CHAR

RUSSIA IN THE INTERNATIONAL ARCTIC SUSTAINABILITY SCIENCE DEVELOPMENT

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ISIRA Meeting 18 June, 2018, Davos .

International Arctic Science Agreement (ISIRA meeting 2017)

- **LOOKING FORWARD Science, whether for basic or applied objectives, can promote cooperation and prevent conflict by engaging diverse stakeholders in dialogue. With stakeholder inclusion (see the map and SM) enhanced by the Arctic Science Agreement, holistic evidence and options become increasingly feasible for informed decision-making (see SM) to achieve Arctic sustainability across the 21st century, recognizing that children born today will be alive in the 22nd century.**
- **As the upcoming ISIRA Workshop demonstrates, the agreement is already generating opportunities to enhance pan-Arctic research that will become increasingly vital, complementing implementation of the 17 Sustainable Development Goals on a planetary scale**

INSIGHTS

POLICY FORUM

SCIENCE DIPLOMACY

The Arctic Science Agreement propels science diplomacy

Amid geopolitical tension, science aligns common interests

By Paul Arthur Berkman,[1] Lars Kullerud,[2] Allen Pope,[3] Alexander N. Vylegzhanin,[4] Oran R. Young[5]

Global geopolitics are fueling the renewal of East-West tensions, with deteriorating U.S.-Russia relations in the wake of conflicts in Ukraine and Syria, issues involving cyber-security, and broader concerns about expanding militarization. Against this backdrop, the Agreement on Enhancing International Arctic Scientific Cooperation, signed on 11 May 2017 by foreign ministers of the eight Arctic States, including the U.S. and Russia, as well as Greenland and the Faroe Islands, is a milestone. This "Arctic Science Agreement" is a strong signal reaffirming the global relevance of science as a tool of diplomacy, reflecting a common interest to promote scientific cooperation even when diplomatic channels among nations are unstable (1–3). It provides a framework for enhancing the efforts of scientists working on cutting-edge issues, but translating the general language of the agreement into enhanced action requires further attention, collaboration, and effort among diplomats and scientists to ensure its successful implementation. With the International Arctic Science Committee (IASC) convening the International Science Initiative in the Russian Arctic (ISIRA) at the Russian Academy of Sciences in Moscow next week, we highlight steps to advance science, its contributions to informed decision-making, and its role in maintaining the Arctic as a zone of peace and cooperation.

STRENGTHENING ARCTIC SCIENCE

Negotiated under the auspices of the Arctic Council through a process co-led by Russia and the United States, the agreement recognizes first "the importance of maintaining peace, stability, and constructive cooperation in the Arctic." This legally binding agreement aims to enhance scientific cooperation by "removing obstacles" (4) and by providing a basic road map and commitment to facilitate consistent access for marine, terrestrial, and atmospheric research on a pan-Arctic scale.

The agreement aims to improve use of existing infrastructures that were previously unavailable; enable new movement of researchers, students, equipment, and materials; promote sharing of data and metadata in ways that were not previously possible; and encourage holders of traditional and local knowledge to participate in scientific activities across territories (see the map). The science community, working through the organizations representing it in the Arctic Council, including IASC, the University of the Arctic (UArctic), and the International Arctic Social Sciences Association (IASSA), as well as through separate meetings of science ministers, already has identified substantive priorities for the next phase of Arctic research (5).

Concrete examples of improvements needed to achieve success with the agreement would be to (i) establish procedures to expedite the granting of visas and permits for accessing field sites; (ii) digitize historic and other data from hard-copy formats and create shared platforms for searching data located in a variety of repositories, including coordination with the Arctic Data Committee and Sustaining Arctic Observing Networks; (iii) use organizations mentioned in the agreement to set up and monitor research partnerships across borders; (iv) increase support for field and summer schools and related means for training the next generation of Arctic scientists; (v) promote well-formulated comparative studies designed to examine common issues at multiple locations across the Arctic; (vi) maximize the use of icebreakers and other forms of infrastructure for scientific purposes; and (vii) create innovative venues that integrate natural and social sciences along with indigenous knowledge to address common concerns.

