

Ski Resort & Event Communications

Ski resorts and large outdoor events create dense temporary communities in areas that often have limited cellular coverage. LoRa mesh fills this gap extremely well.

Mesh is a coordination tool, not a rescue system. It is best-effort - messages may not get through, and positions can be stale or missing. It is NOT a substitute for a PLB/satellite messenger, a 457 kHz avalanche beacon (in avalanche terrain), or 911/ski patrol. Search and rescue does NOT monitor Meshtastic. Carry dedicated safety gear; use mesh only as a supplement.

Why mesh works at ski resorts

- **Cellular congestion:** A resort with 5,000 skiers all trying to coordinate simultaneously overwhelms cell towers. LoRa operates on a completely separate band.
- **High terrain:** Ski resort terrain is ideal for mesh - hilltop lifts and lodges provide perfect repeater placement with natural line-of-sight to the entire mountain.
- **Group coordination:** "Meet at the lodge at noon" messages can reach the group if everyone is within mesh range; coverage is best-effort and not guaranteed, so a message may not reach members on the far side of terrain without a relay.

Setting up for a ski day

1. Each person in the group carries a node. T-Echo and T1000-E are good pocketable, GPS-enabled choices, but they are weather/splash-resistant, NOT waterproof to immersion (the T1000-E is IP65 - dust-tight and resistant to jets/spray, not submersible). Keep them pocketed; do not rely on them surviving deep submersion or prolonged snow burial.
2. Enable GPS position broadcasting - see where everyone is on the mountain.
3. Set a shared custom channel name and PSK for your group so positions stay private. Do NOT use the default channel: search and rescue does NOT monitor any Meshtastic channel, so the default does not make you findable by SAR, and the default LongFast channel uses the publicly-known AQ== key, which broadcasts your location in cleartext to

any stranger in radio range. For emergencies call 911/ski patrol or carry a PLB/satellite messenger (and a 457 kHz beacon in avalanche terrain) - that gear, not the mesh, is how rescuers find you.

4. Consider placing one device in a pocket of a group member who stays at the lodge - creates a relay point for better coverage inside the building.

Events and festivals

Large outdoor events (music festivals, trail races, mountain bike events, search and rescue operations) are natural mesh use cases. Key setup considerations:

Pre-deployed infrastructure

For events with advance notice, placing 1 - 2 repeaters at elevated positions before the event dramatically improves coverage. A repeater on a hillside above a festival grounds or race course provides blanket coverage that individual participant nodes cannot achieve.

Net manager pattern

In organized events (races, SAR operations), designate one operator as the net manager with a high-visibility node. The net manager:

- Monitors all mesh traffic
- Coordinates check-ins from field teams
- Bridges to radio or internet if available (room server with internet backhaul)
- Tracks participant positions via GPS broadcast

Meshtastic for events

Meshtastic's flooding approach can cause network congestion in dense event scenarios with many nodes. If deploying 20+ nodes in close proximity, consider using Medium Slow preset instead of Long Fast to reduce airtime per packet. Some large regional networks report better reliability on slower presets in dense deployments, though specific outcomes vary by deployment.

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