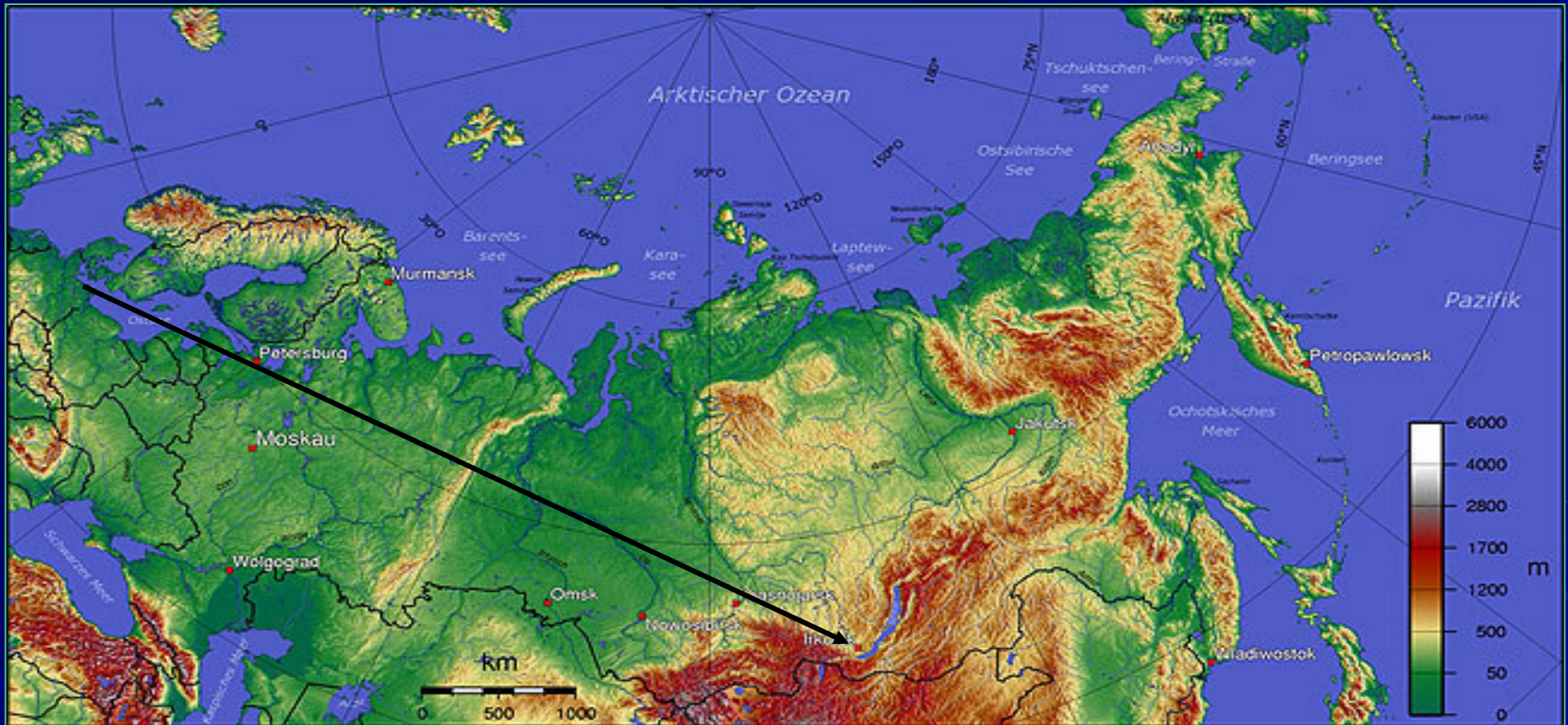


# Lake Baikal – the Pearl of Siberia



Integrated **Coastal** and Ocean Management

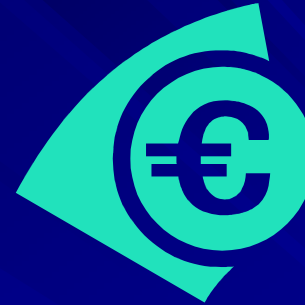
Caroline Krause - July 2007

# Outline

- My Education
- Introduction of Integrated **Coastal** and Ocean Management
- The role of indicators in the management process
- Lake Baikal and indicators
- Legend about Baikal's waters

# My education I

- Apprenticeship as a banker



- Bachelor in purchase and distribution engineering



# My education II

- Topic of the bachelor thesis: Advantages and disadvantages of renewable energy in villages



