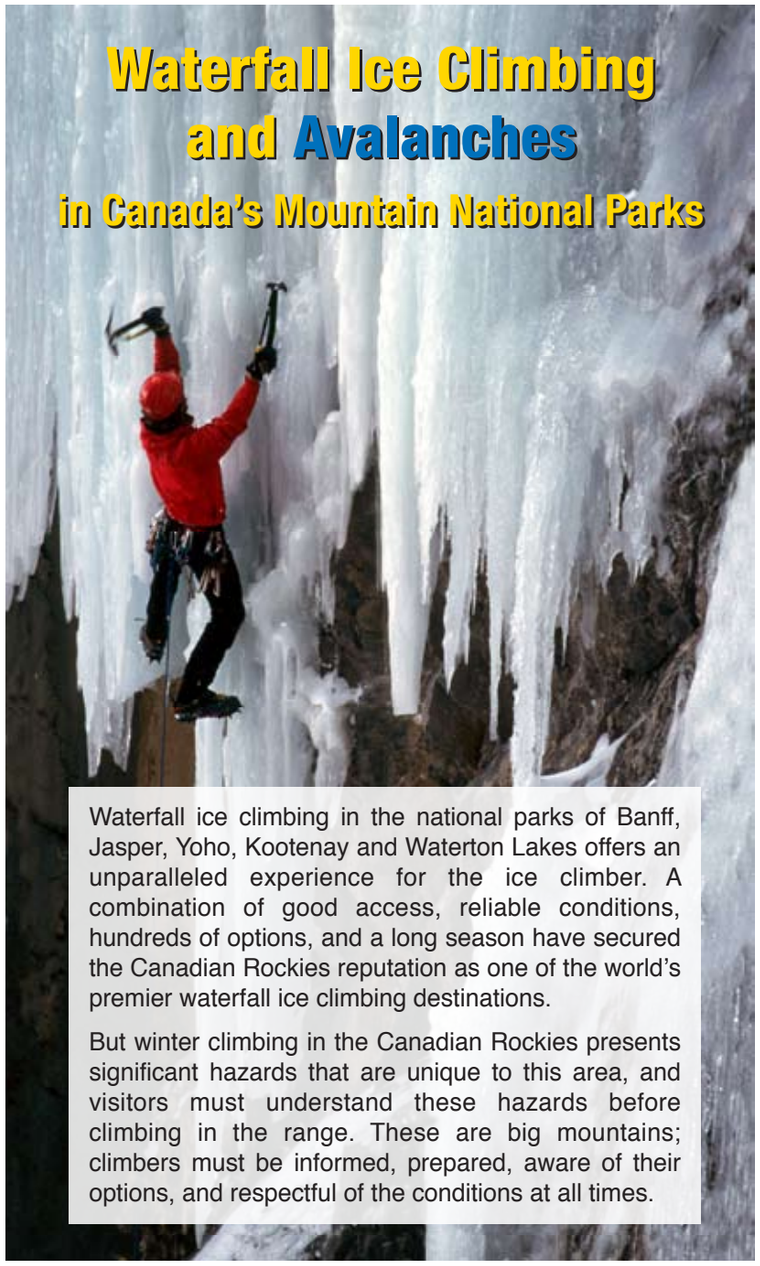
# Waterfall Ice Climbing and Avalanches

## in Canada's Mountain National Parks



Waterfall ice climbing in the national parks of Banff, Jasper, Yoho, Kootenay and Waterton Lakes offers an unparalleled experience for the ice climber. A combination of good access, reliable conditions, hundreds of options, and a long season have secured the Canadian Rockies reputation as one of the world's premier waterfall ice climbing destinations.

But winter climbing in the Canadian Rockies presents significant hazards that are unique to this area, and visitors must understand these hazards before climbing in the range. These are big mountains; climbers must be informed, prepared, aware of their options, and respectful of the conditions at all times.

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### *Avalanche Hazard*

Avalanche hazard is the most significant threat to ice climbers in the Canadian Rockies. The vast majority of routes are exposed to avalanche hazard - often for extended periods. The simple fact that water flows and freezes in gullies makes ice climbing routes natural terrain traps. Some of the avalanche related challenges facing the Rockies ice climber include:

- Complicated approach terrain requiring early starts
- Long exposure times climbing waterfalls threatened by overhead hazard
- Potentially different snow and weather conditions affecting avalanche terrain above the route
- Climbing above cliffs, or between steep pitches on avalanche prone terrain
- Rapid temperature changes that trigger avalanches and topple waterfalls
- Shallow and weak snowpack conditions that prevail most of the winter

However, not all waterfall climbs are fraught with avalanche hazards – it is the ice climber's challenge to determine where to climb on their chosen day. The information included here will help climbers to make informed choices, matching their exposure to avalanches with the ever-changing avalanche conditions.

