

Dr. Jon Hill
Senior lecturer
Environment and Geography
Email: jon.hill@york.ac.uk
Phone: (01904) 324480



Research output

Resolving tsunami wave dynamics: Integrating sedimentology and numerical modelling

Hill, J., Rush, G., Peakall, J., Johnson, M., Hodson, L., Barlow, N. L. M., Bowman, E. T., Gehrels, W. R., Hodgson, D. M. & Kesserwani, G., 14 Sept 2023, (E-pub ahead of print) In: *Depositional Record*. 20 p.

On the varied impact of the Storegga tsunami in northwest Scotland

Woodroffe, S. A., Hill, J., Bustamante-Fernandez, E., Lloyd, J. M., Luff, J., Richards, S. & Shennan, I., 30 May 2023, (E-pub ahead of print) In: *Journal of Quaternary Science*. 14 p.

Tidal dynamics drive ooid formation in the Capricorn Channel since the Last Glacial Maximum

Lee, K. C., Webster, J. M., Salles, T., Mawson, E. E. & Hill, J., 1 Dec 2022, In: *Marine Geology*. 454, 11 p., 106944.

Sea-level change, palaeotidal modelling and hominin dispersals: The case of the southern Red Sea.

Hill, J., Avdis, A., Bailey, G. & Lambeck, K., 1 Oct 2022, In: *Quaternary Science Reviews*. 293, 15 p., 107719.

Sea level rise and the Great Barrier Reef the future implications on reef tidal dynamics

Mawson, E. E., Lee, K. C. & Hill, J., 4 Aug 2022, (E-pub ahead of print) In: *Journal of Geophysical Research: Oceans*. 127, 8, p. e2021JC017823

Prediction of shoreline–shelf depositional process regime guided by palaeotidal modelling

Collins, D. S., Avdis, A., Wells, M. R., Dean, C. D., Mitchell, A. J., Allison, P. A., Johnson, H. D., Hampson, G. J., Hill, J. & Piggott, M. D., Dec 2021, In: *Earth-Science Reviews*. 223, 39 p., 103827.

Detailing the impact of the Storegga Tsunami at Montrose, Scotland

Bateman, M. D., Kinnaird, T. C., Hill, J., Ashurst, R. A., Mohan, J., Bateman, R. B. I. & Robinson, R., 3 Jun 2021, In: *Boreas*. 50, 4, p. 1059-1078

Morphodynamic controls for growth and evolution of a rubble coral island

Talavera, L., Vila-Concejo, A., Webster, J. M., Smith, C., Duce, S., Fellowes, T. E., Salles, T., Harris, D., Hill, J., Figueira, W. & Hacker, J., 19 Apr 2021, In: *Remote Sensing*. 13, 8, 1582.

A new methodology for performing large scale simulations of tsunami generated by deformable submarine slides

Smith, R. C., Hill, J., Mouradian, S., Piggott, M. D. & Collins, G. S., Sept 2020, In: *Ocean Modelling*. 153, 101674.

Modelling the impact of tidal range energy on species communities

Baker, A. L., Craighead, R. M., Jarvis, E. J., Stenton, H. C., Angeloudis, A., Mackie, L., Avdis, A., Piggott, M. D. & Hill, J., 1 Aug 2020, In: *Ocean and Coastal Management*. 193, 13 p., 105221.

Aragonite bias exhibits systematic spatial variation in the late Cretaceous Western Interior Seaway, North America

Dean, C., Allison, P. A., Hampson, G. & Hill, J., 23 Sept 2019, (E-pub ahead of print) In: *Paleobiology*.

Reconciling Storegga tsunami sedimentation patterns with modelled wave heights: a discussion from the Shetland Isles field laboratory.

Dawson, A., Dawson, S., Bondevik, S., Costa, P., Hill, J. & Stewart, I., 24 Jun 2019, In: *Sedimentology*. p. 1-10 10 p.

HRDS: A Python package for hierarchical raster datasets

Hill, J., 13 May 2019, In: Journal of open source software. 4, 37, 2 p., 1112.

The trade-off between tidal-turbine array yield and environmental impact: a habitat suitability modelling approach

du Feu, R. J., Funke, S., Kramer, S. C., Hill, J. & Piggott, M. D., 4 May 2019, (E-pub ahead of print) In: Renewable Energy. 143, p. 390-403 14 p.

Controls on tidal sedimentation and preservation: Insights from numerical tidal modelling in the Late Oligocene–Miocene South China Sea, Southeast Asia

Collins, D., Avdis, A., Allison, P. A., Johnson, H. D., Hill, J. & Piggott, M. D., 23 Mar 2018, In: Sedimentology. 55 p.

