NATIONAL REPORT, POLAND

FOREST AND WATER MANAGEMENT
IN MOUNTAIN WATERSHEDS

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TRENDS AND THREATS

Air pollution
Climate change
Silviculture in the past
Insects and fungi

Forest decline
AIR POLLUTION IN POLAND

The chart shows the concentration of $SO_2$ and $NO_2$ in the air from 1998 to 2006.
CHANGE OF PRECIPITATIONS

1950-1966  580 mm  
1967-1982  720 mm  
1983-2004  603 mm  

y = -0.0007x^3 - 0.0446x^2 + 4.6474x + 592.04  
y = -0.0018x^3 + 0.0807x^2 + 0.2152x + 379.18  

SUMA OPADÓW   [mm]  
I-XII  651.2 mm  
IV-IX  398.0 mm
CHANGE OF AIR TEMPERATURE

\[ y = 0.0176x - 27.94 \]

\[ y = -2 \times 10^{-5}x^3 + 0.0033x^2 - 0.0755x + 6.362 \]

I-XII  
IV-IX

średnia I-XII  
6.4°C  
średnia IV-IX  
14.4°C
MOUNTAIN FOREST DECLINE IN SUDETE
Carpathians Mtn. are located in the few countries:

- Poland (9% of Carpathians area),
- Slovakia (14%),
- Czech Republic (6%),
- Hungary (4%),
- Ukraine (10%),
- Romania (56%).
- Small part of Carpathians are also located in Austria and Serbia (total 1%).
ARTIFICIAL SPRUCE STAND IN CARPATHIANS
DEFORESTATION IN BYSTRA WATERSHED (CARPATHIANS)
DEFORESTATION IN BYSTRA WATERSHED (CARPATHIANS)
EROSION IN BYSTRA WATERSHED
(CARPATHIANS)
PROJECTS TO ADDRESS TO THREATS AND TRENDS IN FOREST MOUNTAIN WATERSHEDS

- NATIONAL PROGRAMME FOR THE EXPANSION OF FOREST COVER
- NATURA 2000 IN FORESTS
- Project: „MITIGATION OF WATER EROSION IN MOUNTAINOUS AREAS AND MAINTENANCE OF TORRENTS AND CONNECTED INFRASTRUCTURE IN GOOD STATE”
  in the frame of „INFRASTRUCTURE AND ENVIRONMENT OPERATIONAL PROGRAMME (2007-2013)”
NATIONAL PROGRAMME FOR THE EXPANSION OF FOREST COVER

Zalesienia w LP w latach 1990-2007, plan 2008 r. w porównaniu do rozmiarów określonych w KPZL
„MITIGATION OF WATER EROSION IN MOUNTAINOUS AREAS AND MAINTENANCE OF TORRENTS AND CONNECTED INFRASTRUCTURE IN GOOD STATE”

Basic data of the project:
• 35 mln Euro,
• 129 ponds and reservoirs,
• protection of slopes areas against surface water erosion (53 km of skidding paths in mountain areas)
• conservation of 173 km of torrents against bank and bed erosion.
SMALL PONDS IN MOUNTAIN FOREST AREAS
CONSERVATION OF TORRENTS AGAINST BANK AND BED EROSION
PROTECTION OF SLOPE AREA AGAINST WATER EROSION

Built-up of skidding paths
RESEARCH, EXPERIENCES AND CASE STUDIES

• An estimation of critical loads of air chemical deposition which influence on forest health.

• The role of decomposition of humus in balance of greenhouses gases.

• Hydrological and erosion processes in experimental torrent catchments areas in Sudeten and Carpathians

• Nutrient cycling in artificial mountain spruce stands as a background for conversion and sites degradation in the Silesian Beskid
POLICY ATTENTION AND ADAPTATION STRATEGIES

• The general legal bases for water and forest management in Poland are included in the Water Law (2001) and Forest Act (1991). Also other legal acts refer to the provisions of this laws, including the Environmental Protection Law Act (2001).

• One of the important events in Poland in the period 2006-2008 was establishing in 2006 of the National Water Management Authority as well as preparation of new national strategy of water management which should be soon be accepted.

• It should be also underline contribution of Poland into preparation in the frame of Ministerial Conference on Protection of Forest in Europe which have been adopted in November 2007 at Warsaw.
MAIN RULES OF FOREST MANAGEMENT IN MOUNTAIN WATERSHEDS

• SUSTAINABLE DEVELOPMENT
• CLOSE TO NATURE
• CONTINUOUS COVER FORESTRY
• DISPERSION OF RISK
Thank you for your attention