



How old are the artefacts and arrows found on snow patches?

How have the arrows and arrowheads changed through time?

How do new ideas and technologies become introduced and adopted?

Once artefacts are released from a snow patch, what happens to them?

How fast do they degrade and decay?

How does the rate of degradation vary from zone to zone on a snow patch?

How does snow patch hunting relate to other forms of reindeer hunting/ trapping in Southern Norway during the period?

What can this tell us about changes in settlement patterns and social structure in the period AD 1000-1700?

How should we best manage archaeological snow patches as national heritage sites?

What time-frames are involved in the future degradation of finds and sites?

How old are the snow patches, and how old is the ice ?

What are their thermal and dynamic characteristics?

How sensitive are the ice patches to climate change?

Is there a spatial variations in ice patch characteristics?

**WP1**  
A targeted C14 dating program of arrows from snow patches in Southern Norway.

Development of a detailed arrow chronology for the period AD 1000-c. 1700.

**WP2**  
Comparative synthesis of dates from WP1 and other relevant dated sites- pitfall systems, snow patch hunting stations, mountain graves and settlements.

**WP5**  
Synthesis results of WPs 1-4 that are relevant for management strategies. Produce knowledge-based management proposals for the Norwegian heritage sector

**WP3**  
Ice and proglacial sediment coring  
Mass balance (laser scanner, GNSS)  
Ice patch dynamics, thickness and temperature (GNSS, GPR)  
Geomorphological mapping

**WP4**  
Examination and mapping of decay characteristics on recovered wooden shafts. Parallel study of modern wood samples to be deposited on snow patches.

# SPARC Snow Patch Archaeological Research Cooperation

Callanan, M. <sup>1</sup>, Skar, B. <sup>2</sup>, Vatne, G. <sup>3</sup>, Berthling, I. <sup>3</sup>, Solli, B. <sup>4</sup> & Peacock, E. E. <sup>2,5</sup>

<sup>1</sup>Dept. of Archaeology and Religious Studies, NTNU, Trondheim, Norway  
<sup>2</sup>NTNU-Museum of Natural History and Archaeology, Trondheim, Norway  
<sup>3</sup>Dept. of Geography, NTNU, Trondheim, Norway  
<sup>4</sup>Museum of Cultural History, University of Oslo  
<sup>5</sup>Dept. of Conservation, University of Gothenburg, Sweden