### *Avalanche Terrain Exposure Scale (ATES)*

Traditional models used for rating avalanche danger are based on the stability of the snow, which changes regularly with the weather – from day to day, or even hour to hour. Terrain however, doesn't change with the weather. The ATES is designed to categorize avalanche terrain based on unchanging characteristics. By using the ATES, climbers will get a sense of the type of avalanche terrain threatening their proposed route and its approach.

***AVALANCHE TERRAIN RATINGS AND DAILY AVALANCHE BULLETINS MUST BE USED IN COMBINATION FOR EVALUATING HAZARDS AND SELECTING ICE CLIMBING LOCATIONS.***

### *Avalanche Bulletins*

Avalanche bulletins are produced for all of the Mountain Parks, and are updated daily (twice weekly in Waterton Lakes) from November to April. Information is provided regarding the current and forecast avalanche conditions as well as danger ratings for alpine, treeline and below treeline regions. Conditions change regularly – ice climbers should check this bulletin as part of their daily routine.

Avalanche bulletins are available at Park Information Centres, **1 800 667 1105**, or at **www.avalanche.ca**.

### *Using the ATES ratings*

The following list of rated climbs represents a selection of the most popular routes in the Mountain National Parks – there are many others that are not listed here. These ratings are intended to supplement pre-trip planning material, and should be used in combination with other resources to get a good sense of your proposed climbing route. The ATES describes avalanche terrain only and does not represent the difficulty of the climbing in any way. The best resource for waterfall climbers (in 2005) is the following guidebook:

*Waterfall Ice, Climbs in the Canadian Rockies (fourth edition, 2002)* – by Joe Josephson

This publication is widely available at local mountain specialty stores.

**Avalanche Terrain Exposure Scale (ATES) v.1/04**

| Description | Class | Terrain Criteria for Waterfall Ice Climbing Routes |
|---|---|---|
| **Simple** | **1** | Routes surrounded by low angle or primarily forested terrain; possible brief exposure time to infrequent avalanches. |
| **Challenging** | **2** | Routes with brief exposure to starting zones or terrain traps, or long exposure time in the runout zones of infrequent avalanches. |
| **Complex** | **3** | Routes with frequent exposure to multiple overlapping avalanche paths or large expanses of steep, open terrain; multiple avalanche starting zones and terrain traps or cliffs below. |

## *Experience and Training*

Ice climbing in the Rockies demands avalanche skills. Take a recreational avalanche course, carry appropriate rescue equipment, climb with solid partners, and recognize the limitations of your knowledge. If you and your partner's understanding of avalanches is minimal, limit yourself to Simple (Class 1) terrain.

Qualified instruction and guidance can be obtained from a professional Mountain Guide who is certified by the Association of Canadian Mountain Guides, and permitted to guide in the National Parks.

## *General Advice*

- Conditions can vary significantly from east to west across the range – eastern regions are generally drier, except following upslope storms which deposit more snow on the eastern slopes.
- Areas to the east of the National Parks offer additional options for climbs free from avalanche hazards, and a drier climate - check the guidebook.
- Avalanche bulletins cover large regions and describe the general conditions. Local variation is common and climbers must remain vigilant in their analysis of the immediate conditions while climbing.
- Temperature inversions, rain and sun exposure can rapidly change conditions and trigger avalanches - snow loses strength as its warms.
- Predicting the stability of free hanging ice is dubious. A rule of thumb is that large temperature changes within a short time frame will stress the ice and cause collapse.
- Climbing below other parties can be dangerous - consider your exposure to falling ice.
- Alpine waterfall routes (eg. Slipstream, Gimme Shelter) present additional hazards of crevasses, cornices and seracs, and may only be considered reasonable objectives during very short windows.
- "Fixation" on specific routes can lead to trouble – be open minded, well researched with options, and willing to retreat to try again another day.
- Please respect other park users in popular locations such as Johnston and Maligne Canyons. Keep the snow surface clean and pack out all litter.

## SIMPLE – CLASS 1

* Denotes routes not exposed to avalanche hazards

**Banff National Park**
Bearspirit *
Johnston Canyon *
Louise Falls
Balfour Wall
Panther Falls
Mixed Master
Weeping Wall - Lower
Malignant Mushroom
Wicked Wanda
Aquarius

**Kootenay National Park**
Haffner Creek*
Marble Canyon*

**Yoho National Park**
Iron Curtain

**Jasper National Park**
Tangle Falls *
Meltout
Maligne Canyon Ice Climbs *
Edge of the World *

## CHALLENGING – CLASS 2

**Banff National Park**
Professor Falls (without last pitch)
Rogan's Gully
Orion Falls
Bow Falls
Murchison Falls
Weeping Wall- Upper
Lacy Gibbot

