



Riding into a Storm

With this year's Tour de France being affected by extreme weather, *Cyclist* asks whether climate change needs to be factored into race planning

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Perhaps Julian Alaphilippe was about to pull off a rousing comeback on Stage 19 of the Tour de France to give France its long-awaited winner. Or we could have witnessed the advent of a true champion as Egan Bernal soloed to glory in Tignes. Or maybe Simon Yates was heading for an unprecedented third stage win.

We'll never know. After a series of sweltering days in southern France, the Tour ground to a halt amid hailstones and a freak landslide at the foot of the final climb. The stage result was neutralised and the GC times were calculated from the top of the preceding climb, the Col de l'Iseran, where Bernal had snatched the yellow jersey from Alaphilippe.

Further landslides took two climbs off the menu the next day as the expected climax collapsed like a sinking soufflé. The ITV4 presenter Gary Imlach pointed to the elephant in the room in his closing remarks on the race: 'The Tour has its first Colombian winner and Egan Bernal has won what will probably be looked back on as the first Tour significantly affected by climate change.'

Days later, flash flooding in Yorkshire after an otherwise dry July washed away Grinton Moor Bridge, on the course for the World Championships road races in September. The irony of Ineos winning the Tour was not lost on those who had witnessed the protests against the environmental record and fracking designs of the team's contentious new sponsor ahead of the Tour de Yorkshire in May.

'The symbolism of a rider wearing a yellow jersey for Ineos, whose slogan is "The Word for Chemicals", was impossible to escape,' Imlach told *Cyclist* ahead of the Vuelta, a race where intense heat is often par for the course.

Unless Donald Trump is reading this, we can probably all agree that global warming played a role in the freak weather conditions that hampered the Tour. Supposing such trends continue, can the race and pro cycling in general adapt? And will the sport, its stakeholders and supporters be prepared to do their bit by putting environmental sustainability on the agenda?

Weather, by accident or design

Bad weather in cycling is nothing new. In fact, some of the sport's most memorable moments have been meteorologically inspired: Hinault's 1982 solo victory in 'Niège-Bastogne-Niège'; Hampsten riding into pink on the snowy Gavia in 1988; or a mud-caked Cadel Evans winning over the Tuscan strade bianche in Montalcino in 2010. And aren't we all blown over by a bit of crosswind action...?

But there comes a tipping point. 'You have the route drawn up by the organisers, the way it's raced by the riders and the way they're able to race it because of the conditions,' says Imlach. 'It's usually a fascinating mix that produces fabulous entertainment. Unfortunately, this time, one ingredient was too much.'

Nathan Haas, the environmentally conscious Australian who rides for Katusha-Alpecin, wasn't in the team's Tour line-up but agrees: ▶



Above: The 2019 Tour de France may well go down as the first to be affected by climate change after Stage 19 was cut short mid-stage by a hailstorm and freak landslide

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◀ 'People talk romantically about the San Remo that was stopped by snow when Gerald Ciolek won. I'm not going to deny that harsh conditions give flavour to the sport. What we're talking about here, though, is not bad weather, but extremely dangerous conditions, which races are starting to have issues with.'

The Tour was also affected by what was the second heatwave of the summer to sweep across France, with temperatures rising above 40°C (a staggering 60°C on the road). During Stage 16 to Nîmes, riders shoved ice into their helmets and jerseys to regulate their body temperatures, and doubled their liquid intake, with some teams providing 20 bottles per rider. Former World Champion Peter Sagan said it was 'suicidal' and called on action from the CPA, the riders' association, while Steven Kruijswijk told reporters, 'I don't think this is healthy.'

'Riders drinking double the amount they normally would and putting ice packs down their jerseys isn't responsible for a sport,' says Jamie Clarke, executive director of Climate Outreach, Europe's leading climate change communicator. Clarke believes cycling needs



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to step up – 'for the sake of the sport but also the riders and spectators' – by introducing better guidelines in line with the current climate crisis.

