

ROCK & A HARD PLACE

SKIP NOVAK MAKES A MEMORABLE EXPEDITION
SAIL TO ZAVODOVSKI, THE MOST REMOTE
OF THE SOUTH SANDWICH ISLANDS

EXTREME LANDING TECHNIQUES

Although the landings on Zavodovski are extreme, carrying a substantial amount of risk, there are mitigation measures you can implement. First, you need two Zodiacs. The risk of an upended boat or an engine failure and being washed into the cliffs is real. The second Zodiac, in effect, is a rescue boat and has to be ready to go in the water, with a throw line in case they have to pull the first boat off the cliff face. This means that you need four crew: always two in the dinghy and two left on board *Vinson*, in case they needed to up anchor, or – worst case – launch the rescue boat.

Everyone we landed was in a one-piece float suit as there was a chance of ending up in the water. We also embarked drysuits, hoodies and booties for everyone ashore, for an emergency extraction in extremis whereby people would have to jump in, grab a throw line and be towed out with the Zodiac to safely be hauled in away from the cliff face.

On our previous trip to the South Sandwich Islands, landings were on boulder beaches where taking a boat on shore in surf was too risky due to possible capsizing risk and propeller damage. In this case we had 120m of floating line with a float and large stainless steel hook (big enough to get



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around the handle of a Peli Case) lashed into the middle. This rig is stored in a large bucket with the rope flaked so it doesn't foul. The boat end is tied into the bucket, and bucket tied to the bow of the Zodiac.

While the Zodiac hovered safely above the surf line, one volunteer in a drysuit must swim to the shore with the end of the line. We found on large boulders that make up the surf area it was best to not try and stand up in shallow water, but let yourself get washed in like a ball, with arms and knees tucked in, until you can confidently stand up and walk out. Gaps in the boulders can easily break legs and ankles.

The shore person then pulls in gear attached to the clip, or people in drysuits hanging on to the float. We found this very safe for the Zodiac and people. We did the same on the return: throwing a line from the Zodiac back to shore to start pulling people and kit off the beach.



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Chris Kobusch

Above: the author. Right: leaving Larsen Harbour for Zavodovski after a low passed through. Far right: threading our way through an 'iceberg cemetery' at the south end of the island



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We dropped anchor in 12m of water, a long stone's throw from an unfriendly rocky cliff face and immediately the reality of our position set in as *Vinson of Antarctica* began to roll unpleasantly some 10-15° port and starboard. The surging water was alive with chinstrap and macaroni penguins, some heading out to sea and others heading toward shore, if you can call it that. A wall would be a more apt description.

Dion Poncet had the binoculars out. Pointing to an obscure weakness in an otherwise vertical side of rock he announced: "That's it". It was where we had to get ashore, a spot discovered by Dion's father Jerome over 20 years ago and one of only two known landing places on the island, both requiring a Grade 2 scramble up 10m to gain a safe lodgement. I trusted Dion, as he'd made this landing before and is famous for getting people ashore in dodgy areas down south where most people fear to tread.

The Bombard C5 tender was ready on the davits. Over the stern it went and immediately came to life bucking like a bronco and snatching at the painter. No fewer than 70

pieces of equipment were listed on a manifest ready to be deployed out of the forepeak, off the deck and into the C5.

Dr Tom Hart, who'd landed briefly here in 2011, and I jumped into the tender on a roll. Dion drove us in, gauged the one and half metres of heave just at the right moment, and put the bow on a sheer, slippery rock face. I jumped for the ledge, semi-confidently, in a one-piece flotation suit in case things went pear-shaped, and managed to climb up to safe ground. I fixed a rope around a massive volcanic boulder and tied in a succession of large loops to create handholds for Tom to follow.

On recce, we followed a passage through a volcanic labyrinth then up a gentle scree slope leading to an expansive piedmont south-east of the island's summit – its gaseous plume trailing off flag-like with the fresh south-westerly. We scoped out a spot on raised ground with good drainage near some small chinstrap colonies and decided this was a good place to camp.

There were penguins as far as the eye could see. I felt the privilege of being ashore in this very special place where few people have been and only two parties before us had camped. This was going to be one hell of an adventure!

