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SnowAnt

Action Group on Snow in Antarctica

in the Standing Scientific Group on Physical Sciences (SSG-PS) of SCAR

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Why is Antarctic snow unique?



but no theme in
Horizon 2020?

- climatology (albedo)
- ice cores (what is preserved in the ice cores)
- mass balance (precipitation, sublimation, snow and firn density)
- snow is the key reactor for atmosphere-snow chemistry
- **snow in Antarctica is perennial, and not "disposable"!**

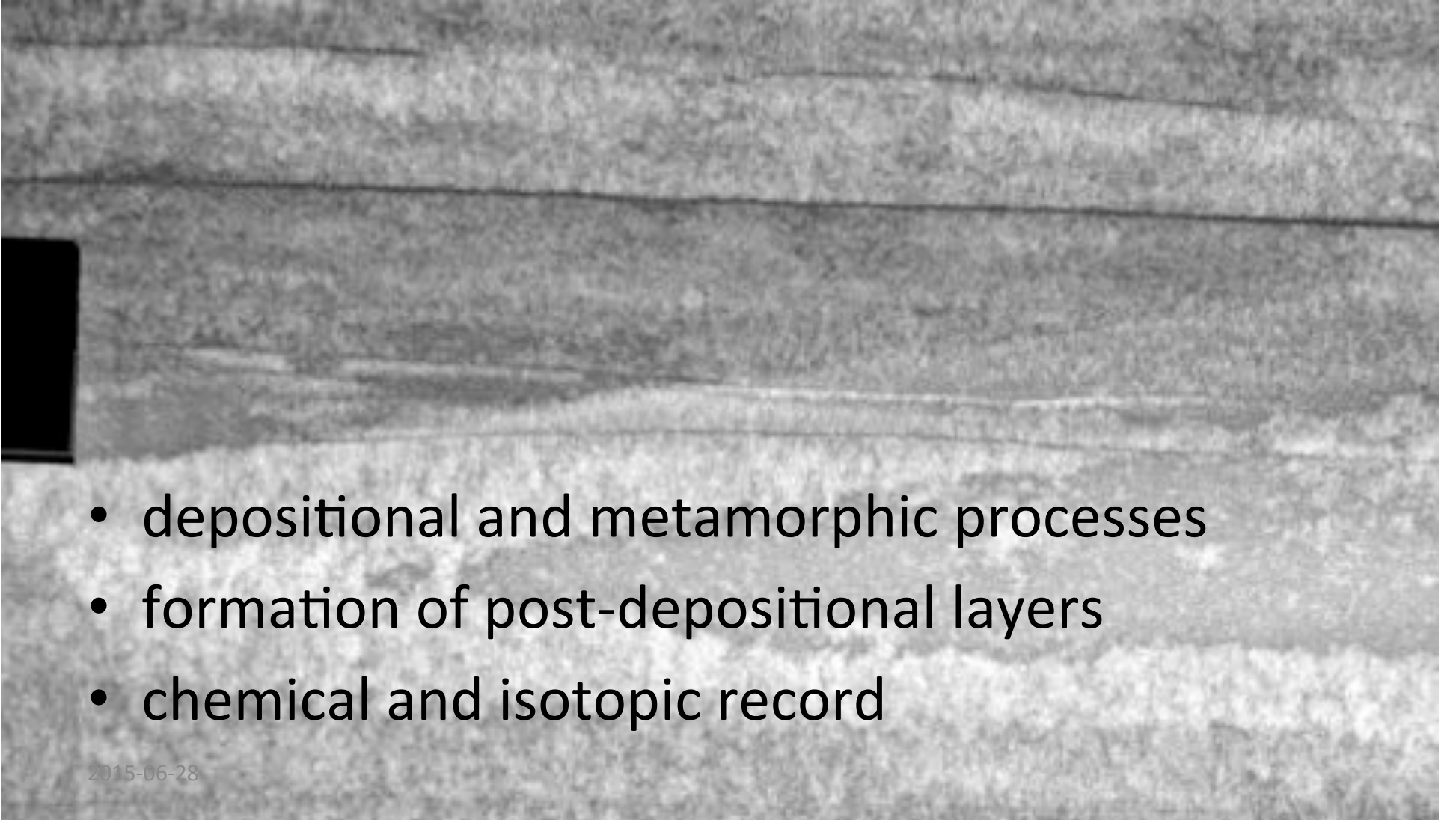
Why and what is an action group within SCAR?