Some of these measures will require action on the part of officials in foreign ministries; others can be handled best through organizations representing the science community. Each of the signatories can and should designate an official point of contact with a mandate to assist with the implementation of the agreement, monitor progress regarding efforts to remove obstacles, and make recommendations for the adoption of additional measures as needed.

Although the Arctic States are the signatories, the agreement emphasizes that these States "may continue to enhance and facilitate cooperation with non-Parties with regard to Arctic science." This holistic (international, interdisciplinary, and inclusive) science cooperation broadens the scope of the agreement beyond its defined area (see the map).

PROPELLING SCIENCE DIPLOMACY

The Arctic Science Agreement is the third legally binding instrument to emerge from the efforts of the Arctic States, following the search-and-rescue (6) and marine oil pollution preparedness and response (7) agreements. All have benefited from Russian and U.S. leadership of the negotiations (along

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IGU-CHAR Commission sessions at IGU Thematic Conference "Practical Geography and XXI Century Challenges"

4-6 June 2018, Moscow, RAS

- **IGU Cold and High Altitude commission Session Title "Cold & High Altitude Regions challenges and solutions for achieving sustainability"**
- Co-chairs: A.Tishkov, T.Vlasova

- The role of scientific investigations, especially international and interdisciplinary ones, in achieving sustainability and resilience in the Arctic, Antarctic and High Altitude Regions experiencing rapid social, ecological and geopolitical changes and transformation, were discussed at this session. It was particularly valuable to look at the ways of bringing scientific results, including methods of local people participation in both biophysical and social sciences research, to the public and decision-makers for planning of a sustainable future.

Session Theme : "Cold & High Altitude Regions challenges and solutions for achieving sustainability"

- The session theme has been prepared by an international group of well-known geographers from 6 countries and from different branches of geography.
- 1. Nancy Doubleday Director, Previous Chair of the IGU-CHAR McMaster University, **Canada**
- 2. David Hedding, Professor, IGU CHAR SC, University of **South Africa**
- 3 .Sebastian Gadal, Professeur des CNRS ESPACE UMR , **France**
- 4. Florian Stummler, Research Professor, University of Lapland, **Finland**
- Andrey Petrov, IGU-CHAR SC Member, the **USA**
- 5-6 Arkadiy Tishkov and Tatiana Vlasova,

Institute of Geography, RAS, **Russia**

- **Achieving sustainability** –the Focus of this Theme design - underlines the role of Geography and the need of specific geographical approaches.
- 30 presentations from social and natural branches of geography as well as perceptions from key Arctic stakeholders focusing (on different Arctic regions and states and issues were accepted. Investigations from the Russian Arctic regions-From Murmansk to Yakutia, and Chukotka were presented

