Besting the Bise

ROBERT SMITH GETS THE BETTER OF A NOTORIOUS WIND IN THE SWISS ALPS

Mountain pilots all over the world hate the Föhn for its disruptive impact on flying conditions. Along the main valley which crosses the Swiss Alps from east to west, nicknamed the 'XC Superhighway', this wind has a troublesome rival, the Bise. Last summer I grasped an opportunity to turn this usually adverse weather feature to my advantage.

The Bise is a north-easterly wind composed of cold, dense air which blows across the Swiss plains to the north of the Alps. Strictly speaking it is a regional wind located in the flatlands, but the term is also used to refer to the weather pattern in the mountains with which it is associated. The main consequences for flying are lee-side turbulence and downwashes on the south-facing slopes where thermals essential for long XCs are generally found. It also boosts the thermal-driven valley winds and airflows through the passes and cols which lead in from the north. These features – particularly the strengthening of northerly winds through the Grimsel Pass and around Andermatt – make it tricky to fly big distances to the east from Fiesch, the premier starting point on the XC superhighway for long flights.

On the short walk from our holiday flat to the railway station in Andermatt to catch an early train to Fiesch, around 50km to the west, I have a good view of the wind turbines on the crest of the south-facing slope above the village at 2,400m. These show there's a vigorous northerly breeze already blowing over the back there, as expected with the forecast of Bise-dominated conditions. Never mind, I say to myself, even if flying home isn't on the cards today. The forecast of good thermals and cloudbase rising to 4,500m in the afternoon, with light winds at that altitude, suggests that I should still be able to get a good flight out of the day.

It's calm at launch apart from brief thermic cycles wafting through every few minutes. A few short-lived cumulus begin to appear at around 3,000m, with no obvious drift. I set myself one of the classic options from Fiesch, a flat triangle with an easterly turnpoint near the Grimsel Pass and a westerly limit just before the Sion airspace (see *The easiest 100k in the Alps* which appeared in January's Skywings). I'm hoping that once I've completed this task, the high cloudbase forecast for the afternoon could enable me to stay above the effects of the Bise at lower levels, and then make it back to the Urseren valley in which Andermatt is located. But landing at home is unlikely to be a viable option today, because this regime will probably cause an excessively strong northerly breeze in the village itself.

I take off just after 10am, but my progress in the first hour of the flight, along the south-facing side of the valley, is much slower than I'd expected, due to relatively weak thermals and early stability. But as I approach the Grimsel

All photos: Robert Smith

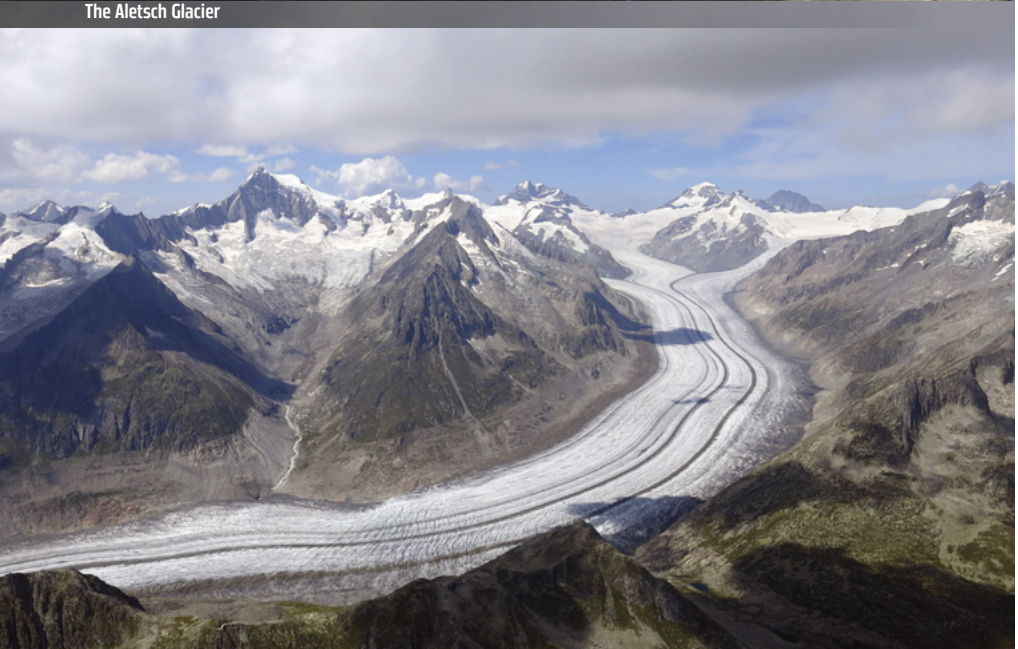
The Grimsel Pass and Rhone Glacier

Trutzisee below Loffelhorn, with the Finsteraarhorn behind

The Finsteraarhorn overlooking the Fiescher Glacier

Bietschhorn summit at 3,954m

The Aletsch Glacier



Pass I catch my first good climb of the day, break through the inversion and top out at 3,400m. From this height I can see Andermatt 25km ahead and I'm tempted to keep going in that direction. However, despite calm conditions at this altitude, my access to live weather data on my smartphone shows that the Bise has already pepped up the infamous northerly wind blowing through the Grimsel Pass 1,000m below, which is likely to be disrupting the thermals that I would need to cross the Furka Pass in order to continue that way.

