

Tourism at the glaciers

Fox Glacier, August 27, 2014

170°3'0"E

170°3'30"E

170°4'0"E

170°4'30"E

2009 maximum extent of most recent advance

1984 previous recorded minimum

March 2014

August 2011

April 2012

43°30'0"S

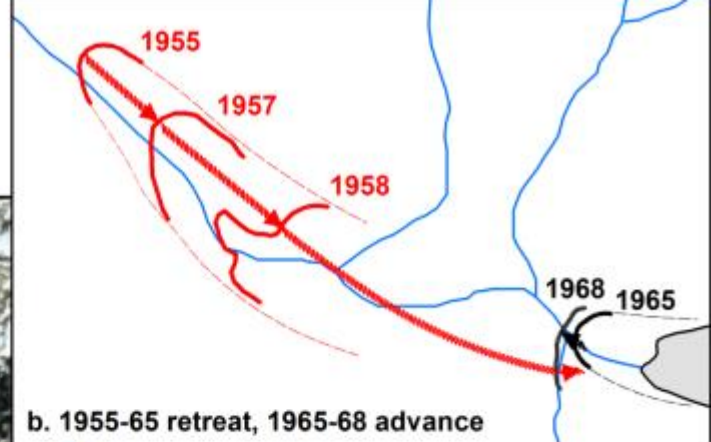
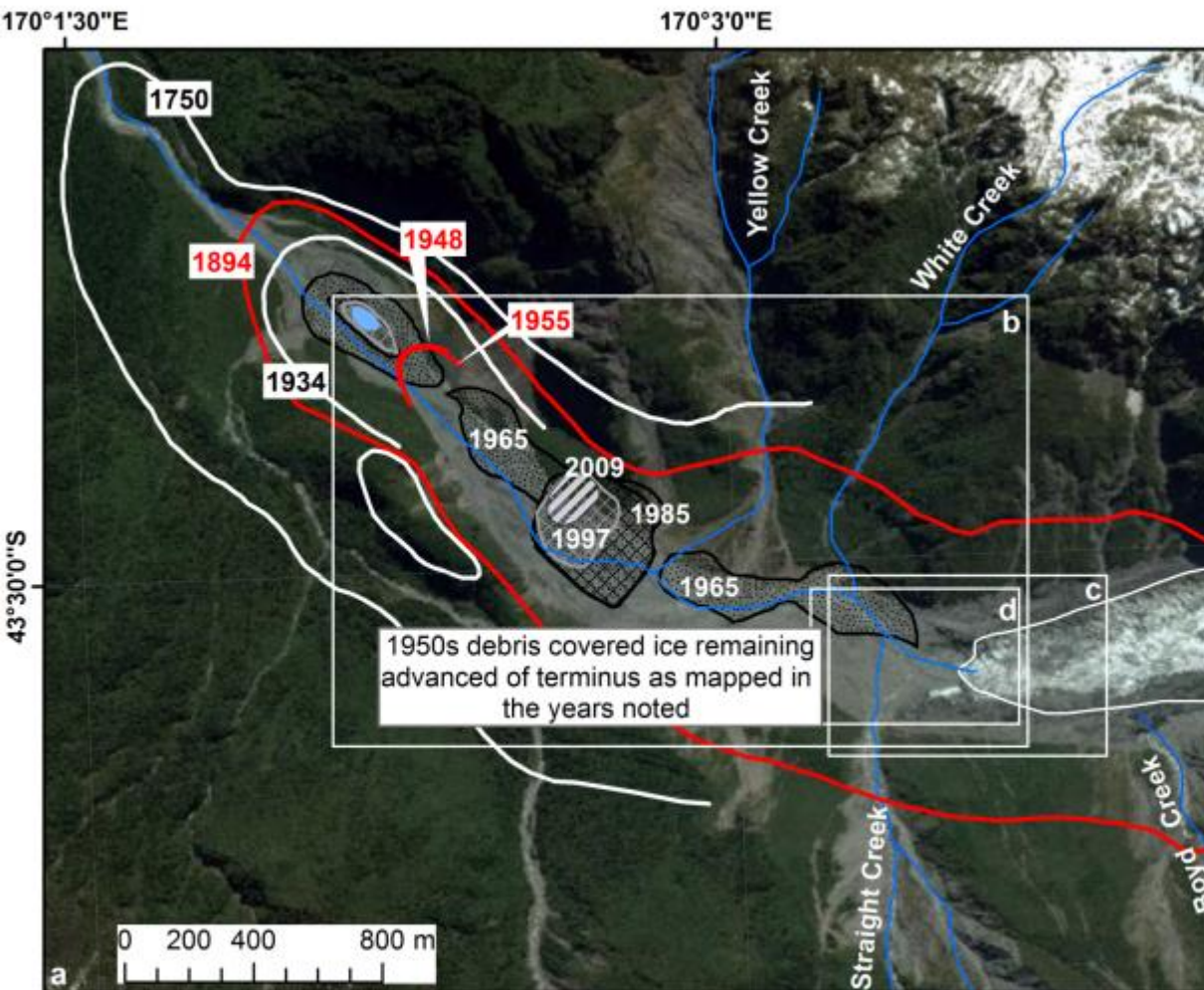
Straight Creek