- Since October 2006  
Master student in  
Environmental  
Management



# Outline

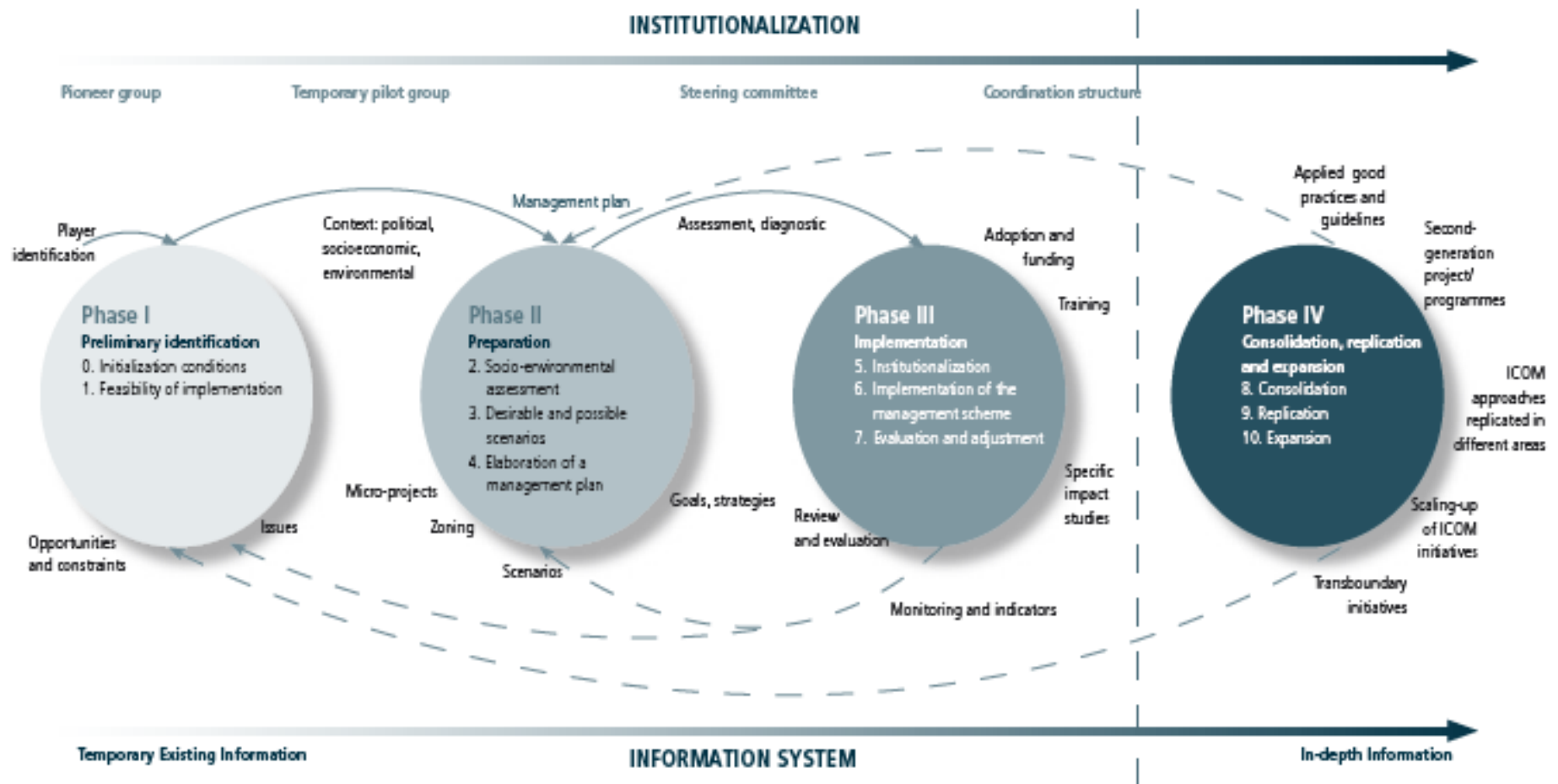
- Beneficial knowledge
- Introduction of Integrated **Coastal** and Ocean Management
- The role of indicators in the management process
- Lake Baikal and indicators
- Legend about Baikal's waters



