

# The Last Degree



Brought to you by TDA Global Cycling



# Price and Dates

The final price will be announced in January 2016. You can expect it to be in the range of \$65,000 - \$75,000 USD.

Depending on how many people join, we will offer one or more of these three departures:

1. Starting early December 2016
2. Starting late December 2016 (finishes early January 2017)
3. Starting early January 2017

The expedition from start to finish is anticipated to be 18 days. This is from the time the group first meets in Punta Arenas, Chile until the time they return there after the Last Degree expedition. Participants should have an open ended return ticket to their country of origin as a 7 day buffer may be needed for this expedition.

## What's Included:

- 18 days itinerary with support and guidance from a Certified Polar Guide from our partners ALE (see the 'Who is ALE?' FAQ question below)
- 5 nights' hotel accommodation in Punta Arenas (4 nights before and 1 night after Antarctica)
- 2016 model Fat bikes (your's to keep) provided by Specialized
- Jacket (your's to keep) provided by Canada Goose
- Return flight from Punta Arenas, Chile to the Antarctic base camp at Union Glacier
- A shared drop-off flight from Union Glacier to 89°South (at the Last Degree) by Twin Otter
- A shared flight from the South Pole back to base camp by Twin Otter
- All meals and accommodations at Union Glacier base camp
- All food from 89°South drop-off point until the South Pole (mostly freeze dried meals)
- Shared tents, camp stoves, cooking fuel
- Detailed information bulletins via email in the months leading up to the expedition
- Personalized email and phone support in the months before the expedition
- Briefings, bike and equipment checks in Punta Arenas
- Expedition support through our partners ALE
- 24 hour communications coverage
- Emergency response support plans
- Official certificate of achievement



### What's NOT Included:

- Flights to and from Punta Arenas, Chile
- Special Antarctic travel insurance
- Meals in Punta Arenas
- Frame packs and/or sled
- Specialized cold-weather clothing and footwear
- Sleeping bag rated to -40°C
- Mandatory training
- Cost of evacuation in the event of emergency

# Last Degree Fat Bike Schedule (tentative)

Clients should allow two days travel from country of origin to Punta Arenas, Chile and keep a flexible return ticket after the expedition as delays can occur due to weather and other circumstances.

## DAY 1:

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Arrive and check in at the group hotel in Punta Arenas; get some rest. Those wishing to explore or spend more time in Chile should arrive earlier as the following days will be mostly filled with expedition preparations.

## DAY 2 AND 3:

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Meet the guide. Initial orientation, trip briefing, and equipment review. The guide will be inspecting all gear to ensure that it corresponds to the mandatory packing list, meets the environmental standards and is impeccably clean.

There will also be a group ride to test gear and equipment. Any last minute supplies that are needed will be purchased. Any gear to be left behind or shipped home will be identified.

## DAY 4:

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In the morning we will go for a final group training ride before arriving back to the hotel, where we will begin to pack our gear for the next day's flight to Antarctica.

In the evening we will have a safety, logistics and environmental briefing/lecture with ALE staff. There is also a possibility we would depart early for Antarctica if weather forecast deems this necessary.

## DAY 5:

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4.5 hour flight to Union Glacier base camp. Upon arrival the guide and guests will receive a welcome meal followed by orientation to basecamp.



## DAY 6:

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We will prepare bikes and equipment. We will also do a short test ride and spend the night camping in our tents on the ice and snow outside base camp. This will provide the opportunity to fine tune our equipment and gear, to become familiar with set-up and take-down procedures, to recap systems and the use of the equipment and stoves. This will also be a good time to fine-tune your layering process.



## DAY 7:

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Cycle back to Union Glacier base camp from our overnight tent camp. Dry and reorganize gear. Group dinner and final briefing before embarking the following day for the Last Degree.

## DAY 8:

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Flight to latitude 89°S. We will bike a short distance today to get our first official kilometers in then early to bed.



## DAY 9-15 (AND POSSIBLY LONGER):

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Expedition to the South Pole! Approximately 20 km of riding per day (adjusting to conditions), with additional days built into the schedule for potential bad weather, riding conditions, injury/ailment or any other unforeseen delays. Taking such potential events into account, between 7 and 11 days will be needed en route to reach South Pole.

