Editor's note: This article expands the article "The Kuettner Prize Flight" that appeared in the last issue, *TS* 35(3). The flight traces (track and barogram) appeared in that article.

The OSTIV Küttner Flight Report: Klaus Ohlmann's 1,677 and 2,138 km Free Straight Distance Flights

Klaus Ohlmann
Aérodrome de Serres
FR 05700 LA BÂTIE MONTSALÉON
waveflyer@hotmail.fr

Adapted to English by Ryan Bell

Summary

Joachim Küttner, a pioneer of the mountain wave, recognized the possibility of flying a straight-line distance of 2000 km or more in modern sailplanes using up-to-date weather forecasting and navigation techniques. Hence, he set up a prize for such a flight. The flight was accomplished in the Andes of Argentina. The weather, tactics and logistics of the flight are described along with photographs that illustrate the dramatic weather and topography.

I have been flying the Argentine Andes Mountains for the past five years (1998 - 2003). In my studies, I've compared hundreds of forecasts with real weather conditions, explored thousands of kilometers along these wonderful mountains, lakes and unbelievable wild landscapes. My scientific tools have been different gliders that allow me to surf along gigantic waves, crossing cold fronts, rain showers, pushing my wings hard-headedly against 80 knot storms, often thrown around in heavy rotor turbulences. It has taken hundreds of flights to gain the experience necessary to realize one of the most difficult tasks for a glider pilot, a straight flight to a goal more than 2000 km away to win the Küttner Prize.

Along the way I was assisted by my enthusiastic friends from the OSTIV Mountain Wave Project - Rene Heise, Wolf-Dietrich Herold, Carsten Lindeman and Thomas Prenosil - who provided me with the necessary scientific and meteorological information. Thanks as well to Reiner Stemme for supporting my studies lending me an S10VT, the ideal platform for our scientific purposes.

I found out more or less two possibilities to realize this adventure, one from the Region of Malargue down to Fireland, the other from the big glaciers around Lago Argentino to the hot desert of the highest part of the longest mountain chain of the Earth, the Andes. For both flights I needed two jet streams coming close together, the polar jet and the subtropical jet. Finally, the end of November 2003 there seemed to prepare such a weather situation for some days (Fig. 1).

Hervé Lefranc and I departed San Martin de Los Andes, Argentina on 20 November in the Nimbus 4DM motor glider; three days prior to our record setting 2,138 km Küttner Flight from El Calafate to San Juan. From San Martin we flew north to Malargue and spent one night before flying on 21 November 1,677 km south to El Calafate, a distance that added 170 km to my previous record for straight distance in a glider but still short of the 2000 km Küttner Prize. There was dense cloud cover south of Esquel that complicated the flight and forced us to fly more eastward than is usual.

When we arrived over El Calafate, I could have flown further south but it was a little bit too late to take the risk to continue in unexplored terrain. So, I preferred to land so as to take advantage of the exceptional weather conditions that seemed to be brewing. My intuition that comes from four years' of waiting for the ideal conditions to arise for a Küttner Flight attempt told me it was most prudent to wait and see what the next day's forecast held. Competition was tight and I knew I wasn't the only pilot flying for the Prize - there was no way I'd let it slip away now that I had it in my sights. Before landing, we enjoyed the spectacular view over Fitzroy and the glacier lakes in the evening light (Fig. 2).

We took a rest day on 22 November in El Calafate to fill fuel and oxygen bottles, watch the weather forecast (Figs. 3, 4, 5), and take a tour of the famous Perito Moreno glacier - a sight I'm more familiar with from the air than from the ground.

We lifted-off at 0525 local time from the El Calafate airstrip in the cold dawn on 23 November 2003 (Fig. 6). Because El Calafate is located at S50°20' the sunrise is a full one hour earlier than it is in San Martin, and we wanted to take advantage of the additional flying time.