Boyd Creek

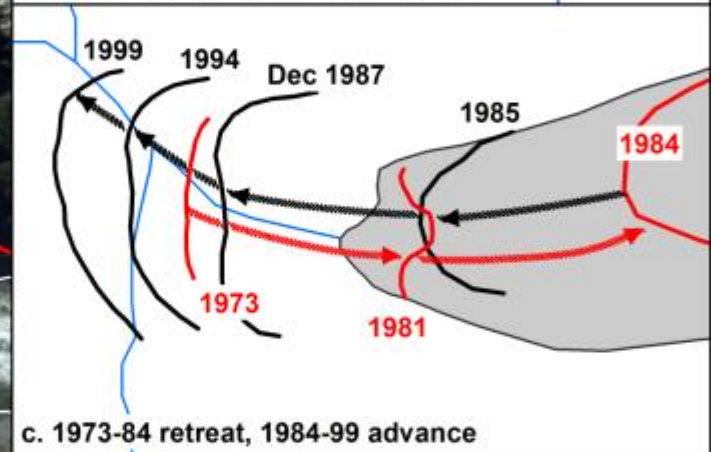


0 125 250 500 m

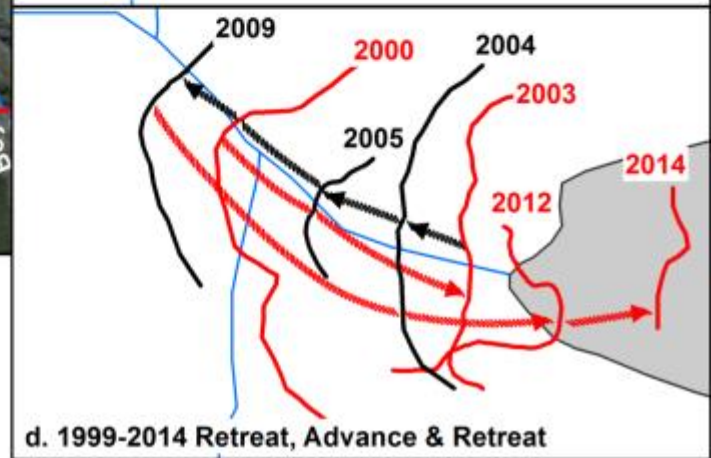




b. 1955-65 retreat, 1965-68 advance

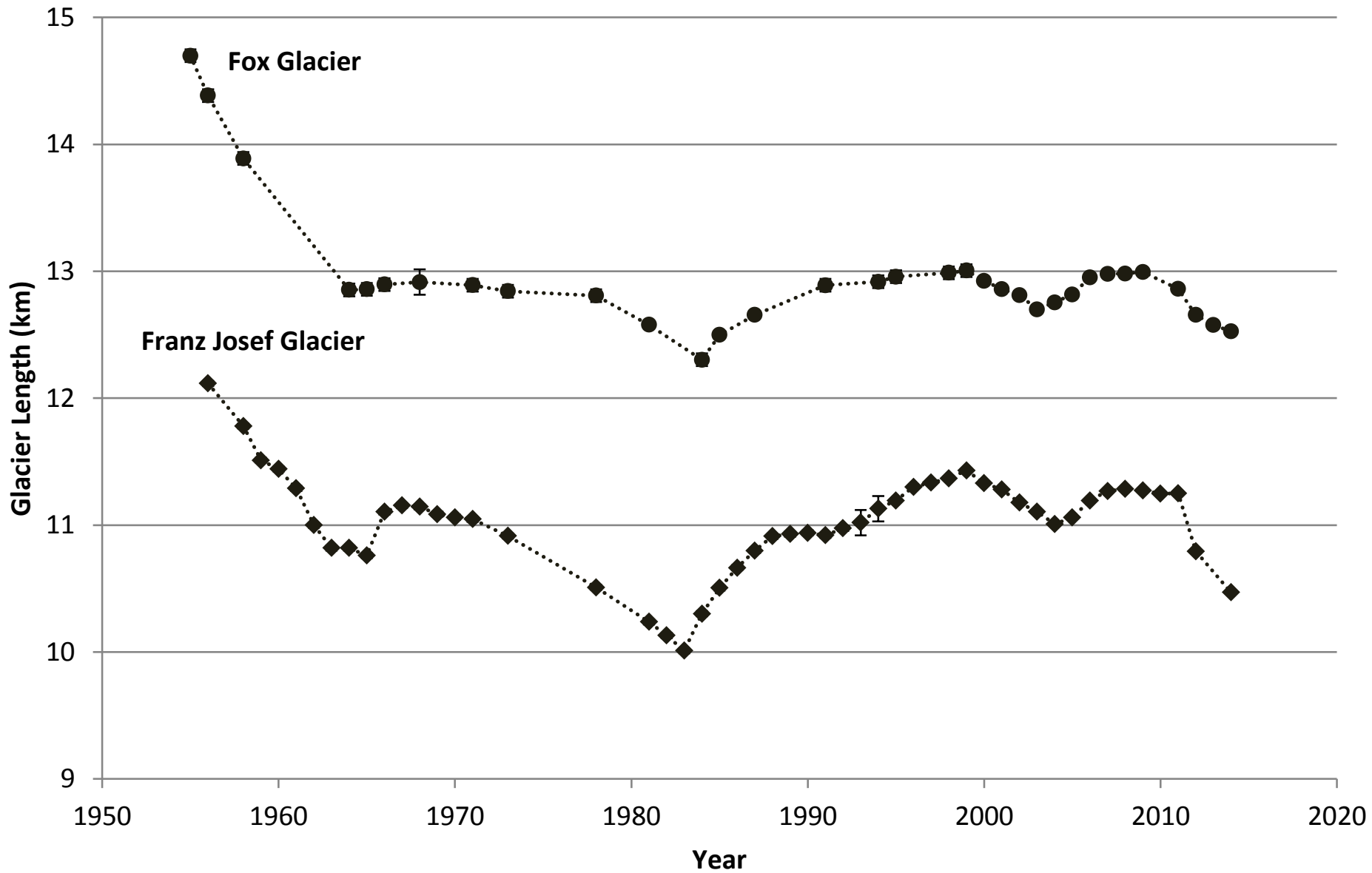


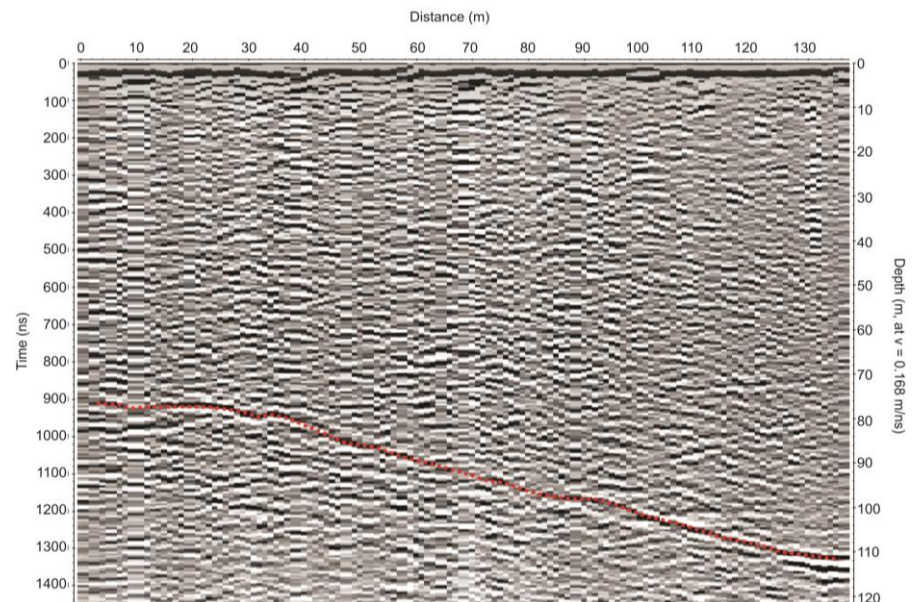
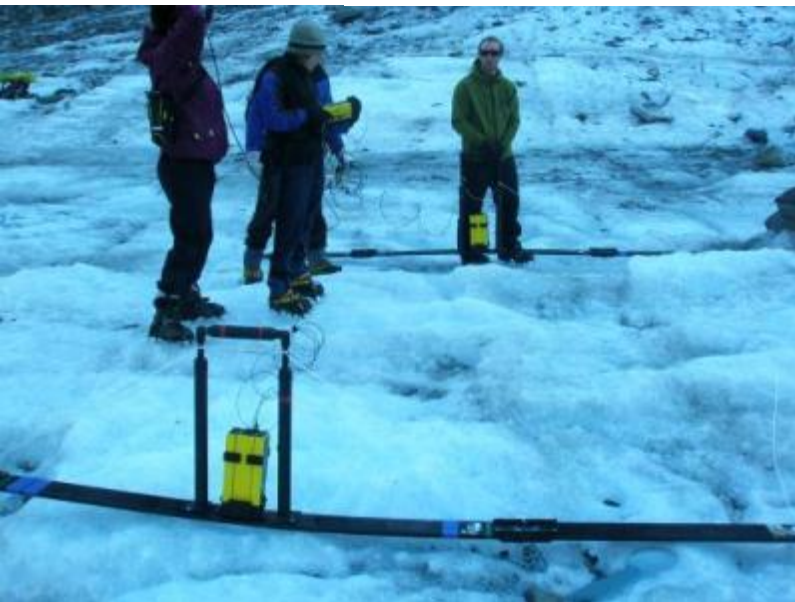
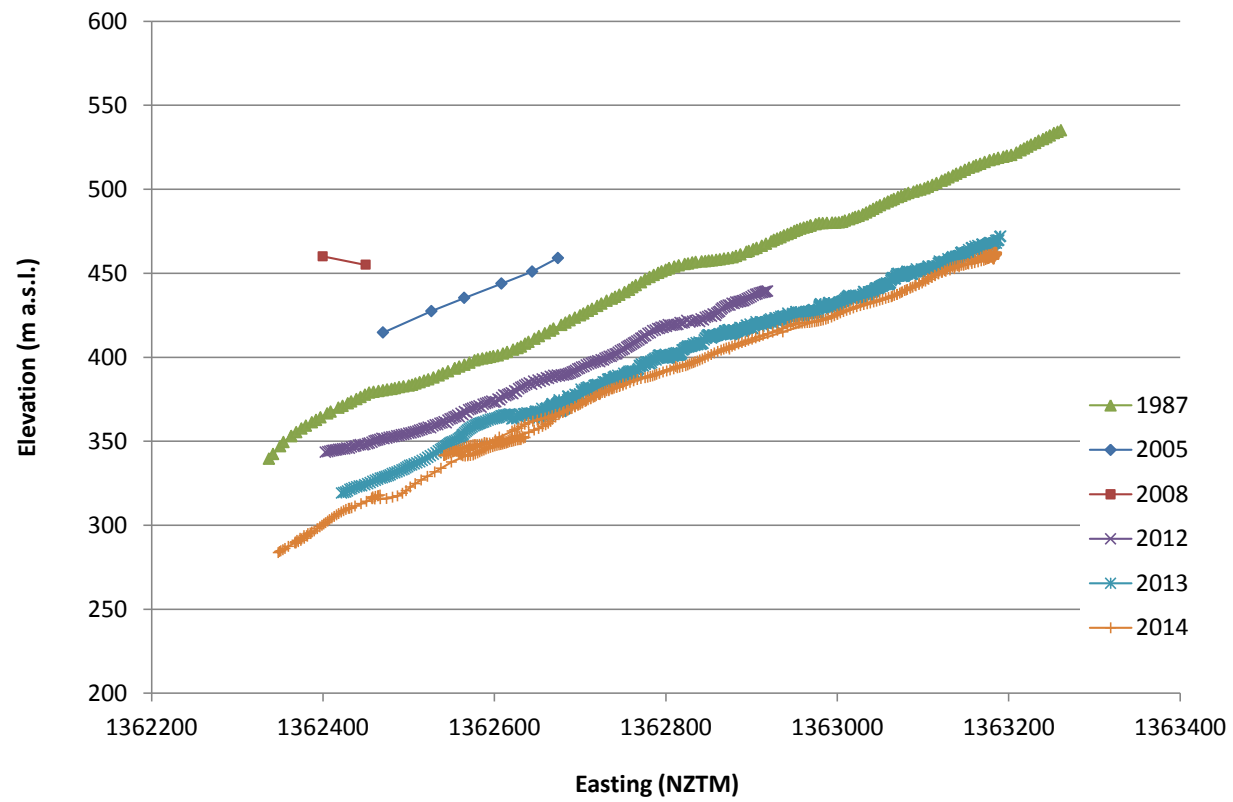
c. 1973-84 retreat, 1984-99 advance

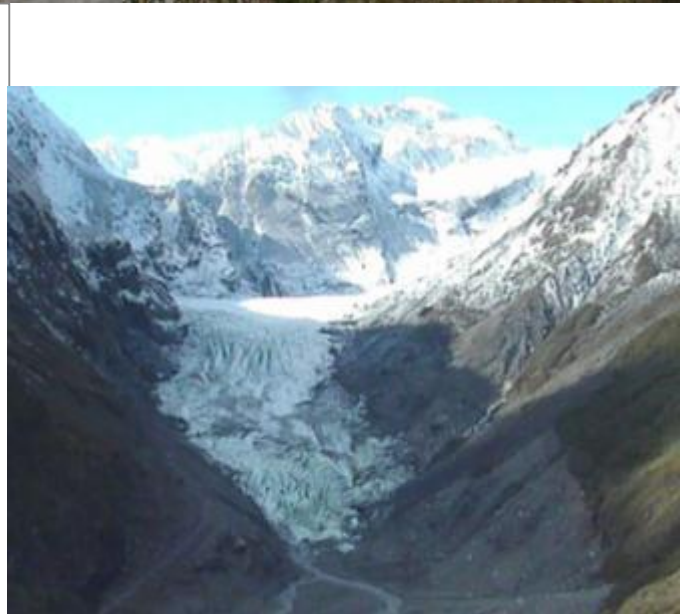
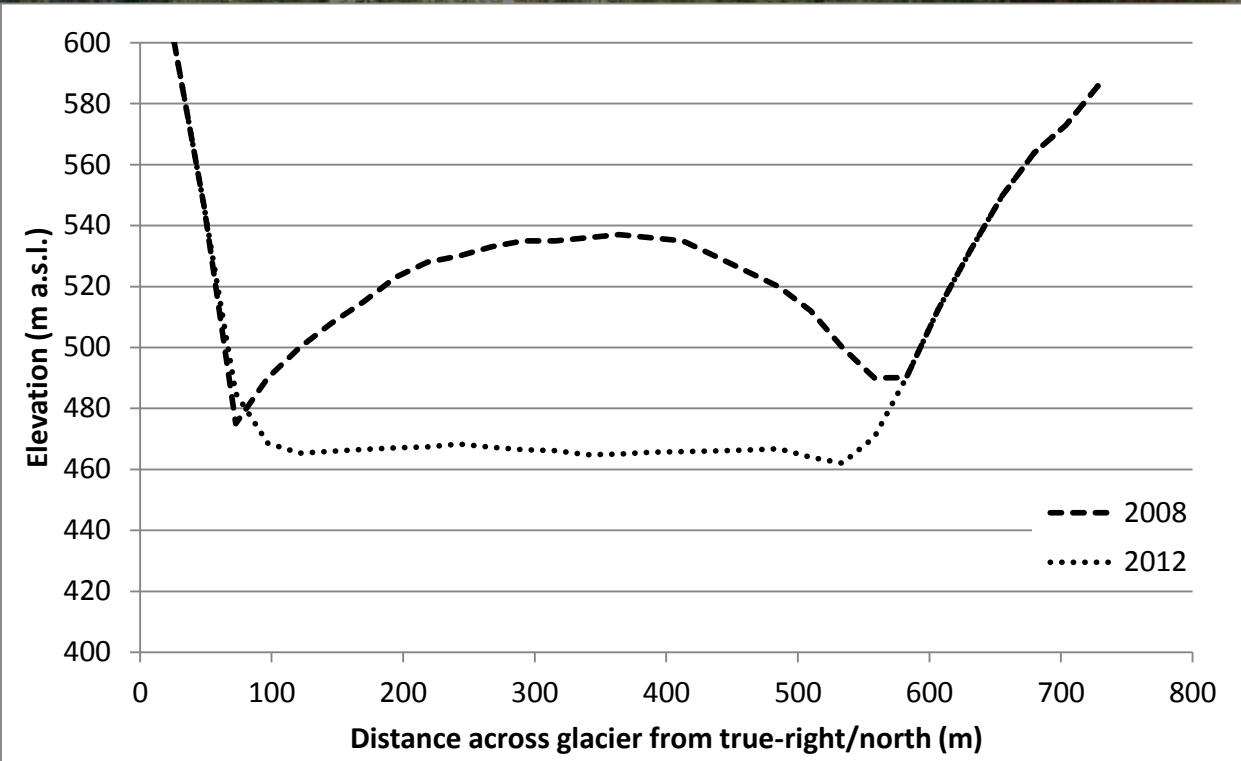


