

# VESTLANDSFORSKING



# NORCE



## Coping with darkening peaks

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**International Congress for Arctic Social Science (ICASS X), June 18th. 2021**

BREAKING NEWS » NEWS IN BRIEF

# Norwegian Cruise Line Introduces 'Now Or Never' Tour Of The Arctic

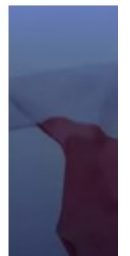
Yesterday 7:00AM



Alerts

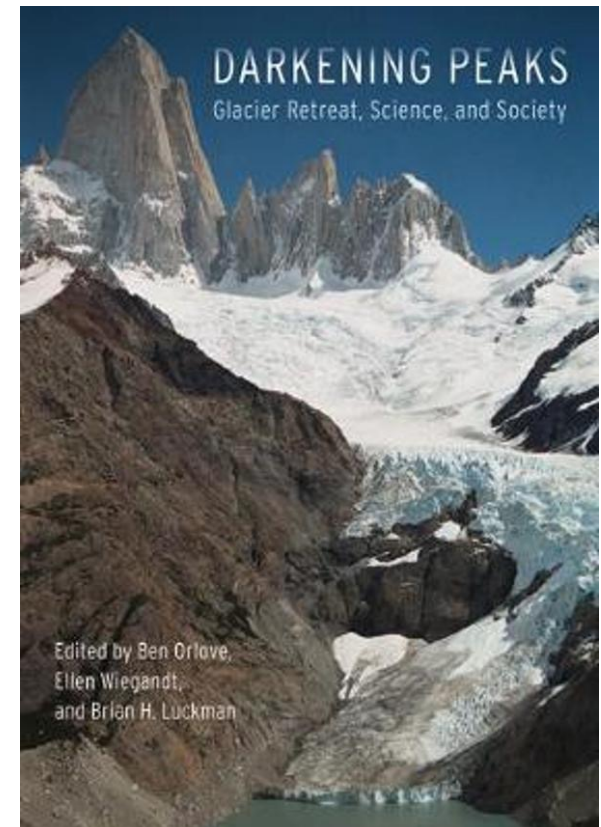


Recent V



# How are climate and cryosphere change impacting mountaineering?

- **Glacial retreat and loss of summer ice and snow**
- **Shorter and «poorer» ski season**
- **Increased natural hazard risks**
- **Limited research on how this affect mountain tourism outside the ski industry**
  - ▶ Climate change already affect many classic mountain routes in the Alps. *Moreay et al. 2019.*
  - ▶ Glacial retreat is negatively affecting demand in some destinations. *Welling et al. 2020; Smiraglia et al. 2008*



Orlove et al. 2008

## Sense of place, connection to nature and sustainable behavior

- Glaciers and ice caps have importance for place identity and hold symbolic and cultural significance for mountain communities (Orlove et al., 2008; Jurt 2015; Allison )
- Increasing number of last chance tourists in the Arctic and to glaciers (Lemelin 2010; Lemeieux et al. 2019).
- Last chance tourists display stronger connection nature than others (Lemeieux et al. 2019; Groulx et al. 2018)
- Glaciers as “charismatic” entities with non-human agency - “flagship entities” that mobilize support for climate action (I.e Lorimer 2007).

## Objectives

- Co-develop downscaled projections for snow and cryosphere change with relevance for mountain tourism (with stakeholders)
- Investigate impacts and adaptations in nature-based tourism industry
- Investigate whether tourism actors use climate change impact as an element in the tourism experience – to raise awareness and instigate pro-environmental behavior.



