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Bureau d'Enquêtes et d'Analyses
pour la sécurité de l'aviation civile
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INVESTIGATION REPORT

Accident to the GLASFLUGEL 304 CZ registered D-5304

on 09 July 2020
at Saint-Pons (Alpes-de-Haute-Provence)

Time	Around 14:00[1]
Operator	Private
Type of flight	Local
Persons on board	Pilot
Consequences and damage	Glider destroyed
This is a courtesy translation by the BEA of the Final Report on the Safety Investigation published in October 2021. As accurate as the translation may be, the original text in French is the work of reference.	

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

Collision with trees in the mountains

1 - HISTORY OF THE FLIGHT

Note: the following information is principally based on the pilot's statement, data from the glider's FLARM system, as well as data from the OGN system.

The pilot took off, in tow, from Barcelonnette - Saint-Pons aerodrome (Alpes-de-Haute-Provence) for a local flight.

He released the tug cable at an altitude of around 1,900 m north of the aerodrome and used the uplifts making spirals. He then saw another glider that was making spirals, more or less at the same altitude and closer to the Parpaillon massif. As the other glider seemed to climb quicker, the pilot decided to move closer to it to attempt to use better uplifts (see illustration, point ❶). He headed towards the other glider, facing the terrain.

Considering himself to be too close to the terrain, the pilot turned around to the left (see illustration, point ❸). The glider then lost altitude and the pilot was unable to avoid collision with the vegetation.

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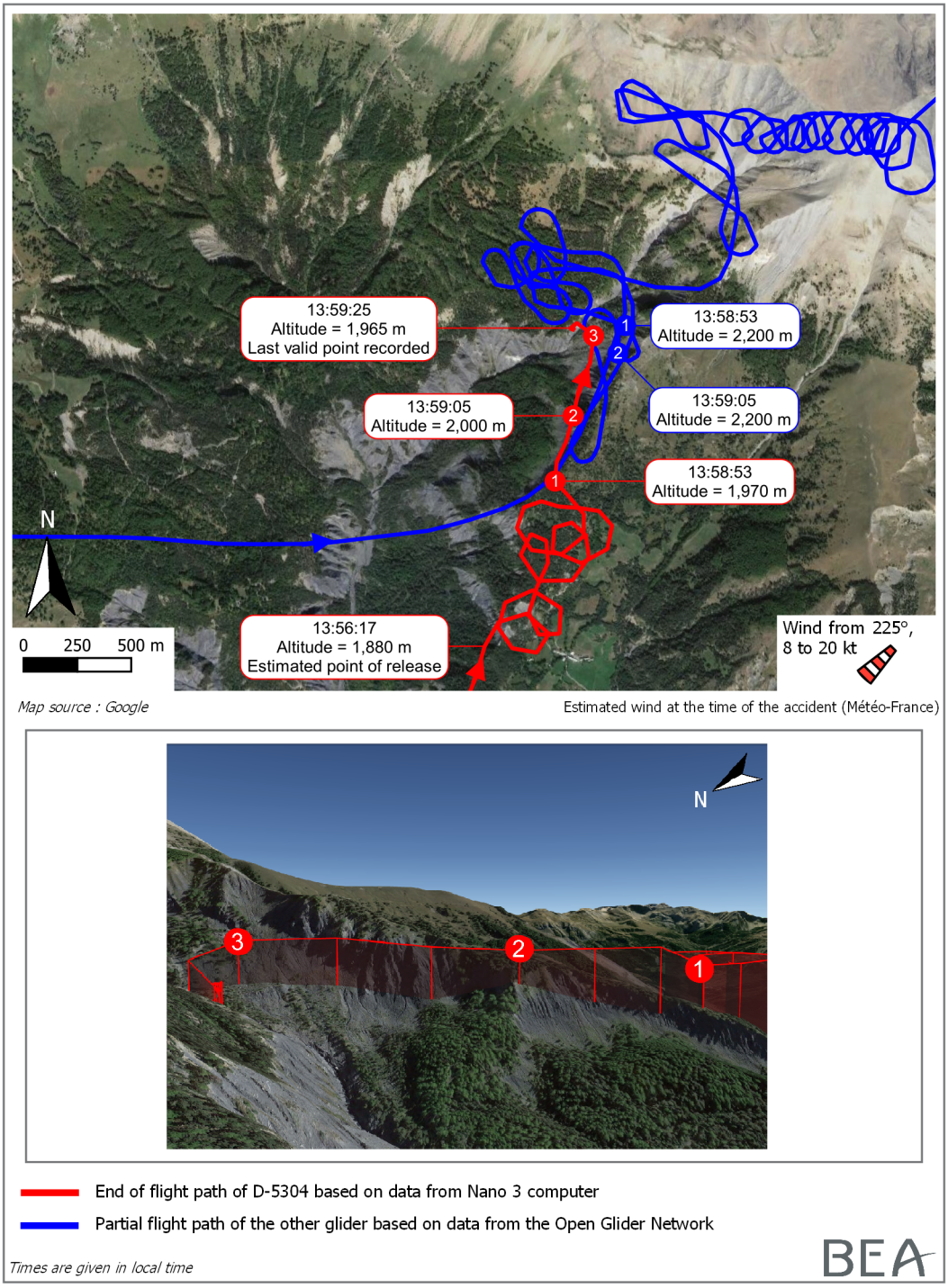