At the outset, the flight conditions were as tremendous as the landscape passing underneath us! The sky was cloudy, but we could still see the Perito Moreno glacier slipping down into its ice-blue lakebed. The waves were clearly visible and the glider was carried along by a wind from the southwest. It was the first time I had flown in winds blowing from the south in this region and it was wonderful! This wind direction creates waves above the mountains that surrounded numerous alpine lakes that were like giant holes in the Argentine Cordillera. I knew that each lake marked a difficult pass to traverse, but

today it was much easier than usual. Due to a strong tailwind we were able to jump from one wave to the next without loosing too much altitude (Fig. 7).

Our flight tactic consisted of flying rather slowly (120 km/h) in order to maintain a strait path of flight. We had more than 15 hours of daylight at our disposal for the 2,138 km flight I had declared to San Juan, so I knew it wasn't worth taking too many risks. Besides, with our low indicated speeds we still had an actual ground speed upwards of 200 and 300 km/h, and even reached 400 km/h near Lago Fontana (at the 600 km mark). Our climbing rate ranged between 2 and 7 m/s and our altitude - after a low point above Viedma Glacier - stabilized between 4,000 and 7,000 m (Fig. 8).

As we passed by Corcovado, we were flying at 5000 m, not nearly enough altitude to be able to see the foehn gaps that marked the ideal path. That made it necessary to stop northbound flight in order to climb. By the time we approached Esquel, the nice, long rotor-lines were back in plain sight. The wind seemed to take a westerly turn at this point. We flew over Bariloche with ease, where the air traffic controllers are cooperative with glider pilots because they are used to us passing through. Our flight had a good pace and when we reached San Martin de Los Andes, a region I have many years of experience flying in, it felt like I was flying at home. The familiar Chapelco Wave welcomed us, letting us know the wind was still blowing from the southwest and lifting us to 5,400 m on a 4 m/s climb. We passed by the Lanin Volcano anticipating the contribution of its wave to our flight, but that day it wasn't present. A little farther north, we crossed paths with glider friends who had taken off earlier that morning from Chapelco Airport in San Martin, heading towards Chos Malal.

In the Loncupue Valley, there are only a few rotors to mark the waves overhead, but they were there nonetheless and we enjoyed 3 and 4 m/s lifts. That carried us to the always-reliable Cordillera del Viento - Windy Mountains - near Chos Malal. The cockpit clock said 13h30 as we climbed rapidly to 6,700 m. We were only 500 km from Mendoza and we felt confident knowing the chances of the flight's success were quite high. We completed the roundtrip to Malargue, flying over where we'd slept two days before, and were greeted by its large and inviting lenticular clouds. Just as in Bariloche, the Malargue air traffic controllers are friendly and permitted our passage through their airspace, reporting that there was no air traffic. We called back that we were leaving the area and would continue to fly until FL 245, per a NOTAM from the Argentina Fuerza Aeria (Air Force) that gave us permission to fly in the upper airspace. But, when we changed to Mendoza's Air Traffic Control frequency, everything changed!

"Mendoza D-KAHG buenos dias, para transitar en su zona al nivel de vuelo 245?" *"Do you have a sqwak HG?"* "Negative," I told them. We didn't have a transponder in our glider. *"Then report to 2,000 ft overhead the airfield…"* and then silence over the radio.

Flying at 2,000 ft would have been a guaranteed landing in Mendoza. I could see the situation called for some diplomacy. In my most supplicant voice, I asked the charming woman, "Please, I'm flying a world record. Can I fly to the west, via the Laguna Diamante?" (Fig. 9). To my relief, she conceded, but only to an altitude of FL 195 (6,000 m). This was morbidly humorous, considering the summits of the high Cordillera in this region reach 7,000 m!

We reached the Laguna Diamante - the northeast turning point from my record setting 3,000 km flight last year - thinking about Henri Guillaumet, the French pilot who had departed Santiago, Chile, but was forced into an emergency landing here in the 1930s when flying aeropostale lines. He survived for four days in the middle of winter, finally rescuing himself by hiking down from a 12,000 ft elevation to civilization on the Argentine side of the Andes.

Believe me, it was not easy to resist the temptation of strong lifts and to remain inside the heavy turbulences of the highest mountains of the Andes, pulling hard on the air brakes to maintain Mendoza's FL195 altitude. First, Tupungato and, then, the enormous Aconcagua Peak loomed majestically to my left (Fig. 10).

