

# PATAGONIA: THE END OF A MYTH?

This additional background information accompanies the feature in the Dec 17/Jan 18 issue of S&G by Jean-Marie Clement on his latest - and what could potentially be his last - Patagonian wave camp

**T**he customs strike required us to use the nearest international airport. We chose Temuco (SCQP), which is new and has airlines. Chilean civil aviation is really collaborative and allowed us to rig the Nimbus on the tarmac next to the business jets and airliners, so we set off, towed by our car, between two movements of the airliners. Flight plan filed for an ETE of four hours for 300km (we'll be almost on time), we take off without any wind under a wonderful blue sky.



After 32 minutes, we stow the engine at 3,000m above the shores of Lake Villarica and glide towards the border with the intention of restarting engine above the airport of Pucón, but not without having checked whether the volcano Villarica is giving some lift. The wind is now 210° for 20-30km/h, insufficient to make the conical ridge work, but sufficient to create a mixed wave and leeward convergence, exactly as written in my book.

We are now slowly pushed to 4,000m, which allows us to easily reach the foot of volcano Lanin, where the wind is now 70km/h. We are now playing in our garden and after reaching 6,000m we set off to Bariloche, where the controllers welcome us with a joyous "Bienvenido a Argentina!".

See <http://archive2016.netcoupe.net/Results/FlightDetail.aspx?FlightID=25847&HasPrevious=hasPrevious>



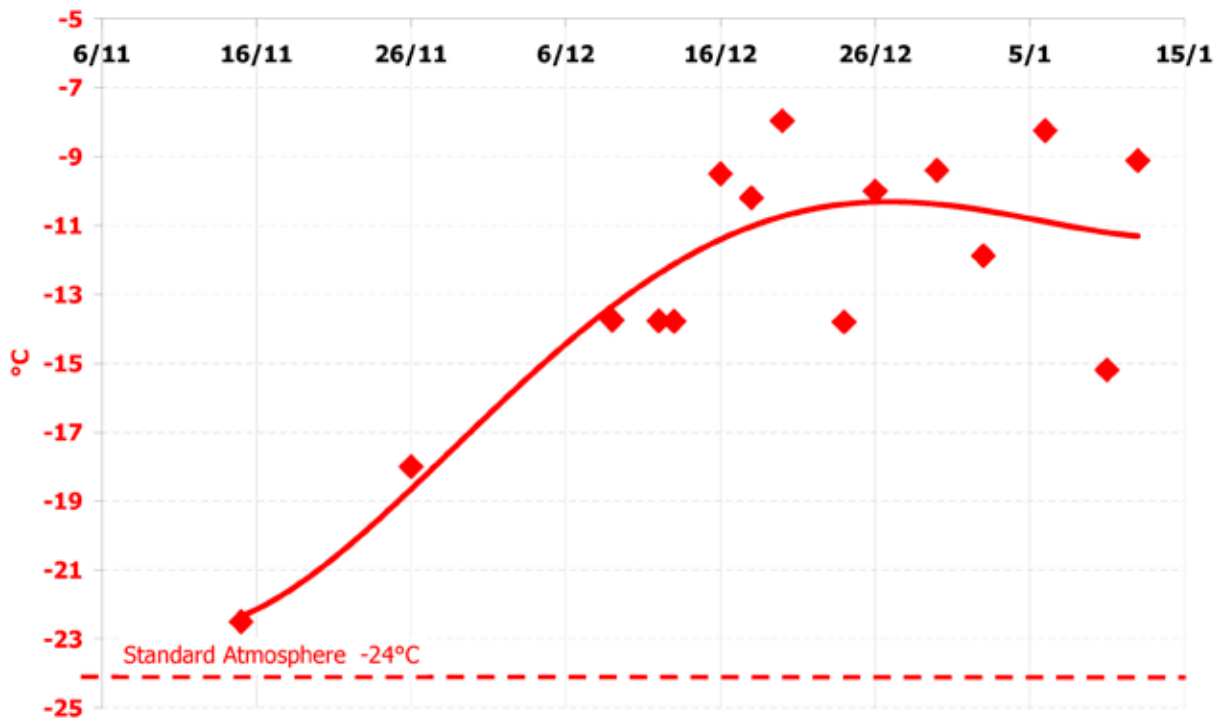
The two lovely policewomen and their colleagues from the customs and agricultural sanitary control, came especially for us at the airport of Pucón when returning on 16 January. Jean-Pierre Ohaco, my co-pilot, stands on the left in the background, on his left Peter Vermehren, the deus ex-machina of Pucón and Villarica airports. Meanwhile my wife was 12 hours queuing at the land customs, a state humiliation to dissuade the Argentinians from going to Chile spending their Pesos.