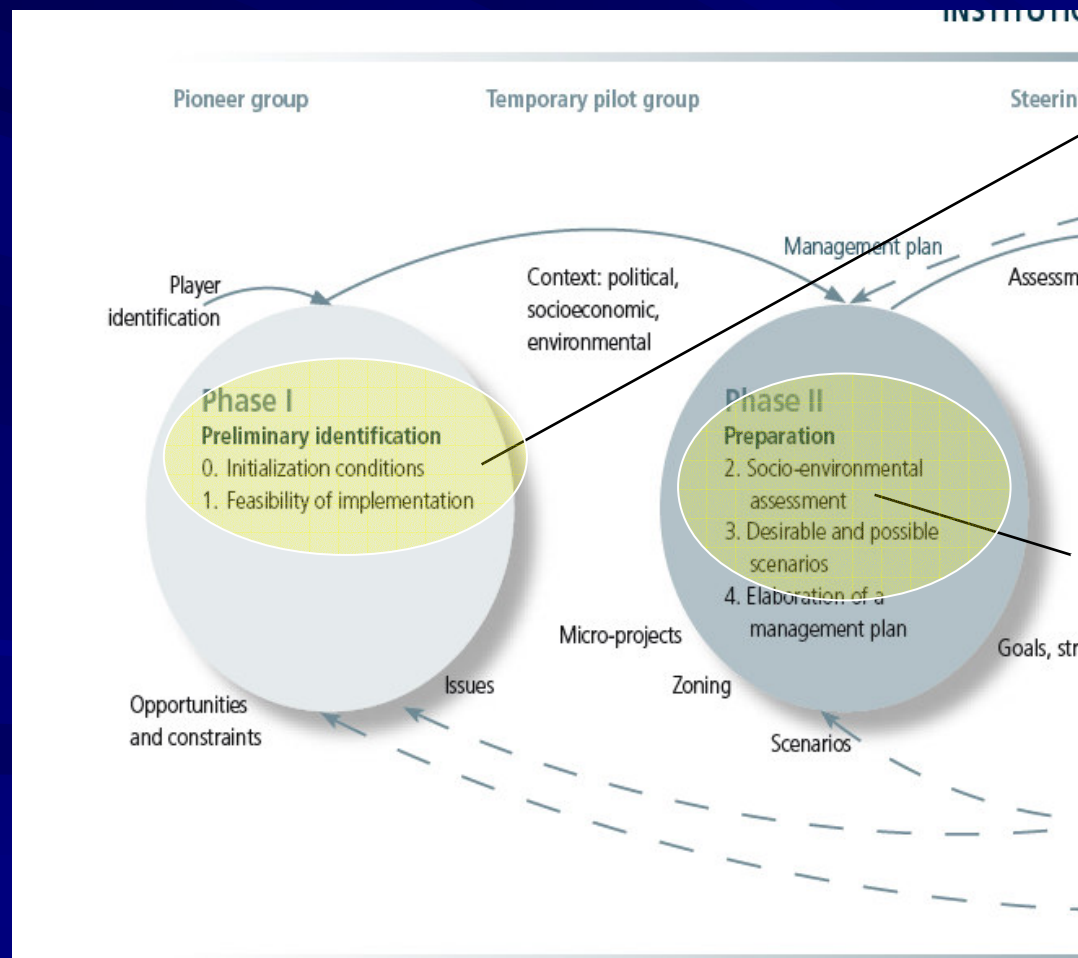
# Introduction of Integrated **Coastal** and Ocean Management

- Integrated Coastal Area Management (ICAM) is a process that unites government and the community, science and management, sectoral and public interests in preparing and implementing an integrated plan for the **protection and development of coastal ecosystems and resources.**

# Introduction of Integrated Coastal and Ocean Management



# Introduction of Integrated Coastal and Ocean Management



## Step 0

Identification of the players involved in the ICOM process

and the overall political, institutional, economic and social context.

## Step 2

Social and environmental assessments.



# Outline

- Beneficial knowledge
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- **The role of indicators in the management process**
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# The role of indicators in the management process

## What are “indicators”?

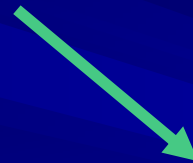
Indicators are quantitative/qualitative statements or measured/observed parameters that can be used to describe existing situations and measure changes or trends over time. **Their three main functions are simplification, quantification and communication.**



- **Governance indicators**, which measure the performance of programme components as well as the progress and quality of interventions and of the ICOM governance process itself;



- **Socioeconomic indicators**, which reflect the state of the human component, successful in managing human pressures in a way that results not only in an improved natural environment, but also in improved quality of life in coastal areas.



