

Northern Eurasia Earth Science Partnership Initiative (NEESPI): An Update



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Recognition



NEESPI is an interdisciplinary program of internationally-supported Earth systems and science research that addresses large-scale and long-term manifestations of climate and environmental change in Northern Eurasia and beyond.

NEESPI duration ~ 10-12 years (started in 2004)

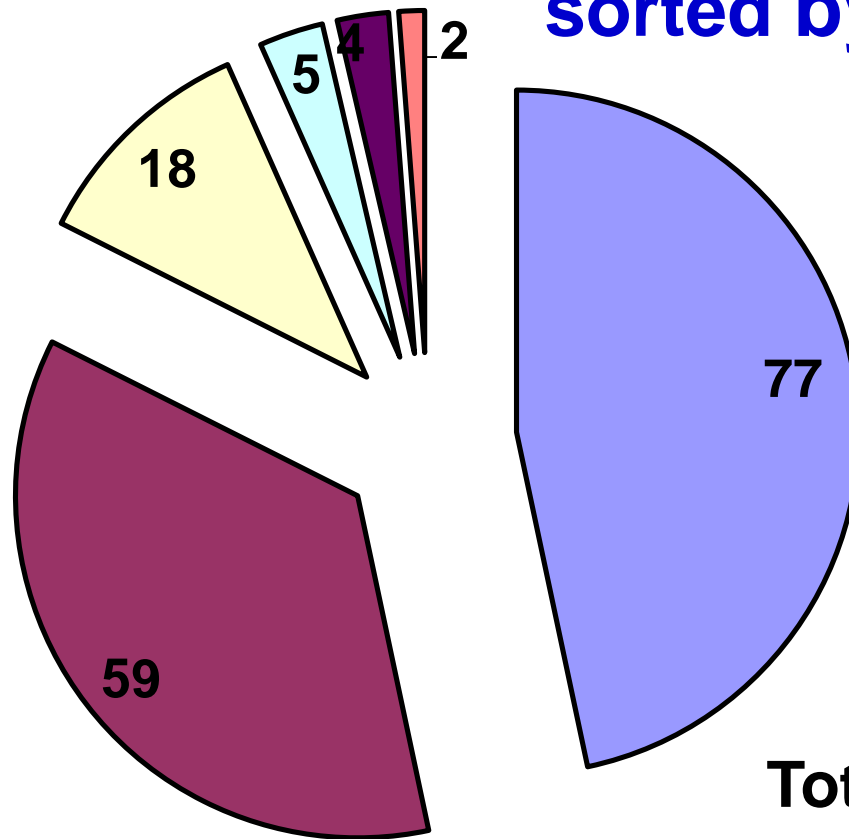


The NEESPI Study Area

<http://neespi.org>

Completed and ongoing NEESPI Projects by country (or group of countries), November 2013