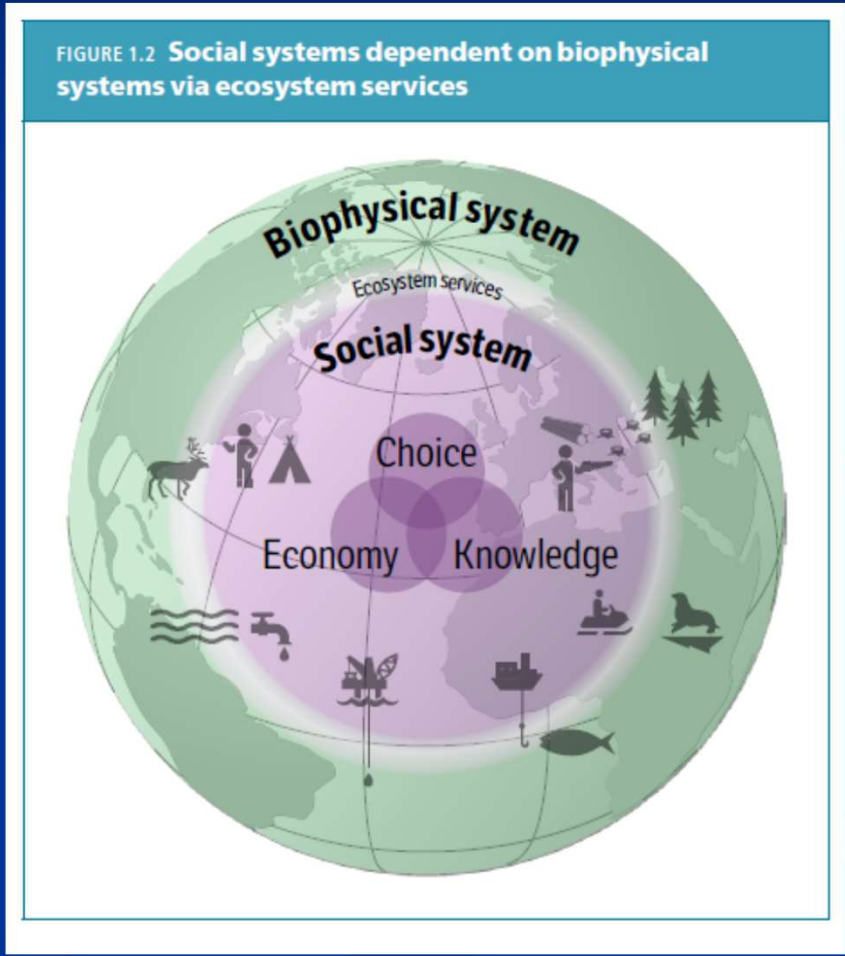
Great material was gathered to be analyzed and published (GES journal, etc.)

Main approaches of the Arctic Sustainability Science

- **1.** Enhancing, supporting and encouraging **INTERDISCIPLINARITY** in study of socio-ecological systems sustainability and resilience leading to "Demolishing the walls between natural and social sciences" (Himiyama 2018). From "geotectonic to geopolicy"
- **2. HUMANIZATION and Societal relevance of research–** putting HSCC in the Center of the SES Framework as a priority for improving people quality of life conditions and human and social capacities development.
- **3. Increasing COLLABORATION, CONNECTEDNESS** at cross-cutting scales: from local to national, pan-Arctic, global.
- **4.** Enforcing **TRANSDISCIPLINARY** approaches such as Sustainability monitoring processes, EIA, SIA (ethnological expertise), etc

1.Enhancing, supporting and encouraging **interdisciplinarity** in study of **socio-ecological systems resilience and sustainability**

Sustainability – is the capacity of a **socio-ecological system (SES)** at different scales, organizational and time lines to transform or proactively adapt to impacts and processes (both external and internal, shock and slow ones) increasing human and social capacities as well as social and ecosystem services which facilitate the evelopment of such capacities.



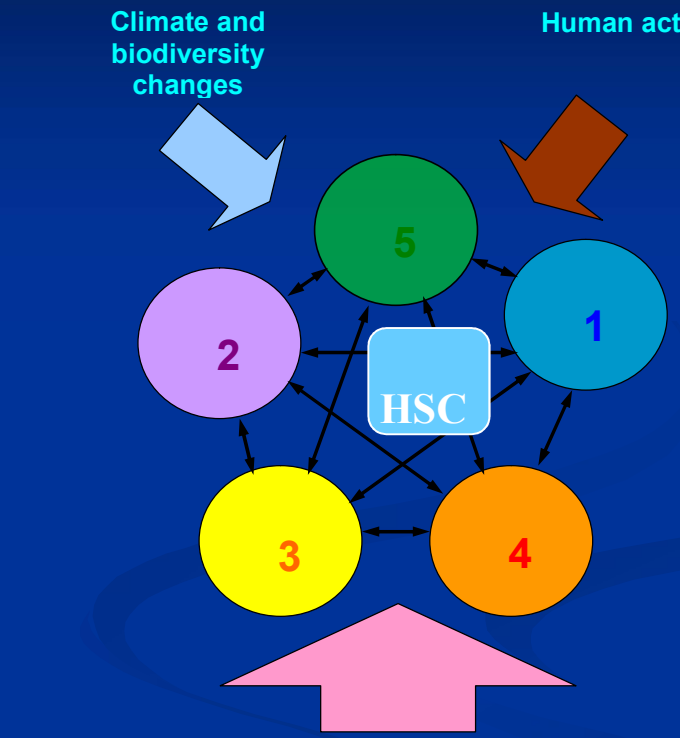
2. HUMANIZATION and Societal relevance of research