We radioed skipper Chris Kobusch on the *Vinson* and gave the go ahead to start ferrying in loads of kit. First to come ashore and be hauled up with a top rope was Tom's personal survival kit and mine – in case something went wrong and we were stranded with not much except the clothes we stood in.

Next came provisions, water, fuel, two generators, science equipment, tents and camping gear, along with our science team to help with ferrying loads. A long day's work had to be accomplished in double-quick time – too much swell would mean too much risk as white water crashed both to the left and right of this unique spot. The ever-present surge around this tiny sub-Antarctic island miraculously cancels itself out under this prow of rock, making it all possible.

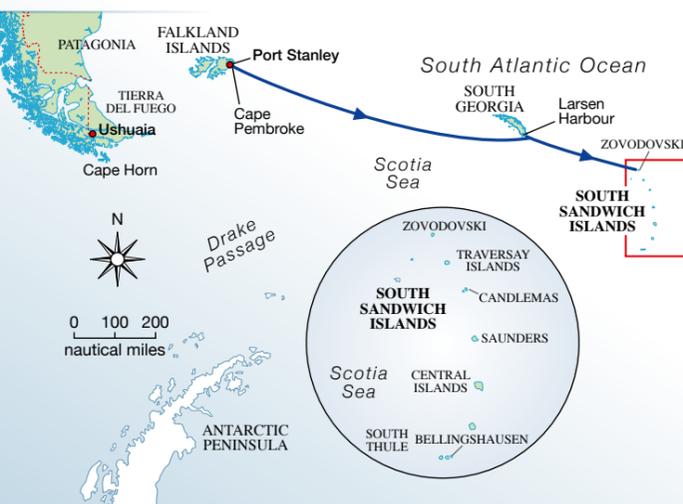
IMPENETRABLE ISLAND

In January 2020, on the cusp of the Covid pandemic, *Pelagic Australis* sailed to the remote and wind-blown South Sandwich Island chain in the South Atlantic, far south of my usual stomping ground of South Georgia, supporting a multi-disciplinary science project.

We managed to make landings (often swimming in) on four of the nine principal islands, which was considered a huge success mainly due to a spell of uncharacteristically settled weather. After landing on South Thule, Bellingshausen, Saunders and Candlemass Islands our final objective was to get ashore on the most difficult one – Zavodovski, the northernmost of the chain. Zavodovski is one of the smallest, the most impenetrable, but arguably the most interesting from a scientific perspective as home to 1.5 million chinstrap and 500,000 macaroni penguins, living precariously under an active volcano.

On that occasion the eastern side of the island was awash with seas combing the tops of the cliffs. Landing, or even anchoring, was out of the question. Only two and half miles from north to south, Zavodovski lives in a washing machine of perpetual swell on all sides. We could only wish to one day return with more time to unlock its secrets. And here we were, three years later.

The South Sandwich Islands chain is all about plate tectonics. The 180-mile-long arc of 11 volcanic cones, some active, demarks the eastern margin of the Sandwich Plate balancing on the edge of the 7,400m-deep abyss of ▶





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Left: the expedition's camp above the penguins and below the summit of the volcano

'Our tents were peppered with fine volcanic ash in high winds'

the South Sandwich Trench. The trench is a subduction zone – the South American Plate to the east is diving under the Sandwich Plate and creeping west at an average of 70mm per year. This dynamic interface releases magma from the earth's crust which rises and gives birth to volcanic islands and associated sea mounts. Zavodovski Island, the most active, is 300 miles south-east of the southern tip of South Georgia. We were truly below the Polar Front.

The South Sandwich islands are not in the Antarctic Treaty territory, and the UK, which owns this stretch of hostile real estate, is strict as can be in its governance. To visit is a 'hoops and ladders' exercise of bureaucracy limiting visitors to scientific expeditions and sometimes media teams. The land masses are a SPA Specially Protected Area (SPA) and the waters include Marine Protected Areas (MPAs) and specific No Take Zones (NTZs) – for licensed fishing in the wider maritime zone. This is critical to monitor and protect krill stocks for the foraging seals and penguins that make these islands their home.

