

WINTRE-MIX winter travel and operations safety guidelines

Winter travel and fieldwork present unique challenges and hazards. The safety of project participants and the local communities always takes priority over research goals. Participants are expected to be aware of the below described winter safety guidelines and take them into account when conducting travel and operations for WINTRE-MIX. Project principal investigators (PIs) are expected to make sure their research teams are knowledgeable about the below guidelines and have adequate safety equipment. Following these guidelines is important both to keep everyone safe and to minimize the chance of disturbances to WINTRE-MIX research operations.

The below are some overarching guidelines for fieldwork safety for all field participants during WINTRE-MIX. Individual project PIs and facility managers may have additional guidelines and rules. If you lack some of the below-mentioned safety equipment or have questions please contact your supervising PI.

Travel

According to [NHTSA](#): *“In 2019, there were 440 fatal crashes, and an estimated 33,000 injury crashes that occurred in wintry conditions.”* When traveling in association with WINTRE-MIX, participants should follow best practices for winter travel safety to minimize risks.

- Account for weather hazards and avoid traveling at times with hazardous road conditions when possible. Pay attention to WINTRE-MIX weather briefings, NWS/ECCC forecasts, and local traffic conditions when planning travel.
- Prepare your vehicle for winter travel ahead of project operations
 - Winter tires are strongly encouraged. *“From December 1 to March 15 inclusive, all motorized road vehicles registered in Québec (other than heavy vehicles, tool vehicles and farm machinery) must be equipped with winter tires.”* (<https://saaq.gouv.qc.ca/en/road-safety/modes-transportation/automobile/maintenance-and-safety/winter-preparation>). Chains and studded tires may also be considered for additional traction where allowed.
 - Check vehicle’s tire pressure, battery status, wiper blades, and fluids before travel.
 - Carry jumper cables, flares/emergency lights, ice scrapers, and shovels for use in the event of a breakdown or stranded vehicle
- Fully clear your vehicle (including windows & mirrors) of snow and ice before driving.
- When driving in snowy or icy conditions, reduce your speed, increase following distance, and plan for extra stopping distance.
- Check-in with supervising PI when you depart, arrive on site, and return to base. Bring phone and charger and make sure you have numbers for emergency contacts. PIs should maintain a list of contact info for all group members and know who is deploying at all times.
- Supervising PIs are responsible for making sure their teams are supplied with adequate equipment for safe winter travel during field operations. Please contact your supervising

PI or the lead PI (Justin Minder - jminder@albany.edu) if you feel that you do not have adequate equipment.

- **If you feel unsafe driving, do not travel.** If you feel that you are being pressured to travel in unsafe conditions, contact your supervising PI or the lead PI (Justin Minder - jminder@albany.edu).
- For additional guidelines, consult: <https://www.nhtsa.gov/winter-driving-tips>

Shifts

Lack of sleep and long working hours can degrade one's ability to make smart decisions. This can lead to dangerous situations and/or errors in data collection. To avoid this:

- Get rested ahead of planned operations
- Bring adequate food and water when deploying into the field. Deployments may be long with limited ability to purchase food and water during their duration.
- Ground-based teams will adhere to the following scheduling guidelines:
 - At least 1 down day must occur during each rolling 7-day period.
 - At least 3 down days must occur during each 14-day period.
 - IOP hours must not exceed 48 during any rolling 7-day period.
 - Crew duty days must not exceed 14 hours during any rolling 24-hour period, including commuting, IOP, and set up / tear down time.
 - If a duty day exceeds 12 hours, the next day must be a down day, unless an exception is authorized by the facility lead-PI and mitigation for crew fatigue is arranged.
 - There must be at least a 12 hour gap between IOPs unless an exception is authorized by the facility lead-PI and mitigation for crew fatigue and circadian rhythm issues is arranged.
 - Long IOPs, closely spaced IOPs, and other scheduling exceptions may be accommodated with additional crew, though fatigue mitigation scheduling, or reduced number of operating vehicles, if approved by the facility lead PI.
- Airborne operations will follow scheduling guidelines established by NRC.

Outdoor operations

Some participants will be collecting observations outdoors during hazardous winter weather. Here are some guidelines for staying warm and safe:

- Dress appropriately with warm clothes and waterproof outer layers as the weather dictates. Wear layers so that you can adjust your clothes with the conditions. Bring extra clothes (including gloves and socks) into the field in case your clothing gets wet. Hand warmers.
- Wear warm footwear with good traction.
- Know the signs of and treatments for [frostbite](#) and [hypothermia](#).
- Carry a first aid kit, and be familiar with [basic first aid procedures](#).

- If conducting operations near a roadway, participants should wear reflective clothing and lights to maximize their visibility to passing motorists.
- Be prepared with flashlights, blankets, extra warm clothes, warm beverages, and food in case you become stranded.
- Never use gas powered heaters in an enclosed space (e.g., a vehicle) or leave a vehicle running in an enclosed space (e.g., a garage). Doing so may lead to [carbon monoxide poisoning](#).
- Supervising PIs are responsible for making sure their teams are supplied with adequate equipment and clothing for safe winter field operations. Please contact your supervising PI or the lead PI (Justin Minder - jminder@albany.edu) if you feel that you do not have adequate equipment.