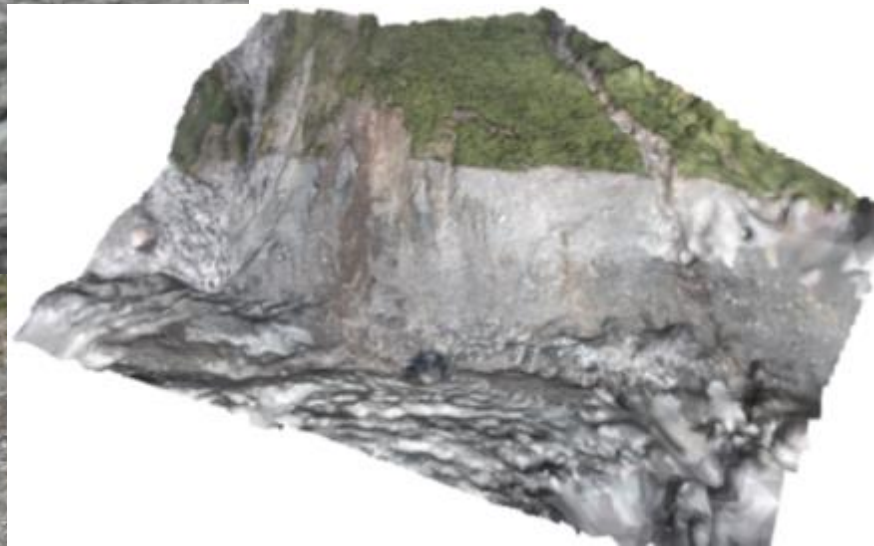
d. 1999-2014 Retreat, Advance & Retreat

Purdie, H., Anderson, B., Chinn, T., Owens, I., Mackintosh, A. and Lawson, W. (2014): Franz Josef and Fox Glaciers, New Zealand: historic length records. *Global and Planetary Change*, 121:41-52.

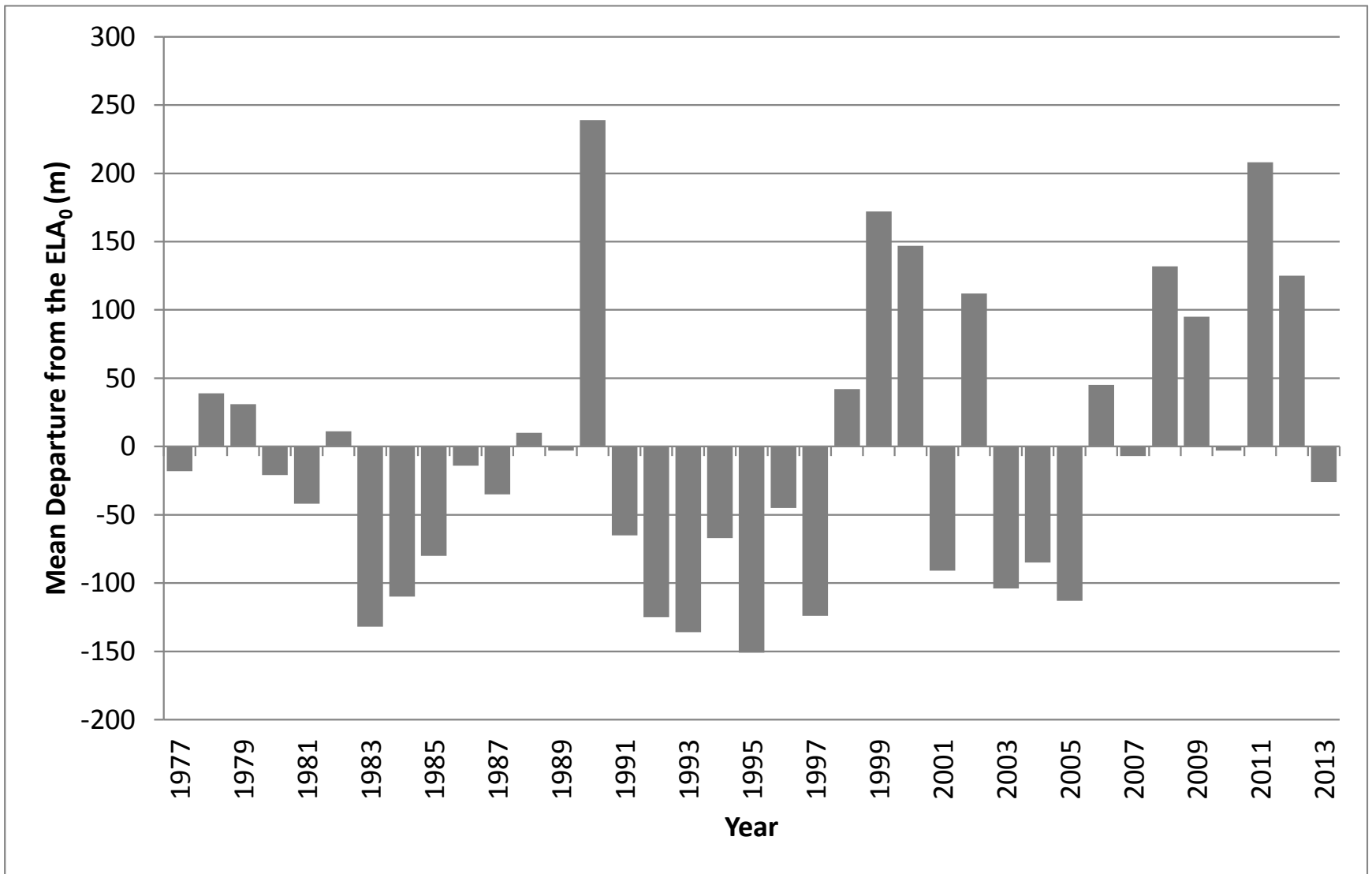








fox-glacier-poly-animated-480p.mov



Data from Willsman et al. (2014)