Efficient unstructured mesh generation for marine renewable energy applications

Candy, A. S., Avdis, A., Hill, J., Kramer, S. C. & Piggott, M. D., 19 Sept 2017, (E-pub ahead of print) In: Renewable Energy. p. 1-40 40 p.

The trade-off between tidal-turbine array yield and impact on flow: A multi-objective optimisation problem

du Feu, R. J., Funke, S. W., Kramer, S. C., Culley, D. M., Hill, J., Halpern, B. S. & Piggott, M. D., 20 Jul 2017, In: Renewable Energy.

Was Doggerland catastrophically flooded by the Mesolithic Storegga tsunami?

Hill, J., 19 Jul 2017, (Submitted).

Tidal dynamics and mangrove carbon sequestration during the Oligo-Miocene in the South China Sea

Collins, D. S., Avdis, A., Allison, P. A., Johnson, H. D., Hill, J., Piggott, M. D., Hassan, M. H. A. & Damit, A. R., 15 Jun 2017, In: Nature Communications. 8, 12 p., 15698.

Application of the adjoint approach to optimise the initial conditions of a turbidity current with the AdjointTurbidity 1.0 model

Parkinson, S. D., Funke, S. W., Hill, J., Piggott, M. D. & Allison, P. A., 7 Mar 2017, In: Geoscientific Model Development. 10, 3, p. 1051-1068 18 p.

Global cooling as a driver of diversification in a major marine clade

Davis, K., Hill, J., Astrop, T. & Wills, M., 4 Oct 2016, In: Nature Communications. 7, 8 p., 13003.

Comparing approaches for numerical modelling of tsunami generation by deformable submarine slides

Smith, R. C., Hill, J., Collins, G. S., Piggott, M. D., Kramer, S. C., Parkinson, S. D. & Wilson, C., 1 Apr 2016, In: Ocean Modelling. 100, p. 125-140 16 p.

Adaptive Haar wavelets for the angular discretisation of spectral wave models

Adam, A., Buchan, A. G., Piggott, M. D., Pain, C. C., Hill, J. & Goffin, M. A., 15 Jan 2016, In: Journal of Computational Physics. 305, p. 521-538 18 p.

Submarine landslides on the Great Barrier Reef shelf edge and upper slope: A mechanism for generating tsunamis on the north-east Australian coast?

Webster, J. M., George, N. P. J., Beaman, R. J., Hill, J., Puga-Bernabéu, Á., Hinestroza, G., Abbey, E. A. & Daniell, J. J., 1 Jan 2016, In: Marine Geology. 371, p. 120-129 10 p.

Lateglacial and Holocene relative sea-level changes and first evidence for the Storegga tsunami in Sutherland, Scotland

Long, A. J., Barlow, N. L. M., Dawson, S., Hill, J., Innes, J. B., Kelham, C., Milne, F. D. & Dawson, A., 2016, In: Journal of Quaternary Science. 31, 3, p. 239-255 17 p.

Tidal resource extraction in the Pentland Firth, UK: Potential impacts on flow regime and sediment transport in the Inner Sound of Stroma

Martin-Short, R., Hill, J., Kramer, S. C., Avdis, A. & Piggott, M. D., 1 Apr 2015, In: Renewable Energy. 76, p. 596–607

BioAcoustica: a free and open repository and analysis platform for bioacoustics

Baker, E., Price, B. W., Rycroft, S. D., Hill, J. & Smith, V. S., 2015, In: Database. 2015, bav054.

Not all aragonitic molluscs are missing: taphonomy and significance of a unique shelly lagerstätte from the Jurassic of SW Britain

Jordan, N., Allison, P. A., Hill, J. & Sutton, M. D., 2015, In: Lethaia.

How does multiscale modelling and inclusion of realistic palaeobathymetry affect numerical simulation of the Storegga Slide tsunami?

Hill, J., Collins, G. S., Avdis, A., Kramer, S. C. & Piggott, M. D., 1 Nov 2014, In: Ocean Modelling. 83, p. 11-25 15 p.

Direct numerical simulations of particle-laden density currents with adaptive, discontinuous finite elements

Parkinson, S. D., Hill, J., Piggott, M. D. & Allison, P. A., 5 Sept 2014, In: Geoscientific Model Development. 7, 5, p. 1945-1960 16 p.

Adapting to life: ocean biogeochemical modelling and adaptive remeshing

Hill, J., Popova, E. E., Ham, D. A., Piggott, M. D. & Srokosz, M., 1 Sept 2014, In: Ocean Science. 10, 3, p. 323-343 21 p.

