BURIED DEEP: THE COGNITIVE WORK OF SNOW SAFETY PROFESSIONALS

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Abstract

Avalanche forecasting is an integral aspect of ensuring public safety, protecting critical infrastructure and maintaining operational capacity in mountainous terrain. However, there are substantial challenges in data collection, modeling of avalanche behaviour and the predictability of avalanche risk. In addition, goal conflicts and tradeoffs abound.

This poster will outline how the work of snow safety professionals is useful for studying resilience and detail a study from a Canadian ski operation that examines the formal descriptions of how work is conducted and the 'as practiced' cognitive strategies employed by expert practitioners within a complex and changing mountain environment.

Key findings focus on the gap between work-as-done and work-as-imagined (Hollnagel & Woods, 1983), the need for continuous calibration of mental models and the role of distributed cognition in forecasting practice.

Keywords: cognition, avalanche forecasting, resilience, adaptive capacity, risk