

Evaluating “weather-like” models (lots of data)

[Forecast Verification: A Practitioner's Guide in Atmospheric Science](#), 2nd Edition
Ian T. Jolliffe (Editor), David B. Stephenson (Editor)
ISBN: 978-0-470-66071-3

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Evaluating “climate-like” models (not much data)

[Model Selection and Multimodel Inference: A Practical Information-Theoretic Approach](#), 2nd Edition
Burnham, Kenneth P., Anderson, David R.
ISBN 978-0-387-22456-5

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Learning from our mistakes

[Good Thinking](#)

I. J. Good
ISBN: 978-0486474380

[How the Laws of Physics Lie](#)

Nancy Cartwright
ISBN: 978-0198247043

Statistical inference for ensembles of models

Lee, L. A., Carslaw, K. S., Pringle, K. J., Mann, G. W., and Spracklen, D. V.: [Emulation of a complex global aerosol model to quantify sensitivity to uncertain parameters](#), Atmos. Chem. Phys., 11, 12253-12273, doi:10.5194/acp-11-12253-2011, 2011.

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Why good statistical methods aren't enough

Frigg, R., S. Bradley, H. Du, & L. A. Smith, Laplace's Demon and the Adventures of His Apprentice, *Philos. Sci.* (2014). ([preprint](#))

Smith, L. A., [What might we learn from climate forecasts?](#) Proceedings of the National Academy of Sciences of the United States of America 99, 2487 (2002).

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Stainforth et al., [Confidence, uncertainty and decision-support relevance in climate predictions](#). *Phil Trans Roy Soc* 365 (1857), 2145 (2007).

Stainforth et al. [Issues in the interpretation of climate model ensembles to inform decisions](#). *Phil Trans Roy Soc.* 365 (1857), 2163 (2007).

How can we be scientific in the face of epistemic errors?

Book

K. J. Beven, 2009, *Environmental Modelling: An Uncertain Future?* Routledge: London (ISBN Hb: 978-0-415-46302-7; Pb: 978-0-415-45759-0) see <http://www.uncertain-future.org.uk>

Papers

1. Beven, K.J. and A.M. Binley (1992), The future of distributed models: model calibration and uncertainty prediction, *Hydrological Processes*, 6, 279-298.
2. Beven, K J, 2002, Towards a coherent philosophy for environmental modelling, *Proc. Roy. Soc. Lond. A*, 458, 2465-2484.
3. Beven, K J, 2006, A manifesto for the equifinality thesis, *J. Hydrology*, 320, 18-36.
4. Beven, K J, 2007, Working towards integrated environmental models of everywhere: uncertainty, data, and modelling as a learning process. *Hydrology and Earth System Science*, 11(1), 460-467.
5. Faulkner, H, Parker, D, Green, C, Beven, K, 2007, Developing a translational discourse to communicate uncertainty in flood risk between science and the practitioner, *Ambio*, 16(7), 692-703
6. Blazkova, S., and K. Beven, 2009, A limits of acceptability approach to model evaluation and uncertainty estimation in flood frequency estimation by continuous simulation: Skalka catchment, Czech Republic, *Water Resour. Res.*, 45, W00B16, doi:10.1029/2007WR006726.
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9. Beven, K. J. and Alcock, R., 2012, Modelling everything everywhere: a new approach to decision making for water management under uncertainty, *Freshwater Biology*, 56, doi:10.1111/j.1365-2427.2011.02592.x
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2. Beven, K J and Westerberg, I, 2011, On red herrings and real herrings: disinformation and information in hydrological inference, *Hydrological Processes*, **25**, 1676–1680, DOI: 10.1002/hyp.7963.
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6. Beven, K., and P. Young (2013), A guide to good practice in modeling semantics for authors and referees, *Water Resour. Res.*, 49(8): 5092-5098 DOI: 10.1002/wrcr.20393.

Effective dissemination of uncertain forecasts

Stephens E, Edwards T, Demeritt, D.: [Communicating probabilistic information from climate model ensembles—lessons from numerical weather prediction.](#) (2012) *WIREs Climate Change*. 3: 409-26