The “Lorenz butterfly” has become the best-known image of a chaotic dynamical system. It was born in the 1960s when Edward Lorenz, a meteorologist at MIT, studied this system of three innocent-looking differential equations as a “toy model” for atmospheric circulation, i.e. for the behavior of the weather. Computer simulation showed that the behavior of this system is extremely intricate. Each curve in the image is an orbit of this dynamical system: the path traced out by the solution of the Lorenz equations starting at some initial data point. As shown, the structure of the set of orbits is quite intricate: the orbits accumulate onto what is now called the Lorenz attractor, with an overall butterfly shape and a complicated fractal structure in small scales. Moreover, the dynamics on the attractor is highly unstable, in the sense that a tiny change in initial data can lead to totally different outcome: two orbits, initially almost indistinguishable, can diverge wildly as the clock runs and can eventually become completely independent. The overall behavior can be adequately described only in statistical terms (which gives a reason why a reliable long-term weather forecast is inconceivable). This picture, and the story it tells, sparked great interest in chaos theory and fractals in mathematics, physics and other branches of natural science.