

Social science helps us

Identify hawkmoths

- If my model is nearly right, will the output be nearly right?
- How can I use the quality of model output to improve my model?



The well-known Butterfly Effect is due to dynamical instability of chaotic equations: a small change to initial conditions may cause a large change in output. The less-well-known Hawkmoth Effect is equivalently due to structural instability of equations: a small change to model structure may cause a large change in output. This has many consequences for uncertainty, statistics, and philosophy of modelling and simulation.

Frigg and Smith (2020) 'An ineffective antidote for hawkmoths,' *In preparation*.