Path of end of flight

2 - ADDITIONAL INFORMATION

2.1 Meteorological information

The meteorological conditions estimated by Météo-France in the accident area were as follows: wind from 225° of 8 to 20 kt, moderate to quite strong west-south-westerly valley breeze, visibility greater than 10 km, few clouds, temperature 21 °C, moderate turbulence, weak thermal uplifts upwind of the terrain but with locally strong thermal turbulence.

2.2 Pilot information

The 64-year-old pilot was the owner of the glider. He held a sailplane pilot licence and had logged around 3,227 flight hours in gliders, 1,120 hours of which on type. Of the 31 flight hours he had logged in the previous month, 30 hours were on type. He had performed around half of his flights from Barcelonnette - Saint-Pons aerodrome.

2.3 Pilot's statement

The pilot stated that he had felt a certain apprehension when heading toward the other glider as his manoeuvring zone seemed to him to be a little close to the terrain and he knew from experience that the zone was usually turbulent.

He added that when he flew toward the terrain, along a spur[2], the vertical speed indicator was positive and the air speed seemed normal.

Having gradually drawn closer to the terrain, he decided to turn around and head back. He stated that he entered a thalweg[3] and that during the tight turn, the glider was subject to a strong downdraft. He remembered that the vertical speed indicator was displaying values between -3.25 and -4.5 m/s. The glider hit the top of the trees during the turn.

The pilot stated that, after getting out of the cabin, he tried - without success - to make radio contact with the Barcelonnette gliding centre. He manually activated[4] his personal locator beacon (PLB) then phoned a member of the gliding club who alerted the emergency services.

[2] Piece of land jutting out of a horizontal or vertical surface.

[3] The line of steepest descent.

[4] The Aeronautical Rescue Coordination Centre (ARCC), located at Lyon Mont Verdun, confirmed that the distress signal was transmitted to them.

3 - CONCLUSIONS

The conclusions are solely based on the information which came to the knowledge of the BEA during the investigation. They are not intended to apportion blame or liability.

Scenario

The pilot was thermalling north of Barcelonnette valley. He headed toward another glider who seemed to be in a better uplift zone, flying along a spur and following a path almost perpendicular to Parpaillon massif. Realising that his height was becoming too low, he turned around. The glider suddenly lost altitude and the pilot was unable to avoid collision with the vegetation.

Contributing factors

The following factors may have contributed to the collision with the vegetation:

- the path followed by the pilot facing the mountain face and his late decision to turn around, which forced him to tighten the turn;
- the pilot's lack of attention due to his focus on another glider, which altered his perception of height;
- a local aerological phenomenon associated with the presence of spurs and a thalweg, which may have caused a loss of altitude.

Safety lessons

Mountain flying

The "Safety in Mountain Flying" guide[5] published by the Centre National de Vol à Voile de Saint Auban presents essential recommendations for mountain flying. In particular, it addresses the techniques of flying near the terrain and aerological traps.

Flying near the terrain:

The safety guide reminds pilots that they must avoid flying towards the slope and turning at the last moment. A miscalculation of the ground speed would force them to tighten the turn with all the risks that this entails. The guide also indicates that it is essential to maintain a height appropriate to the slope of the terrain and to watch out for hidden gradients.

Aerological traps:

Air mass changes in the mountains are complex. Local phenomena, associated with the terrain, and with interactions between winds, breezes, ground type, maritime influence, climatic constraints, etc. often prevail over general aerological conditions. This can result in situations that sometimes change in unexpected ways and may be unfavourable. Particular attention should be paid to invisible downdraft lines associated with terrains different distances away or air mass conflicts. In these situations it is important to clearly change the direction of the flight or cancel the purpose of the flight without hesitation.

Personal locator beacon

The pilot manually activated his PLB, then telephoned the emergency services. Beacons enable pilots to be located and rescued quickly, and constitute an effective alert system in the event of an accident. As the carrying of an emergency locator transmitter (ELT) is not mandatory in France on gliders, the BEA encourages pilots to equip themselves with their own PLB.

This subject was addressed in more detail in the report on the accident to the Schleicher ASK 13 registered F-CDYD on 25 June 2020 at Montagnole (Savoie)[6].

[5] http://www.ato.cnvv.net/logiciels/documents-de-reference.

[6] https://www.bea.aero/fileadmin/user_upload/BEA2020-0221.en.pdf