## DAY 16 (ASSUMING NO DELAYS):

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Arrive at the Geographic South Pole, South Pole camp and research station. Evening celebration.

## DAY 17:

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Pick up at the South Pole and fly back to Union Glacier base camp. Official celebration with awards and certificate of completion.



## DAY 18:

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Fly back to Punta Arenas and transfer to the hotel. Reception at the hotel bar to celebrate the success of the inaugural fat bike group expedition to the South Pole. This is the last chance to reflect on and rejoice in the experience as a group.

## BE FLEXIBLE WITH YOUR SCHEDULE

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According to our logistics partners, ALE:

*No two Antarctic experiences are the same and trip details may not be exactly as described. This is part of the excitement and adventure of Antarctic travel. Trip length may vary by departure.*

*Please anticipate delays and do not plan anything for at least a week after your scheduled return. Allow yourself to enjoy this unique experience without the stress of pending commitments.*

# Environmental Sustainability

Henry Gold is the founder and Managing Director of TDA Global Cycling. Since 2002 he has been responsible for creating cycling adventures in over 60 countries. TDA has demonstrated – through our 1300+ participants to date – that most people are capable of crossing a country or continent under human power. Henry is also keenly aware of the environmental impact that we all have on our planet. He shares his thoughts on our upcoming adventure in Antarctica:

*From its birth one of our company goals was to advocate on behalf of cycling - how it is beneficial for individuals and for the planet and to show what is possible under human power. The nature of this advocacy has not changed, if anything it has become more urgent.*

*We are also very aware that wherever one journeys there will be some footprint. Especially in Antarctica. We believe in minimizing these footprints and that the positives of these trips will outweigh the negatives whether through greater awareness of issues or simply by motivating individuals - after doing the tours - towards positive and sustainable actions.*

*Antarctica is a very sensitive region and we are bound by the Antarctic Treaty System and by the strict regulations imposed on us by our logistical partner in this endeavor - Antarctic Logistics and Expeditions (ALE). ALE has been operating in Antarctica since 1985 and supports a variety of endeavors on the continent from scientific and climbing expeditions, to marathons on ice and Ski the Last Degree. This means extensive measures such as removal of all waste from Antarctica, including human waste, will minimize our footprints on the continent.*

*In addition we are partnering with a Canadian NGO called CPAR on the Integrated River and Wetland Environmental Rehabilitation Project in Tanzania. We invite participants on the Last Degree to help neutralize their global footprint by donating funds to the project. All donations will be matched three to one by the MacArthur Foundation. Funds donated by the TDA Foundation and others will be used for tree planting efforts as part of the rehabilitation project.*



# Frequently Asked Questions

## Why did TDA decide to do this?

Since 2003, we have been trying to push the limits of cycle touring. In that time we have brought over 1300 cyclists to far reaching destinations in over 60 countries on 6 continents. So after crossing the six continents it was only natural that we go for the seventh.

Whether you want to cycle across a continent, fat bike to the South Pole, or simply explore a bucket list destination for 10 days, we now have adventures all over the world open to all who wish to take up the challenge.

## How does TDA Global Cycling expect to pull this off?

We have partnered with ALE who have the experience and the equipment required. ALE has granted us exclusive rights to run a fat bike expedition for the 2016/17 Antarctic season. That combined with our track record of being able to undertake and overcome massive logistical challenges in creating and delivering our trans-continental cycling events, makes us confident that we can pull this off.

## Who is ALE?

Antarctic Logistics and Expeditions LLC (ALE) is the most experienced and capable operator in the interior of Antarctica. They have supported virtually every expedition that has crossed the continent on foot, by vehicle, or by aircraft. With their aircraft and logistics support they will enable us to become the first group to fat bike the Last Degree.

## What factors into the price?

The South Pole is a difficult place to reach. A chartered jet takes you to Union Glacier base camp from Punta Arenas. To get to the Last Degree and then back from the Pole requires a flight of four hours on a Twin Otter aircraft that will only take 5 to 6 passengers.

Not only is the South Pole difficult to reach, but also it is extremely difficult (for good reasons) to run tours there. There are very strict environmental regulations and safety protocols that add to the costs.



All this adds up to a rather expensive undertaking – one on par with the costs of expeditions to climb Mount Everest for example.