Photo: Halvor Dannevig



# Methods and cases

## Lofoten

- Workshop
- 8 interviews

## Jotunheimen

- Workshop
- 1 survey (n=143)
- 3 interviews

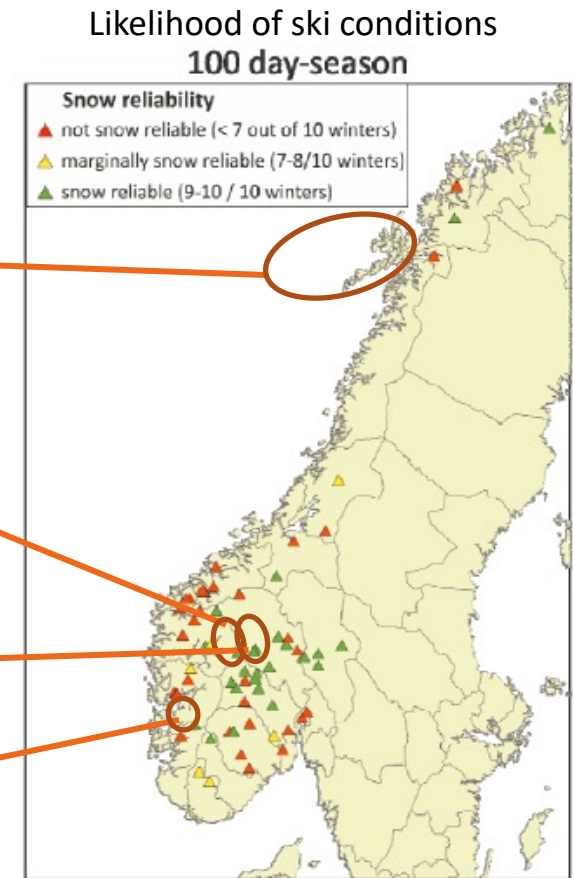
## Indre Sogn

- Workshop
- Two surveys (n=42, n=70)
- 5 interviews

## Hardanger

- Workshop
- 7 interviews

- Hotel & lodge managers
- Mountain hut wardens
- Mountain guides
- Destination Marketing Officials.



Steiger et al. 2017

Research is built on the project «Climate change impact on Norwegian nature based tourism (CLIMTOUR)» 2016-2021

# Glacial retreat



Briksdalsbreen Glacier, Western Norway

- 70% of glaciated area loss by end of century
- 93% of glaciers will disappear (high emission scenario)
- Ongoing loss of a tourist activity in Norway.
- Substituted with other [activities](#).

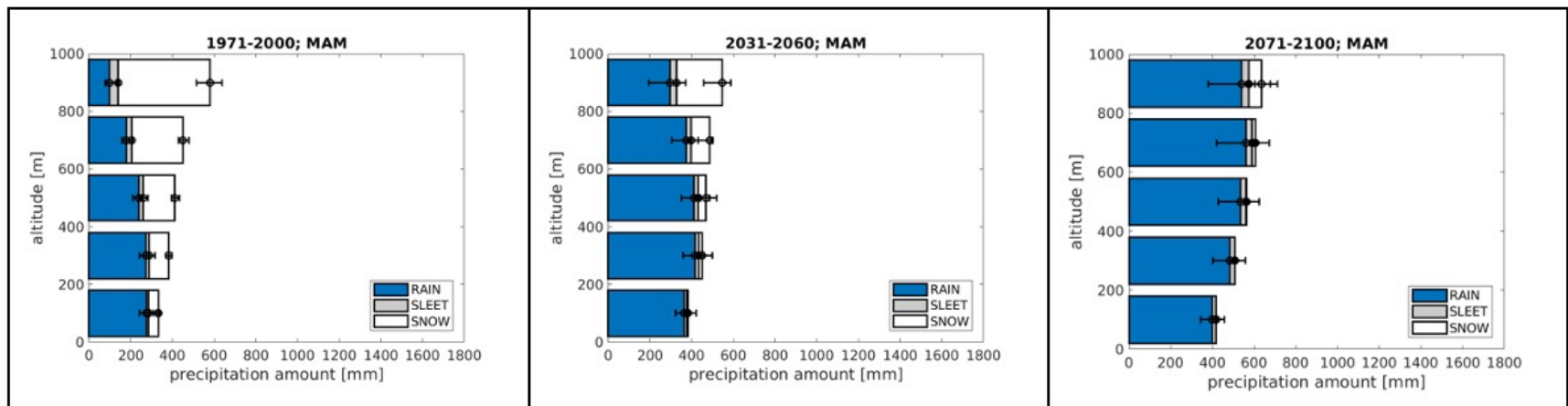
# Snow/rain in winter and spring at different altitudes in Lofoten in the future

Historically (1971-2000)

Mid century (2031-2060)

End of century (2071-2100)

Spring





# How mountain guides and mountain hut wardens would cope with loss of snow

## Lofoten

- Increasing amount of foreign ski tourists – a new development recent decade.
- «Clients know that conditions varies a lot»
- «If we lack snow here, we can drive to the east, its not that far until it gets colder».

