



Carpathians and Carpathian science addressing the global challenges

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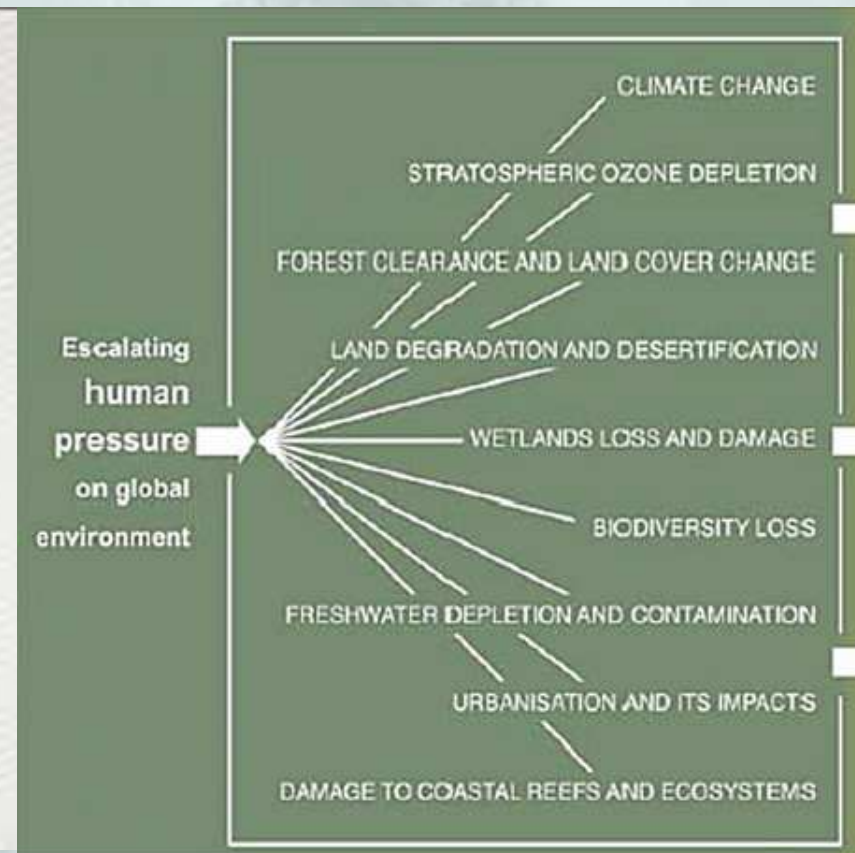
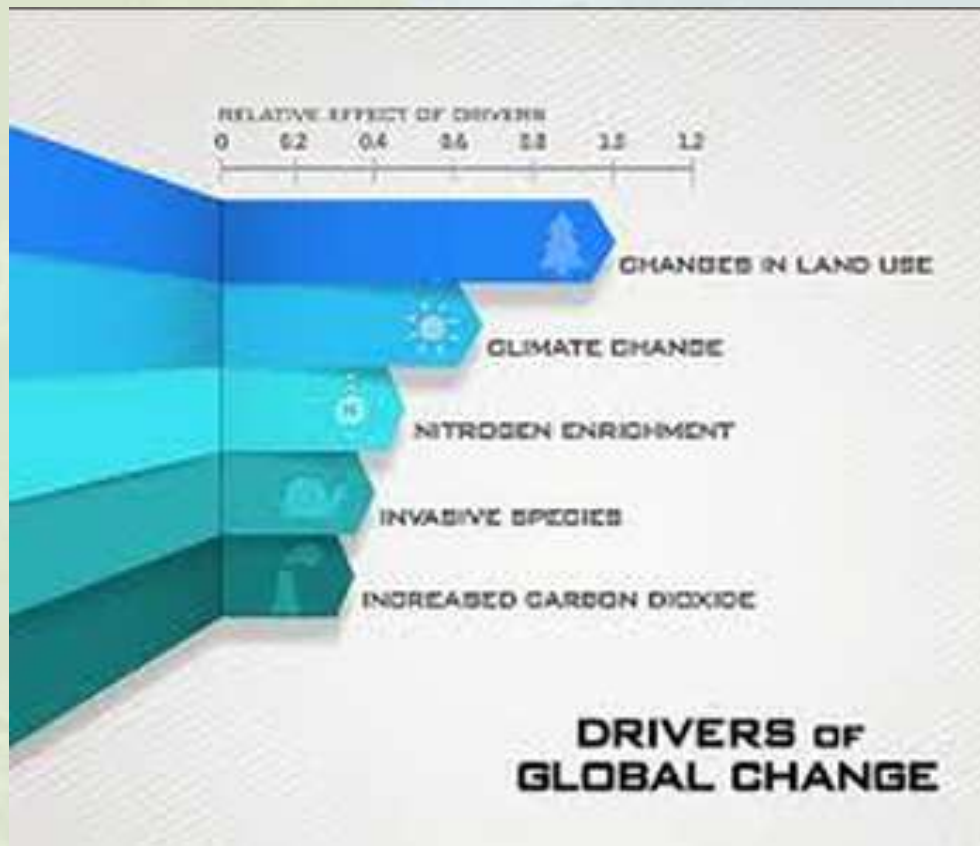
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Global changes



