

Sustainability research at KTH



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Göran Finnveden

Vice-president for Sustainable Development
Professor Environmental Strategic Analysis



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The earth is facing several interlinked sustainability challenges

Arctic ice sheet extent – Modelled and measured



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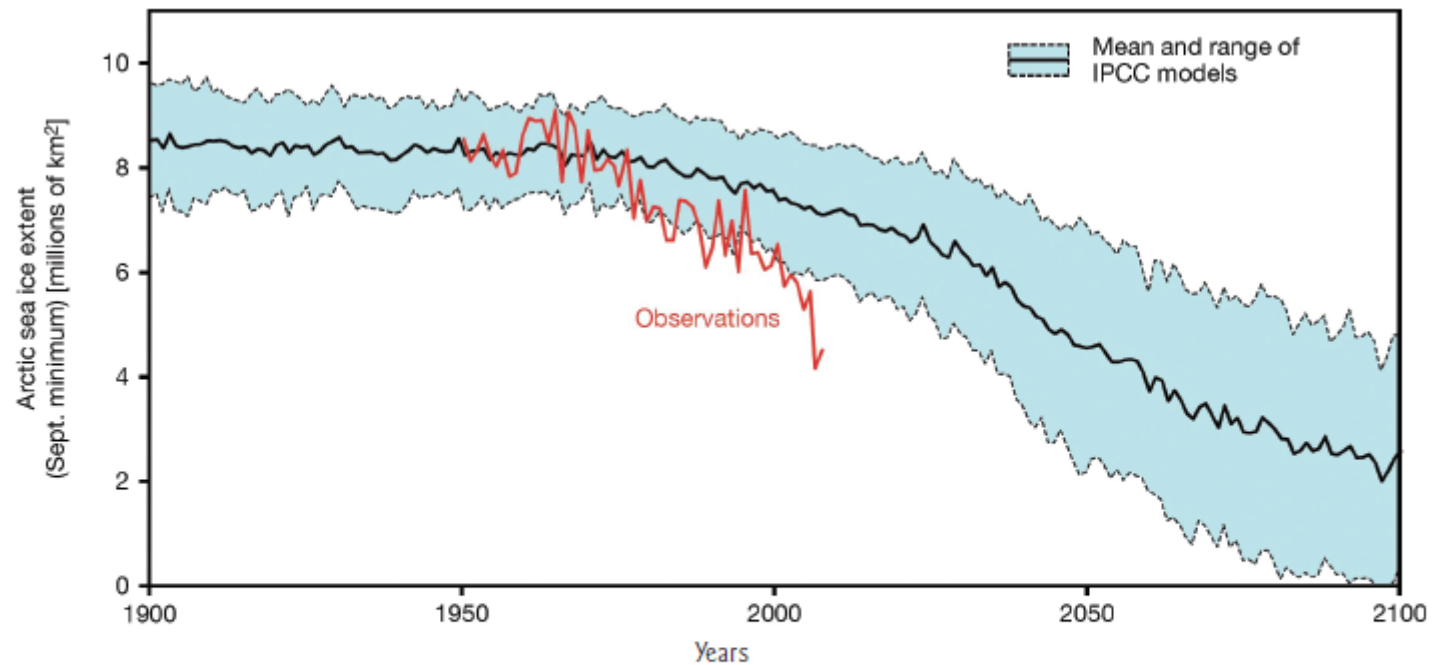


Figure 13. Observed (red line) and modeled September Arctic sea ice extent in millions of square kilometers. The solid black line gives the ensemble mean of the 13 IPCC AR4 models while the dashed black lines represent their range. From Stroeve et al. (2007) updated to include data for 2008. The 2009 minimum has recently been calculated at 5.10 million km², the third lowest year on record, and still well below the IPCC worst case scenario.

Earth-system processes and associated thresholds which, if crossed, could generate unacceptable environmental change



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- **Climate change**
- **Biodiversity loss**
- **Nitrogen and phosphorus flows**
- Stratospheric ozone depletion
- Ocean acidification
- Global freshwater use
- Change in land use
- Atmospheric aerosol loading?
- Chemical pollution?

