Tourism at the glaciers

Fox Glacier, August 27, 2014

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Stephen Espiner
Jude Wilson
Data from Willsman et al. (2014)
Research interest

• Understand how climate-induced change at the glaciers might affect visitor behaviour

• Survey: The current visitor experience
  • Visitor and visit details
  • Activities during visit
  • Reasons for visiting
  • Importance of the glacier(s)
  • Expectations and satisfaction
  • Implications of climate change
Survey methods

• Two survey periods:
  • December 2013-January 2014
  • February 2014

• Sample of 500 visitors
Survey limitations

• A sample only – no way to know how representative they are of all visitors
• Poor representation of Asian visitors and tour groups
• Data not picked up by survey questions e.g., price consideration for choosing activities, weather impacts
Usual residence

- New Zealand: 77
- Australia: 94
- UK: 95
- Germany: 44
- USA: 59
- Other Europe: 81
- Asia: 19
- Other Americas: 25
- Other: 6
Age

<table>
<thead>
<tr>
<th>Age Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤19 years</td>
<td>4.4</td>
</tr>
<tr>
<td>20-29 years</td>
<td>29.2</td>
</tr>
<tr>
<td>30-39 years</td>
<td>19.4</td>
</tr>
<tr>
<td>40-49 years</td>
<td>11.2</td>
</tr>
<tr>
<td>50-59 years</td>
<td>17</td>
</tr>
<tr>
<td>60-69 years</td>
<td>15</td>
</tr>
<tr>
<td>70-79 years</td>
<td>3.6</td>
</tr>
<tr>
<td>80+ years</td>
<td>0.2</td>
</tr>
</tbody>
</table>
Visit details

• Nights stayed
  • 39.6% 1 night
  • 42.5% 2 nights

• Time at glaciers

• 84% first visit
• Independent walk to final barrier
  • Franz Josef n=233
  • Fox Glacier n=203

• 51.8% (n=259) did a commercial activity
  • Over half (55.6%) of these visitors also walked up glacier valley

• 33.2% (n=166) did a flight activity
Direction of travel

1% lived nearby
8% unknown

35% travelling north
3% return north

1% return south
52% travelling south
Other activities at the glacier region

- Other activities: 7
- Rafting: 7
- Horse trek: 8
- Quad bikes: 8
- Okarito: 11
- Sky dive: 11
- Bicycle hire: 12
- Maori performance: 16
- Kayaking: 20
- Bird watching: 35
- Wildlife centre: 51
- Gillespies Beach: 61
- Other bush walks: 115
- None of these activities: 146
- Hot pools: 157
- Lake Matheson: 169

Number of respondents
Most memorable aspect of visit: 569 things reported

- 396 glacier-specific
  - 87 specifically mentioned flights
  - 39 mentioned activities

- 173 non-glacier
  - 135 related to natural environment/scenery views (e.g., waterfalls)
Importance of seeing the glacier

Not at all important | Very important
---|---
1 | 61.6
1.2 | 18.2
1.2 | 10
6.8 | 5
10 | 6
18.2 | 4
61.6 | 2

Percentage
### Reasons for visiting: 3 highest and 3 lowest mean scores

<table>
<thead>
<tr>
<th>Reason for visiting</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>To see a natural feature that may disappear in the future</td>
<td>6.01</td>
</tr>
<tr>
<td>To be close to nature</td>
<td>5.71</td>
</tr>
<tr>
<td>To view an easily accessible glacier</td>
<td>5.61</td>
</tr>
<tr>
<td>To experience a rainforest</td>
<td>4.34</td>
</tr>
<tr>
<td>To be with friends and family</td>
<td>4.16</td>
</tr>
<tr>
<td>To experience solitude</td>
<td>3.94</td>
</tr>
</tbody>
</table>
To see a natural feature that may disappear in the future
Glacier experience factors

- Size of the glacier
  - 1=expected smaller; 7=expected bigger

- Look of the ice
  - 1=expected dirtier; 7=expected cleaner

- How spectacular it was overall
  - 1=expected it to be much less spectacular; 7=expected it to be much more spectacular

- Satisfaction with these three aspects
  - 1=very dissatisfied; 7=very satisfied
Mean scores for glacier experience factors

<table>
<thead>
<tr>
<th>Expectation</th>
<th>Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size of glacier</td>
<td>Glacier ice</td>
</tr>
<tr>
<td>4.69</td>
<td>5.22</td>
</tr>
<tr>
<td>4.68</td>
<td>5.39</td>
</tr>
<tr>
<td>4.24</td>
<td></td>
</tr>
</tbody>
</table>

Mean scores
Relationship between expectation and satisfaction

- **Size of glacier** (n=451):
  - Expected worse: 5.72
  - As expected: 5.51
  - Expected better: 4.77

- **Look of ice** (n=470):
  - Expected worse: 5.7
  - As expected: 5.55
  - Expected better: 5.12

- **Spectacular** (n=473):
  - Expected worse: 6.15
  - As expected: 5.68
  - Expected better: 5.22
Images of the glaciers

- 67% ($n=337$) saw images before their visit
- How accurate were these images?
Pre-visit information sources
What did you expect from your glacier visit?