Human activities have an increasing influence on Earth System functioning

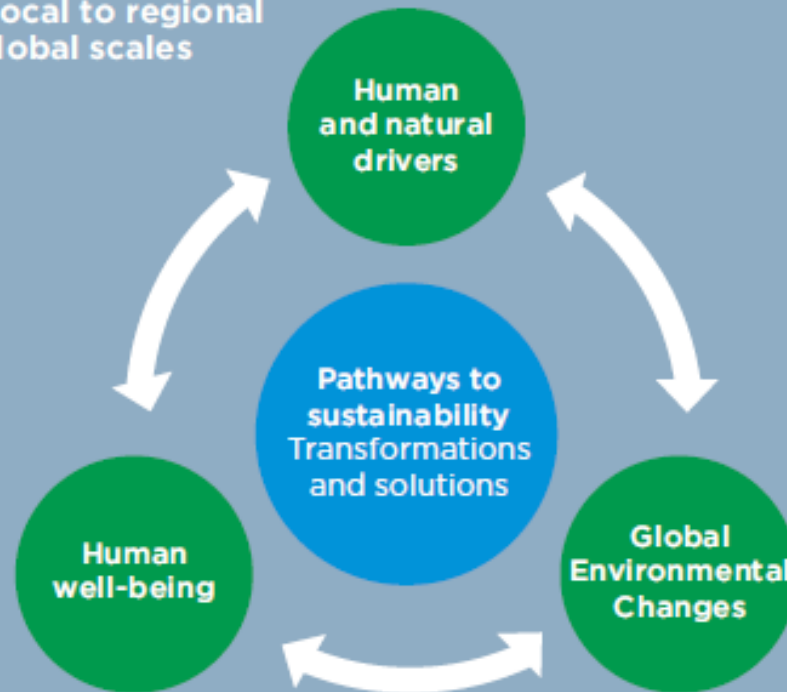


futureearth

10-year international research programme launched in UN Rio+20 conference (2012) that will **provide critical knowledge required for societies to face the challenges posed by global environmental change** and to identify opportunities for a **transition to global sustainability.**

Global sustainability within Earth system boundaries

Cross-scale interactions from local to regional and global scales



Europe 2020: a strategy for European Union growth

European Commission
EUROPE 2020

Smart
Growth

Sustainable
Growth

Inclusive
Growth

Europe 2020: a strategy for European Union growth

European Commission
EUROPE 2020

	Targets
Smart Growth	<ul style="list-style-type: none">— 3 % of GDP to be invested in the research and development (R&D) sector.— Reduce the rates of early school leaving to below 10 %, and at least 40 % of 30 to 34 year olds to have completed tertiary or equivalent education.
Sustainable Growth	<ul style="list-style-type: none">— Reduce greenhouse gas emissions by 20 % compared to 1990 levels.— Increase the share of renewables in final energy consumption to 20 %.— 20 % increase in energy efficiency.
Inclusive Growth	<ul style="list-style-type: none">— 75 % of 20 to 64 year old men and women to be employed.— Reduce poverty by lifting at least 20 million people out of the risk of poverty and social exclusion.

