



Accident to the SCHEMPP HIRTH - NIMBUS 2
registered **F-CPAT**
on 16 August 2022
at Gruffy

Time	Around 13:40 ¹
Operator	Private
Type of flight	Local
Persons on board	Pilot
Consequences and damage	Pilot fatally injured, glider destroyed
This is a courtesy translation by the BEA of the Final Report on the Safety Investigation. As accurate as the translation may be, the original text in French is the work of reference.	

Collision with trees during a precautionary landing

1 HISTORY OF THE FLIGHT

Note: the following information is principally based on statements and data from the laptop GNSS computer installed on board the glider.

The pilot carried out a towed take-off at 11:45 from Oyonnax aerodrome (Ain). He headed south towards the Hauteville plateau which he reached at an altitude of approximately 2,500 m at 12:40 (see *Figure 1*, point 1). He then turned to the south-east towards the Bauges mountain range, with the glider's altitude gradually decreasing. He entered the mountain range at around 13:00, reaching the south-west slope of Semnoz mountain a few minutes later at an altitude of around 1,200 m, corresponding to a height in the order of 650 m with respect to the valley (point 2). The pilot manoeuvred over the south-west slope for more than 30 min while the glider progressively lost altitude.

At an altitude of around 900 m (height of 450 m with respect to the valley (see *Figure*, point 3), the pilot drew away from the slope and headed towards the valley while continuing to perform manoeuvres. The glider continued to descend. The pilot carried out a series of spirals in the valley at a height of around 160 m (point 4) before heading north over a distance of approximately 600 m. He then made a right-hand 180° turn over a wood while descending (point 5) before he seemed to start a new right-hand turn. The glider collided with trees a few seconds later.

The last GNSS positions recorded show that the glider was in a turn a few seconds before it collided with vegetation.

¹ Except where otherwise indicated, the times in this report are in local time.