## Are there less demanding cycling trips in Antarctica?

Hold onto that thought. We expect to offer shorter, more cost conscious trips at Union Glacier in the coming years.

## Where does the trip start?

It starts in Punta Arenas, Chile at the southern tip of mainland South America.

We fly by private transport jet from Punta Arenas to the main camp at Union Glacier, Antarctica. The distance is 3,010 km (1,870 miles) and the flight takes about 4.5 hours. ALE, our logistics partner maintains a glacier ice runway for landing wheeled aircraft at Union Glacier. Travel beyond the main camp is by twin engine, ski equipped aircraft.

## What is the Last Degree?

Cycling from 89°S latitude to the geographic South Pole - this is considered the 'Last Degree.' This will be the first ever group cycling expedition to attempt the last degree. You are dropped by aircraft at 89°S. You travel by fat bike with sleds from the last 111 km (60 nautical miles) to the most southerly point on Earth – the Geographic South Pole.

## The Last Degree isn't a long ride. Why are you not cycling all the way from the edge of Antarctic?

In order to accomplish a world-first group expedition, it is only feasible to consider the Last Degree. Costs and time commitments would prevent most people from being able to consider the longer journey.

Cycling the Last Degree is the ideal choice for those who want the serious challenge of a polar expedition but do not have the time or resources to commit to a full-length expedition from the Antarctic coast that would take months to complete at a significantly higher cost.

## How Cold Will it Be?

The Last Degree takes place in the Antarctic summer (November through January) when the weather is at its best. The interior of Antarctica has a cold, dry and windy climate. Average mid-season temperatures at Union Glacier base camp range from  $-12^{\circ}\text{C}$  to  $-4^{\circ}\text{C}$  ( $10^{\circ}\text{F}$  to  $25^{\circ}\text{F}$ ). On a sunny windless day it can feel quite warm, but, when the wind blows, you will be thankful for warm layers and a wind jacket. Temperatures can drop as low as  $-30^{\circ}\text{C}$  ( $-22^{\circ}\text{F}$ ) in early November.



At the South Pole temperatures rarely climb above  $-25^{\circ}\text{C}$  ( $13^{\circ}\text{F}$ ) with light winds making for a wind chill of  $-40^{\circ}\text{C}$  ( $-40^{\circ}\text{F}$ ).

## Do I need travel insurance?

Yes. Special travel insurance that includes trip cancellation / interruption as well as medical evacuation and baggage insurance is required. Specific details of this will be shared with participants closer to the date of first deposit.

## Can anyone participate?

Yes, as long as you are reasonably fit and you complete any mandatory training required by us or our partners ALE.

## Why do I have to go to the training camp?

This is to ensure that you understand the scope of the challenge, and to be sure you have the necessary equipment, stamina, fitness, and mental capacity to endure the Last Degree.



## What will I eat?

At Union Glacier meals are prepared by ALE's experienced international chefs. ALE regularly flies in fresh fruits and vegetables, meats and fish from Chile and maintain an ample stock of pastas, grains and other staples in their ice cave. Dinners are accompanied by wine and beer.

Please let us know if you have any dietary restrictions. At Union Glacier Camp ALE offer a variety of foods at each meal including non-meat options. Due to the remote location and the limitations of the kitchen and dining facilities, we are unable to cater to people who have severe food allergies. Feel free to contact us to discuss this further.

Once we get to the Last Degree, we must remember that the nature and length of the trip means that we will be travelling as light and compact as possible. We will of course need to intake a significant amount of calories daily. Our expedition diet will consist of freeze dried meals to which you add boiling water. We will also be eating lots of raw cashews and almonds, chocolate, pure butter, instant oatmeal, dried blueberries, bacon, energy bars, teas and coffee.

## What do you expect our caloric intake to be during the Last Degree?

Everyone's daily caloric needs will be different based on gender and fitness, among other factors. But 4000+ calories a day especially on any really tough days is a good rough estimate.

## What is a fat bike?

A fat bike is a mountain bike with a special frame that allows it to use very wide tires – usually 4" or 5" wide. These tires are more than twice as wide as regular mountain bike tires, and give the bike much more traction on stability on snow and other soft surfaces.