Putting **HSCC** in the Center of the SES Framework as a priority for IMPROOVING PEOPLE QUALITY OF LIFE CONDITIONS AND HUMAN CAPACITIES DEVELOPMENT

Human & Social Capital (HSCC) are desires (believes), values and certainly demands of people and firstly Polar and High Altitude locals are placed in the center position in this SES framework.

HSSC – is both the main source of SES sustainable development and resilience building (sustainability) and main driver of change.

Humans nowadays in order *to achieve sustainability (R & SD) in permanently changing disturbances have* to adapt, set targets, design scenarios *for sound solution of appearing challenges arising between Human and Social Capital demands and provision of* ***ecosystem and social services*** *also named* **QL conditions domains** – social, economic, nature-environmental, governance as well as the



	Spheres	Topics	Challenges	Indicators
1	Spiritual-Cultural			
2	Governance, Law			
3	Social			
4	Financial-Economic			
5	Natural Environmental			

Domains → Issues → Indicators

This methodology is developed within SOO and the IASOS network during the IPY 2007-2008. SCOBS IPY- Social observations.

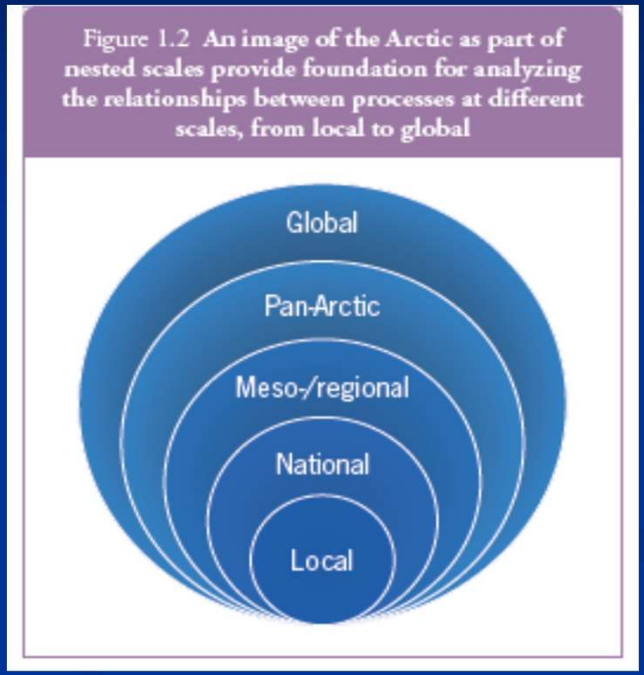
3. Increasing COLLABORATION, CONNECTEDNESS at **cross-cutting scales**: Internationalization from one side and localization from the other.

Collaboration at cross-cutting scales from local to global producing and disseminating new knowledge, and developing new frameworks for analysis, synthesis and innovation;

We should stress that -

Arctic sustainability depends upon effective mechanisms of collaboration among local/regional and Arctic States, local/regional and pan-arctic (indigenous and non-indigenous) organizations, natural and social scientists in sustainable development at different scales from local, national to international pan-arctic and global.