## Jotunheimen

- Limited importance, affect scenery and logistics for tourist cabins dependent on skidoos.
- Sees an opportunity for last chance tourism

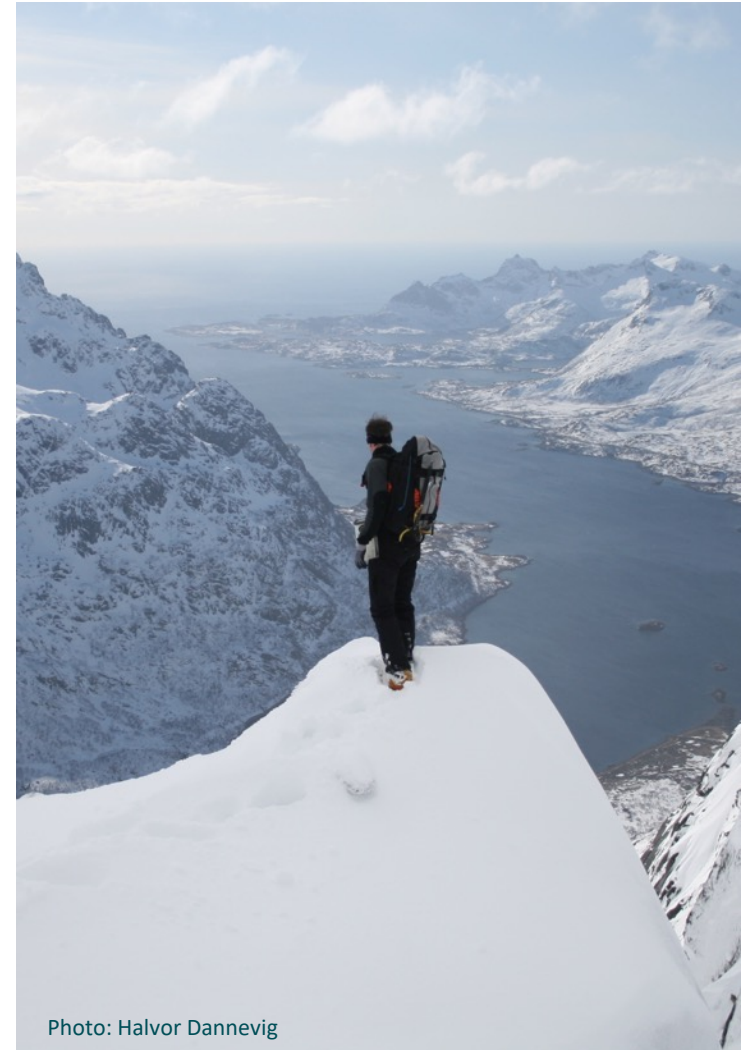
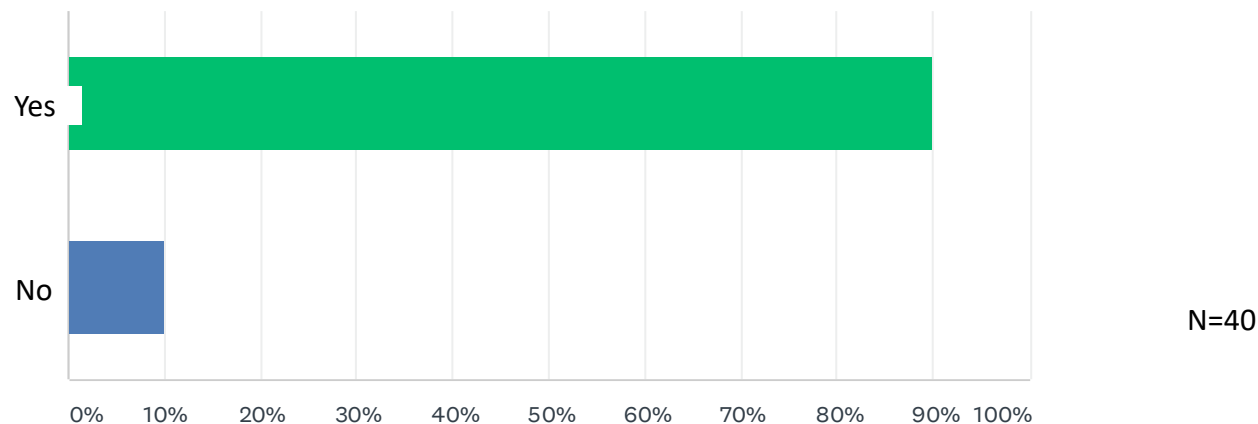


