

Slush flows in Norway

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Definition of slush flows

- A snow/water mixture with water as the driving force
- Water saturated snow -> liquefaction
- Fluvial/turbulent flow regime



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Characteristics

- Occurs mostly in Northern regions; Scandinavia, Russia, Alaska
- Low starting angles (few degrees)
- Long run out (several kilometres)



Release mechanisms

- Damming of water in basins og channels
- Floods in snow filled channels
- Water buildup in the snow cover
- Secondary release by snow avalanche



May 2010

Conditions

- Cold winter, heavily metamorphized snow pack.
- Cold spring with little melting
- Sudden warming period in mid-May

Near accident, May 15



From the camp. Noon,
15th of May



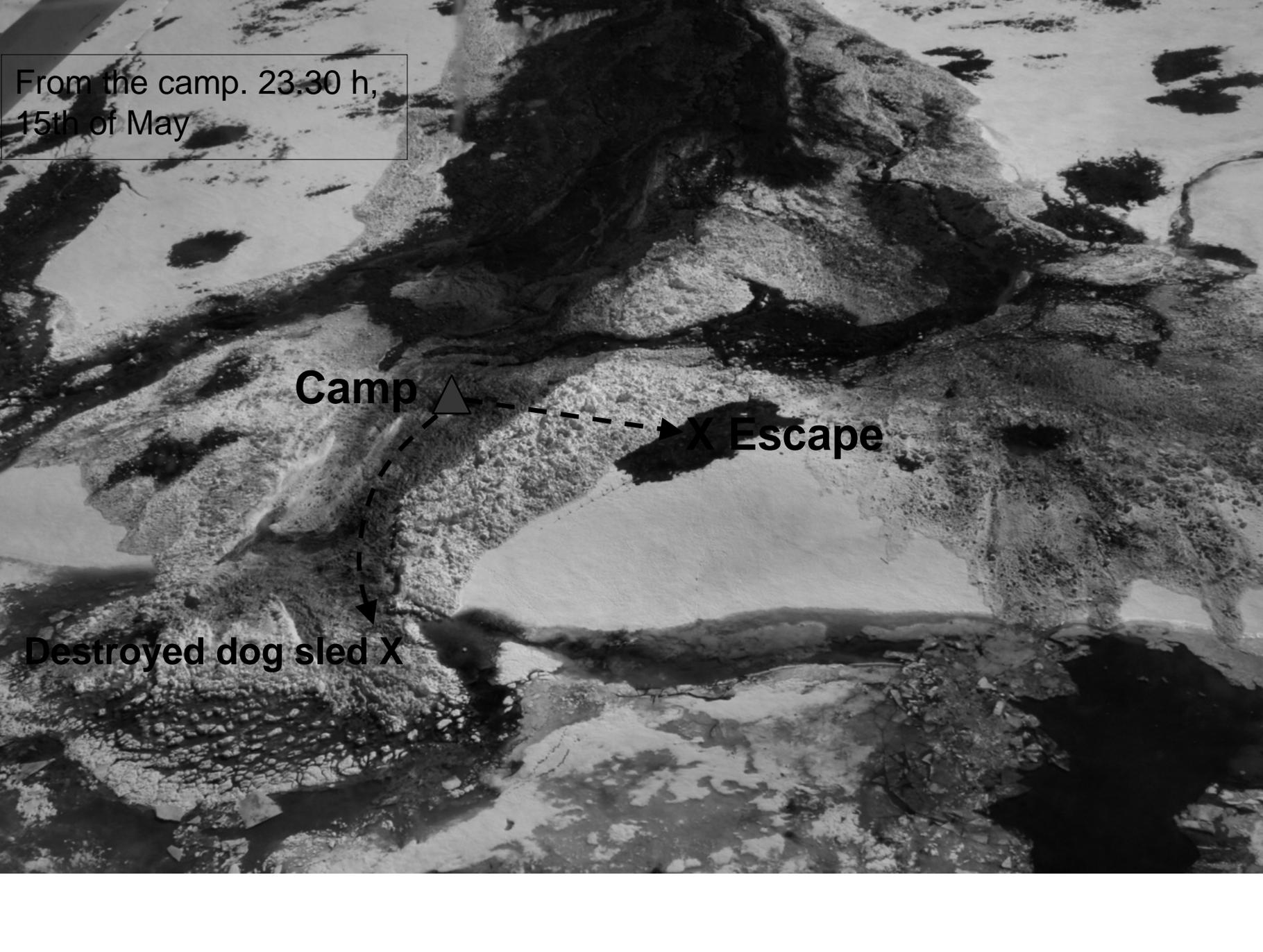
From the camp. 23.30 h,
15th of May

Camp



X Escape

Destroyed dog sled X



Fatal accident. 16th of May at 15 h

- Good weather
- Low angle slopes
- No history of previous avalanching





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Challenges in slush flow rescue

- Approach routes are difficult and hazardous
- Normal route selection criteria not applicable
- Widespread instability
- Occur outside main avalanche forecasting season
- Low angle slopes
- Rare avalanche type and the public awareness is low
- Air rescue only alternative until the snowpack has drained
- Good predictability given knowledge of snow pack history and present weather conditions
- More information and research about slush flow is necessary