Crunching the numbers

In case the US President is reading this, perhaps a little science wouldn't go amiss. After the hottest June on record in France, July raised the stakes thanks to dry air from northern Africa being trapped between cold stormy systems. Scientists at the World Weather Attribution network claim the heatwave was made 'at least five times more likely' by climate change, with the average temperature now 4°C higher than a century ago.

France seems to be particularly vulnerable, with the rise in temperature due to global warming during the 20th century around 30% greater in France than the worldwide average. The country's five hottest summers on record have all happened since 2000. If extreme warming continues, the average temperature in the south could rise by roughly 5°C by 2050.

And with that heat come other extreme and unpredictable weather events as the planetary system is kicked out of equilibrium, such as ▶



Left: EF Education First's Alberto Bettiol tries to cool off at the end of Stage 13, a 27km time-trial starting and finishing in Pau. The days preceding the curtailed Stage 19 were some of the hottest of the summer



flash floods, hailstorms, landslides and snow. The International Panel on Climate Change claims landslides such as those that held up the Tour in the Alps 'will very likely become more intense and more frequent'.

Dom Goggins, a consultant in sport and environment policy who has worked with British Cycling and advises the British Association of Sustainable Sport, says July's Tour should be a wake-up call for the sport: 'It's too early to directly link what happened to climate change but it's entirely in line with what's expected. In the long-term, extreme weather – particularly extreme heat – could be as big a challenge for cycling as doping has been.'

The physical impacts of extreme heat range from 'performance-inhibiting to life-threatening', according to Goggins, and include heat cramps, heat exhaustion (such as light-headedness, nausea, low blood pressure, dehydration) and heat stroke (confusion, diminished coordination, risk of death). Psychologically, riders may make rash decisions and lose concentration.

These symptoms are in line with what Haas experienced during the 2018 Tour Down Under,

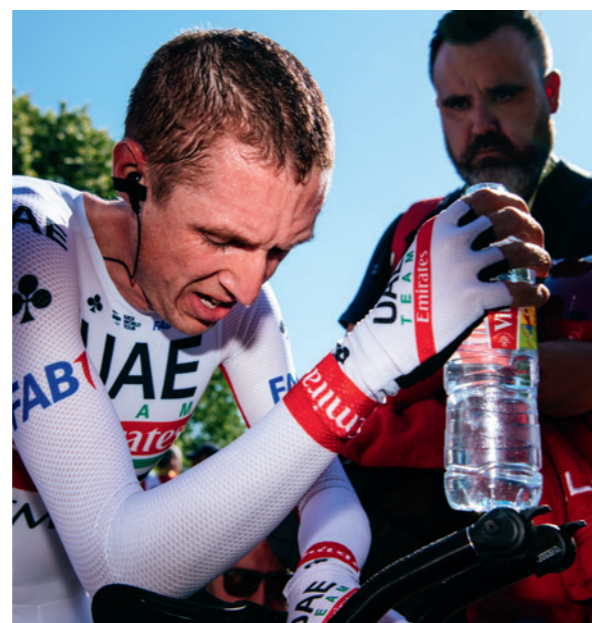
The physical impacts of extreme heat range from performance-inhibiting to life-threatening

when he fell out of contention as the mercury hit the forties for a second successive day. 'I didn't actually know I was in a bike race. I didn't know where I was,' he said after Stage 4.

While the legendary capacity of cyclists to push themselves through the pain barrier is embedded in the sport's DNA, it could well enhance the risk to riders in adverse weather. Could better regulation – as with the hot potato of concussion – be the answer?

As things stand, the Extreme Weather Protocol (EWP), introduced by the CPA and UCI in 2016, offers guidelines for the response to unforeseen weather events including freezing rain and hail, snow, poor visibility, strong winds and extreme temperature. It was enacted on the penultimate day of the Tour when further landslides on the Cormet de Roselend forced Stage 20 to Val Thorens to be shortened.

Despite Sagan's complaints, the CPA did respond during the heatwave, and did so



Left: Dan Martin attempts to recover after the Stage 13 time-trial, in which he lost more than two minutes to yellow jersey and stage winner Julian Alaphilippe





► within their own guidelines. Talks between the riders, commissaires, organisers and teams resulted in lengthening the feed zones to help rehydration and extending the time limit to discourage over-exertion. Yet nor could Thierry Gouvenou, the Tour's technical director, resist making light of Sagan's complaints, saying he was 'less concerned [about heat] when riding for money in Australia'.

