Adapting to climate change: Tourism and recreation

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Previous studies on the field of outdoor recreation?

- international studies mainly of water and snow activities
- estimations of the effects on total volume and activities (e.g. USA)
- in Finland the first national inventory of outdoor recreation (Sievänen, Tuija)

=> gives opportunities to analyse also the adaptation to climate change
...on the field of tourism?

- international co-operation:
  - WTO and UNEP
  - European science Foundation, Life and environmental science committee: Climate change, the Environment and tourism; The interactions

- in Finland groups working on the field:
  - Jarkko Saarinen (Department of Geography, University of Oulu)
  - Arvo Peltonen (The Finnish University Network for Tourism Studies)
Who will adapt?

• participants in outdoor recreation activities, 97% of Finns

• suppliers of outdoor recreation services
  – municipalities, Forest service, voluntary organisations

• entrepreneurs in nature tourism
  – 32 000 jobs in nature tourism
  – tourism income on ski resorts 454 million euros
## Palette of outdoor activities

<table>
<thead>
<tr>
<th>Outdoor Activity</th>
<th>Participates %</th>
<th>Times/Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walking</td>
<td>68</td>
<td>114</td>
</tr>
<tr>
<td>Swimming</td>
<td>67</td>
<td>26</td>
</tr>
<tr>
<td>Berry picking</td>
<td>56</td>
<td>8</td>
</tr>
<tr>
<td>Summer cottage ativ.</td>
<td>56</td>
<td>31</td>
</tr>
<tr>
<td>Bicycling</td>
<td>55</td>
<td>48</td>
</tr>
<tr>
<td>Studing nature</td>
<td>48</td>
<td>55</td>
</tr>
<tr>
<td>Boating</td>
<td>47</td>
<td>24</td>
</tr>
<tr>
<td>Fishing</td>
<td>46</td>
<td>31</td>
</tr>
<tr>
<td>Mushroom picking</td>
<td>38</td>
<td>7</td>
</tr>
<tr>
<td>Cross-country skiing</td>
<td>38</td>
<td>19</td>
</tr>
<tr>
<td>Sunbathing on the beach</td>
<td>31</td>
<td>7</td>
</tr>
<tr>
<td>Picknicking</td>
<td>30</td>
<td>7</td>
</tr>
<tr>
<td>Collecting small wood</td>
<td>30</td>
<td>12</td>
</tr>
<tr>
<td>Outdoor activities with children</td>
<td>30</td>
<td>56</td>
</tr>
<tr>
<td>Dog sledding</td>
<td>25</td>
<td>248</td>
</tr>
<tr>
<td>Hiking</td>
<td>23</td>
<td>31</td>
</tr>
<tr>
<td>Picking herbs and flowers</td>
<td>17</td>
<td>7</td>
</tr>
<tr>
<td>Running and jogging</td>
<td>16</td>
<td>61</td>
</tr>
<tr>
<td>Down hill skiing</td>
<td>15</td>
<td>8</td>
</tr>
<tr>
<td>Studing birds</td>
<td>14</td>
<td>120</td>
</tr>
<tr>
<td>Camping</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td>Snowmobiling</td>
<td>10</td>
<td>13</td>
</tr>
<tr>
<td>Forest management in leisure time</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>Hunting</td>
<td>8</td>
<td>22</td>
</tr>
<tr>
<td>Backpacking</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>
Adaptation and summer activities

Individual adaptation

- Longer warm period
- Warmer waters
- Frequency of harmful algals

- Longer seasons (walking, bicycling, summer housing)
- Increase in boating, swimming, and summer housing
- Decrease in boating, swimming, and summer housing, more pressure on lakes?

Co-ordinated action

- Location of recreation areas
- Direction and guidance of summer housing
- Water pollution control

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Swimming and climate change

Swimming in natural waters and increase in temperature

Swimming and increase in precipitation

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Winter activities

Participation in cross-country skiing,
% population

Ice fishing
% population

Down hill skiing,
% population

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Cross-country skiing and temperature

Participation in skiing

- 1998-2000: 38%
- +2 °C: 31%
- +7 °C: 17%

Frequency of skiing

- Mean temperature vs. frequency of skiing times/year

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Season effect

overnight stays in Lapland

- Season effect
- end of thermal winter

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## Adapting in skiing

<table>
<thead>
<tr>
<th>Skiers</th>
<th>Entrepreneurs and service suppliers</th>
</tr>
</thead>
</table>
| • skate skiing  
  • midwinter skiing instead of late winter  
  • skiing trips to Northern Finland  
  ➢ activity expenses increase  
  ➢ hunt for substitutive activities | • artificial snow also on cross-country  
  • skate skiing tracks  
  • illuminated tracks  
  • parallel activities  
  ➢ increasing energy use  
  ➢ increasing expenses  
  ➢ concentration to Northern Finland, larger resorts?  
  ➢ problems on resorts in Southern Finland |
Foreign visitors

- Of winter visitors 19% had outdoor activities, snow based tourism has increased
- Snow cover remains as an attraction in Lapland
- In summer season about one fifth of visitors had outdoor activities
- Situation on alternative sites: hot summers on Mediterranean region and Middle Europe
Study issues

Issues in recreation demand
• how outdoor recreation behaviour of Finns adapt to climate change
• changes in tourism flows to Finland

Issues in supply of resources
• sensitivity of recreation and tourism segments and resort areas for climate change
  – information applicable for strategic planning in travel industry
• sustainable adaptation