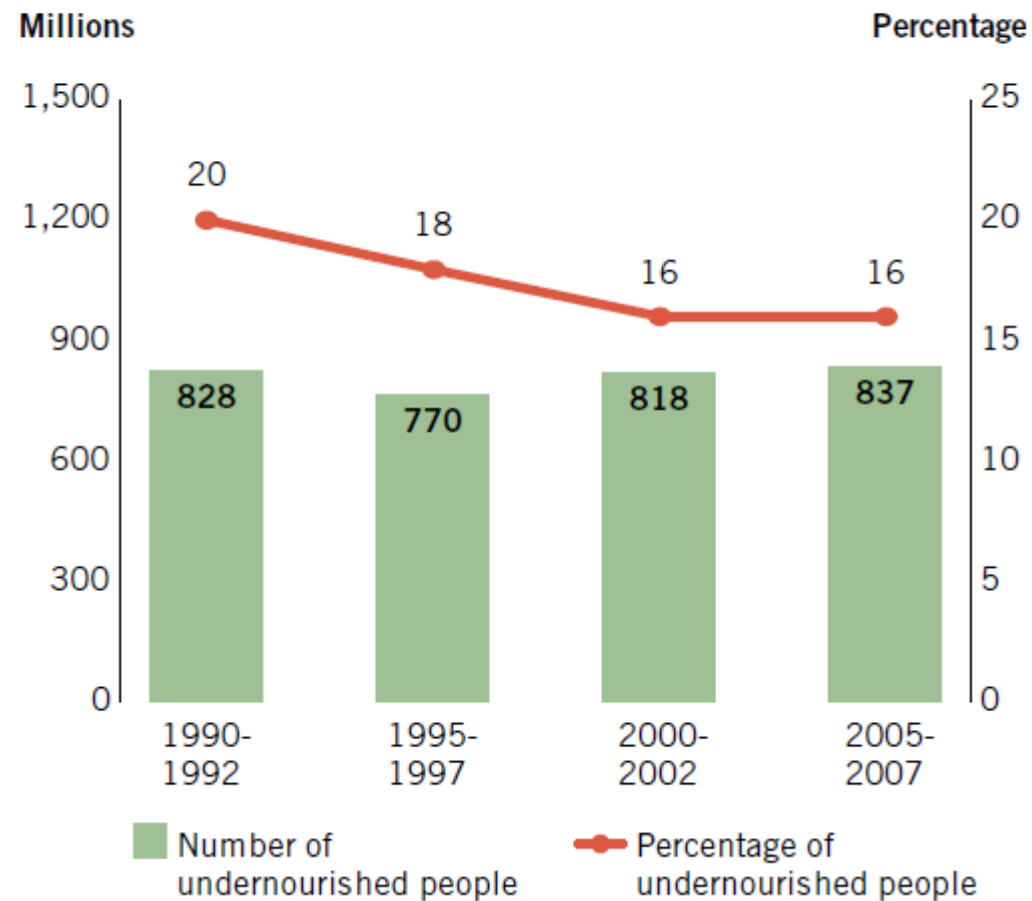
(Rockström et al, 2009)

- Threats are interlinked and interdependent
- Significant changes are needed.



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Number and proportion of people in the developing regions who are undernourished, 1990-1992, 1995-1997, 2000-2002 and 2005-2007



Sustainability research at KTH



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- Diverse and broad
- Approx 60 research groups
- Sustainability aspects often integrated in the scientific discipline
- Some groups have environmental science and technology as the main focus
- About half of KTH's research can be classified as sustainability research

Sustainability research at KTH on several schools



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- Especially
 - Architecture and the Built Environment
 - Chemical Science and Engineering
 - Industrial Engineering and Management
 - but also
 - Biotechnology
 - Computer Science and Communication
 - Electrical Engineering
 - Information and Communication Technology
 - Engineering Sciences
 - Technology and Health

Sustainable professors



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- Early 2012, 13 professors had "Environment", "Sustainable" or "Ecological" in their subject.
- During 2012 several new professors including
Mattias Höjer, Prof in Environmental Strategic Analysis
Lihui Wang, Prof in Sustainable Manufacturing
José Potting, Guest Prof in Environmental Systems Analysis
Viveka Palm, Adjunct Prof in Applied Environmental Economics and Environmental Statistics

New initiatives at KTH from 2011

- Sustainable Campus
 - Responsible for Campus-related impacts.
 - Acting Environmental Manager: Birgitta Westin
- KTH-Sustainability
 - Will work with education, research and communication/cooperation
- The two initiatives must go hand-in-hand



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KTH-Sustainability

- Shall give advice to the president and the faculty council.
- Shall develop own initiatives related to research, education and communication/cooperation



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Examples of activities



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- Internal and external communication (Teresia Sandberg)

Webpages with info about research and education

Internal newsletter

Please suggest news!

(External newsletter)

Seminars,

Dec 13th, Prof Will Steffen,
Australian National University,
Climate Change Institute

Please suggest other seminars!

More examples of activities



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- Press releases etc.
Please contact Malin Picha if you want help!
- AIMDay on Sustainable Solutions planned for spring 2013. (Teresia Sandberg)
- Supporting networks, e.g.
 - Life-cycle network (Åsa Moberg, Sofia Poulidikou))
 - Seminar and meeting on Oct 19th
 - Member of the Swedish Life-cycle center.
- Development of a PhD Sustainability platform (Björn Frostell and others)

Contact us

sustainability@kth.se



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