

# Heat waves and the cool risk management solutions for companies affected by them

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April 17, 2023



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**DATE RECEIVED:**

July 06, 2015

**DOI:**

10.15200/winn.143618.83091

**ARCHIVED:**

July 06, 2015

**CITATION:**

Laura Hershey, Heat waves and the cool risk management solutions for companies affected by them, *The Winnower* 2:e143618.83091, 2015, DOI: [10.15200/winn.143618.83091](https://doi.org/10.15200/winn.143618.83091)

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*An ice cream parlour that closes in the throes of summer, refreshing soft drinks and beer being eschewed by customers when the mercury soars... What to make of consumer behaviour and how businesses compete and manage their risks in the summer months*

Nestled in a quiet neighbourhood on the picturesque Ile St. Louis, in Paris, France, is possibly the most celebrated ice cream maker in the world, so well-known for its artisan quality and variety of ice creams and sorbets, lines routinely stretched around the block to its discrete bistro. This iconic glacier is a

celebrated and essential component of the Paris experience, for aficionados and tourists alike. Yet, in the hottest month of the Paris summer, when ice-cream is undoubtedly the most in demand, and visitors are arriving in droves to the capital eager to sample this incontournable classic, Berthillon remains, in what can only be described as one of the greatest snubs of capitalism, firmly, resolutely, even aggressively, shut. An ice cream parlour closed, the entire month of August. Sacrilège!

The proprietor of Berthillon once famously explained his stance as being not interested in customers coming just because they want to cool down, but that they come only for the enjoyment of the product itself<sup>[1]</sup> Raymond Berthillon said, "I am not interested in people who come here during a heatwave. I like them to come when it's snowing and zero outside. Then they come to enjoy my fine ices and not just to cool themselves." 29 August 2014, The Telegraph,

[www.telegraph.co.uk/news/obituaries/11064421/Raymond-Berthillon-obituary.html](http://www.telegraph.co.uk/news/obituaries/11064421/Raymond-Berthillon-obituary.html) . Of course, one does not need to consult the weather risk experts at Meteo Protect in order to know that this does not make economic sense for the average company (and Berthillon is not average; it has achieved luxury goods status, so the normal rules of supply and demand, pricing and even advertising do not apply, notwithstanding that despite its flagship store closing in August, it has approximately 100 resellers of its products across Paris). Nonetheless, let's examine the statistics<sup>[2]</sup> Research on weather sensitive businesses referred to in this article originally published in the report, "Demystifying climate effects", co-authored by Meteo Protect and Kepler Chevreux, 26 November 2013, [PDF](#).

Of all the weather-sensitive products, ice cream is the first that springs to mind. In spring and summer demand is extremely sensitive to changes in temperatures and to threshold levels, with a reduction in temperature of 1 degree Celsius translating into 15 to 20% incremental sales. By way of comparison, BBQ food, which is another weather sensitive product family in the same quarters, sees a sales decline ranging from 2-5% per degree Celsius.

In fact, for food and beverage, summer is the most sensitive of all weather-sensitive quarters. Beer sales decline rapidly with low temperatures and long-lasting rainy periods, with each degree Celsius causing a drop of 2-7% of sales depending on the country and the time of year (this relationship is almost linear between 23-27 degrees Celsius). Adding to breweries woes, is that the cost of production may rise as a result of low quality or scarcity of crop (barley and hop), as plants need a minimum quantity of heat and water, and the temperature range to which the crops are sensitive.

Other "pleasure drinks" that benefit from warmer than usual summers include flavoured waters, tonic drinks, syrups and soft drinks (each degree Celsius can cause a drop of 2-15% of sales depending on the type of drink and country), for which temperature anomalies can explain up to 40% of changes in consumption. However, there is a temperature threshold for this phenomenon; as the weather goes from warm to hot/sweltering, sweet and low-alcoholic drinks are shunned for water (sparkling or still), to meet physiological needs, giving bottled water producers a jump on their competition.

Overall, weather risks can have a significant impact on the sales, inventories, supply chains and operating costs of many companies through the summer, including energy, utilities, food, beverages, retail, textiles, agriculture, transportation, tourism and leisure. For each, specific risks are identifiable and measurable and the effects on performance can be quantified. Companies are often aware of this; private-sector meteorologists are selling customized weather data to innumerable enterprises in order to respond to shifting consumer patterns as a result of weather fluctuations, ensuring a more sophisticated and responsive inventory management system<sup>[3]</sup> "Weather service become a big business", CNBC, 1 August 2011, [www.cnbc.com/id/43672839](http://www.cnbc.com/id/43672839).

But, with climate change, the frequency and intensity of weather anomalies has doubled in the last twenty years. Today, over 30% of GDP in industrialized countries are directly or indirectly affected by climate variability, and 70% of companies are exposed to climate variability. In the United States alone, routine weather costs about \$500bn, which is much more than the cost related to extreme events (\$25bn in 2014) <sup>[4]</sup> Allianz, 2014. Against this backdrop, inventory management and other traditional risk management techniques, no matter how sophisticated, can only take a company so far.

Nonetheless, outside of planning for the worst case scenario using traditional solutions such as catastrophe insurance, the effects of day to day weather volatility remain the last unmanaged risk for the majority of companies.

However, today, thanks to advancements in big data and new players in the insurance market, there are new hedging solutions to provide efficient and effective solutions. Meteo Protect offers index-based weather insurance to at-risk clients, to protect companies when weather conditions adversely impact their businesses or profits or generate additional costs. Meteo Protect designs customized index hedging solutions for corporate clients with a weather risk exposure, and also created a pricing and underwriting platform to enable weather index insurance distribution and management for insurance companies, co-operatives and brokers to directly distribute to clients and members.

Index-based weather insurance triggers a payment linked to a weather variable, and not to the losses incurred. Payment is simple and automatic, requiring no field loss assessment or adjustment. Rather, compensation is triggered only to a defined, externally verified, weather event. It covers any period, measured in hours, days, seasons or years. Independent of client behaviour, index insurance has very low settlement cost, and is not subject to moral hazard or to adverse selection.

Meteo Protect's unique underwriting platform provides the ability for a client to structure any index-based product. It draws upon its own databases and is fully responsive. Functionalities include scenario analysis, real-time pricing, direct chat system, multi-user and custom access rights. An underwriter or clients themselves may connect to Meteo Protect's platform using a mechanism provided by the SAP HANA platform. Once a profile is loaded, either can immediately access previous simulations or create a new one, and track the hedging solution being used.

Because Meteo Protect has the largest team in Europe dedicated exclusively to weather risk management, controlling each step of the value chain from risk assessment to risk placement through to the hedging solution, it is economical and responsive. As Meteo Protect operates anywhere in the world and its solutions are underwritten by the largest insurers in the market, its solutions are accessible to any enterprise with a weather risk exposure, no matter its location.

Whilst Berthillon and its luxury counterparts may not need it, Meteo Protect remains open for business for the 99%.

#### References

1. ↑ Raymond Berthillon said, "I am not interested in people who come here during a heatwave. I like them to come when it's snowing and zero outside. Then they come to enjoy my fine ices and not just to cool themselves." 29 August 2014, The Telegraph, [www.telegraph.co.uk/news/obituaries/11064421/Raymond-Berthillon-obituary.html](http://www.telegraph.co.uk/news/obituaries/11064421/Raymond-Berthillon-obituary.html)
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4. ↑ Allianz, 2014