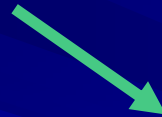
- **Ecological indicators**, which reflect trends in the state of the environment. They become performance indicators if they compare actual conditions with targeted ecological conditions;

# The role of indicators in the management process

• Indicators



• Governance indicators



• Socioeconomic indicators

• Ecological indicators



# The role of indicators in the management process

## • Indicators



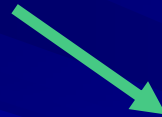
## • Governance indicators

- Legislation
- Conflict resolution mechanism
- Inputs from scientific research
- Technology



## • Socioeconomic indicators

- Total economic value
  - Fishing
  - Oil and gas industry
- Employment
- Human pressure on habitats



## • Ecological indicators

- Biological diversity
- Abundance
- Species health
- Water quality
- Habitat quality

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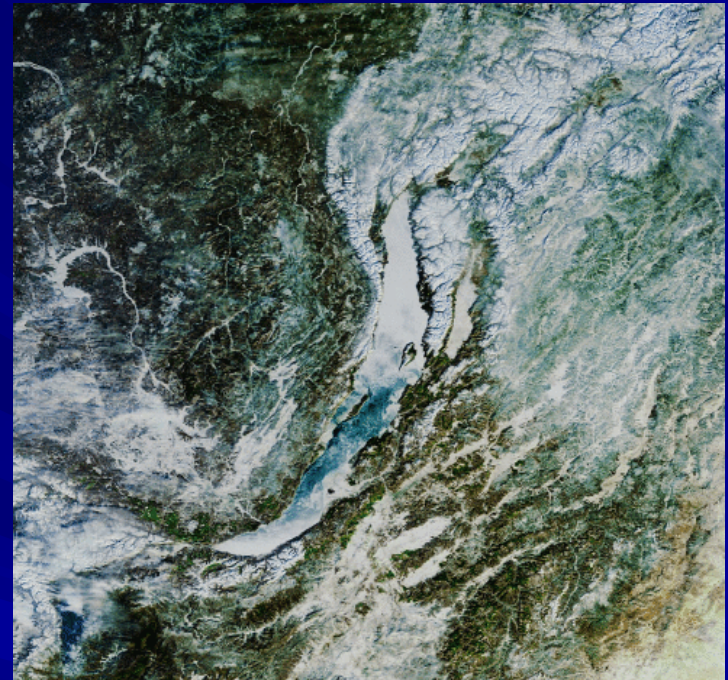
# Satellite Missions: ENVISAT