sorted by funding source



■ All US Agencies

■ All EU Agencies

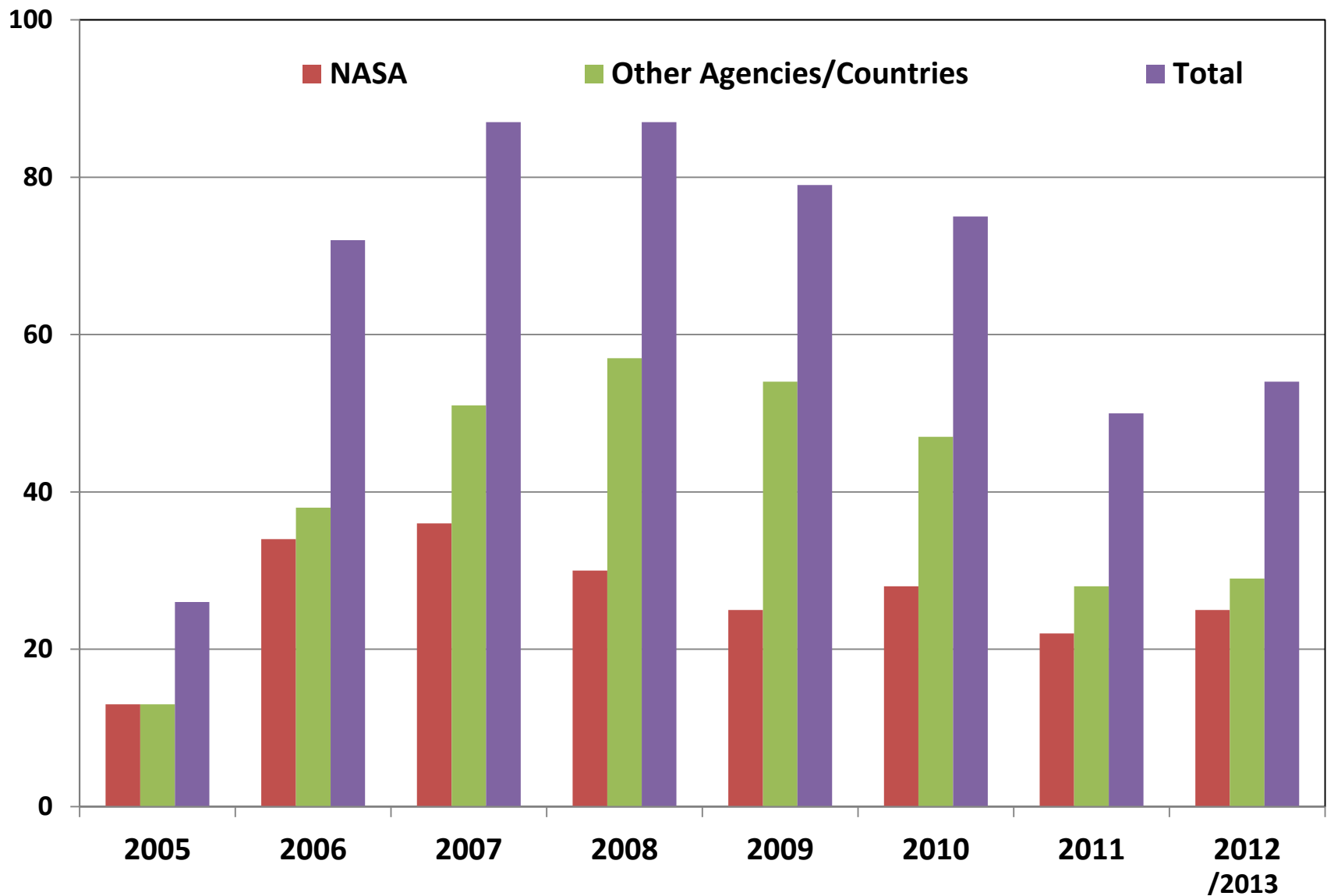
■ All Chinese Agencies

■ All Russian Agencies

■ All Japanese Agencies

■ Canada

Active NEESPI Projects per year



NEESPI Outreach, <http://neespi.org>

- After the First NEESPII Science Team Meeting (IIASA, Laxenburg, Austria, February 2006), more than **30** dedicated NEESPI Workshops and **20** NEESPI Open Science Sessions at the International Meetings were convened.
- **Two or more** Early Career Scientists Summer Schools per year were organized in the past three years (since 2009).
- During the Mega-Project life, more than **1260** papers and **33** books were published; their list is regularly updated at http://neespi.org/science/NEESPI_publications.pdf. In particular, since 2010, about **575** peer-reviewed papers and/or book chapters were published or are in press.
- More than **75 PhD students** defended their theses while working within the NEESPI framework.