## Does it have to be a fat bike?

Yes. From our research, it would be unfeasible to attempt this on any other style of bicycle.

## Do I have to bring my own fat bike?

No. Specialized has become our partner and will provide bikes for use on the Last Degree Expedition. The fat bike will be shipped to you in the months leading up to the Last Degree, and is yours to keep afterwards.

## How might the cold, snow and ice affect the bikes?



With the extensive research, development and field testing of fat bikes over the last several years, there is not much in terms of terrain that a custom built fat bike cannot traverse. Wide low pressure tires will provide over 5 inches of flotation which is comparable to the width of a modern snowshoe. The terrain will be anything from dense hard packed snow to very soft snow drifts. As with snowshoes, there is a limit to the depth of snow and drifts that we will be able to ride through. We are certainly going to be pushing our bikes at times.

Antarctica is very dry so the drivetrain of the bike for the most part should stay moving fairly smooth as there is minimal moisture to cause the gears to freeze up. Keeping the chain lubed and the bike lube from freezing is another possible issue. Hydraulic brakes have a closed system of fluid that won't freeze thus there are no cables to be concerned about freezing up.

We do not expect to run into much ice but studded tires will ensure good contact. The one big challenge will be repairing flat tires. In  $-30^{\circ}\text{C}$  temps you cannot expose your hands to get the dexterity



you need for an efficient repair. You can become cold very quickly when not moving and rubber and plastic are much less malleable in these conditions.

## How does the cold affect your body?



Everything is more difficult in sub-zero temperatures. You are less efficient. You dehydrate a lot faster because of the cold dry air. If you are not paying attention to hydration you will be colder, slower, and your performance will drop significantly. In short as you dehydrate your blood volume decreases slowing circulation, and digestion. Through our dry run in 2015, the training camp, and with guidance from ALE we will ensure that everyone comes well prepared for the conditions.

Thanks to Canada Goose (each rider will receive a Canada Goose jacket) we will have you well covered.

## How will I carry my gear? Is this vehicle supported?

This expedition will be fully self-supported meaning there will be no food or equipment drops and we will not have any motorized vehicle support. We will have to carry all the food, clothing, sleeping and cooking equipment we will need with us for the whole expedition.

We will carry all these supplies on our bikes via frame packs and possibly a rack and/or sled system. Expedition leader Ben Shillington will be testing out a few different systems on the scouting expedition before he decides what will work best for our group scenario.

## What kind of equipment will I need?

A detailed and mandatory packing list will be sent to registered participants. Here is an overview of the type of equipment you can expect to bring:

- Frame bags and possibly a sled
- Specialty winter camping equipment
- Multiple layers of synthetic and down clothing to help keep warmth in and moisture (sweat) out (with the exception of Canada Goose jacket, which is provided by our partner.
- Specialty footwear to keep feet warm yet comfortable at sub-zero temperatures

- Specialty mitts and pogies (covers that fit over handle bars that you slide your hands into)
- -40°C down or synthetic sleeping bags paired with closed cell foam pads to lay on
- Insulated thermoses for hot drinks and water

We recommend that you also watch this useful video that covers how to prevent importing dirt and bacteria to Antarctic by properly cleaning your equipment. <https://vimeo.com/97368285>

## How much training will the participants need to do?

Participants will need to prepare for the expedition physically, and mentally, with the right equipment and knowledge of how to regulate heat and moisture in extremely dry and cold conditions. Physically, cyclists will want to have strong legs and core to be able to efficiently deliver power to the pedals as they will at times be pushing through deep snow drifts and headwinds. Full body strength and conditioning is optimal.

Participants will need to have good endurance as they will need to be comfortable cycling or pushing their bikes at a consistent pace for hours on end. Participants will also spend several hours a day immersed in their own thoughts which can be difficult for many.

Participants will have the opportunity to consult with our expedition leader. They will also be part of some sort of mandatory training prior to going to Antarctica where they will be trained in many of the discussed areas through lecture and hands on experience. A focused full body weight training program with a professional would be a good start. The more miles you can put on your actual fat bike the better. Endurance running and cross country skiing are great ways to cross train and build endurance. Yoga is a great for flexibility and strength as well as breathing techniques and mental preparation.



Are you up for the challenge?