The permit process is more than rigorous, for both biosecurity and safety reasons. You have to demonstrate you'll not be introducing alien species to these

otherwise pristine islands, and ensure you can conduct the expedition safely and be self-sufficient. And no matter how complete you make your forms, expect lots of follow-up questions right up to departure.

Before we left Port Stanley, we inspected everyone's clothing and equipment – down to vacuuming out jacket pockets, painstakingly picking seeds out of Velcro with needles and using biocide to disinfect boots, ski poles, tripods and anything else that can touch the ground. We had to be hard on each other, and it is amazing what you can find if you look hard enough. Before setting sail, *Vinson* was visited by Sammy, the official four-legged rat catcher in Stanley; she jumped back ashore still hungry.

BOW ON A RISING MOON

It is 1,000 miles from Port Stanley to Zavodovski and the weather looked optimum for the outward leg. A moderate westerly by north set in soon after leaving Cape Pembroke astern and, with a course for the south end of South Georgia, the wind direction never wavered for the next three and half days.

There's no secret why more charter boats are not doing what we do on *Vinson*. It's not everyone's cup of tea. After a glorious 800-mile downwind sail from the Falkland

Islands, running wing and wing (see right), we ran down the course keeping the bow on a rising but waning moon in the evenings and the sun breaking the horizon in the mornings. We made shelter in four days flat, the team carefree and meditative as they were temporarily released from their land-based responsibilities, on deck in the sunshine among soaring albatross and flitting petrels.

Looking ahead though, there was trouble on the starboard horizon. A big low was due to march across our path for Zavodovski on day five, so it was a no-brainer to nip into Larsen Harbour at the southern tip of South Georgia – an all-weather storm anchorage inside a deep fjord. And lo and behold, *Golden Fleece* and Jerome Poncet were doing the same on the way from the island to the Peninsula. We spent two nights anchored in proximity. It was a rare treat to have Dion, Jerome's eldest son, on board *Vinson* and Jerome, widely known as the 'father of Southern Ocean sailing', together in the same anchorage by chance. Jerome was the first to explore the South Sandwich by small boat, on *Damien II* back in the 1990s and later on the *Golden Fleece*. We were in good company.

It is a cliché, but it's hard not to lend a thought to Captain Cook and the crew of the *HMS Resolution* in 1775. While searching for Antarctica, Cook fetched up on a group of islands which he named Southern Thule. Sailing north he went up the chain to Candlemas, assuming that in the thick weather he was looking at promontories of a land mass. ▶

SAILING WING AND WING

You need two yankees, two poles, two pole halyards, foreguys and afterguys to exercise this manoeuvre – a lot of strings, but we do it often on my boats, as it's the safest way to sail downwind on long stretches, especially in big seas. The yankees need to be high clewed for good visibility forward and to prevent a pole end dipping in on a roll or a broach. We have a 135% yankee on the headstay and a 100% yankee (our workhorse sail) on our forestay.

We rig one pole 45° off the windward bow, stabilised by foreguy and afterguy. Then roll out one of the sails to that pole end; the full 100% yankee can go on that pole. Next rig the leeward pole (mainsail still up) and roll out the bigger yankee to about two-thirds or three-quarters. Any more and it's too much sail and will be unbalanced with the 100% sail opposite

At this point we drop the main, taking one reef in at a time by taking in the clew line at the same rate as the halyard falls, to keep the leech off the rig and prevent battens breaking (greater risk with swept-back spreaders). We have four reefs in the main and we leave the fourth reef in and trim the main amidships. Why? It not only helps to prevent rolling, but makes it easier to re-hoist when the time comes as the wind swings off the stern into a broad reach.

The advantages are many: as the centre of effort is moved forward it is easier on the steering and pilot; there is good visibility under both sails; it is safe without a boom flying across in an accidental gybe (if the preventer gives way) and you can play with the wind angle to about 20° off either side of the stern by squaring the poles. Always keep the load on the sheets, not the afterguys, which should remain lazy after the sails are set. When the wind increases you simply furl by degrees the two sails, simultaneously easing the poles forward.



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Above: *Vinson's* secure cockpit with waist-height winch positions. Left: hard to imagine a more dramatic campsite. Right: on arrival we had a welcoming committee of one!