The "play with scales" (Nikolay Baranskiy) **is a specific kind of ACTIVITY, process of collaboration between different stakeholders involved to understand and harmonies diverse interests and positions.**



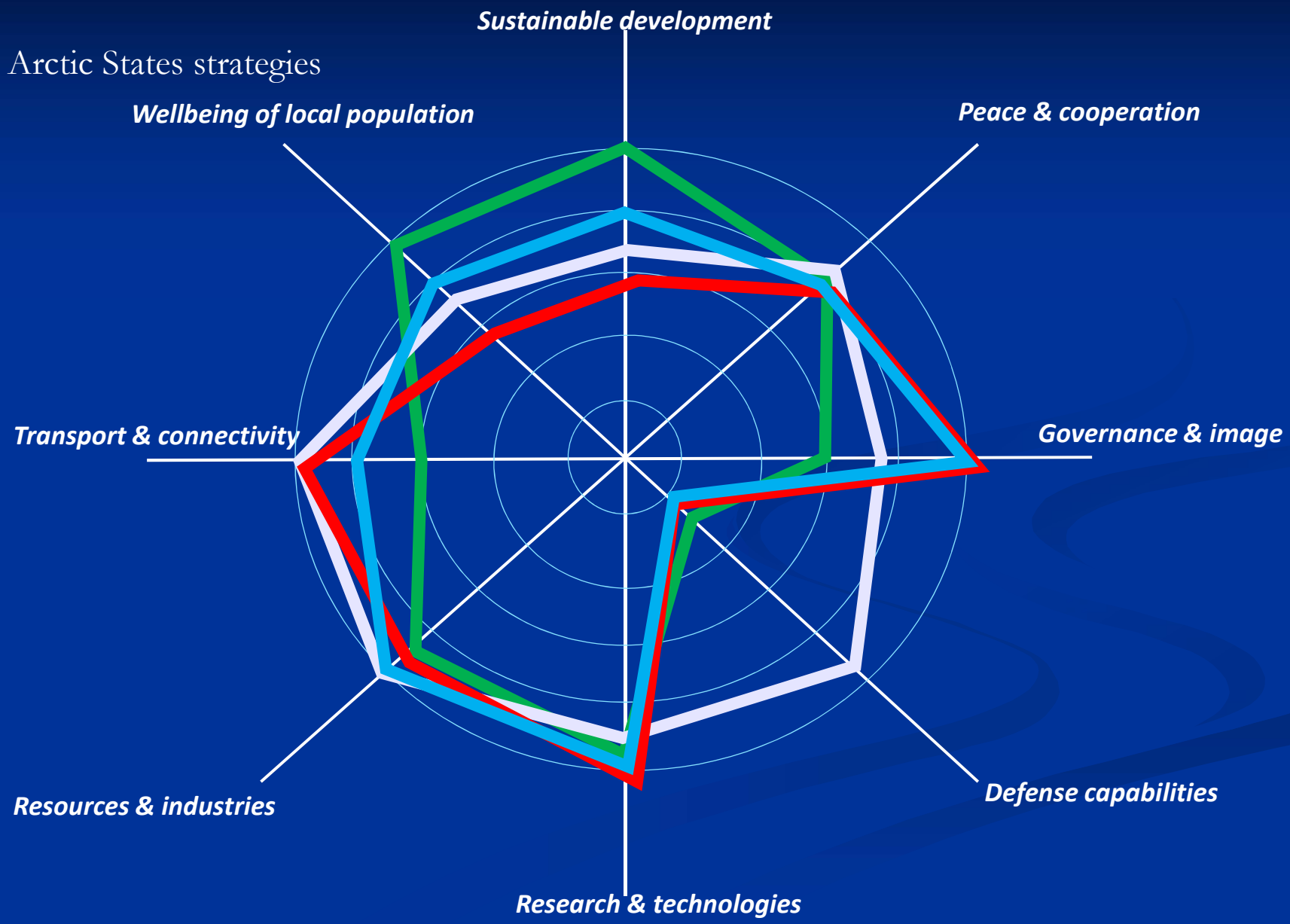
Among such ACTIVITIES we could name long-term Sustainability monitoring activity which is now under develop within the International project ASUS.