From mid-November to mid-January 2017, we had only seven days of rain (a drama for this area), 31 days of usable wind (30 in 2013), but 23 days of mirror lake, which is a novelty – sad for us, but excellent for tourism. Luckily my boat and the trout fishing equipment have fulfilled their duty and we have never eaten as much fish, since we rarely came back empty-handed and often with more than one catch.

(Left) It was necessary to buy a balance to decide between the competing fishermen.

### Temperature at 6.000 m, Season 2016-2017 Flights around Bariloche (SAZS)



From mid-December to mid-January, the temperature at 6,000 m was, on average, 14°C higher than the standard one, with strongly negative consequences on gravity waves.



January 10th was an exception and Klaus Ohlmann took the opportunity to try the goal flight distance record of 2,500km from the south to the north. We had seen the situation coming, but the logistics of moving 1,500km further south would have required three days of preparation, including two days driving, plus de-rig and re-rig the Nimbus. We decided to give up. Klaus cleverly took advantage of the turbo-compressed Stemme's capabilities by making a ferry flight to El Calafate in the South above the cloud cover. However, its starting point was 150km backwards and against the wind, which made it impossible to achieve the record. We do not know why he did not fly directly with engine to Rio Turbio airport, his start point, which had already been used as a base by Jean-Marc Perrin in previous years. See <https://www.onlinecontest.org/olc-2.0/gliding/flightinfo.html?dsId=5507727> for the flight of Klaus Ohlmann, 10 January.



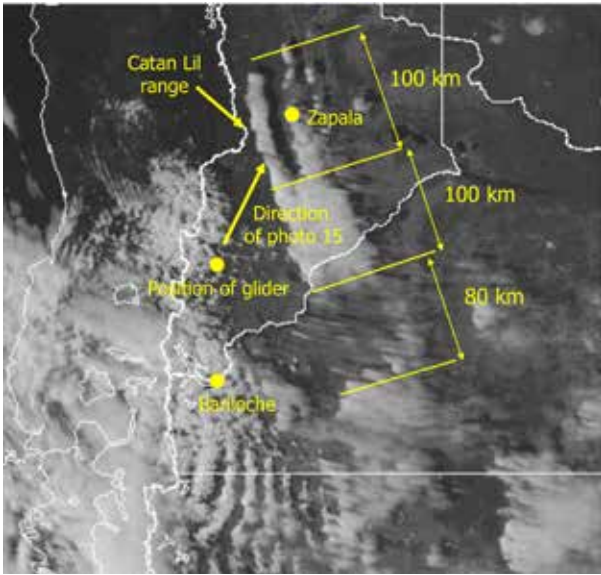
On 2 January, at 4:43pm, flying northbound, inside the front of the hydraulic jump, 40km downwind of the Cordón de Esquel, invisible in the cold front clouds, no rebound at all due to the presence of a supercritical flow having a speed about 30km/h higher than the average speed of the air mass, ie 140km/h. We fly at 4,700m, cruising at 150km/h, climbing in the front of the jump, average  $V_z$  1,4 m/s. On this small training flight of 1,200km (in nine hours!), we stop only two minutes, just to take pictures. A westerly jet stream of approx 200km/h at 9,000m was present above the whole task.

See <http://netcoupe.net/Results/FlightDetail.aspx?FlightID=187&HasPrevious=undefined> 11

