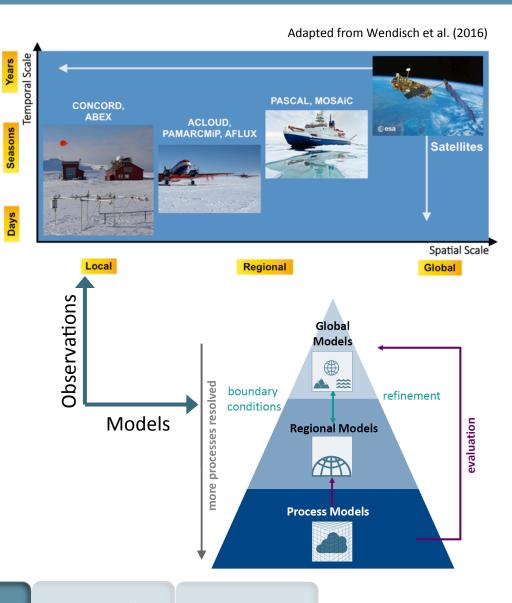


Research Centre $(AC)^3$

 5 German research institutions + international collaboration

Aim:

- Improve understanding of processes contributing to Arctic amplification
- ...and how this affects the regional and larger scale climate
- Combining observations and modeling, surface and atmospheric measurements



Background

Science

Outreach

How Is $(AC)^3$ Communicated?

Inform about the what and the why



- Inform about the what and the why
- Germany:
 - Public lectures
 - Schools and universities

Pole to Paris

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- Inform about the what and the why
- Germany:
 - Public lectures
 - Schools and universities
- On field work:
 - Local events
 - Open ship and aircraft
 - Artistic results



Background

Science

Outreach

- Inform about the what and the why
- Germany:
 - Public lectures
 - Schools and universities
- On field work:
 - Local events
 - Open ship and aircraft
 - Artistic results
- Globally:
 - Website
 - Newsletter and flyers
 - Video clips



Summary

Summary

- The Arctic is becoming "hot", not only temperature-wise
- 2. $(AC)^3$ aims to improve understanding of reasons for and impacts of Arctic amplification
- Outreach to a wide audience in an understandable language



ArctiC Amplification:
Climate Relevant Atmospheric and SurfaCe Processes and Feedback Mechanisms (AC)³

www.ac3-tr.de