Andrey Krivorotov, Ph.D.
Secretary of the Board, Shtokman Development AG
IASSA member, Moscow RUSSIA

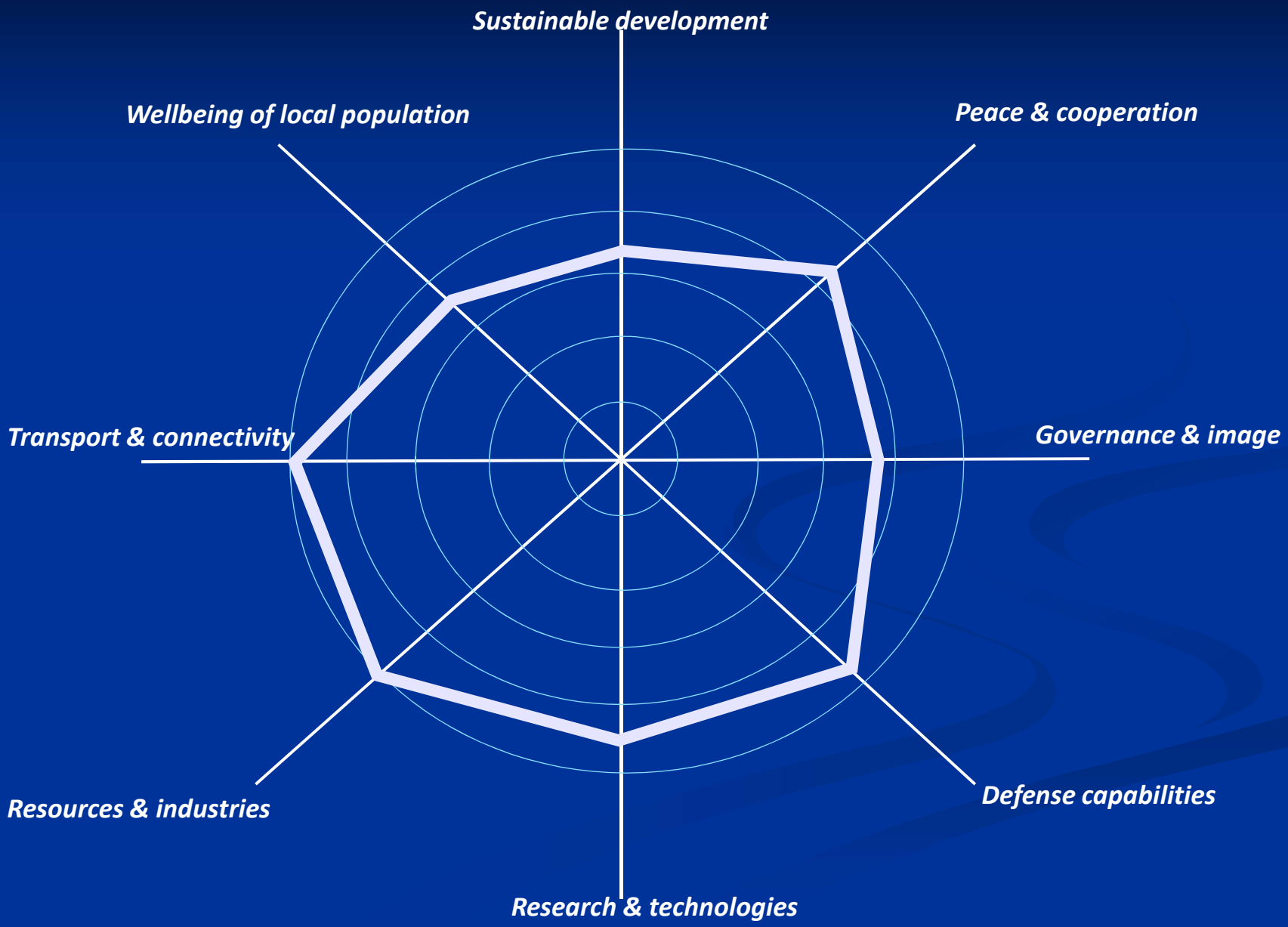
MONITORING SUSTAINABILITY AS A GOVERNANCE CHALLENGE: COMPARATIVE STUDY OF ARCTIC POLICY DOCUMENTS