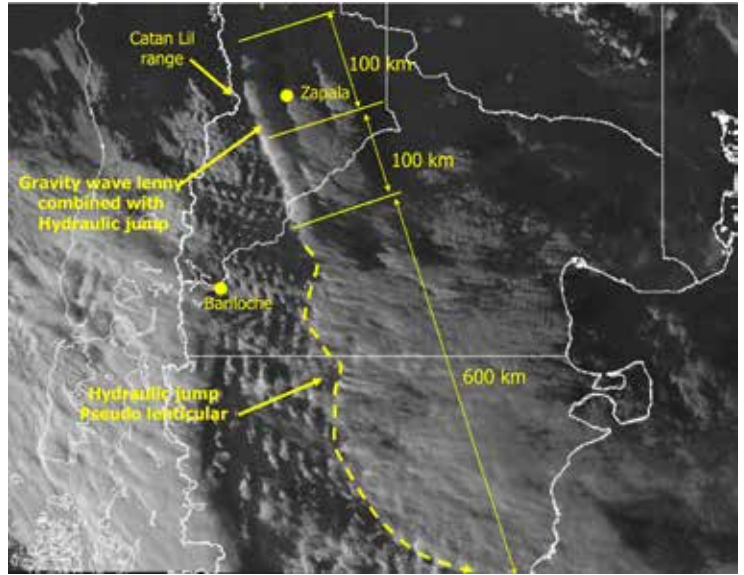


On 6 January at 20:12, 140km north of Bariloche looking north. Zapala is 110km ahead in the dark, in the direction of the fuselage; the mountain visible at left in the shadow of the 'monster' is Catan Lil. There are also beautiful conventional gravity wave rotors generated by the valleys visible beneath, only a few hundred metres depth, and lenticular clouds in the background. The pseudo lenticular of the hydraulic jump looks like a conventional lenticular because it has a well defined trailing edge and, in fact, both systems are combined in this area. Above it, the true pseudo lenticular can be seen, typical of the hydraulic jump, with its highly fringed leading edge, and not definite trailing edge, as evidenced by the shadow that is carried up to the horizon. We are at 5,100m, this cloud is 120km in front of us. We turn back home after the usual photos at more than 8,000m.





Satellite photo at 20:45, 30 minutes after taking the photo on the previous page. We can very clearly see the resonant waves we had used south of Bariloche, the small rotors of isolated gravity waves above the pampa, the lenticular cloud visible on the left of the photo, repeated three times. This demonstrates that both systems are combined, their length is about 100km. That combination extends for another 100km, but the lenticular clouds are immersed inside the pseudo lenticular visible in the previous photo, having a width of about 60km, and more to the south, the residual fringes show the existence of the nascent hydraulic jump whose exploitation is probably not simple. The structure continues several hundred kilometres to the south. This is a pre-frontal situation, with the cold front visible on the left. The crest line of the mountains is materialised on the satellite image by the border line with Chile.



Satellite photo of the same area at 23:08, the last in the visible spectrum. The initial structure of the most northerly 200km has not changed by a millimeter, confirming the presence of the orographic gravity wave, mixed together with the hydraulic jump. While the southern part has been reinforced to form a perfect pseudo lenticular whose trailing edge extends until the Atlantic Ocean, the leading edge is exactly that of the cirrus of the previous photos at an altitude of about 10,000m. Obviously, this phenomenon has nothing to do with the orography. It can be observed that the resonant gravity wave trains are now well structured and the 1,500km O/R could have been flown above 250km/h, if we could have had more than two hours of remaining light.



On 16 December at 8:26pm, we make a u-turn at 7,500m in the smoke of the plume of volcano Copahue. The wind is 100km/h from 300°, but as it has been blowing in various directions during the previous days, the whole region is polluted by gases, smoke and ashes. The town of Loncopué is located 30km from our position towards the volcano, right in the pollution. Poor people...



The computer shows 189km/h wind and 213km to home. The application of my equivalent MacCready table requires the use of the maximum MC setting available, 4.9m/s, just to have the maximum L/D, in this case less than 10. It works!

An explosive economic and social situation, with growing insecurity and inflation of around 100% (prices have tripled in three years), which have not been passed on to the exchange rate, mean that everyday problems and security concerns have exceeded the threshold of tolerability. They are now higher than the few remaining pleasures, which now cost more than in Europe for a much lower quality; we must not forget that we are in the third world. Each day had its street protests with drums and pans, sufficient to obtain wage increases of a level unimaginable here, 25-35%. As for the increases in taxes and utilities, the photo below left summarises the incredible situation, which, in our country, would have pushed millions of people out on to the streets.



Above: Announcement of the tax increases for this year, ranging from 20% for the car property tax and municipal services, to 108% for water and sanitation, to 25% for cadastral values and 40% for electricity. Nobody reacts because it is enough to go down protesting in the street to get an equivalent salary increase.



Above: Announcement of 35% increase of wages of agricultural workers. It does not even make the first page of the newspaper.



Right: Announcement of a 26% six-monthly minimum salary increase of the regional administration employees.





In front of my door, the municipal police in bicycle and an armed guard watching the entrance of the electricity company's office.



On the other side of the street, the National Police on motorcycles. At night they all disappear, it is too dangerous!



Jean-Marie Clement's first flight was at 14 in 1959. A national team member in 1963, he was CFI in 1964, before a professional pause working in Turin. After a first 1,000km in wave in 1982, he's applied an engineering mind to create and divulge an almost unique understanding of wave and dynamic flight. Jean-Marie was European champion in 1989, has 26 national and six world records, and 6,000+ hours

■ Jean-Marie's book, *Dancing With The Wind*, is available at [www.bgashop.co.uk](http://www.bgashop.co.uk)