I remember these valleys well from when I trekked to Aconcagua's summit seven years ago. It's fitting that my Küttner Flight should pass through this impressive region considering it was there that I first realized the Andes Mountains' potentials for wave flight. I looked down at the hostile surface of scattered stone and rock and realized there was no place to land, even if I needed it (Fig. 11). My maps showed an airfield, but I never saw it.

We finally passed over San Juan and that was it. The Küttner Flight was mine! But I could still see some nice lenticulars clouds to the north so we continued to fly northward. I explored the deserted region and discovered a land covered with small canyons sculpted by rivers running down from the high peaks of the Cordillera (Fig. 12). Everywhere it was dry and the landscape appeared inhuman. The only flood this land saw was that of grey evening light, which added to my fatigue from such a large flight. I decided to stop my northern progression at this point and turned towards San Juan at a 160 heading with waves 'calling' me to continue northward (Fig. 13).

Fourteen (14) hours, thirty-five (35) minutes and 2,138 km distant from El Calafate, Argentina in flight, finally we touched down in San Juan at 2000 local time to the welcome of pilots from the local aeroclub. I still feel as if I've just woken from a dream, and I am satisfied to have offered my friend Joachim the best soaring experience I could have possibly afforded him! Now, a well deserved rest day (Fig. 14).

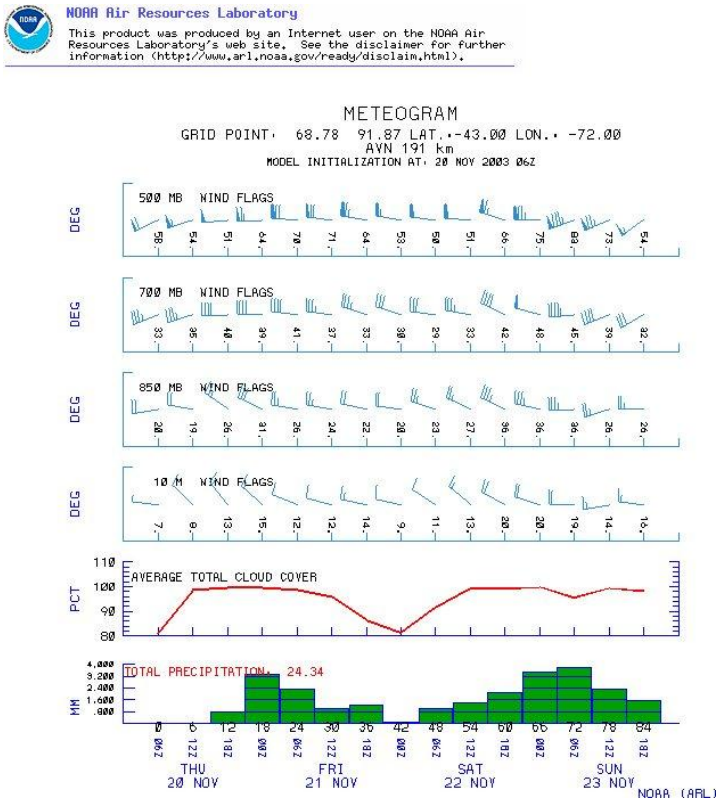

Figure 1 Four-days forecast for Esquel.

Figure 2 Lago Viedma.