Presentation at Section C 16.05
C16.05 COLD AND HIGH ALTITUDE REGIONS (IGU CHAR) – COLD & HIGH ALTITUDE REGIONS: CHALLENGES AND SOLUTIONS FOR ACHIEVING SUSTAINABILITY
IGU Thematic Conference
Institute of Geography RAS, June 5, 2018, Moscow

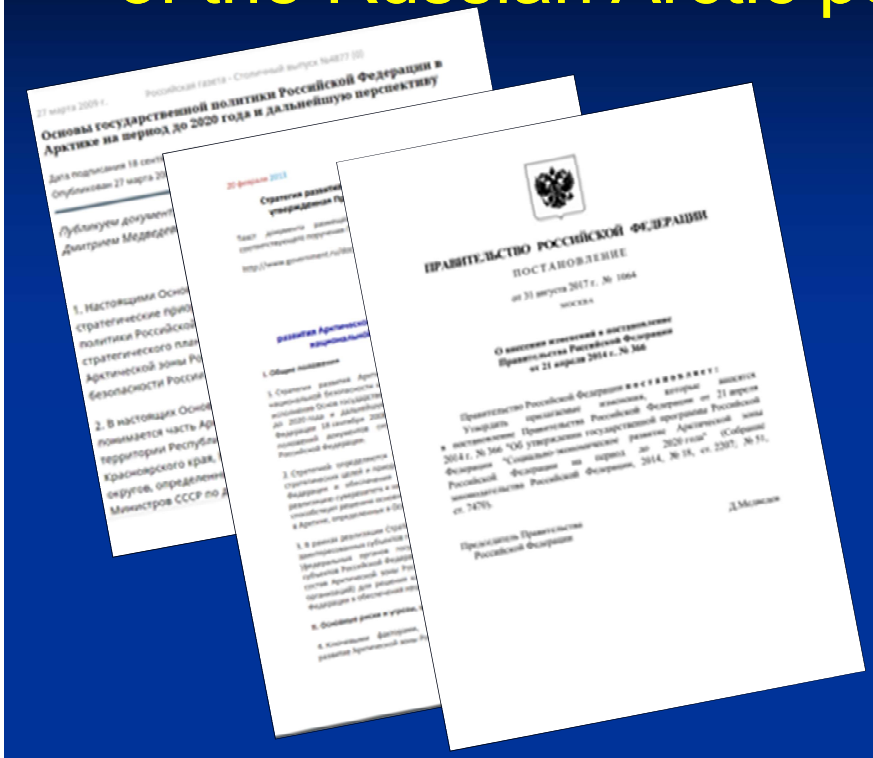
SUMMING UP: VARIETY OF APPROACHES



CASE STUDY 3: RUSSIA (2/2)



CASE STUDY 3: RUSSIA (1/2) The humanization of the Russian Arctic policy



'Development of the Russian Federation Arctic Zone and ensuring national security shall pursue the following priorities :

a) comprehensive social and economic development of the Arctic Zone…;

b) developing science and technologies;

c) setting up state of the art information and telecommunication infrastructure;

d) ensuring environmental safety;

e) international cooperation in the Arctic;

f) ensuring military security, protection and defending of the Russian borders in the Arctic.'

