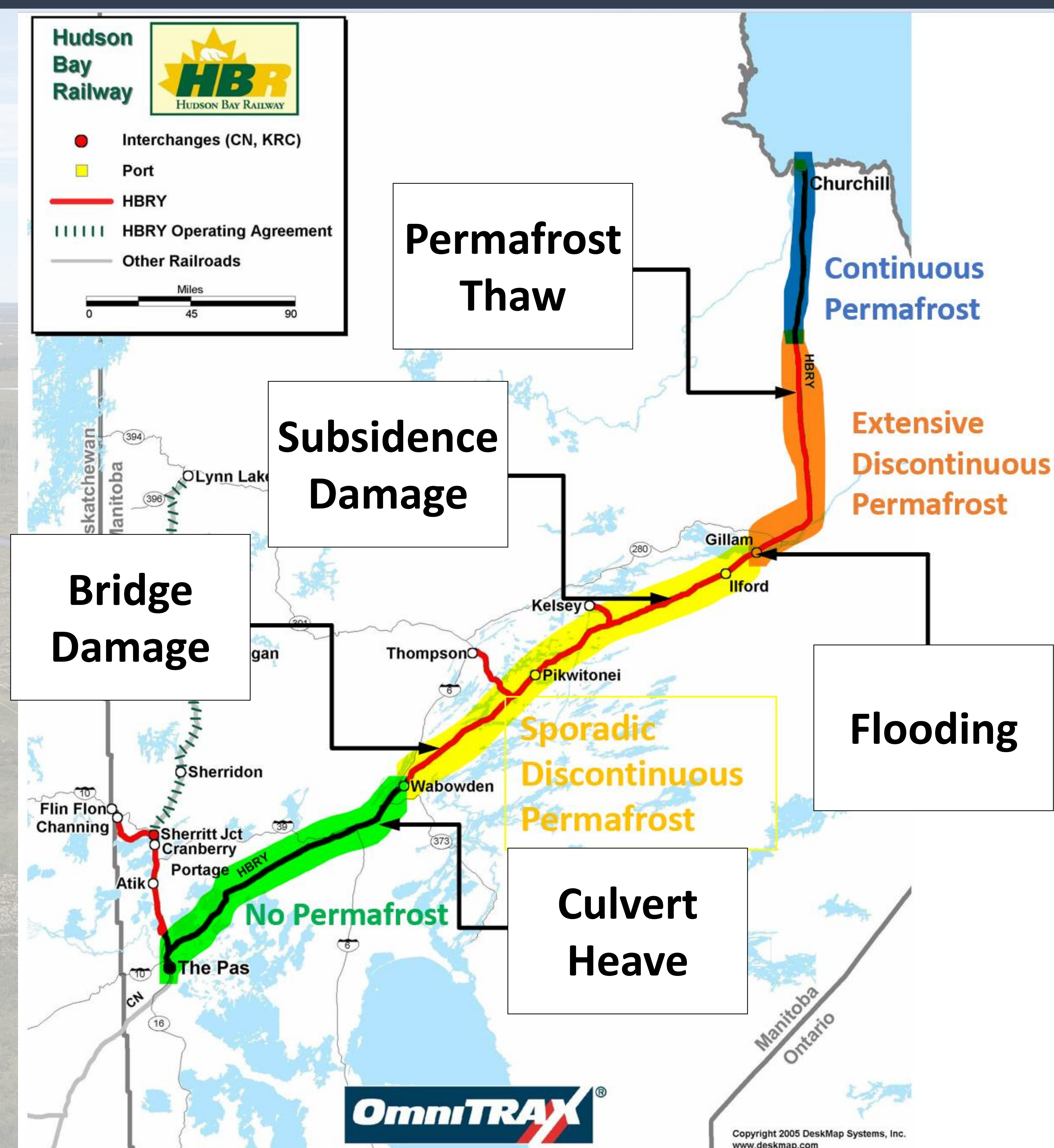


# Effects of permafrost degradation, geohazards and flooding on the performance and integrity of the Hudson Bay Railway



Aerial view of HBR (Courtesy Frederic Brieger)



Schematic map of HBR, OmniTRAX (Copyright 2005 DeskMap Systems, Inc.)

## Why??

The Hudson Bay Railway (HBR), located in northern Manitoba, traverses varied terrain units including permafrost, peatland and wetland regions. The HBR may be impacted by hazards such as subsidence, permafrost degradation due to climate change effects, and flooding events. This may lead to impaired serviceability, increased frequency of service disruption, increased risk to asset performance and integrity, and increased costs to meet levels of service or incurred liabilities. There is a need to support HBR informed decision making, under uncertainty, in order to develop sustainable engineered solutions, with predictable outcomes, to improve operational practices and develop effective adaptation strategies that mitigate risk.

This study will conduct field studies to improve the knowledge base, develop a global risk framework to assess hazards on the future performance and integrity of the HBR, and evaluate the effectiveness of adaptation strategies for local-site specific hazards.

## How??