- **an action group is installed by one of the standing groups of SCAR**
- **action groups take up a new theme or problem and define and develop an action to solve it**
- **action groups need scientists willing to voluntarily serve**

Goals for SnowAnt

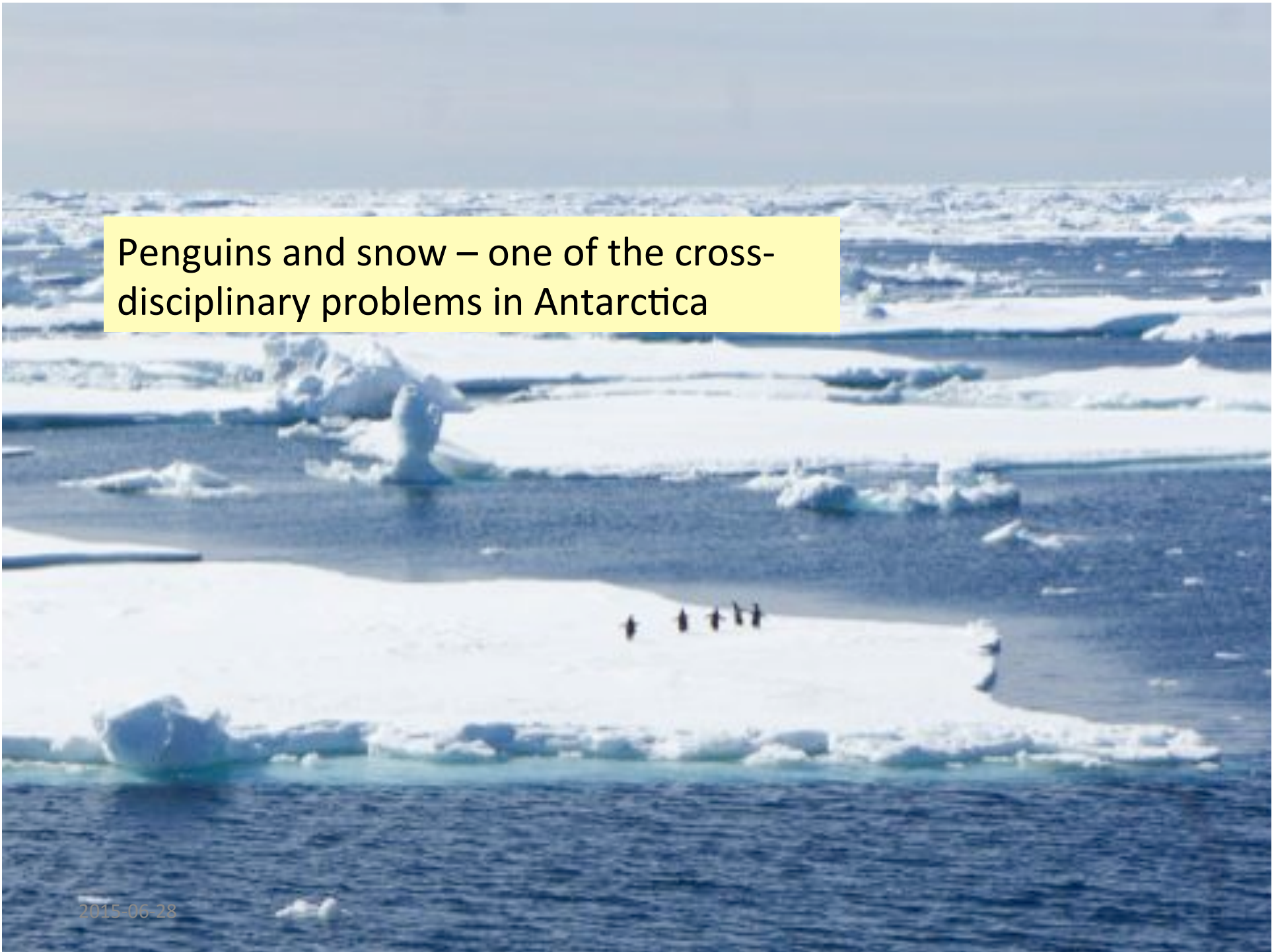
- **investigate:** Improve the knowledge on depositional and metamorphic processes in Antarctic snow – by fostering collaboration of snow on land- and sea-ice
- **map:** develop a snow classification for Antarctica
- **educate:** quantitative snow stratigraphy methods taught by snow schools, across cryospheric disciplines
- **protect:** What is disturbed today will be in the ice core for the next ~ 1 My – reserve and define pristine snow areas
- **implement:** GIS to document disturbed areas. historic snow profiles, accumulation data from AWS, stake farms, surface radar profiles, shallow firn and snow cores

Stratigraphy

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- depositional and metamorphic processes
 - formation of post-depositional layers
 - chemical and isotopic record