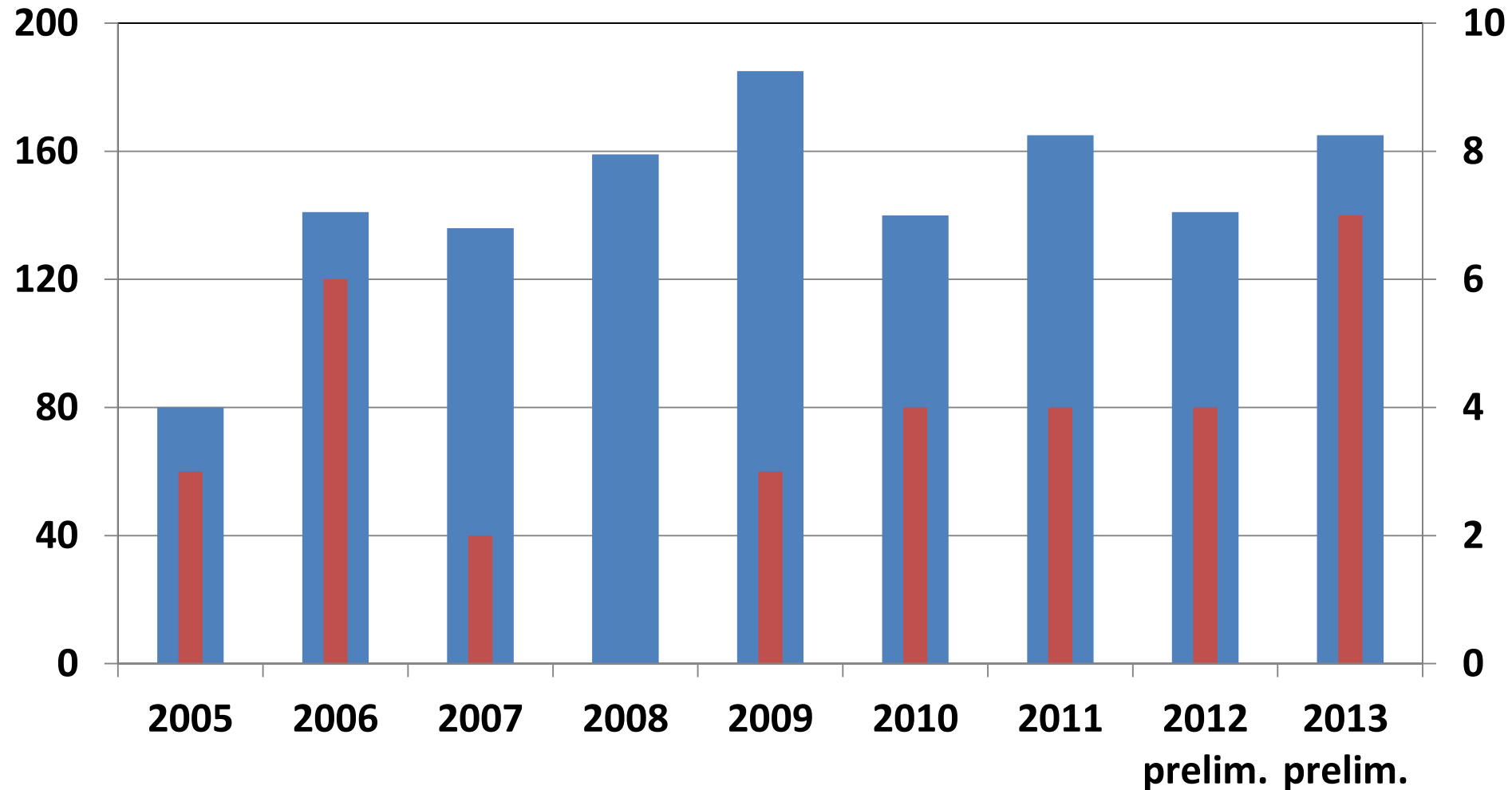
NEESPI publications by year

Papers

Peer-reviewed publications

Books

Books



NEESPI Outreach, <http://neespi.org>

Books and thematic journal Issues in 2012-2013

- The 4th (the third ERL) *Environ. Res. Lett.* NEESPI focus issue was **published** in 2012. This Special Issue has 25 manuscripts (<http://iopscience.iop.org/1748-9326/focus/NEESPI3>)
- Ongoing next *Environ. Res. Lett.* NEESPI focus Issue has 58 confirmed present and *future* contributors. As of December 1st 2013, 18 papers have been already published (<http://http://iopscience.iop.org/1748-9326/focus/NEESPI4>)
- Groisman, P.Ya. and V.I. Lyalko (eds.) 2012: "**Earth System Change over Eastern Europe**" "Akademperiodyka" Publ. House, Kiev, Ukraine, 487 pp. (May 2012, in English)
- Groisman, P.Ya., A. Reissell, and M. Kaukolehto (eds.) 2012: **Proc. of the NEESPI Regional Science Team Meeting devoted to the High Latitudes**, Univ. Helsinki Press, Helsinki, Finland ~ 153 pp. **REPORT SERIES IN AEROSOL SCIENCE No. 130** (<http://www.atm.helsinki.fi/FAAR/reportseries/rs-130.pdf>)
- Groisman P.Ya. and G. Gutman (eds.), 2013: "**Environmental Changes in Siberia: Regional Changes and their Global Consequences**", Springer Publishing House, Amsterdam, The Netherlands (Published on September 2, 2012).
- Chen, J., S. Wan, J. Qi, G. Henebry, M Kappas, and G. Sun (eds.), 2013: "**Dryland East Asia: Land Dynamics Amid Social and Climate Change**" Beijing: Higher Education Press & Berlin: De Gruyter (Published in October, 2013).