**Kootenay National Park**
Helmet Falls

**Yoho National Park**
Betty's Pillar

**Waterton Lakes National Park**
Compound Gullies
Quick and Dirty
Expert's Choice
Lineham Cliff Waterfall
Sullivan Falls

**Jasper National Park**
Shades of Beauty
Curtain Call
Kerkeslin Falls

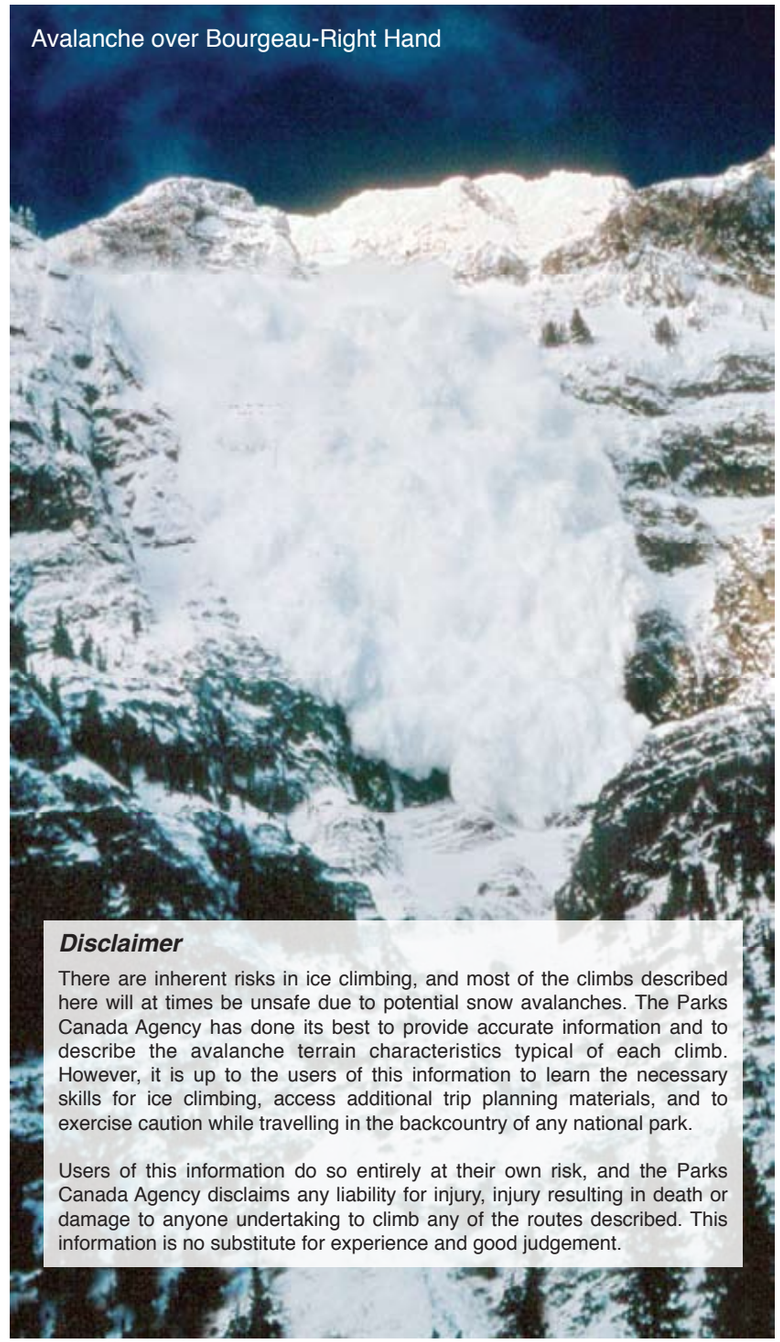
## COMPLEX-CLASS 3

**Banff National Park**
The Terminator
Sea of Vapours
The Replicant
La Goutte
Sacre Blue
Spray River Falls
Cascade Waterfall
The Urs Hole
Bourgeau Right-Hand
Bourgeau Left-Hand
Linda Ice Nine
Gimme Shelter
Riptide
Transparent Fool (approach)
Oh Le #*%$#
Whoa Whoa Capitaine
Mt. Wilson Routes
Ice Nine
Polar Circus
Professor Falls (last pitch)

**Kootenay National Park**
Nemesis
The French Reality
Acid Howl
Suffer Machine
Killer Pillar

**Yoho National Park**
Sad and Beautiful World
Takkakaw Falls
Silk Tassel
Twisted
Super Bock
Extra Lite
Cool Spring
Massey's
Pilsner Pillar
Carlsberg Column
Guiness Gully
Cold Choice
Blessed Rage

**Jasper National Park**
Slipstream



Avalanche over Bourgeau-Right Hand

photo: Guy Chouinard

### *Disclaimer*

There are inherent risks in ice climbing, and most of the climbs described here will at times be unsafe due to potential snow avalanches. The Parks Canada Agency has done its best to provide accurate information and to describe the avalanche terrain characteristics typical of each climb. However, it is up to the users of this information to learn the necessary skills for ice climbing, access additional trip planning materials, and to exercise caution while travelling in the backcountry of any national park.

Users of this information do so entirely at their own risk, and the Parks Canada Agency disclaims any liability for injury, injury resulting in death or damage to anyone undertaking to climb any of the routes described. This information is no substitute for experience and good judgement.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