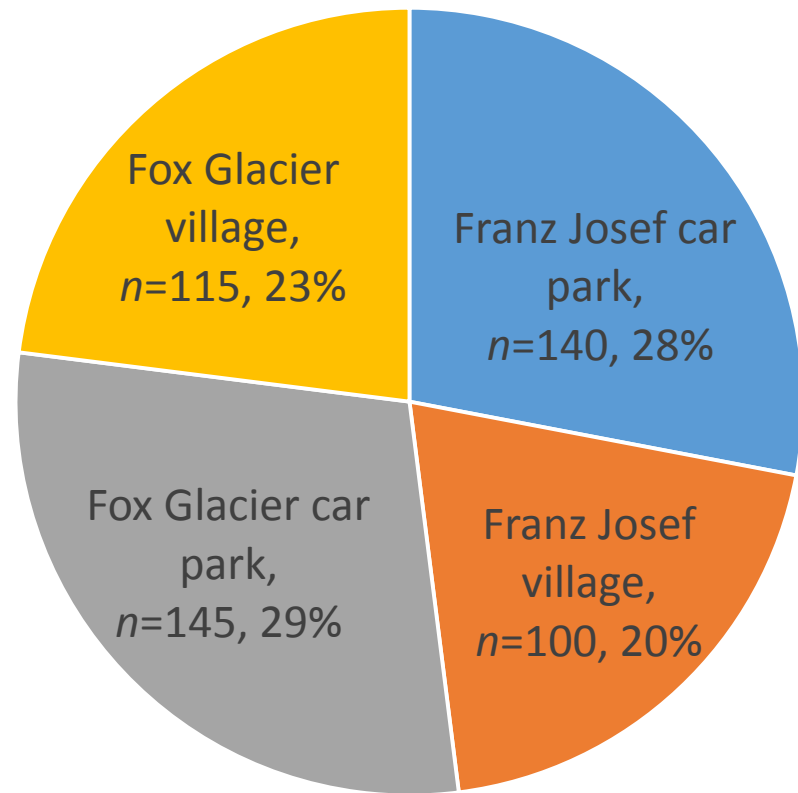
Research interest

- 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

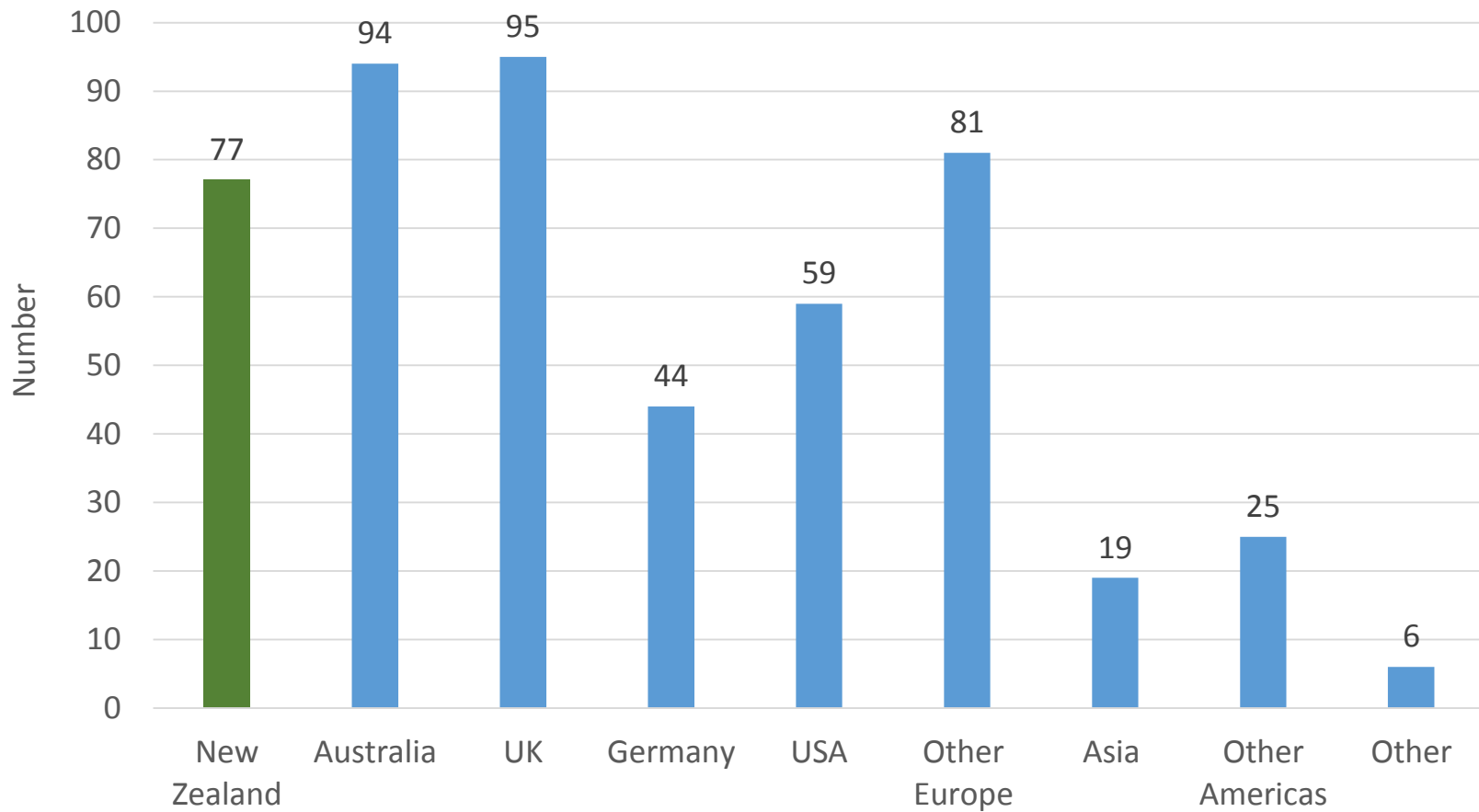


Survey limitations

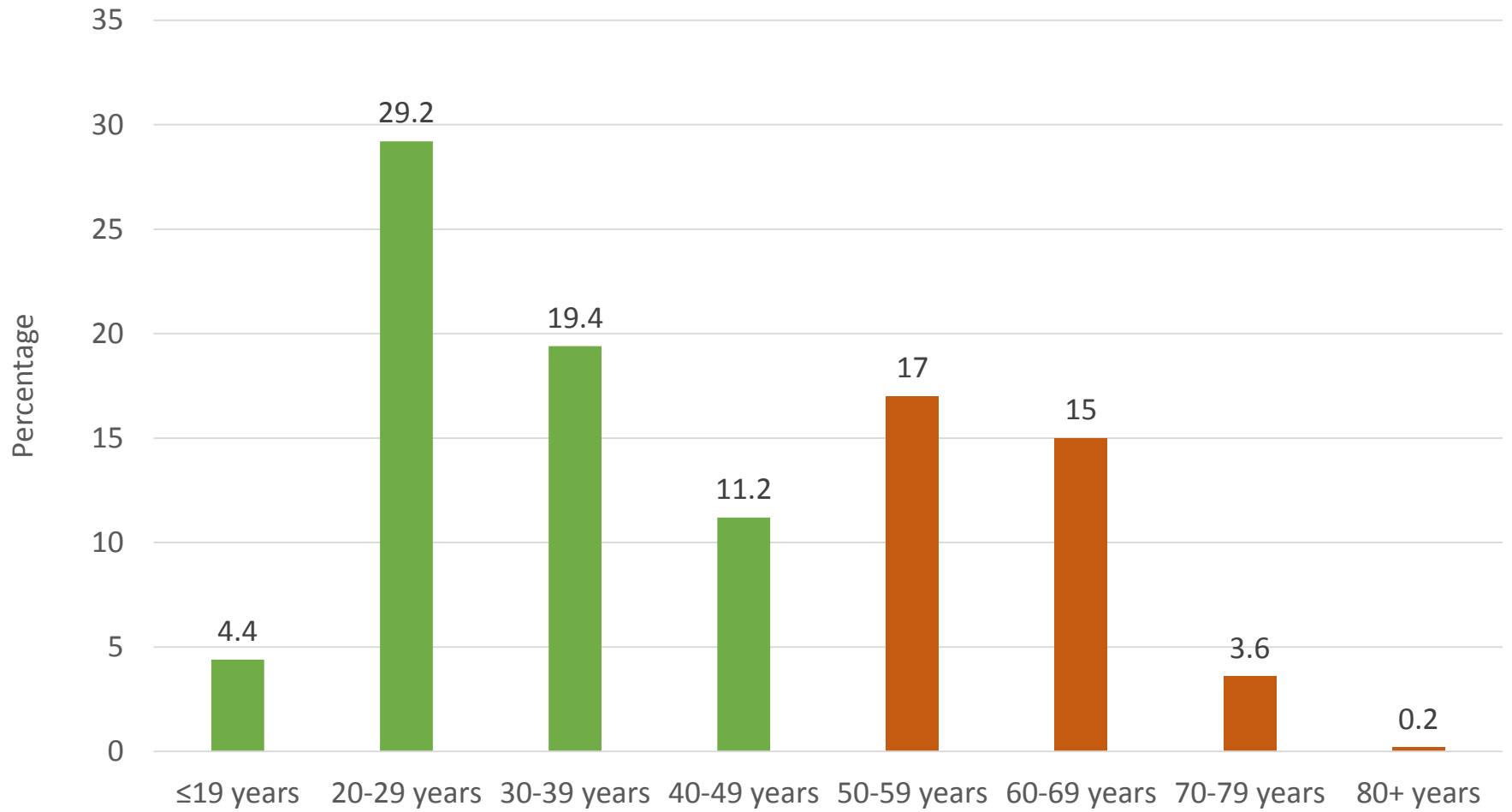
- A sample only – no way to know how representative they are of all visitors
- Poor representation of Asian visitors and tour groups
- Data not picked up by survey questions e.g., price consideration for choosing activities, weather impacts



Usual residence

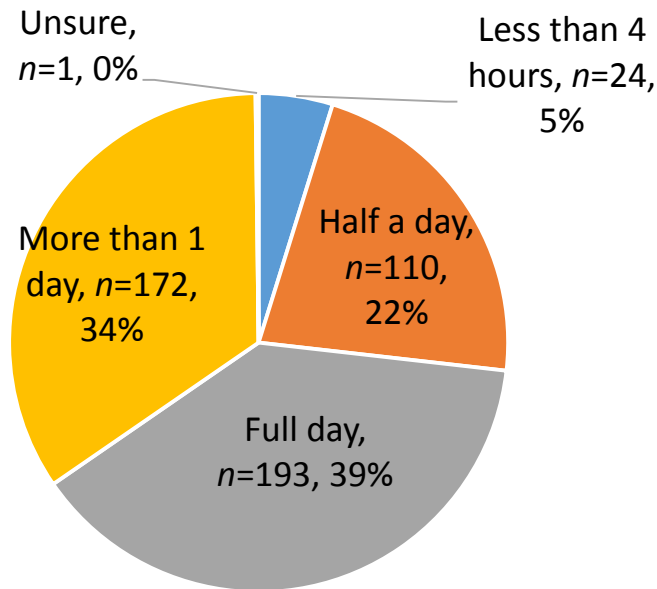


Age



Visit details

- Nights stayed
 - 39.6% 1 night
 - 42.5% 2 nights
- Time at glaciers

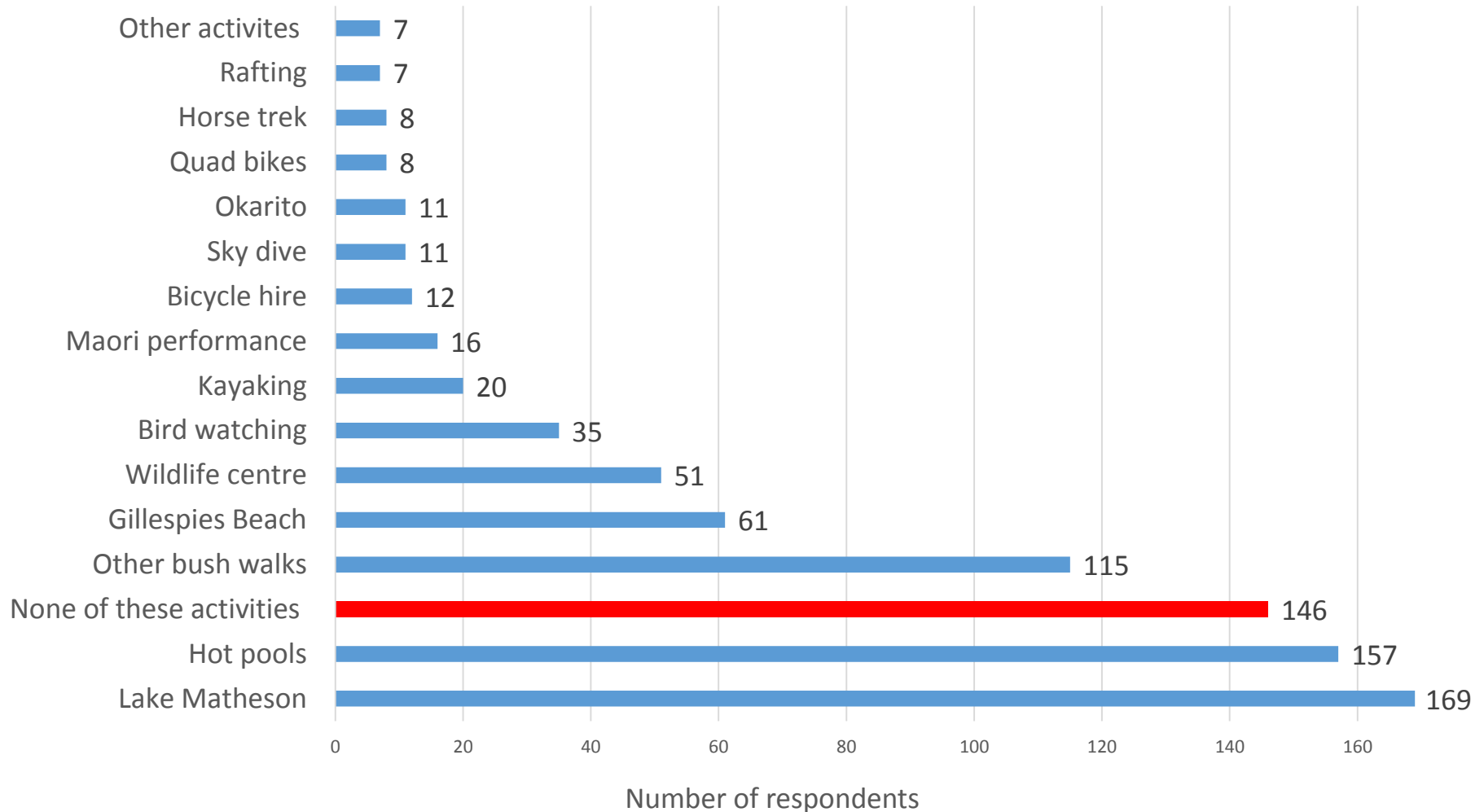


- 84% first visit
- Independent walk to final barrier
 - Franz Josef $n=233$
 - Fox Glacier $n=203$
- 51.8% ($n=259$) did a commercial activity
 - Over half (55.6%) of these visitors also walked up glacier valley
- 33.2% ($n=166$) did a flight activity