Photo: Halvor Dannevig

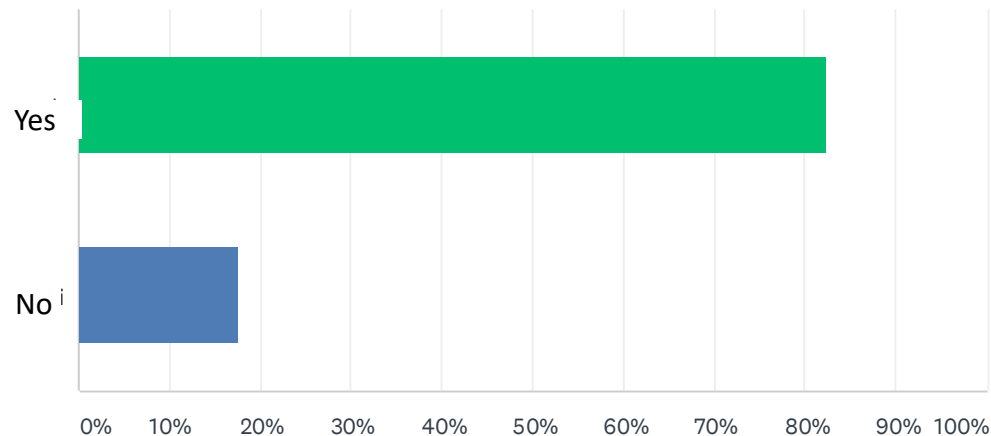
## Survey to mountain guides (Indre Sogn case): Do you have to do things differently due to lack of snow and ice in summer?



*«It has major impact for all of us involved in glacier guiding. We need to think completely different about product development.»*

*«De siste 2 år har det vært lite snø på brearmene hvor jeg har arbeidet som både fører og instruktør på brekurs. Det har også vært tydelige forandringer nede i brefall hvor breen har bemerkelsesverdig blitt tynnere og sprekkeene til blåisvandring og tematikken rundt dette har forsvunnet, noe som har gjort at planene har måttet blitt endret»*

# Do clients react to cryosphere change?



*«They get upset when they see the extent of glacial retreat»*

Quotes from survey



*«Most clients know that a changing climate leads to shrinking glaciers, and find that it is a negative development»*

## Summary: Impacts and adaptations – mountain guides

- Guides and their clients are flexible – high adaptive capacity
- No indications that climate change and cryosphere change affect demand
- Complacent about own adaptive capacity, but very concerned over climate change in general.
- Guides fear that increase in bad weather over several years in a row would decrease demand