Having tagged my first turnpoint I head back towards Fiesch. It's easy to maintain good height and ground clearance, so I take a few pictures of some spectacular Alpine terrain on my return. Just past take-off I stick with a climb that takes me to 3,700m, opening up the option of a line through the high mountains ahead that I can't resist. Due to my old-fashioned 'Get high and stay high' style, several gliders have overtaken me and are now in front on this route at a lower level, and I'm delighted to have the assistance of some thermal markers.

Half an hour later I pass the impressive 3,954m Bietschhorn, more or less at the level of the summit, and I get my camera out again. This summer's warm weather – I made the flight in August – has produced plenty of great flying opportunities, but I'm dismayed at how much the lack of precipitation has shrunk the glaciers below the peak. As the airspace just ahead is active today, I won't try to extend this leg of the flight any further, so I tag my westerly turnpoint, top up in the reliable thermal there, and turn around for a second time. My return to Fiesch is assisted by a 10km/h tailwind and I overfly the take-off at 3,800m, around 4.5 hours after launching there.

The Grimsel Pass and Rhone Glacier, now 4km away on the other side of the valley

To complete the 100km task in my instrument, I'd need a glide of less than 5:1 to reach the landing field 10km ahead. But that would be a terrible waste of these wonderful conditions, and I decide to try to stay high and continue to the east towards Andermatt. I retrace my morning steps and am soon approaching the Grimsel Pass again. Unfortunately, the northerly wind through the pass is now even stronger than it was earlier, stifling any thermal activity on the south-facing side of the valley here. However, as it's after 3pm, the north-facing side of the valley should now be working. I can see widespread cumulus development there, and I retreat from this sinky zone until I find a good climb which delivers enough height for me to cross over.

As soon as I reach the high ground on the other side I connect with a solid thermal back to 3,500m under super clouds. To cross the Furka Pass and reach the Urseren valley I'll need to clear the Muttenhorn ridge, not far to the east. Its spine is at around 3,000m and I don't expect it to present a serious obstruction. However it turns out that my optimism is misplaced; perhaps because the terrain here has been in the shade for a while, I'm unable to locate any lift that I can use and find myself sinking out before I can get over. Without a climb I'll soon be cut off from safe landing options. There's no alternative but to bale out and make a run back to the valley. To avoid bombing out, I'm now going to need to implement my backup plan, which relies on the assistance of the Bise …

Down below 2,000m for the first time all day, I reach the north-facing slope directly opposite the outflow from the Grimsel Pass, 4km away on the opposite side of the valley. The weather station in the col shows that the Bise is funnelling this wind through at 30-40km/h and I'm convinced that it must produce rising air here … but will it really? To my relief I find some slope lift and begin to gain height slowly – it's game on again! After ten minutes I've ascended 400m, and then see a couple of eagles nearby climbing steadily. I join them and we circle in the gentle thermal together, until I suddenly realise that, approaching 4,000m, I must leave the lift in order to avoid breaching airspace.

This time I have so much height that I don't need another climb to cross the Furka Pass and reach the Urseren valley. I cruise over the peak of the Muttenhorn, taking the opportunity to top up with a couple of 360s there. I could now reach

The Urseren valley, leading towards Andermatt at the far end

A fond look at the Gotthard Pass

Andermatt with a glide of 7:1, but my data link shows that the breeze in the village is gusting over 40km/h as a consequence of the Bise; landing by our flat isn't an option at the moment. However, I'm fascinated to be flying over terrain with which I'm familiar from ski touring, and get busy with my camera again, capturing a good view of the Gotthard Pass.

I reach the Gemsstock, Andermatt's premier ski area. The breeze in the village remains too strong to contemplate landing there, but at my height there's still hardly any wind, just as forecast. The lift is abundant and smooth and I'm perfectly happy to stay in the air. As conditions as wonderful as these don't come along too often, it would be a shame not to make the most of them, and I'm still fascinated by the bird's-eye view of my winter playground.

Disentis is around 20km further to the east, and the weather station there shows only a light breeze, so that will be my next target. I'll now need to cross the Oberalp Pass, which can sometimes be quite a hurdle, but in these conditions it's hardly a noticeable obstacle at all. A quick climb off the Badus, one of the prominent ski-touring peaks in the area, sees me safely over, but as I continue further I find that each thermal is weaker than the last.

As I glide past the Disentis landing field I still have plenty of height. It's now 6pm and there's no doubt that the day is shutting down. But I can't resist the opportunity to reach what could be my next thermal trigger point, just in case I can squeeze a bit more out of the day, but I find no lift there at all. After more than eight hours in the air, and with over 170km under my belt, I'm content to fly out into the valley for a smooth glide back to the landing field and a gentle touchdown in the evening light.

Further study

- For more details about the Bise and Grimsel Pass winds see www.flyfiesch.com/winds
- A 3D visualisation of the flight is at www.tinyurl.com/bestingthebise
- I use the XCTrack Pro webpage widget to access live weather data in flight