Direction of travel



Other activities at the glacier region

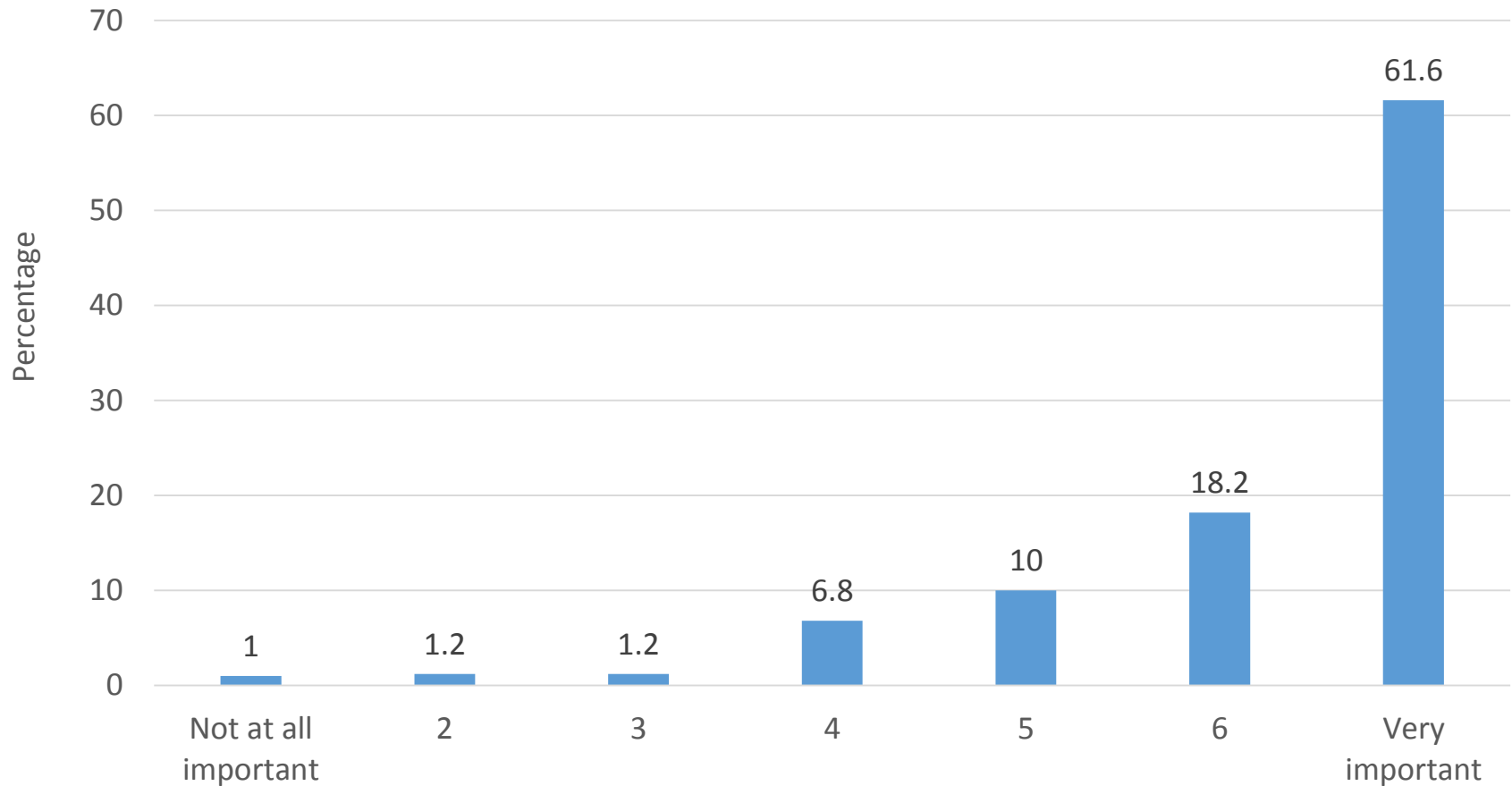


Most memorable aspect of visit: 569 things reported

- 396 glacier-specific
 - 87 specifically mentioned flights
 - 39 mentioned activities
- 173 non-glacier
 - 135 related to natural environment/scenery views (e.g., waterfalls)



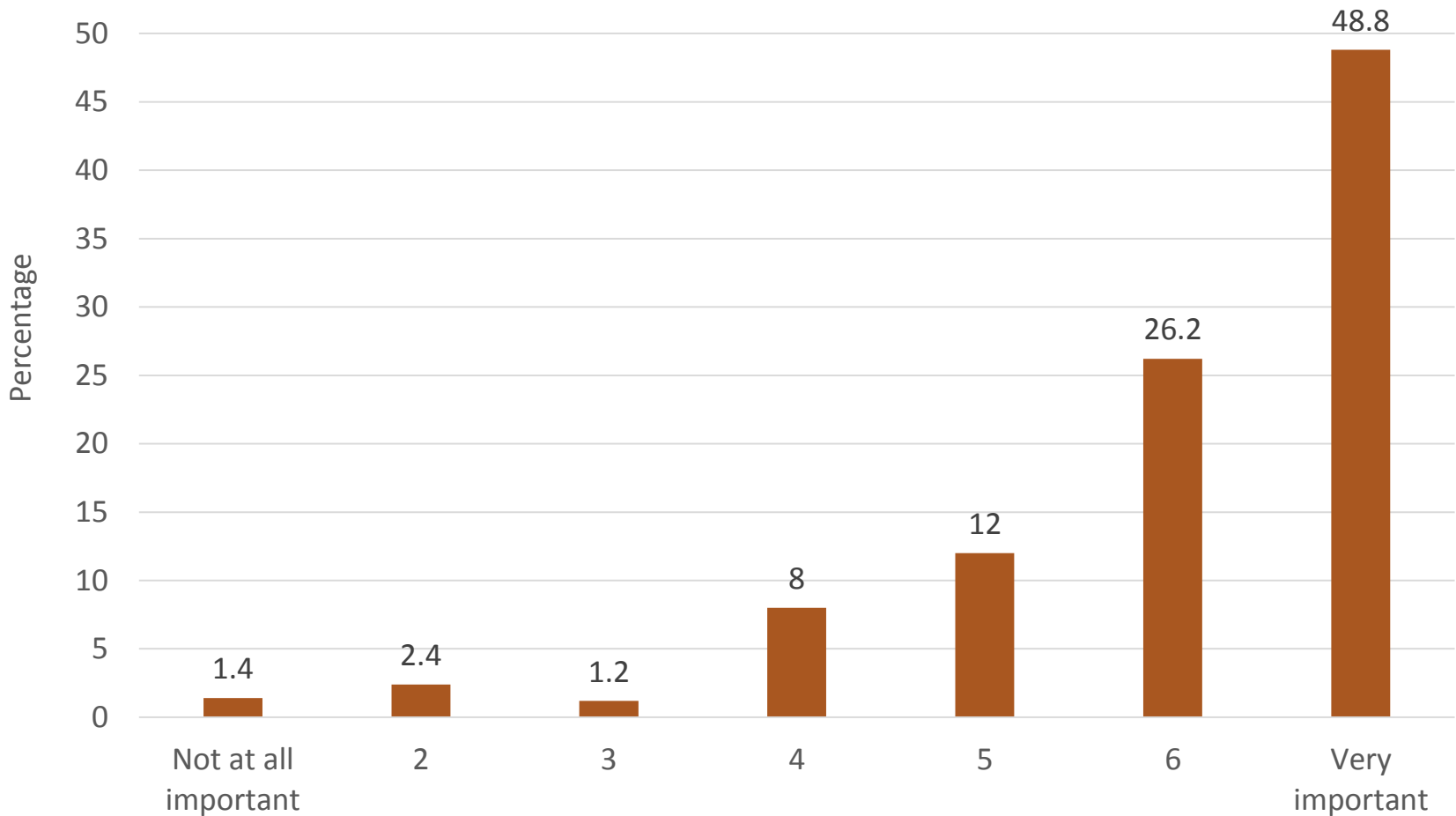
Importance of seeing the glacier



Reasons for visiting: 3 highest and 3 lowest mean scores

Reason for visiting	Mean
To see a natural feature that may disappear in the future	6.01
To be close to nature	5.71
To view an easily accessible glacier	5.61
To experience a rainforest	4.34
To be with friends and family	4.16
To experience solitude	3.94

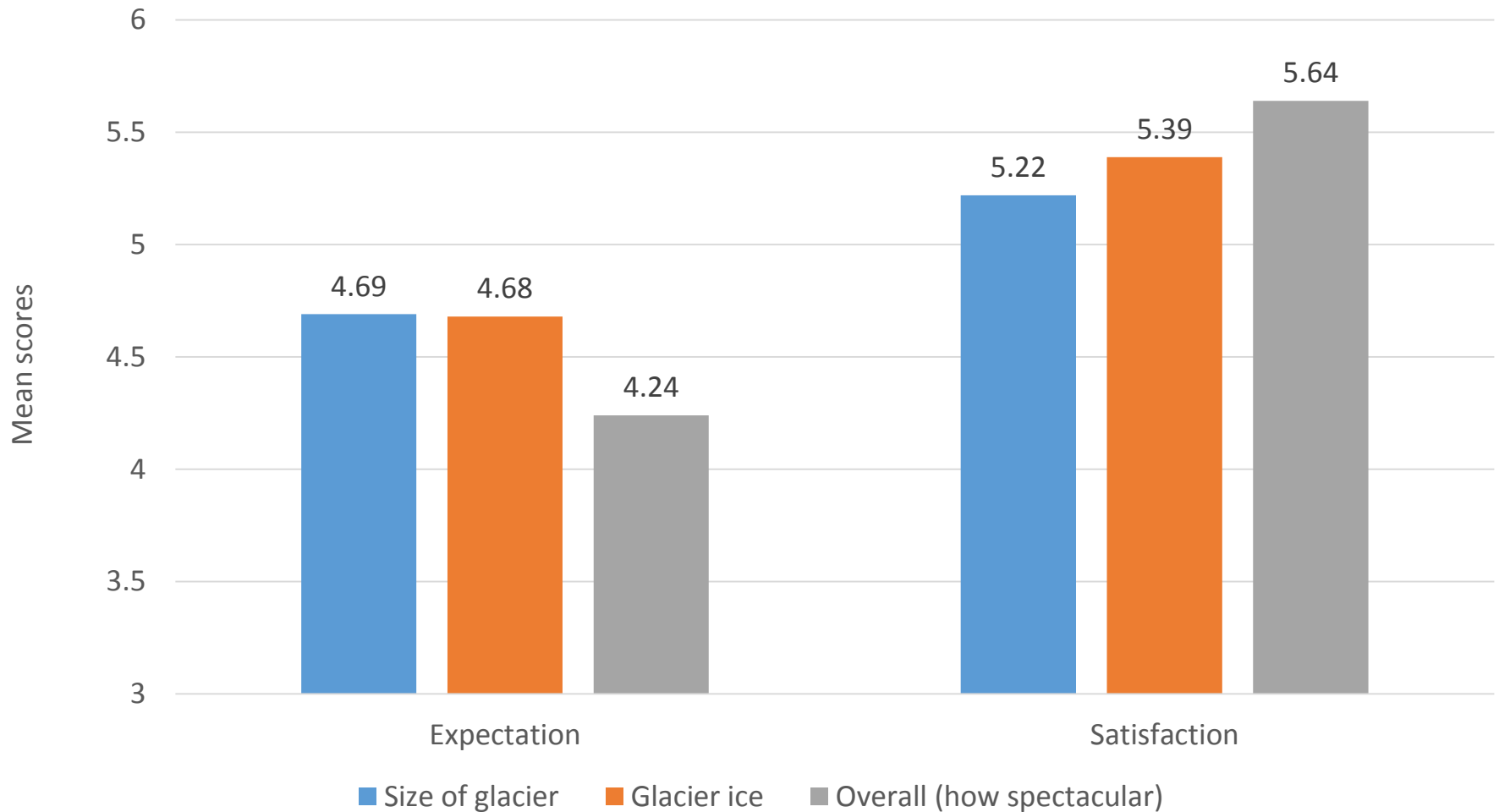
To see a natural feature that may disappear in the future