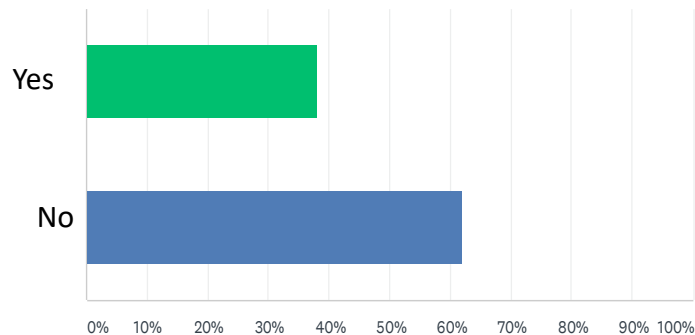
Foto: Halvor Dannevig



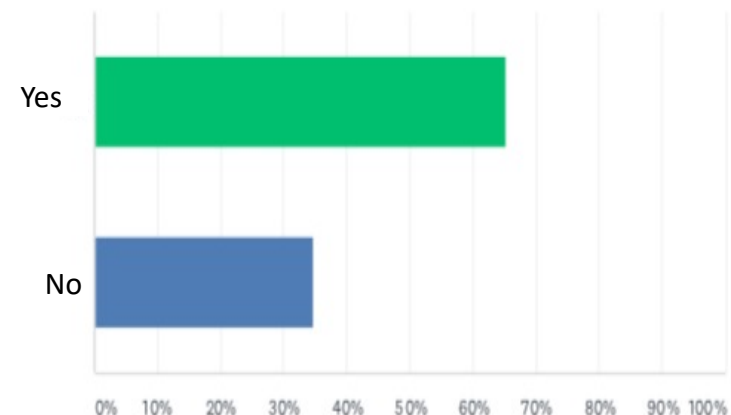
## Does being on guided mountain trips affect tourists awareness and behaviour?

«Does your interest in outdoor recreation affect your behaviour in relation to making pro-environmental choices? For example dietary choices, ways of travel, purchase of equipment?

N=71



Have you experienced that the guide has shared his thoughts on sustainability and climate change?

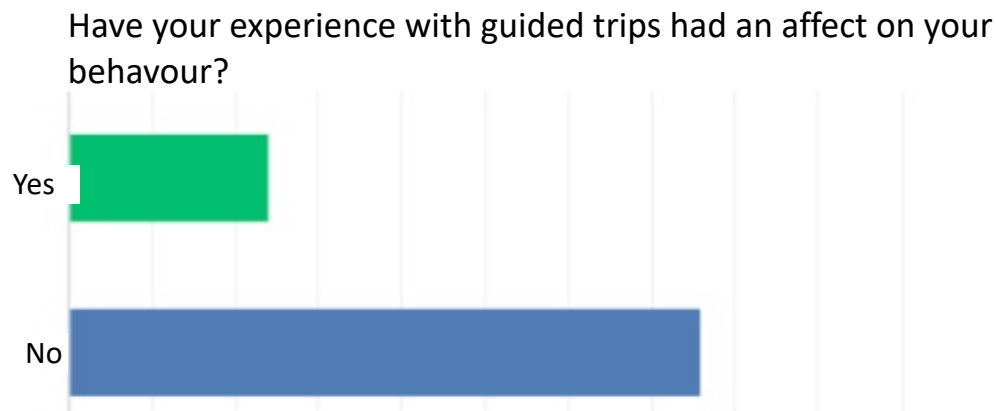


# Does being with mountain guides influence clients environmental behaviour ?

«We talked about how we travel, to leave no trace, and visible climate change impact during the trip»

»When you see what is happening your awareness is raised and you try to take care»

«I want to talk about environmentally responsible behaviour, but we need to look at ourselves first.»



# Is the most important climate change impact on mountain tourism that it could inspire the industry to influence clients towards sustainable behaviour?

- Guides display strong emotional connections to place and nature: *«I fell home in these mountains»*.  
*«It makes me sad that the snowfields and the glaciers are disappearing»*
- Feel that the industry should do what it can to influence clients/tourists towards pro-environmental behaviour,
- But feel a need to have «their own house in order first»  
-i.e not accepting air travel themselves or from their clients

## Breføraren meiner isbrereklame er breens eigen verste fiende

Norsk reiseliv bruker millionar på å marknadsføre Noreg og norsk natur i land på andre sidan av kloden. Det er dårleg nytt for isbreane, meiner både breførar og klimaforskar.



VANSKELEGARE FOR KVAR DAG: Å finna ei god rute til gjestene som skal opp på breen blir vanskelegare og vanskelegare.  
FOTO: PATRICK DA SILVA SÆTHER / NRK

Sondre Døstaker  
Journalist

Mads Nyberg Stead  
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Journalist

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Artikkelen er  
mer enn 1 år  
gammel.

**Glacier guide to far East Asian tourist:** *«The longer you are flying to get her, the longer it will be to walk to the glacier»*  
(nrk.no; 17.01.2019)

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Thank you!



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