Penguins and snow – one of the cross-disciplinary problems in Antarctica

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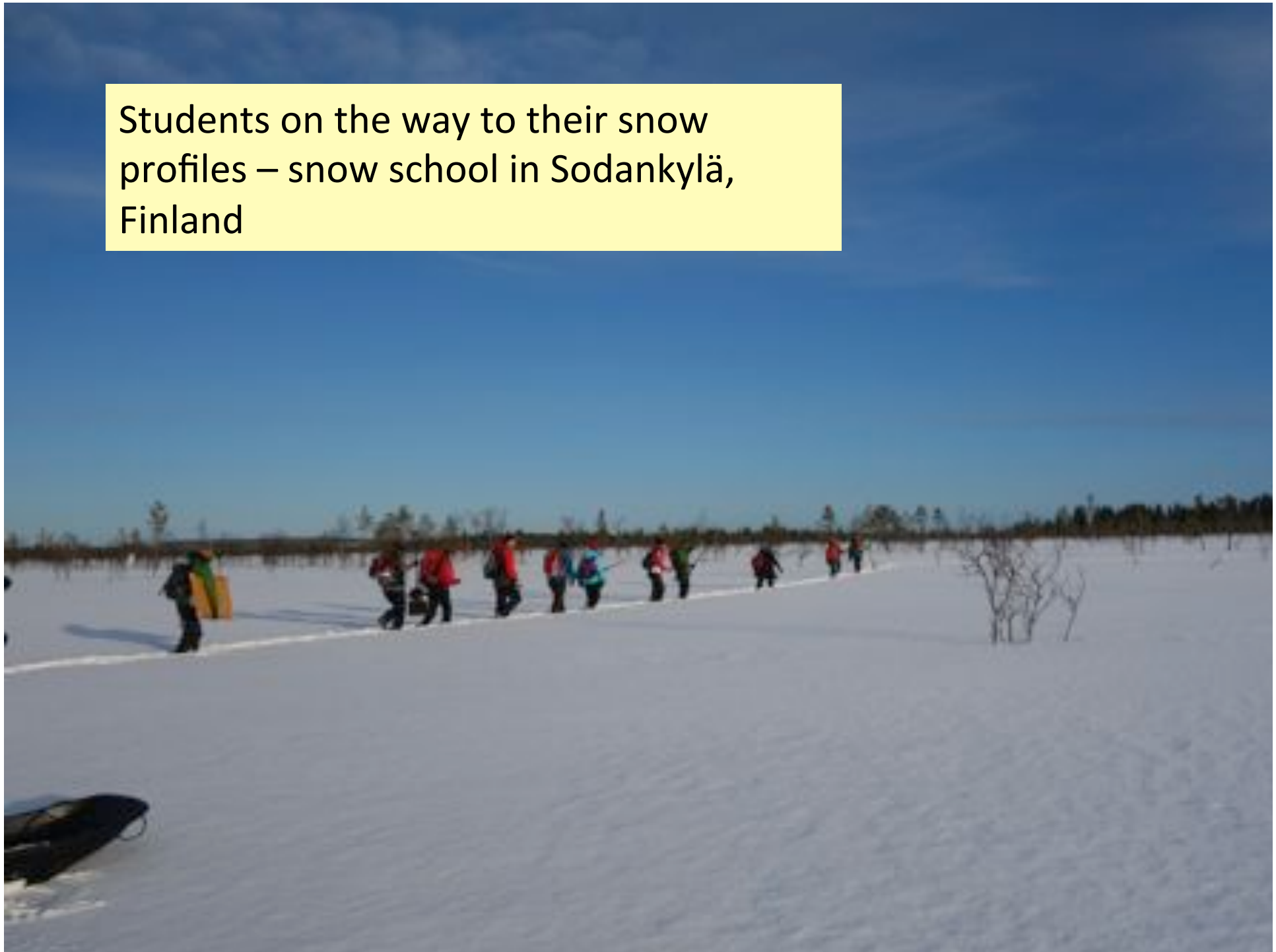
First action: Snow Schools

(European) Snow Science Winter School
(alternatively in Switzerland– Finland) sponsored
by ESA, IACS, IASC, SCAR

The second SSWiS will take place in Bergün und
Davos, Switzerland, from February 14-20, 2016
(information: snowschool@slf.ch)

(iSWGR - NASA International Snow Working
Group Remote Sensing – Winter School)

Students on the way to their snow
profiles – snow school in Sodankylä,
Finland



Traverses and traffic

- several yearly large traverses to South Pole, Concordia Station, Vostok, Dome Fuji, Dome Argus, Kohnen Station
- recreational traverses from Novo to South Pole,
- autonomous robots in future?
- traffic and other operations need to be mapped to know the undisturbed areas
- mean time for disappearance 10-20 years?
- chemically and physically intact snow where?

Tasks for SnowAnt

- **investigate:** do snow and firn researchers need a common forum to discuss snow and firn questions?
- **map:** develop a snow classification for Antarctica
- **educate:** snow school initiated in Europe and North America
- **protect:** more engagement needed
- **implement:** open to realization

Conclusion

- **first steps taken to make snow a more prominent topic (but not the merit of SnowAnt)**
- **not easy to make from the national researchers and interests an international action group, but we consider it worthwhile**
- **Interested in this action group? talk or write to me! (schneebeli@slf.ch)**

Thanks for your attention



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