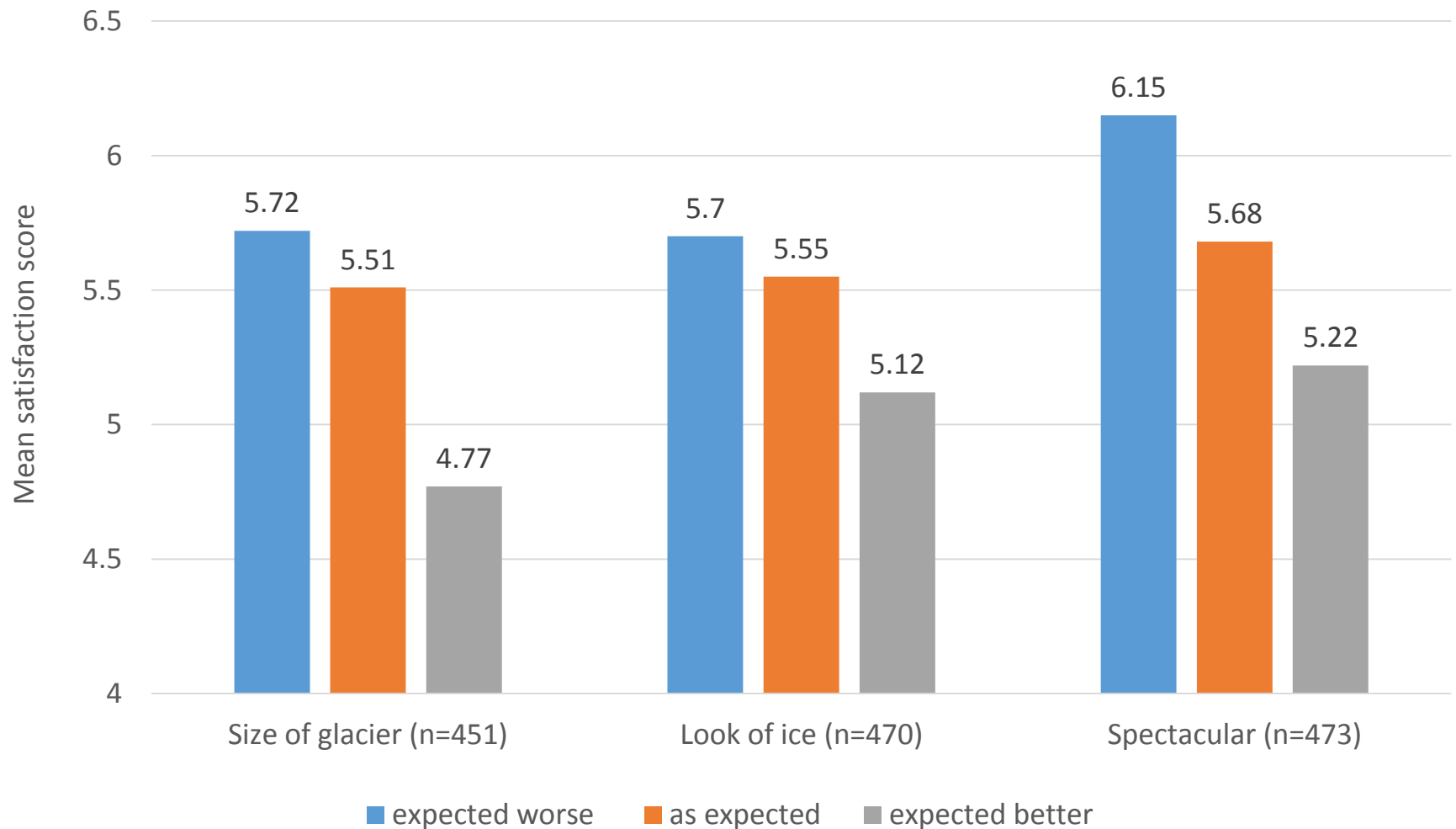
Glacier experience factors

- 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

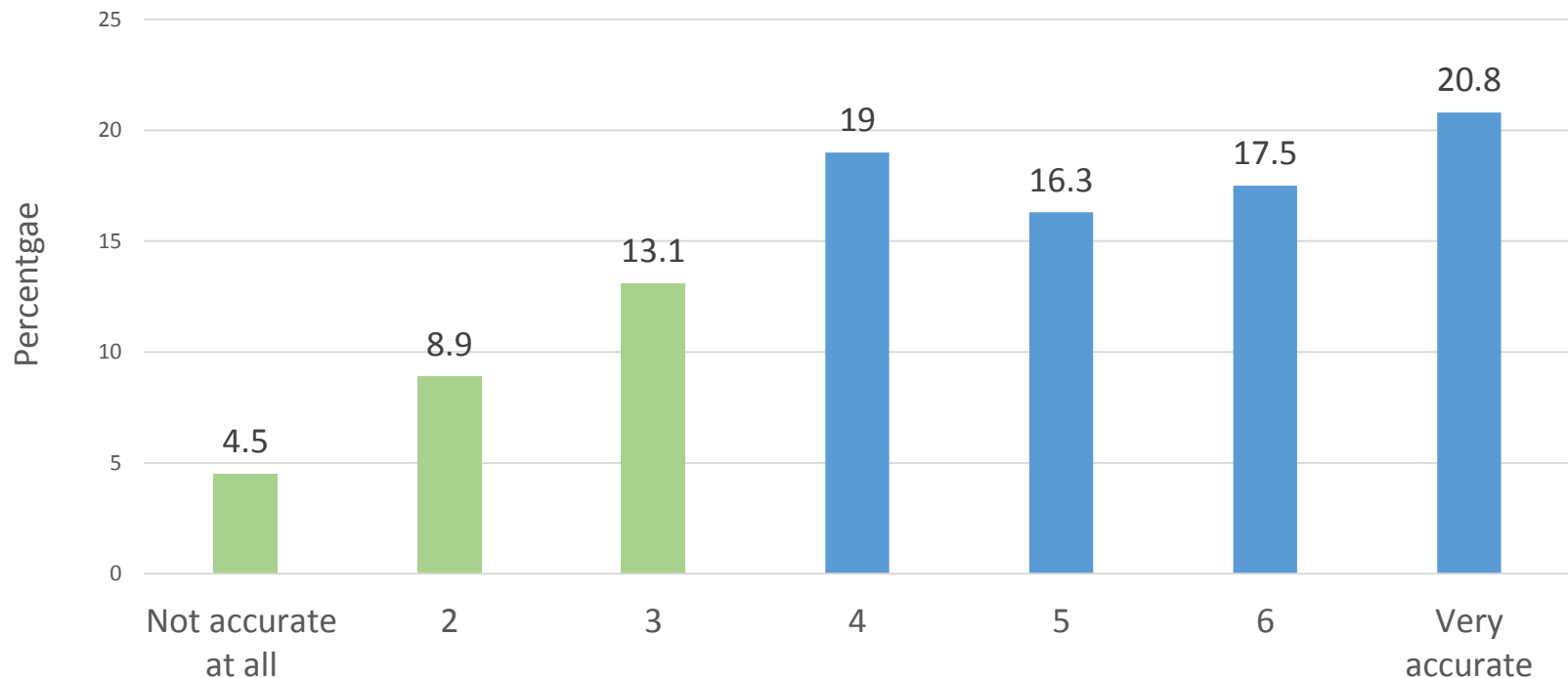


Relationship between expectation and satisfaction



Images of the glaciers

- 67% ($n=337$) saw images before their visit
- How accurate were these images?