- 5 glacier visit factors
  - Getting close to the glacier
  - Number of people
  - Peacefulness in the valley
  - Interpretation and information
  - Facilities in the glacier valley

<table>
<thead>
<tr>
<th>Expectation</th>
<th>Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Getting close to glacier</td>
<td>3.98</td>
</tr>
<tr>
<td>Number of people</td>
<td>4.1</td>
</tr>
<tr>
<td>Peacefulness</td>
<td>4.46</td>
</tr>
<tr>
<td>Interpretation &amp; information</td>
<td>4.32</td>
</tr>
<tr>
<td>Facilities in glacier valley</td>
<td>3.98</td>
</tr>
<tr>
<td>Mean score</td>
<td></td>
</tr>
<tr>
<td>Getting close to glacier</td>
<td>5.49</td>
</tr>
<tr>
<td>Number of people</td>
<td>5.19</td>
</tr>
<tr>
<td>Peacefulness</td>
<td>5.3</td>
</tr>
<tr>
<td>Interpretation &amp; information</td>
<td>5.3</td>
</tr>
<tr>
<td>Facilities in glacier valley</td>
<td>5.59</td>
</tr>
</tbody>
</table>
Satisfaction with interpretation and information (commercial vs non-commercial activities)

![Bar chart showing satisfaction levels for commercial and non-commercial activities.]

- Commercial activity:
  - Very dissatisfied: 1.2%
  - 2: 2.7%
  - 3: 6.6%
  - 4: 14.3%
  - 5: 17.8%
  - 6: 25.9%
  - Very satisfied: 31.7%

- No commercial activity:
  - Very dissatisfied: 2.1%
  - 2: 1.7%
  - 3: 8.3%
  - 4: 23.7%
  - 5: 22.4%
  - 6: 20.3%
  - Very satisfied: 21.6%
Climate change and the glaciers

• 73.6% agreed climate change was ‘definitely happening’

• What do you think will happen to the glaciers over the next 20 years?

- Get smaller, \( n=419, \) 84%
- Don't know/unsure, \( n=39, 8\%
- Get bigger, \( n=4, 1\%
- Fluctuate/stay the same, \( n=38, 7\%\)
If the glacier was NOT easily accessible by foot would you be more likely to take a flight onto/over the glacier?

<table>
<thead>
<tr>
<th>Percentage</th>
<th>No, definitely not</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>Yes, definitely</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>21.1</td>
<td>11.1</td>
<td>5.3</td>
<td>5.9</td>
<td>8</td>
<td>14.3</td>
<td>34.2</td>
</tr>
</tbody>
</table>
If you knew the ONLY way to see the glacier was by helicopter would you have visited the glacier region?

No, definitely not: 15%

Yes, definitely: 35.7%

Other responses: 2%, 3%, 4%, 5%, 6%
Would you have visited the glacier region if you knew you might not be able to see the glacier?
If you had not been able to see a glacier here, would you go elsewhere to see one?

No, definitely not | 7%
---|---
2 | 4.5%
3 | 7.8%
4 | 10.7%
5 | 14.4%
6 | 17.9%
Yes, definitely | 37.5%
Implications and conclusions

• Physical changes in both glaciers continue to present challenges for tourism
  • Access
  • Aesthetics
  • Hazard management
• Challenges not limited to climate – nor necessarily specific to the location
• Region has a history of being adaptive and resourceful
  • Experience in meeting environmental challenges
Implications and conclusions

• Seeing the glacier/s very important
  • Part of New Zealand ‘tour’
  • Reason for visiting
  • Other activities visible but secondary

• Not much time in region

• Glacier experience
  • Matched expectations – glacier and visit experience
  • Overall, satisfied with current glacier experiences
Implications and conclusions

• 27% of visitors reported seeing ‘inaccurate’ images of the glacier – contributed to unrealistic expectations
  • Also relevant for ‘crowding’, ‘natural quiet’ etc
  • Some ability to influence
• Opportunities to capitalise on physical changes (including reduced access / visibility)?
  • Differentiated experiences (valley / ice)
  • Climate change education / interpretation
• Valley floor access options and issues
• Importance of diversification