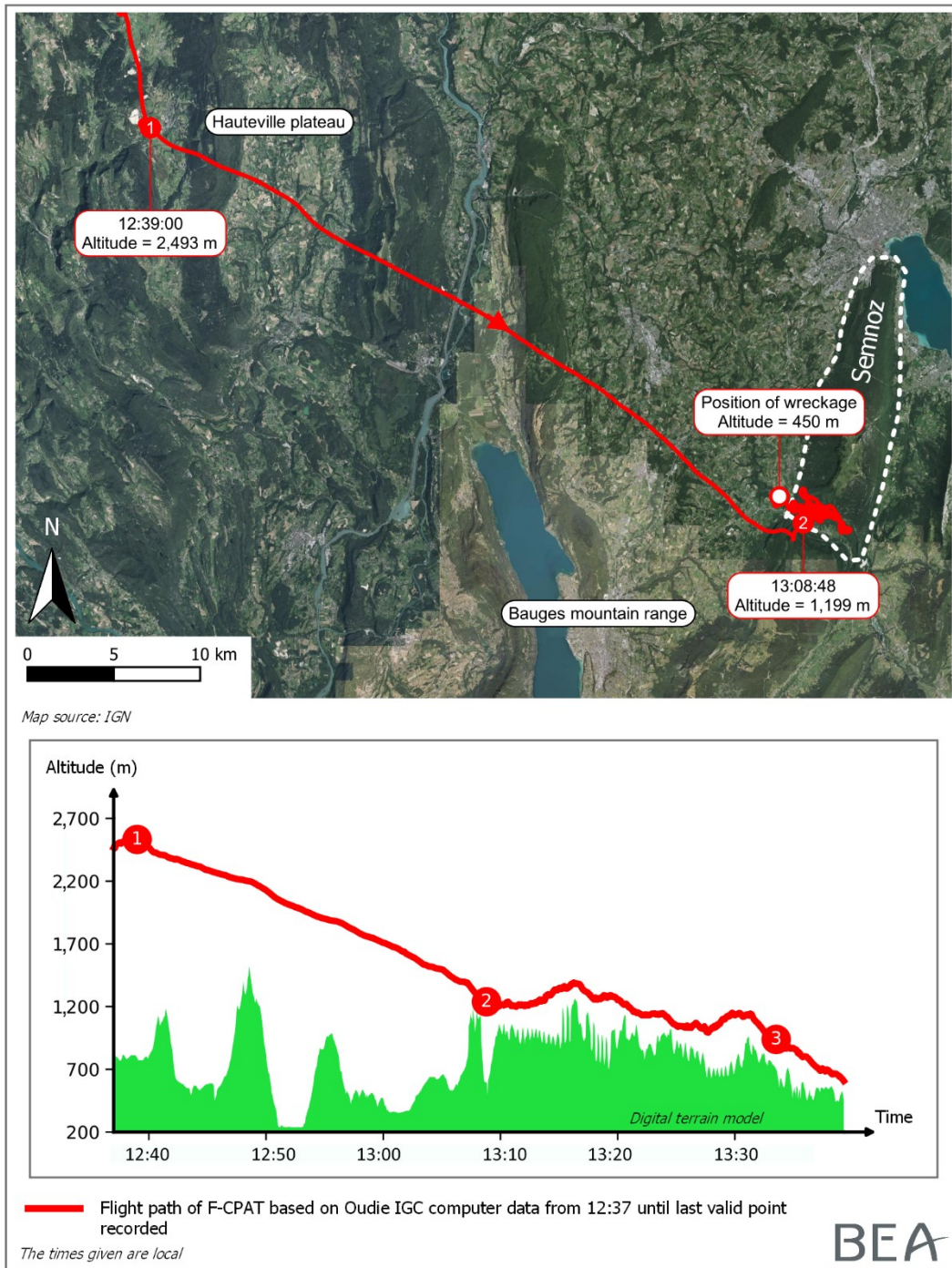


Figure 1: flight path

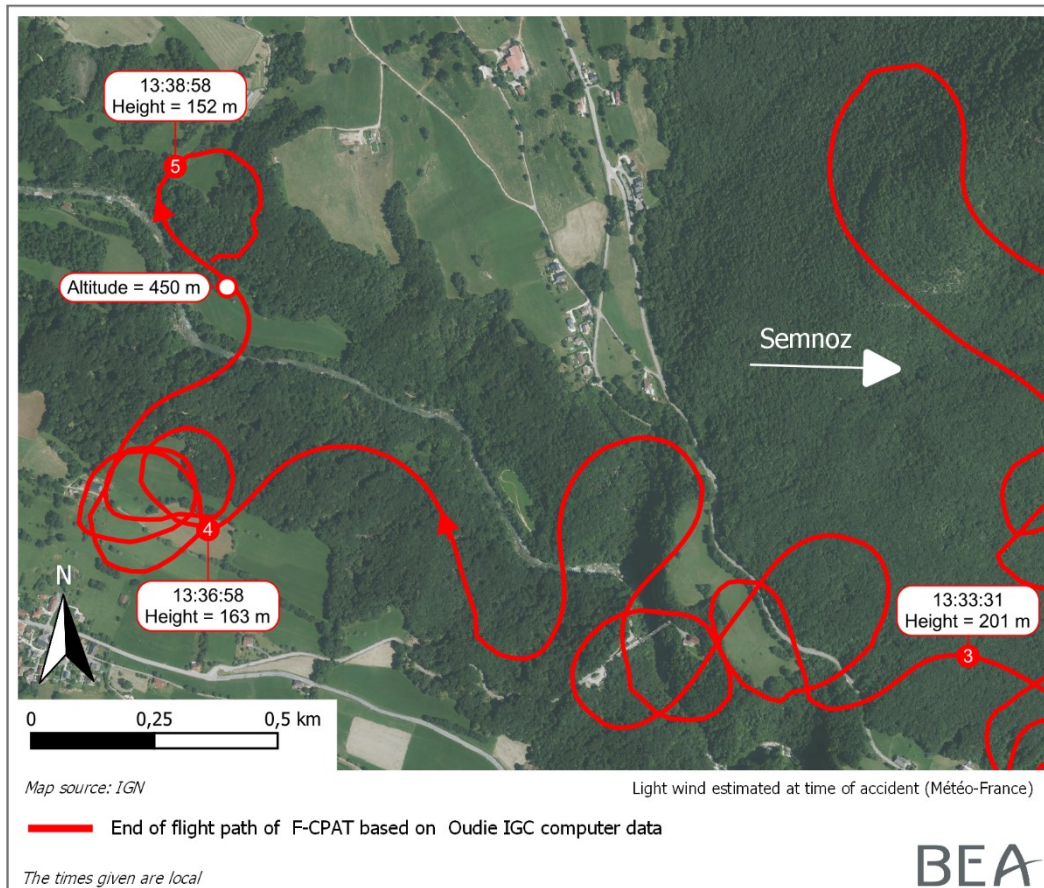


Figure 2: end of flight path

2 ADDITIONAL INFORMATION

2.1 Pilot information

The 59-year-old pilot held a sailplane pilot licence obtained in 1987 and had logged around 2,800 glider flight hours. He had held a glider instructor rating between 1990 and 2010. He also held an aeroplane private pilot licence obtained in 1986 and a microlight pilot certificate obtained in 1995 along with an aeroplane instructor rating between 1995 and 2016 and a tug pilot rating.

He had been the owner of F-CPAT since 2014 and was a member of the Haut Bugey glider flying club at Oyonnax.

The information in his logbook showed that he was used to flying for several hours at a time and in the Alps region. He had flown several return cross-country flights in August before the accident on F-CPAT.

2.2 Site and wreckage information

All of the wreckage was found in a wood in the Gruffy commune.

The examination showed that the glider collided with tree tops with a horizontal forward speed. The two wings and the tail unit were torn off following successive collisions with vegetation. The debris was spread over a distance of around 40 m on a flight path oriented to the south.