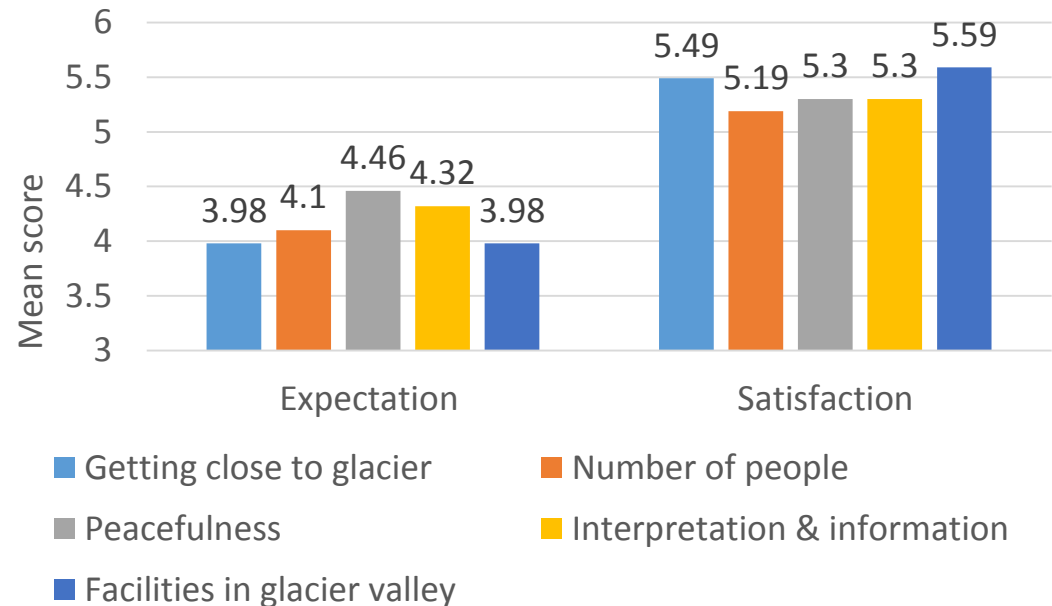


Pre-visit information sources

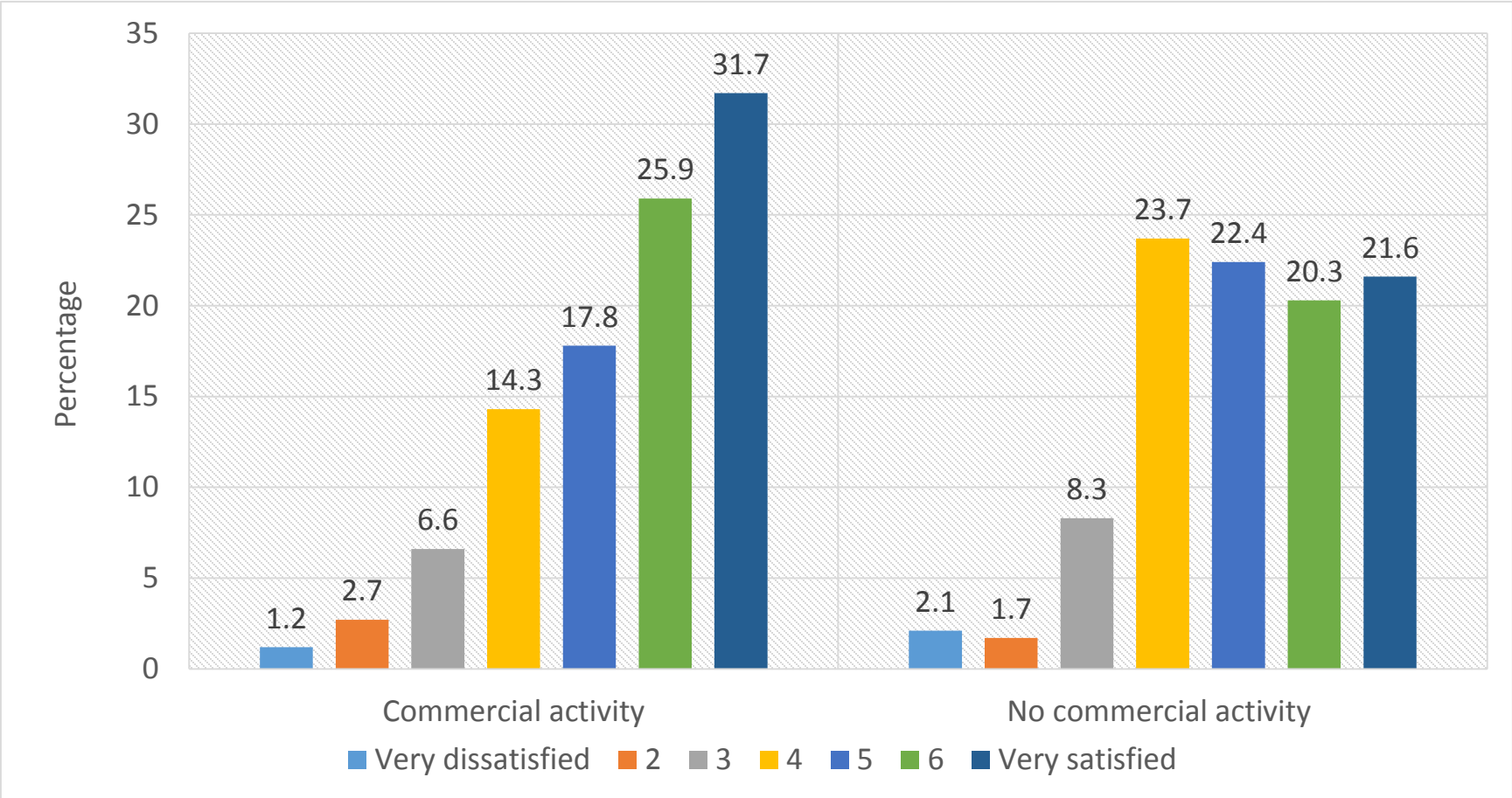


What did you expect from your glacier visit?

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

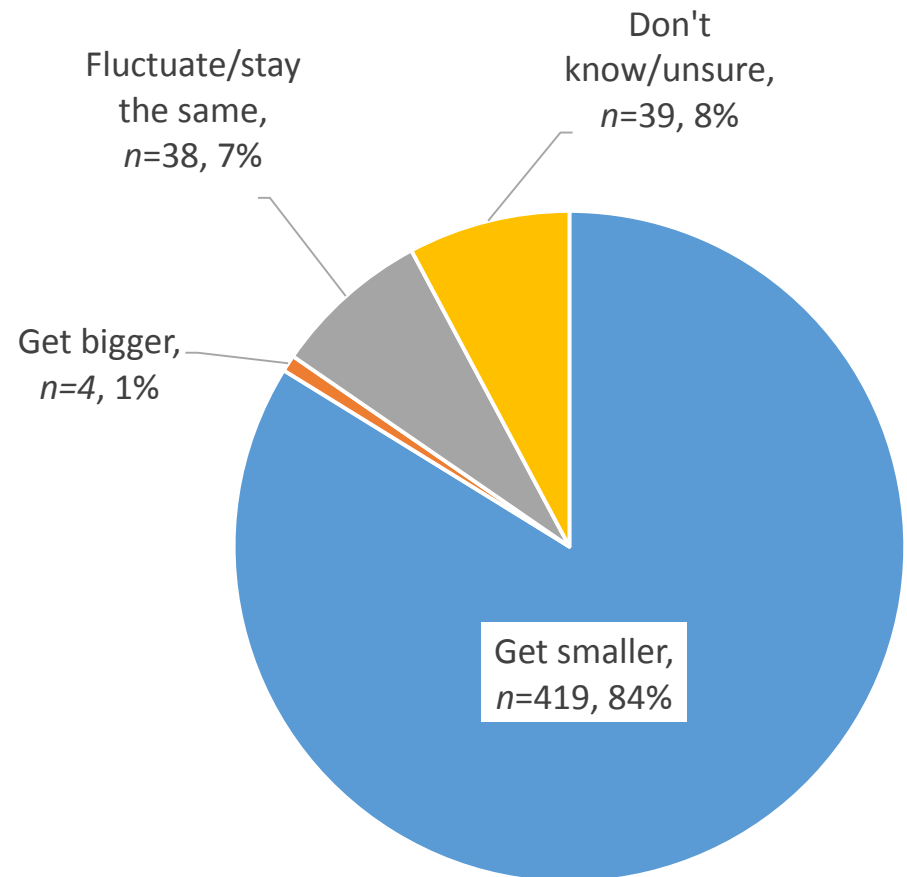


Satisfaction with interpretation and information (commercial vs non-commercial activities)

