Outline of the talk

In mathematics, the Borsuk-Ulam theorem states that every continuous function from n-sphere to Euclidean n-space maps some pair of antipodal points to the same point.

Formally, if $f : S^n \to \mathbb{R}^n$ is a continuous function, then the equation $f(x) = f(-x)$ has a solution.

Here is a surprising fact that there is always a pair of antipodal points on the Earth's surface with equal temperature and equal barometric pressure, assuming that both parameters varying continuously.

We will see a sketch of its proof in the case of $n = 2$, and demonstrate some corollaries.