NEESPI Meetings, Workshops, Sessions in the past 12 months

- **December 3-7, 2012, San Francisco, USA**, NEESPI Session at the Fall Annual AGU Meeting. Two oral and two poster sessions.
- **April 7-12, 2013, Vienna Austria**. NEESPI Session at the European Geosciences Union Annual Assembly. Two oral and one poster sessions
- **May 19-24, 2013, Makuhari Messe, Chiba-City, Japan** Japanese Geoscience Union Annual Meeting. This NEESPI International Session, A-CC03
- **July 17-24, 2013, Hailar, China**. MAIRS-NEESPI Workshop “Sustainable Management of Grassland Ecosystems in Semi-arid East Asia”
- **Aug.25 – Sept. 5, 2013, Petrozavodsk, Russia**. Summer Scientific and Educational Event “CITES” and NEESPI Workshop: “Current Status and Future Earth System Studies in Northern Eurasia”

At the last two Workshops, the statements were adopted regarding the future research directions of the NEESP Initiative (published and/or in press in EOS).

Further NEESPI activities in 2013-14:

- **December 10, 2013, San Francisco, USA**, This Open NEESPI Science Session at the Annual Fall **AGU** Meeting
- **Ongoing next *Environ. Res. Lett.* Special NEESPI Issue**
- **March 19-21, 2014, Berlin, Germany**. Session “Northern Eurasia in transition: implications for food security and ecosystem tradeoffs” at the **Global Land Project 2nd Open Science Meeting**
- **April 7-10, 2014. Beijing, China**. “Future Earth in Northern Asia” Session at the **MAIRS** Open Science Meeting
- **April 27- May 2, 2014, Vienna, Austria**. Open NEESPI Session at the Annual **EGU** Assembly
- **Early July, 2014, Tomsk, Russia**. **ENVIROMIS** Educational scientific event and Science Conference
- **December 15-19, 2014, San Francisco, USA**, Open NEESPI Session at the Annual Fall **AGU** Meeting

Near-Future Plans

- Integrative studies (Siberia, Eastern Europe, *Central Asia*, Dry East Asia)
- Data and Research Results Dissemination
- Outreach focused on early career scientists
- **Strengthen links with BALTEX and MAIRS**
- **Large NEESPI Conference in 2015 that will summarize the 12 years of NEESPI studies and launch the preparation of the following-up NEESPI overview book**
- **Ongoing development of the new set of scientific ideas for regional projects that succeed NEESPI in a set of regional workshops**
- **Moving towards regional “Future Earth” Project**

Latest NEESPI research foci on

integrated assessments and projections

- Summation of all knowledge in books and overview papers
- Expanding and maintaining of the regional observational data base
- **“FUTURE Northern Eurasia”**. **Developing regional Earth System modeling capabilities** to provide the knowledge required for societies in the region and beyond to face risks posed by global environmental change and to seize opportunities in a transition to global sustainability. This means to respond to a **New initiative by ICSU/ISSC « Future Earth »**.

Proposed New Chapters/Sections/Groups

- Global change and, in particular, warming of the Arctic
- Increasing frequency and intensity of extremes (intense rains, floods, droughts, wild fires)
- Retreat of the cryosphere: snow cover, sea and ground ice
- Changes in the terrestrial water cycle; quantity and quality of water supply available for societal needs
- Biospheric changes (ecosystem shifts; changes in the carbon cycle; desertification and dust storms)
- Pressure on agriculture and pastoral production (growing supply demand, changes in land use; food security)
- Changes in infrastructure (roads; new routes; construction codes; air, water, and soil pollution; strategic planning)
- Societal actions to mitigate negative and benefit from positive consequences of environmental changes
- Advance in our research tools (a) Observations (b) Models.

谢谢!

Thank you!

Спасибо!