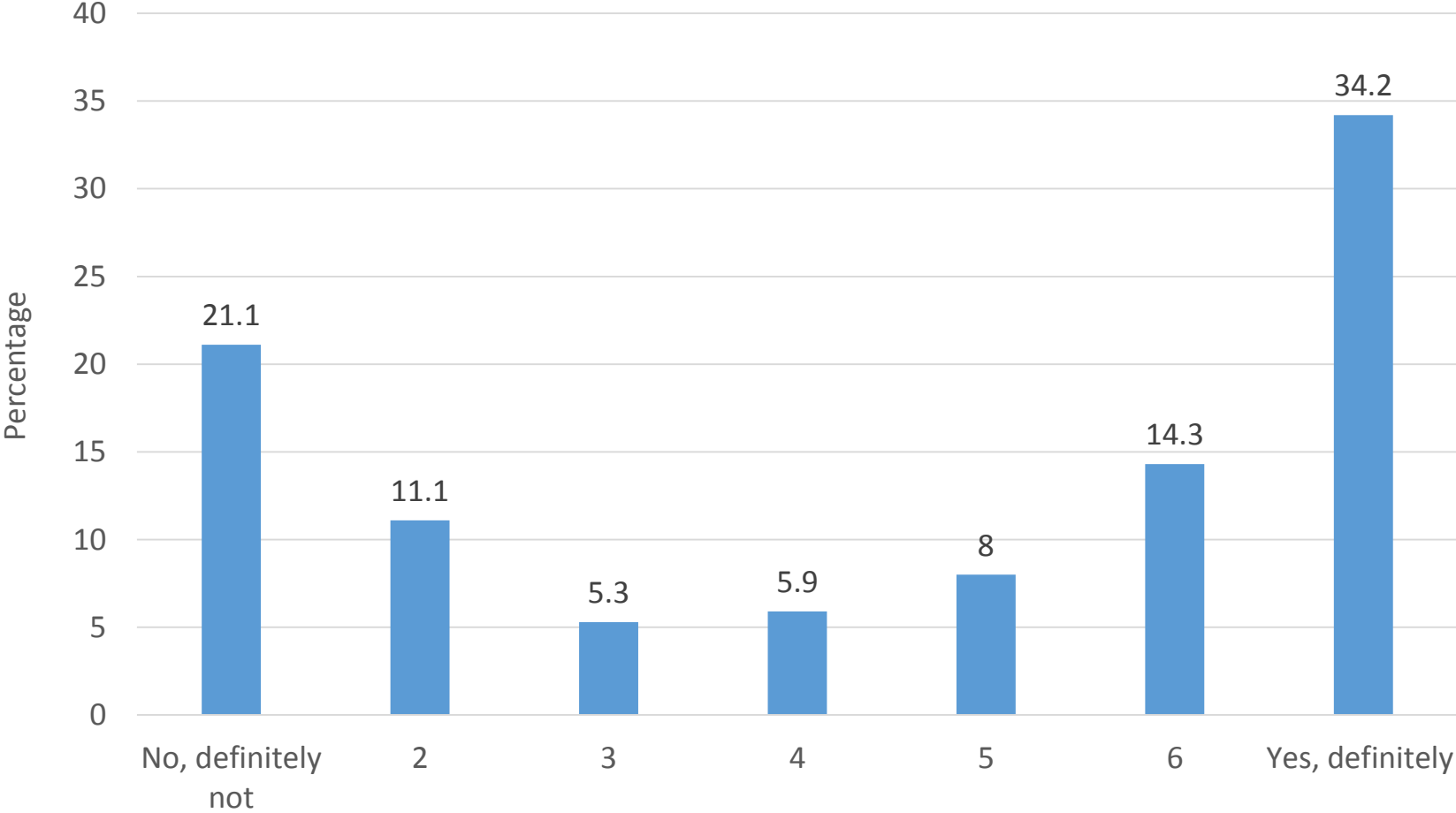


Climate change and the glaciers

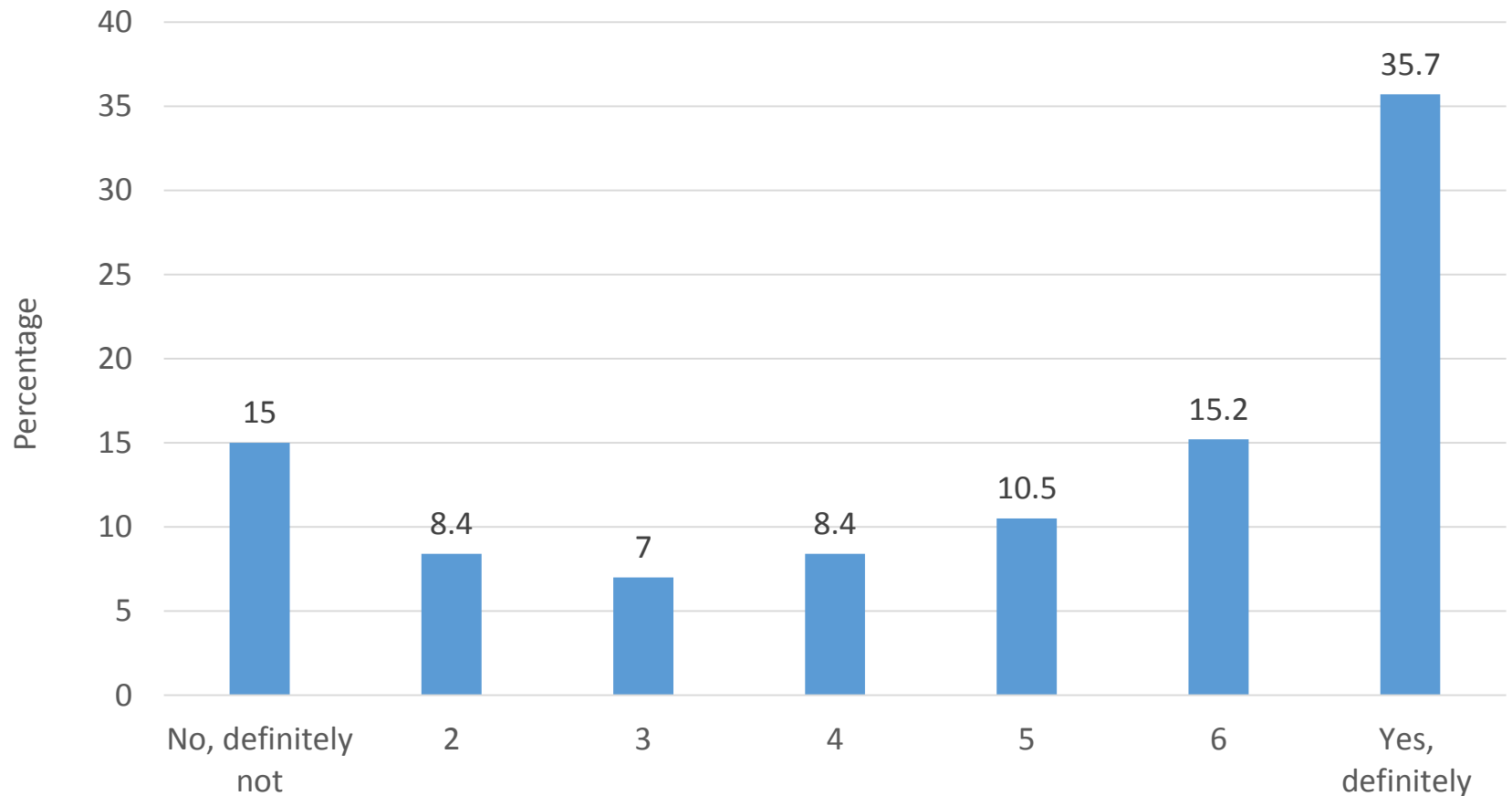
- 73.6% agreed climate change was 'definitely happening'
- What do you think will happen to the glaciers over the next 20 years?



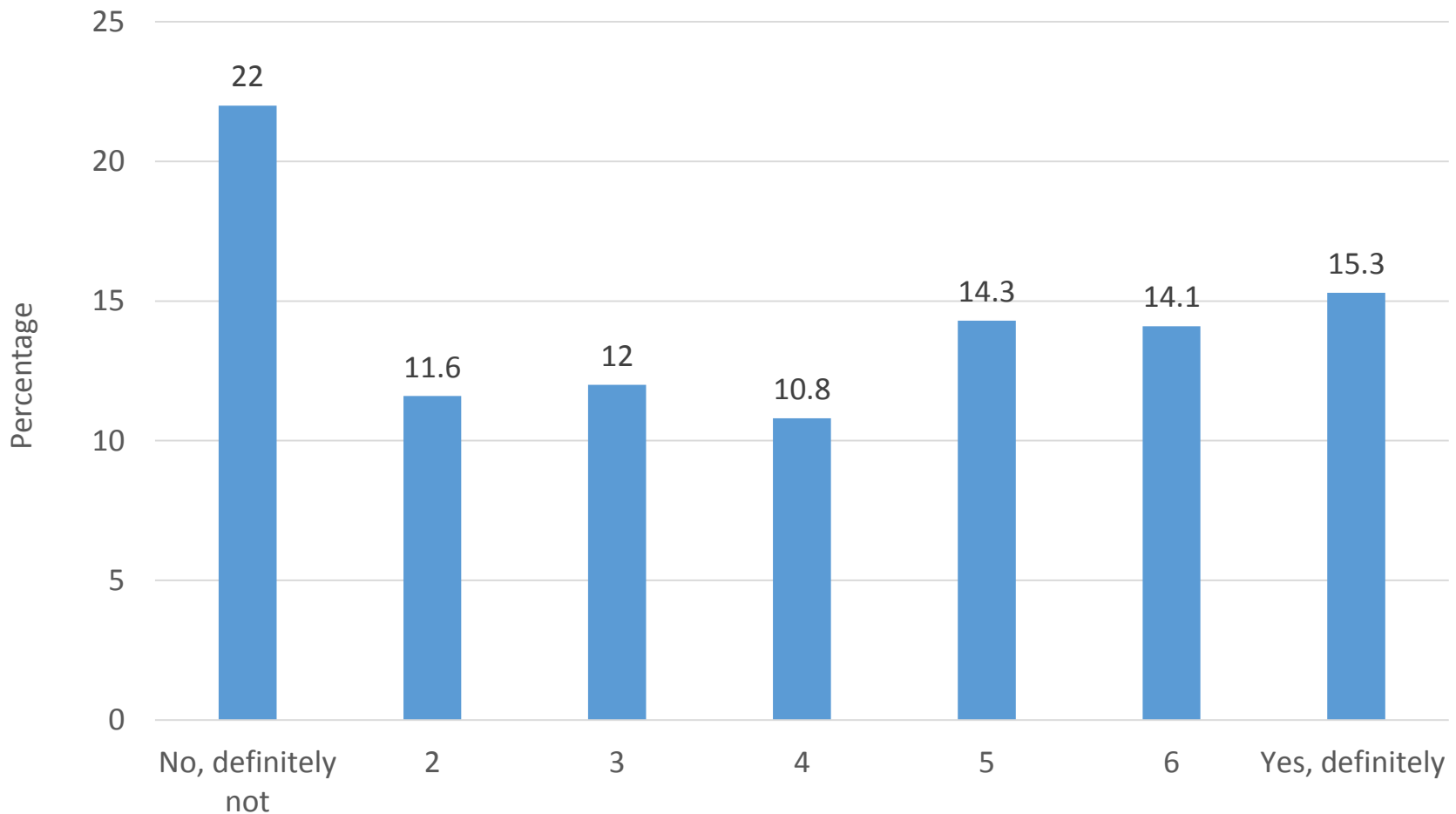
If the glacier was NOT easily accessible by foot would you be more likely to take a flight onto/over the glacier?



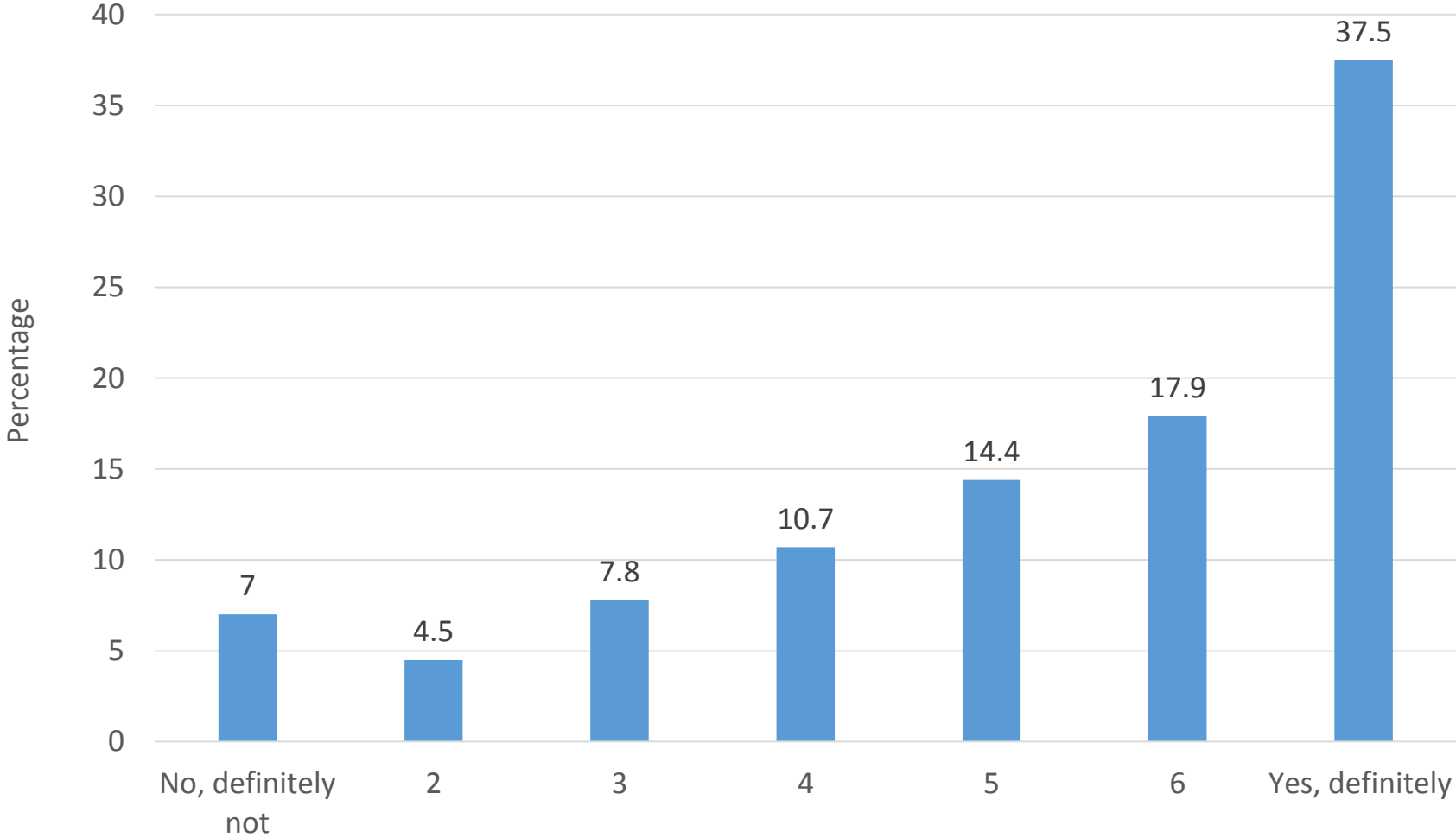
If you knew the ONLY way to see the glacier was by helicopter would you have visited the glacier region?



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?



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