'The cliffs were dominated by penguin colonies'

Not until 1819 when Captain Thaddeus von Bellingshausen discovered the northern three islands was Cook's theory of a land mass discredited. It was 1908 when Captain Larsen, who developed the whaling industry on South Georgia, finally landed on Zavodovski. But all attempts at whaling and sealing failed due to the lack of any natural harbour, and the islands remained pristine.

RUNNING FOR SHELTER

Back at Larsen it was blowing 40 knots on the outside with a 6-7m swell running, and we had to shelter for three days. The wind whipped through the rigging with *Vinson* snatching at the anchor cable in gusts of 50 knots. It had been raining on and off since we arrived and frankly it was miserable. We were stormbound in the Southern Ocean.

We finally ran down the 36 hours to Zavodovski and

arrived on 22 January in benign conditions. My job was to make the call as to whether to make a landing on the day. Too cautious and time would be lost, too gung-ho and you would risk a fiasco, or worse. Although it looked dodgy at first sight, with Dion's confidence in Zodiac driving we made the move and established ourselves.

With conditions generally dry during the day and spitting with rain during the night, the tents occasionally peppered with fine volcanic ash in high winds, the analysis was that we'd picked a good campsite, just north of Fume Point. I'd prepared 45 tent pegs from 25mm steel angle in Stanley and, with the help of a 5lb maul, they could be driven into the hard clay soil. If the ground had been soft ash with no holding power (an unknown factor) it would have been a game changer. Climbing ropes were also deployed as guy ropes to various pegs which we could change with the angle of the wind. With our heavy kit boxes and bags on the tent valences along with 150kg of boulders carried up from near the cliff edge (ouch!) we had a safe-as-can-be base camp on an otherwise totally exposed landscape.

We had four tents deployed and two complete spares, knowing that if the shit hit the fan there'd be no escape back to the boat, which was anchored 300m off the cliff face. If it was windy enough to bust the tents it would be too windy to launch the Bombard C5. In extremis, we could survive, but it would be miserable.

Yes, this is a rugged and windy place, but during our 10 days camping on this outlier in the Southern Ocean, we were lucky with the weather. The campsite held and *Vinson* stayed on station, with the crew Chris, Justino,

Dion and Tor able to trade places ashore by the day to get a break from the vessel constantly rolling its guts out.

Zavo (as we now call it) is a stunning landscape like no other. The coastline features are more than descriptive: Acrid Point; Stench Point; Reek Point; Pungent Point and Noxious Bluff. This volcano is classed as active and it is 'degassing' continually, its plume with SO₂ and other more dangerous gases usually streaming out to sea is to be avoided, so gas masks were always carried, helmets and goggles de rigueur. Predicting an eruption, however, is quite impossible so while an evacuation plan was mooted and discussed, in reality it would very much be an ad hoc, panic situation, of which we were all aware and happy to take the risk. It had last erupted violently in 2016.

Always with an eye to the weather, we enjoyed glorious trekking all over the island, much of it on moonscape terrain negotiating deeply eroded gorges above the cliffs which were dominated by the chinstrap and macaroni penguin colonies. Our scientific mission revolved around two disciplines. Oxford University's Dr Tom Hart flew drones censusing the penguin colonies. We also tagged 45 penguins with 'geolocators' that sense wet and dry, and night and day recording the whereabouts of these penguins at sea during winter.

Our volcanologist, Dr Nicole Richter from RWTH Aachen University in Germany, drone mapped nearly the entire island using some sophisticated tracking software. The high point, in all respects, was the three of us having the privilege of spending a late morning on the summit (on the only day which was sunny and windless) flying, flying, flying until the stock of batteries ran out. These two expert drone pilots gathered an incredible amount of data in difficult conditions and will collaborate going forward on their analyses. Once again, our expedition yacht model



Captain Chris, with Dion and Tor in *Vinson's* galley



Skip Novak is the preeminent authority on high latitudes sailing, having spent over three decades running expeditions to Antarctica, the Falklands and South Georgia. He is a veteran of four Whitbread Round the World Races, and co-created the 77ft exploration yacht *Vinson of Antarctica*.