The landing gear was extended and the trim was in the nose-up position on collision with the ground.

The position of the speed brake control corresponded to the speed brakes being retracted and the flap control, blocked by the deformations from the impact, corresponded to the flap maximum extension position. It is however possible that these positions were the result of the impact. The visual examination of all the ruptures of the aileron, pitch, yaw, speed brake and flap controls did not reveal any failure prior to the collision with the trees and the ground. The examination of the site and wreckage did not identify any technical failure that could have contributed to the accident.

2.3 Landing areas in region

Chambéry - Aix-les-Bains aerodrome and Annecy-Meythet aerodrome are both situated at a flight distance of around 20 km from the accident site, at an altitude of approximately 240 m and 460 m respectively. When the pilot reached Semnoz at an altitude of 1,200 m, he could still get to these two aerodromes².

The closest field suitable for a precautionary landing listed in the *Guide des aires de sécurité dans les Alpes* published by the French Glider Federation (FFVP) is “Motte en Bauges” situated 9 km south-west of Semnoz. Given the altitude at which the glider was flying, this field would probably not have been a suitable option as it would have required the pilot to fly through a gorge.

The accident site is surrounded by numerous fields. An off-field landing in one of these is difficult because of their size and the obstacles present. Statements from glider pilots indicated that areas better suited for an off-field landing are more prevalent to the north, around 5 to 10 km from the accident site.

2.4 Meteorological information

The meteorological conditions estimated by the French met office, Météo-France, in the region and at the time of the accident were as follows:

- at the surface and in the low layers, light northerly wind over Chambéry and westerly wind over Annecy. Convection set in after 17:00. Only the eastern slopes of Semnoz had a few thermals between 12:00 and 13:00, generating small lifts;
- clear skies in the valley, locally cloudy with the presence of clouds from 600 m.
- temperature 28°C.

2.5 Statements

Semnoz is particularly well known for free flight and gliding. Glider pilots and paragliders familiar with the region indicated that lift on the west slopes does not generally develop before 16:00. During the morning and early afternoon, only the east face is likely to have thermals. Whatever the aerological conditions of the day, the search for lift in the early afternoon at the southern end of Semnoz (lower part of Semnoz), on a south-westerly slope, is not appropriate.

To the knowledge of the president of the Haut Bugéy gliding club, the pilot had only twice found himself in a situation where he had had to make an off-field landing. On the day of the accident, he had planned to fly to Grenoble.

² The Schempp Hirth Nimbus 2 has a lift-to-drag ratio of 47.5.

2.6 Off-field landing technique

The glider pilot manual³ recommends above flat land, that the pilot select a suitable field for landing as soon as the glider's height falls below 400 or 500 m. Once the field has been identified, the pilot can attempt to gain altitude within the limits of the local flight zone. It is recommended to stop spiralling at a height of less than 200 m.

The manual recommends making an L-shaped approach (PTL). It warns pilots about the common mistake of making a L-shaped approach which is too tight for fear of losing sight of the chosen field. This leads to final turns that are too low, or final approaches that are short or too high. The manual also strongly advises against doing a 360° turn if the pilot considers that he is too high, as this would cause him to lose sight of the terrain and place him in a dangerous situation. It states that it is preferable to extend the base leg beyond the axis of the final approach and then resume a base leg on the other side followed by a final turn, without ever losing sight of the ground.

3 CONCLUSIONS

The conclusions are solely based on the information which came to the knowledge of the BEA during the investigation.

Scenario

After just over one flight hour, the pilot reached Semnoz mountain in the Bauges mountain range, at a height of 600 m with respect to the valley. He performed manoeuvres on the south-west slopes of Semnoz for around thirty minutes with the glider's altitude gradually decreasing. On reaching a height of 450 m, he drew away from the slope to join the valley, probably in anticipation of a possible off-field landing. At a height of 160 m, the pilot performed a series of spirals without managing to gain any height. He then flew north over a wood. The glider next turned right in descent before colliding with trees a few seconds later.

The flight path obtained from the GNSS computer data seems to indicate that the pilot had decided to abort the flight. However, it is not possible to determine the pilot's intended strategy for the off-field landing.

Contributing factors

The following factors may have contributed to the need to carry out an off-field landing, followed by a collision with vegetation:

- the search for lift in an unfavourable area given the aerological conditions at that time of the day;
- the continuation of manoeuvres in this sector, which meant that the pilot was no longer flying locally to nearby aerodromes and no longer had the possibility of carrying out an off-field landing in a suitable field;
- the late decision to carry out an off-field landing which meant that the pilot was no longer able to follow a flight path giving the necessary safety margins to land in good conditions.

The BEA investigations are conducted with the sole objective of improving aviation safety and are not intended to apportion blame or liabilities.

³ Various authors, 14th ed. 2019, published by Cépaduès.