

## Northern Eurasia Future Initiative: Facing the Challenges of Global Change in the 21<sup>st</sup> century

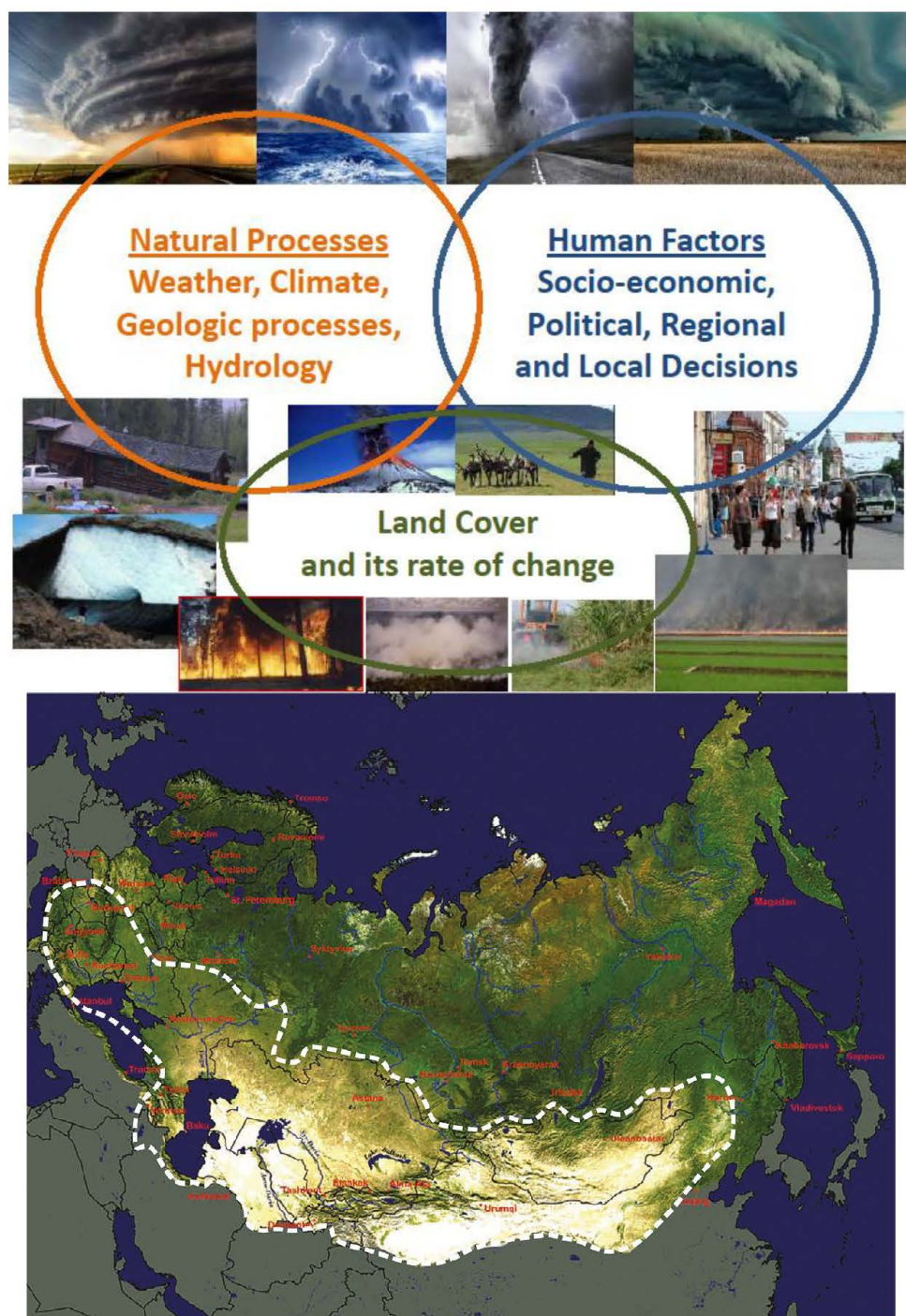
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During the past 12 years, the Northern Eurasia Earth Science Partnership Initiative (NEESPI) –an interdisciplinary program of internationally-supported Earth systems and science research –has addressed large-scale and long-term manifestations of climate and environmental changes over Northern Eurasia and their impact on the Global Earth system. With more than 1500 peer-reviewed journal publications and 40 books to its credit, NEESPI's activities resulted in significant scientific outreach. This created a new research realm through self-organization of NEESPI scientists in a broad research network, accumulation of knowledge while developing new tools (observations, models, and collaborative networks) and producing new, exciting results that can be applied to directly support decision-making for societal needs. This realm was summed up at the Synthesis NEESPI Workshop in Prague, Czech Republic (April 9-12, 2015) where it was decided to shift gradually the foci of regional studies in Northern Eurasia towards applications with the following major Science Question: "What dynamic and interactive change(s) will affect societal well-being, activities, and health, and what might be the mitigation and adaptation strategies that could support sustainable development and decision-making activities in Northern Eurasia?". To answer this question requires a stronger socio-economic component in the ongoing and future regional studies focused on sustainable societal development under changing climatic and environmental conditions, especially, under conditions when societal decision-making impacts and feeds back on the environment. This made the NEESPI studies closer to the ICSU research initiative "Future Earth". Accordingly, the NEESPI Research Team decided to reorganize in the nearest future NEESPI into "Northern Eurasia Future Initiative" (NEFI) and began development of its Programmatic White Paper (in preparation at the time of this abstract submission). The NEFI research foci emerged in discussions within the NEESPI community during the past 20 months. Presentation will provide justification of these foci and approach examples addressing them. The societal challenges, particularly the socio-economic challenges are the top priority in most of them.

Throughout the NEESP Initiative duration, support for it studies has been provided by different national and international Agencies of the United States (in particular, the NASA Land Cover and Land Use Change Program), the Russian Federation (in particular, the Ministry of Education and Science, e.g., mega-grant 14.B25.31.0026), European Union, Japan, and China. After the NEFI White Paper release, we anticipate a similar kind of support for this new Initiative.

Keywords: Northern Eurasia, Environmental change, NEESPI



**Top.** Major natural and direct anthropogenic processes that affect Northern Eurasia (Soja et al. 2015).

**Bottom.** The NEESPI study domain. The Dry Latitudinal Belt of Northern Eurasia is sketched on the map by dashed white line.