

Vulnerable Mountains from Space Harald Egerer – UNEP Vienna

Why Mountains?



Mt. Teíde - Las Canarías

"Mountains are an important source of water, energy, and biological diversity. Furthermore, they are a source of such key resources as minerals, forest products and agricultural products and of recreation. As a major ecosystem representing the complex and interrelated ecology of our planet, mountain environments are essential to the survival of the global ecosystem."

-- Agenda 21, Chapter 13, Managing Fragile Ecosystems: Sustainable Mountain Development

.....and they're pretty !!



environmental change & sustainable development in **mountains**



Global Environmental Change in Alpine Regions

Global Environmental Change in Alpine Regions

EE

RECOGNITION, IMPACT, ADAPTATION AND MITIGATION

EE



Edited by Karl W. Steininger and Hannelore Weck-Hannemann

> NEW HORIZONS IN ENVIRONMENTAL ECONOMICS

Series Editors WALLACE E. OATES HENK FOLMER



Categories of mountain terrain



Mountains of the World

Source: Mountain Watch (UNEP-WCMC 2002)



Mountain Watch The first global assessment of mountain ecosystems



CHAPTER 13 MANAGING FRAGILE ECOSYSTEMS: SUSTAINABLE MOUNTAIN DEVELOPMENT

<u>http://www.un.org/esa/sustdev/documents/agenda2</u> <u>1/english/agenda21chapter13.htm</u>

- Generating and strengthening knowledge about the ecology and sustainable development of mountain ecosystems;
- Promoting integrated watershed development and alternative livelihood Opportunities.

Commission on Sustainable Development

- 1997 review (5 yrs):major progress in awareness and organizations:
- Mountain islands
- Institutions (meaning?)
- CSD Johannesburg (10 yrs) Any change over last 5 years?

KEO





The Gargethiats Endowment Oeflock is an integrated assessment report on the state of, and transfer related to, the endosment of the Cargethiat Mountains and while region, tetrospecticity over the parts to yours and forwards to 2016. This summaries it based or modeus of stocknessmentic and environment pressums and forwards and development issue, notably the environmental regionation of humans and environment pressums and forwards of the apport presents these accessions of forward lengthications of humans and environment pressums of the Augustion activation of the apport presents these accessions of the forward press to the Cargethians, the Outlook section of the apport presents these accessions of the human fractions and the accession environment.

The contents of this Report are based on information and data supplied by rankond governments of Carpathian countries, and numerous individuals and spacificate infortunities from the neglers. The main chapters are the following: Chapters 2: based for several solutions from the main and following the several Chapters 2: based for several time from the formation and following the several Chapters 2: based for several time from the formation and following the several chapters 3: based for several time from the formation and following the several

Chapter 3: The State of the Carpethians Environment and Policy Mascores (detailed teatment of major environmental themes)

Chapter & Outlock 2005 to 2020: three scenarios for the Corpethians region's feture development Chapter 3: Conchesions and "Options for Action"

The Carpethese Divisionment Databat provides generate incodedge about the unique acobige and whited environmental and home-problems of the Carpethians, along with here induced and the carbon methods decision-method in this unique region and is particular, the implementation of the Carpethian forement Communities.



Global Mountain Partnership

UNEP is the global Environmental Reference Centre (ERC) of the MPS and it helps ensure adequate attention to environmental concerns in the MPS strategic planning and activities,

The ERC's role will revolve around facilitating access by initiatives to UNEP's expertise in the issues, constituting UNEP's priorities for the new programming period





Retreat of Hintereisferner Glacier



1900 1910 1920 1930 1940 1950 1960 1970 1980 1990 2000











Forest fires

+10









"Mountains as Early Indicators of Climate Change"



Parking Management Process Row Walt Processor, J. And Annual Content Content April 17, 2004 April 7 April 10, 2004

"Mountains as early indicators of climate change"











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Thank you ! UNEP ROE - Vienna www.carpathianconvention.org

www.carpathianproject.eu