NATURE-BASED TOURSIM, OUTDOOR RECREATION AND ADAPTAION TO CLIMATE CHANGE

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About this presentation

- Background
- Sub-study of nature based tourism
- Sub-study of outdoor recreation
- Conclusions and discussion
Background

- Almost all (97 %) of Finns recreate outdoors during the year
- 40 % makes a nature trip during a year
- 46 % participate in skiing activities
- 68 % participate in swimming in natural waters
Background

- 4.9 million foreign travellers, of which about \(\frac{1}{4}\) participate in outdoor activities (2004)
- Nature-based tourism is about one fourth part of the tourism in total
- About 20,000-30,000 man-years in nature-based tourism (2002)
  - In Finland, about 1 percent of labour force
  - In Lapland, 7% of labour force
Sub-study 1: NATURE-BASED TOURISM AND GLOBAL CLIMATE CHANGE

Kaarina Tervo, Jarkko Saarinen and Arvo Peltonen
Sub-study A: Objectives and Data

- (1) nature-based tourism entrepreneurs’ knowledge about climate change and its effects on the enterprise’s operations,
- (2) where the knowledge originates, and
- (3) what kind of adaptation strategies

Total 19 interviews were conducted to tourism entrepreneurs in Northern Finland (n=9) and the Finnish Lake District (n=10)
Belief in climate change according to location and type of operation of the enterprise

**Region**

- **Northern Finland (n=9)**
- **Lake District (n=10)**

**Type of operation in Northern Finland**

- **Program service**
- **Skiing centre**

- **yes**
- **no**
- **opinion**
Impacts of predicted climate change as stated by tourism entrepreneurs

- Shorter winters
- Longer summers
- Environmental changes
- More tourists to the north
- Milder winters
- More snow
- More rain
- More variability, extreme weather events
- Longer spring and autumn
- Worse summers
- Longer winters
Entrepreneurs’ assumptions about the impact of climate change on the tourism industry

![Bar chart showing the percentage of entrepreneurs' assumptions about climate change impact in Northern Finland (n=9) and Lake District (n=10). Positive impact is in blue, negative impact is in green, and no impact is in yellow.]

- Northern Finland (n=9):
  - Positive impact: 40%
  - Negative impact: 30%
  - No impact: 30%

- Lake District (n=10):
  - Positive impact: 20%
  - Negative impact: 40%
  - No impact: 40%
Experiences of climatic variation affecting tourism operations

- Northern Finland: 80% has climatic variability affected operations
- Lake District: 60% has climatic variability affected operations

More experiences in the North
Adapting to climate change: current knowledge, future needs: FINADAPT Final Seminar
Finnish Environment Institute (SYKE), 14-15 December 2005

Adaptation plans

More plans in the North

More plans
in the North
Adaptation methods in use to cope with climatic variability in Northern Finland

- snowmaking facilities
- careful marketing
- substitute activities
- product development
- relocation of operations
- increasing capacity
- emphasizing summer activities
Concluding remarks of sub-study 1

- Climate change is a minor threat for the nature-based tourism industry for next twenty years

- Disbelief in climate change and its impacts reduced the number and forms of adaptation plans

- No exact knowledge on possible impacts → no efforts in adaptation strategies (worthless and waste of resources)

- Capacity to adapting even at a short notice
Sub-study 2: OUTDOOR RECREATION AND GLOBAL CLIMATE CHANGE

Tuija Sievänen, Marjo Neuvonen and Eija Pouta
Objectives of the study

- to present scenarios of autonomous adaptation in outdoor recreation behaviour
- to discuss needs and options of adaptation
  - Recreationists
  - Recreation service provision of public sector
**Method**

- LVVI data – 15-74 years old Finnish population
- Connected to weather data – survey responses

**Models**
- binary logistic regression
- left truncated negative binomial regression model
Studying present behaviour, exploring explaining factors:
• socio-economic background
• climate
• unknown?

Process

Assumption:
no change in behavior

selecting climate sensitive activities

Applying scenario information in models

participation scenarios,
CALIBRATED WITH DEMOGRAPHIC CHANGE

CLIMATE A2 & B1
AGE, EDUCATION, URBANIZATION...

outdoor recreation participation

• skiing
• snowmobiling
• swimming

Assumption:
no change in behavior
Adapting to climate change: current knowledge, future needs: FINADAPT Final Seminar
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Demographic scenario

- - - population 65+ years  
- - - population 35-64 years  
- - - population 0-34 years  
Total Finnish population
Scenarios of cross-country skiing

Cross-country skiing

Participants, million/year

Participation days, million/year

present | near term | mid-term | long term

1.0 | 1.1 | 1.2 | 1.3

10 | 15 | 20 | 25 | 30 | 35

green: participants climate (A2)
red: participants socio-economic
dashed green: days climate (A2)
dashed red: days socio-economic
Downhill skiing

![Graph showing downhill skiing participation over time]

- Participants, million/year
- Participation days, million/year

- Present
- Near term
- Mid-term
- Long term

- Participants climate change (A2) & socio economic
- Participants climate change (A2, B1)
- Days climate change & socio economic
- Days climate change (A2, B1)
Scenarios of Snowmobiling

Participants, million/year

participants climate change (A2) & socio-economic
participants climate change (B1)
days climate change (A2)
days socio-economic

Participation days, million/year

present near term mid-term long term

0 0,1 0,2 0,3 0,4 0,5 0,6

5 4 3 2 1 0

6 5 4 3 2 1 0

Snowmobiling
Swimming in natural waters

Swimming

- Participants, million/year
  - present near term mid-term long term
  - participants socio-economic
  - participants climate change (A2)
  - days socio-economic
  - days climate change (A2) & socio-economic

Participation days, million/year

0 20 40 60 80 100 120 140 160

0 2 4 6 8 10 12 14 16

1 2 3 3.5

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Concluding remarks of sub-study 2

- adaptation in recreation participation:
  - strongest decline in skiing and snowmobiling
  - increase in swimming

- to adapt to climate change
  - skiers: 1) shift to other activities, 2) travel longer distance to ski, 3) use new types of skies
  - snowmobilers: shift to other activities
Concluding remarks of sub-study 2

- recreation service providers:
  - trails on artificial snow
  - other options for services for alternative activities
Conclusions and discussion

- Ski tourism enterprises may get new clients at first, but on long run the industry may lose clients as the number of skiers in population decline.

- The time perspective of climate change is too long for tourism entrepreneurs.

- Information of climate change needs to be regionally more specific.
Future research needs

- Monitoring recreation and travel behaviour
- Awareness of climate change by tourists and recreationists, their perceptions of the future conditions and options of adaptation (contingent behaviour studies)
- Regional differences; the possible transition of tourists and tourism industry to new regions
- Economic, social and cultural impacts
- Evaluation of potential adaptation mechanisms and strategies, and their economic, social and cultural impacts
- Different time perspectives of adaptation in private and public sector
Which one is our future?

THANK YOU!