In this presentation, James Thornton will describe some of the initial steps undertaken towards establishing a set of interdisciplinary climate-related variables (so-called Essential Mountain Climate Variables, EMCVs) that should be prioritised for systematic observation across mountain regions globally in order to provide more uniform reporting information and build more reliable predictive models. He will also provide an outlook on possibilities to either strengthen the measurement of EMCVs, or else exploit existing EMCV data more efficiently. One approach, combining in situ and remotely sensed observations, will be exemplified with respect to a distributed, energy-balanced based snow model. Finally, future steps towards the concept’s formalisation will be proposed.

James joined the MRI in 2020 upon completion of his PhD in hydrogeology at the University of Neuchâtel, Switzerland. His doctoral research focused on the interdisciplinary, physics-based numerical modelling of hydrological processes in complex Alpine terrain. Prior to that, he worked in the reinsurance sector, where developed of natural catastrophe models in order to quantify the risks associated with extreme events such as floods and tropical cyclones. He currently coordinates and implements GEO Mountains, a GEO Initiative seeking to increase the availability and accessibility of a wide range of data pertaining to mountainous regions to benefit human societies and ecosystems globally.

This free online event is the fourth in the MRI 20th Anniversary Lecture Series, celebrating 20 years since the MRI Coordination Office was founded in 2001. This series aims to showcase MRI synthesis workshop research and build capacity in the mountain research community.