Summer

Lake Baikal,  
2007 06.12

MERIS

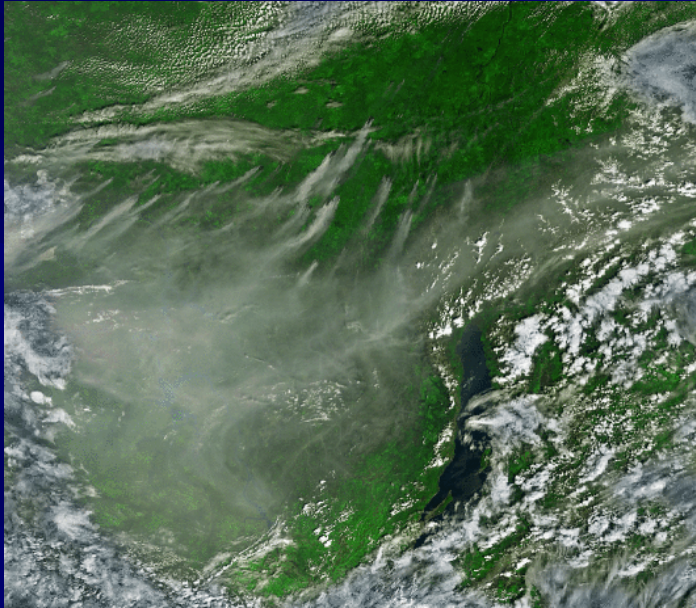


Winter

Lake Baikal,  
2006 02.01

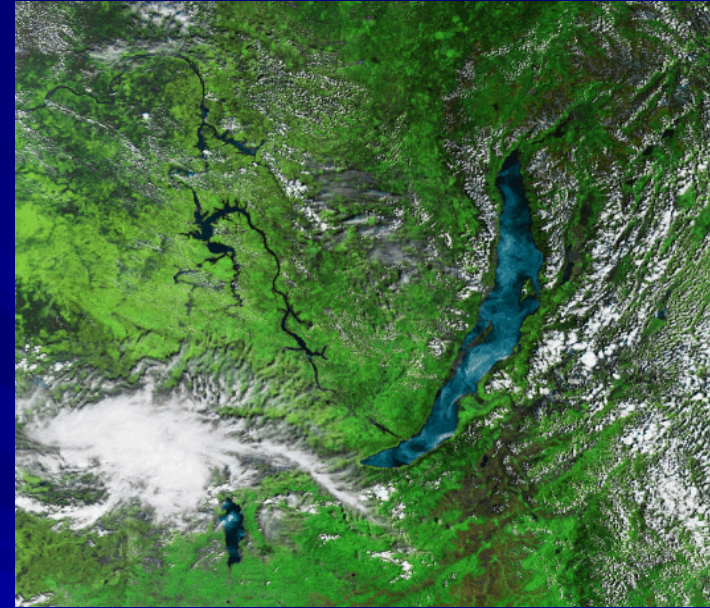
MERIS

# Satellite Missions: ENVISAT



Forest Fire in the  
northwest of  
Lake Baikal

2006 07.19  
MERIS



Algae  
Lake Baikal

2006 07.03  
MERIS



# Lake Baikal



- 335 rivers feed into the Lake and one drains out of it, Angara River.
- Out of 2635 plant and animal species and subspecies discovered in the lake to date, over 80% are endemic to the area. Some of these species include the nerpa (freshwater seal) and omul (fish).
- There are 16 towns and 50 industrial enterprises surrounding the lake, including Irkutsk, Angarsk, and Ulan-Ude. These include 3 hydroelectric stations, aluminum smelting, pulp and paper, and other chemical industry.
- The principal sources of dioxin danger in Russia are the burning of industrial wastes; burning of municipal wastes (landfill fires and backyard burning); forest fires; pesticide production; production of PVC; paper and pulp mills;

# Environmental issues of concern to Lake Baikal



- contamination of the lake and inflowing rivers by industrial and agricultural wastes'; atmospheric emissions of the Baikalsk Pulp and Paper Mill and the Selenginsk Cardboard and Pulp Mill, contamination of soils in the Baikal region by toxic wastes of industrial facilities.

- forest logging; the destruction of wild animals' habitats in the area of Lake Baikal resulting from construction activities, excessive impact of recreation and withdrawal of land from National Parks and Preserves;

# Baikal Economy



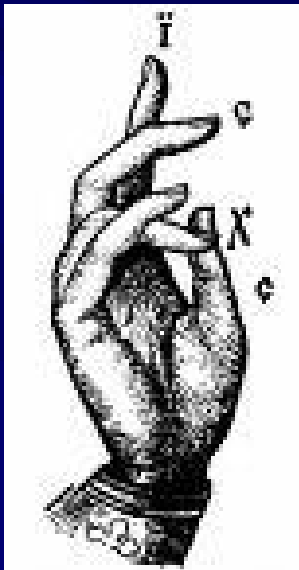
- The Baikal area continues to be the base of Russian economic expansion towards the Far East. Any Russian territory north or east of the Irkutsk region is less industrially advanced
- The region concentrates considerable mineral wealth in deposits of gold, coal, oil and gas, rare metals
- About 76% of the territory is covered with forests, over 11% of all Russian timber.
- Lake Baikal contains 20% of the planet's fresh water. The availability of energy, timber, and mineral resources gives shape to the region's industrial complex, which consists of 4,500 enterprises.



# Outline

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- **Legend about Baikal's waters**

# Legend about Baikal's waters



Dip a toe in, locals say, and you add a year to your life. A hand and you get five. Risk a swim and you'll last a further 25.

- Country Report Russia – June 2007 / The Economist Intelligence Unit Limited 2007
- ICOM-handbook
- [http://envisat.esa.int/live/brockmann\\_archive/2006/MER\\_RR\\_1PNPDE20060703\\_033307\\_000024322049\\_00090\\_22689\\_0523.htm](http://envisat.esa.int/live/brockmann_archive/2006/MER_RR_1PNPDE20060703_033307_000024322049_00090_22689_0523.htm)
- <http://www.irkutsk.org/baikal/>
- <http://www.earthisland.org/project/>
- <http://www.russianamericanchamber.org/newsletter/SpringSummer03LakeBaikal.pdf>