Europe 2020: a strategy for European Union growth

European Commission
EUROPE 2020

	Targets	Flagship Initiatives
Smart Growth	<ul style="list-style-type: none"> — 3 % of GDP to be invested in the research and development (R&D) sector. — Reduce the rates of early school leaving to below 10 %, and at least 40 % of 30 to 34 year olds to have completed tertiary or equivalent education. 	<ul style="list-style-type: none"> — Innovation Union — Youth on the move — A digital agenda for Europe
Sustainable Growth	<ul style="list-style-type: none"> — Reduce greenhouse gas emissions by 20 % compared to 1990 levels. — Increase the share of renewables in final energy consumption to 20 %. — 20 % increase in energy efficiency. 	<ul style="list-style-type: none"> — Resource efficient Europe — An industrial policy for the globalisation era
Inclusive Growth	<ul style="list-style-type: none"> — 75 % of 20 to 64 year old men and women to be employed. — Reduce poverty by lifting at least 20 million people out of the risk of poverty and social exclusion. 	<ul style="list-style-type: none"> — An agenda for new skills and jobs — European platform against poverty and social exclusion

The main societal challenges outlined in Europa 2020 Strategy

Societal Challenges

Health, demographic change and well-being

Food security, sustainable agriculture, marine and maritime
research, and the bio-economy

Secure, clean and efficient energy

Smart, green and integrated transport

Inclusive, innovative and secure societies

Societal Challenges reflected in Horizon 2020

- **Health**, demographic change and wellbeing;
- **Food security, sustainable agriculture and forestry**, marine and maritime and inland water research, and the **Bioeconomy**;
- Secure, clean and efficient **energy**;
- Smart, green and integrated **transport**;
- **Climate** action, **environment**, resource efficiency and raw materials;
- Europe in a changing world - **inclusive, innovative and reflective societies**;
- **Secure societies** - protecting freedom and security of Europe and its citizens.

FORUM CARPATICUM

Local Responses to Global Challenges

September 16-18, 2014, Lviv, Ukraine

Science for the Carpathians



Focus on 4 major challenges affecting the Carpathian ecoregion:

Climate change, water and extreme events/hazards

Ecosystem services and land use change

Natural and cultural heritage

Smart mountains



Main challenges in Carpathians

Climate change, water and extreme events/hazards -

complex relations between climate change and water resources. Resilience, flood prevention, water availability and use.

Ecosystem services and land use change - sustainable utilization of mountain resources, sustainable production (incl. forest management), traditional economy and human well-being, communities and their roles in regulating the access to ecosystem services, control of urban sprawl and infrastructure development.

Natural and cultural heritage – inventory, preservation of and threats to various types of natural and cultural heritage of the Carpathians, biodiversity, highlighting native, unique and endemic features.

Main challenges in Carpathians

Smart mountains - chances offered to mountain areas by a knowledge-based economy, technology development and green growth (including environmental-friendly tourism, mobility, interrelations between rural mountain areas and urban centres)

Pollution, ecosystem fragility, productivity, forest

damage – (air) pollution monitoring, mechanism of impact to ecosystem functioning and synergic effect with other factors resulting in forest fragility and disturbance

Sustainable agriculture and rural development – rural economy, multifunctional rural landscapes, harmonisation of agrarian subsidy system with the local traditional land-use systems, sustainable agriculture suitable for sustaining biodiversity and maintenance of characteristic Carpathian landscapes

Main challenges in Carpathians

Education – education for Sustainable Development in the Carpathian countries, Carpathian Curriculum for universities - virtual network of universities, research institutions, and NGOs joined by common training courses

Transfer of knowledge – use of scientific knowledge in policy and practice, input to strategic documents and policies, cooperation with governments, regional and local authorities, position of science in Carpathian countries

Comments, questions ?