Extreme measures

The response was good, but perhaps not enough. Goggins claims the response to extreme heat is a mere bullet point in the EWP, citing an absence of a clear temperature threshold. He says cycling should follow the lead of other sports and use Wet Bulb Global Temperature, which considers temperature, humidity, wind speed, sun angle and cloud cover, as opposed to the usual heat index system, which is calculated for shady areas.

'This could help change extreme heat from a subjective to an objective factor in cycling,' he says, with a 'risk zone' temperature in which races are automatically stopped or changed. 'Currently, in a situation where a decision is based on subjective factors, such as extreme heat, rather than objective factors – a road being blocked by a landslide, for example – there are no guarantees that a safe, science-based decision can be made,' says Goggins.

'Obviously there's a huge commercial imperative not to cancel a stage,' Imlach adds. 'When you have contracts in place and start and finish cities that have paid for inclusion, that's a step that I think few race organisers would want to take.'

It's commercial factors that environmental campaigners fear could override the Tour's basic care of duty to keep riders and spectators safe. Tour organiser ASO and the UCI were both ►



Right: Cofidis rider Jesus Herrada sits slumped on the tarmac at the end of Stage 17 in Gap. Herrada was part of a 34-man break that remained clear to the finish of a 200km stage ridden in 37°C heat

Environmental campaigners fear that commercial factors could override the Tour's basic care of duty to keep riders and spectators safe



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contacted for this article but both declined to comment. It's not inconceivable that they hold concerns about the other huge elephant in the room: cycling's ecological footprint.

Cycling's climate contradiction

ASO prides itself on being a good steward of the environment. Every year a dedicated strategy team instals a comprehensive waste management action plan targeting Tour spectators, officials and riders. Initiatives include the litter zones positioned after feeding stations and regulations regarding the use of biodegradable bidons within the peloton.

'But there's always the inherent contradiction with a sporting event so large that, even though it's promoting a healthy and environmental form of transport, it trails this big gas-guzzling, petrol and diesel-fuelled entourage behind it,' says Imlach.

A study of the 2007 Grand Départ from London to Kent by Cardiff University estimated that attendees travelled a collective total of 870 million miles, with 59% arriving by air, expending a total of 100m kilowatts of energy on their accommodation – enough to run the London Underground for four years. Factoring in the publicity caravan and media cavalcade, including countless motorbikes, TV helicopters and a satellite plane, a 2013 estimate put the Tour's total carbon imprint at 341,000 tonnes.

'It would be madness for a sport that's so affected by climate change not to minimise its contribution to the problem,' says Goggins. Carbon-offsetting initiatives are underway, with ASO pushing carpooling and the use of hybrid vehicles. Official partner Skoda is set to release an electric car suitable for Tour usage in the next few years, and the amount of single-use plastics dished out by the caravan is coming down.



Far left: Stage 20 ended up being shortened to 60km after organisers cut two ascents from the route, leaving just the finishing climb to Val Thorens

Above: Katusha-Alpecin's José Gonçalves rides through the hall in Val d'Isère in the wake of Stage 19 being cancelled

But Patrick Chassé, a journalist with Europe 1, was so dismayed by the Tour's glacial response to global warming that he covered July's race by using public transport and his own bike. Speaking scathingly to *La Libération* about ASO's eco-responsibility, Chassé said, 'They have no vision for the Tour in 20 years. I deplore this denial. Is it reasonable to continue covering the Tour with 1,800 accredited vehicles?'

Given that cycling – the mode of transport, not the sport – is among the best responses to climate change, it surely makes sense that the organisers get on the front foot on this agenda.

It remains to be seen how this year's events at the Tour affect route planning in future races, but it seems clear that climate change must be an ever-increasing consideration.

'Climate change should not ruin cycling,' says Clarke, 'but unless we take it seriously and adapt, it does threaten to continually undermine stages and overall Tours and therefore the enjoyment of the sport as we know it.'