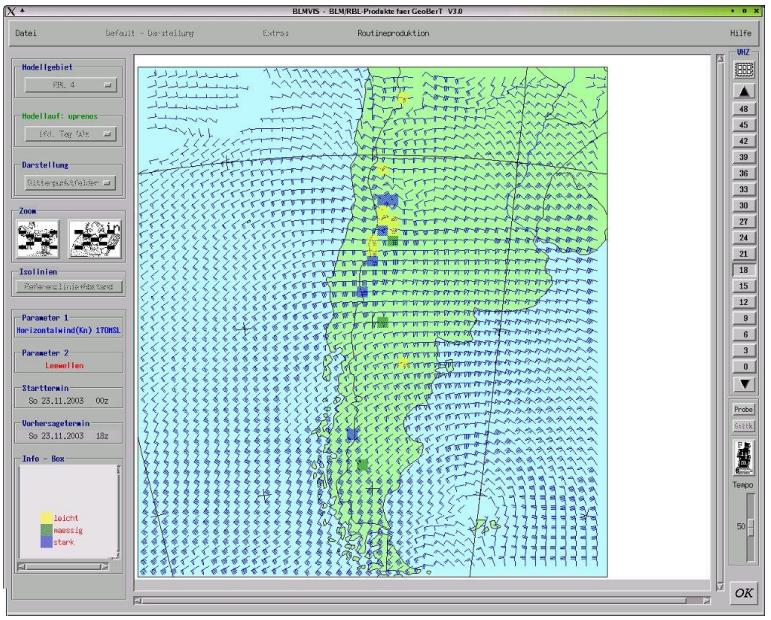

Figure 3 Wave forecast Mountain-Wave-Project.

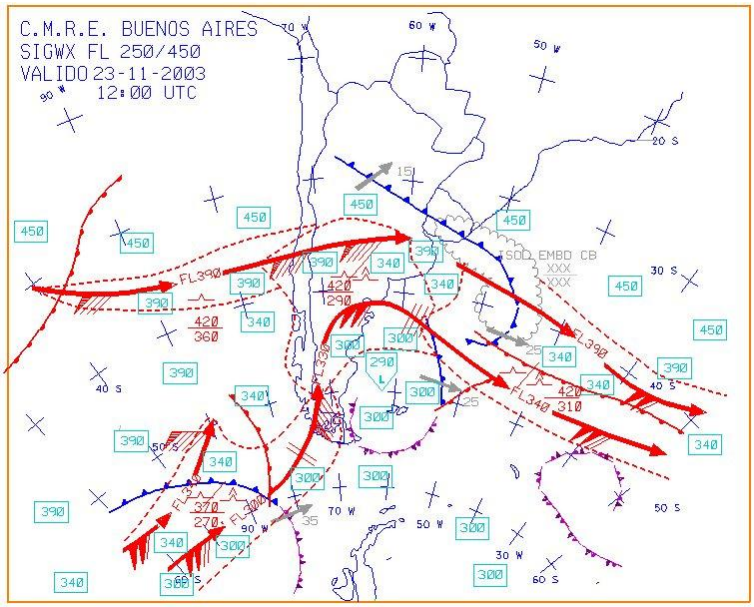

Figure 4 The stars are aligned!

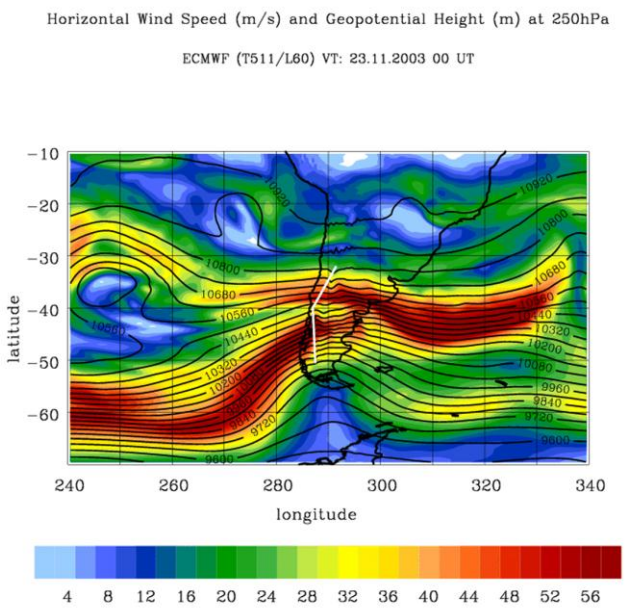

Figure 5 Two jet streams melting together.

Figure 6 Sunrise impression.

Figure 7 Jumping the waves.

Figure 8 Viedma Glacier in the cold morning light.

Figure 9 Laguna Diamante.

Figure 10 Mighty Aconcagua (6,962m MSL).

Figure 11 Cordillera del Tigre.

Figure 12 High deserts west of San Juan.

Figure 13 Still waves at the end of the flight.

Figure 14 Rest day far away from the glaciers.

.