2013 Strategy for Developing the Arctic Zone and Ensuring National Security through 2020

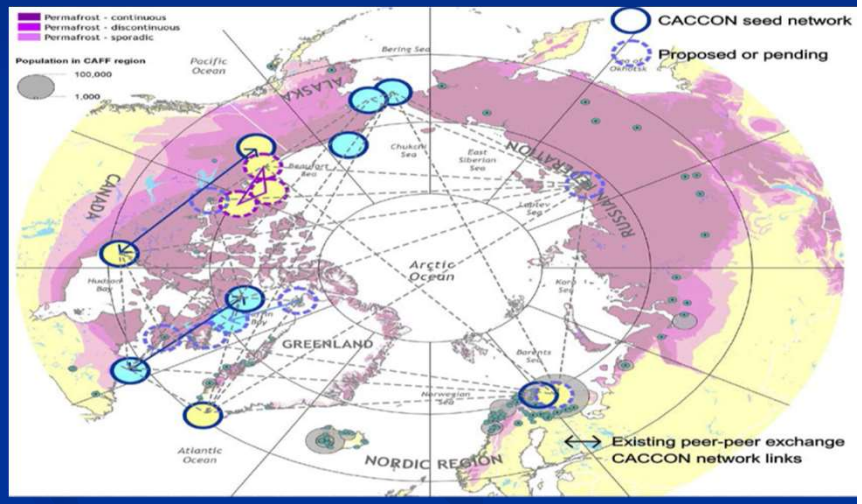
Key goals of Government Program 'Socio-economic Development of the Arctic Zone'-2017:

- *enhancing the life quality and social safety of the population;*
- *providing for development of the Northern Sea Route as the Russian national transportation highway in the Arctic and building up metocean support system;*
- *developing science, technologies and enhancing the effectiveness of utilizing the resource base of the Arctic Zone and Russian continental shelf in the Arctic;*
- *increasing the efficiency of the public governance*

4. Enforcing **TRANSDISCIPLINARY approaches** such as Sustainability monitoring processes, EIA, SIA (ethnological expertise), etc

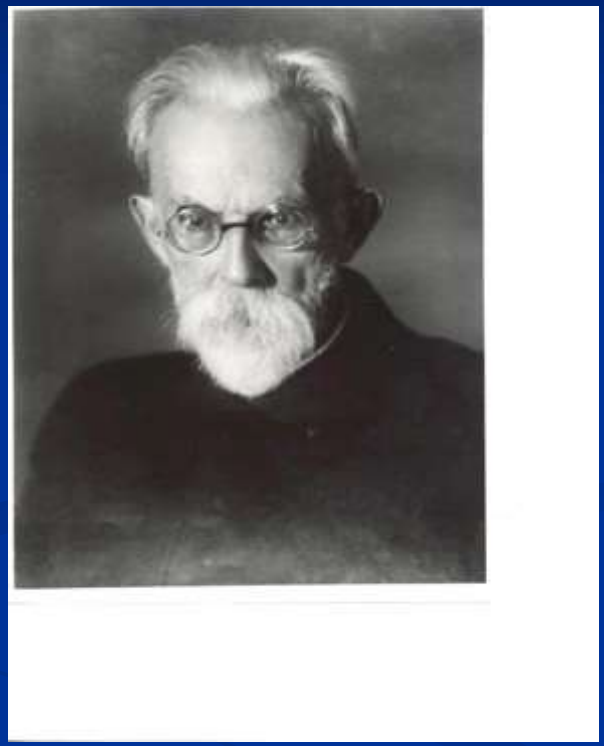
ASUS sustainability monitoring activity is creating a pan-arctic tansdisciplinary space (s) which is viewed as one of sources of learning and transformations towards sustainability making possible to shape rapid changes happening in the Arctic based on sustainability knowledge co-production. The construction of continuous pan-Arctic monitoring network on the base of key monitoring sites enables to define adaptation and transformation sustainability pathways in the Arctic - the most rapidly changing region of our planet.

AOS Summit 2018, DAVOS, 23-27 June.



International collaboration in the process of Arctic noospherization

- The main role of a new kind of global organizations in order to come to the era of Noosphere was predicted by V.I.Vernadsky
- In many works he wrote about the need in creation of special organizations of society which could be capable to support the Future Earth sustainability
- We are extremely happy that such kinds of organizations (as IASC, IGU-CHAR, IASSA, ISIRA ,UA, and many other institutions and multi-national projects) are founded.
- International Arctic Science Agreement implementation with broader participation of different organizations in its implementation.



THANK YOU ALL !!!

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GREENLAND, 2017