The Supertree Toolkit 2: a new and improved software package with a Graphical User Interface for supertree construction

Hill, J. & Davis, K., 26 Mar 2014, In: Biodiversity Data Journal. 2, p. e1053

Exploiting Parallel R in the Cloud with SPRINT

Piotrowski, M., McGilvary, G. A., Sloan, T. M., Mewissen, M., Lloyd, A. D., Forster, T., Mitchell, L., Ghazal, P. & Hill, J., 2013, In: Methods of Information in Medicine. 52, 1, p. 80-90

Preservation of forcing signals in shallow water carbonate sediments

Hill, J., Wood, R., Curtis, A. & Tetzlaff, D. M., 1 Nov 2012, In: Sedimentary geology. 275-276, p. 79-92 14 p.

On the performance of a generic length scale turbulence model within an adaptive finite element ocean model

Hill, J., Piggott, M. D., Ham, D. A., Popova, E. E. & Srokosz, M. A., Oct 2012, In: Ocean Modelling. 56, p. 1-15 15 p.

Optimisation and parallelisation of the partitioning around medoids function in R

Piotrowski, M., Sloan, T. M., Mewsissen, M., Forster, T., Mitchell, L., Petrou, S., Dobrzelecki, B., Ghazal, P., Trew, A. & Hill, J., 1 Jul 2011, *High Performance Computing and Simulation (HPCS), 2011 International Conference on*. p. 707-713 7 p.

Optimization of a parallel permutation testing function for the SPRINT R package

Petrou, S., Sloan, T. M., Mewissen, M., Forster, T., Piotrowski, M., Dobrzelecki, B., Ghazal, P., Trew, A. & Hill, J., 2011, In: Concurrency and Computation: Practice and Experience. 23, 17, p. 2258-2268 11 p.

The supertree tool kit

Davis, K. E. & Hill, J., 2010, In: BMC research notes. 3, p. 95 1 p.

Modeling shallow marine carbonate depositional systems

Hill, J., Tetzlaff, D., Curtis, A. & Wood, R., Sept 2009, In: Computers & geosciences. 35, 9, p. 1862-1874 13 p.

Performance of a Lattice Quantum Chromodynamics kernel on the Cell processor

Spray, J., Hill, J. & Trew, A., 1 Nov 2008, In: Computer Physics Communications. 179, 9, p. 642-646 5 p.

How Design of Online Learning Materials can Accommodate the Heterogeneity in Student Abilities, Aptitudes and Aspirations

Bates, S. P., Hardy, J., Hill, J. & McKain, D., 2008, In: Learning and Teaching in Higher Education Journal. 2, p. 3-25 23 p.

SPRINT: a new parallel framework for R

Hill, J., Hambley, M., Forster, T., Mewissen, M., Sloan, T. M., Scharinger, F., Trew, A. & Ghazal, P., 2008, In: BMC Bioinformatics. 9, p. 558 1 p.

Tracking and Visualisation of Student Use of Online Learning Materials in a Large Undergraduate Course: Advances in Web Based Learning – ICWL 2007

Hardy, J., Bates, S., Hill, J. & Antonioletti, M., 2008, *Advances in Web Based Learning – ICWL 2007*. Leung, H., Li, F., Lau, R. & Li, Q. (eds.). Springer, Vol. 4823. p. 464-474 11 p. (Lecture Notes in Computer Science).

Complexity in Carbonate Systems

Hill, J., Curtis, A., Wood, R. A. & Tetzlaff, D. M., 2005, *GIS and Spatial Analysis, Vol 1 and 2*. Cheng, Q. & BonhamCarter, G. (eds.). p. 1141-1146 6 p.

Activities

International Coral Reef Symposium

Jon Hill (Advisor)
3 Jul 2022 → 8 Jul 2022

Resolving the tsunami wave: interpreting palaeotsunami deposits by integrating numerical modelling and sedimentology

Jon Hill (Speaker)
25 Sept 2019

Resolving the tsunami wave: interpreting palaeotsunami deposits by integrating numerical modelling and sedimentology

Jon Hill (Keynote/plenary speaker)
9 Sept 2019

Evolution 2019

Jon Hill (Advisor)
21 Jun 2019 → 25 Jun 2019

XXXVIII Annual Meeting of the Willi Hennig Society

Jon Hill (Advisor)
26 May 2019 → 29 May 2019

Univ Sydney

Jon Hill (Collaborator)
24 Sept 2018 → 24 Nov 2018

Do palaeotides make a difference to our estimates of the size of the Storegga tsunami?

Jon Hill (Speaker)
29 Nov 2017

The interaction of tides and tsunami

Jon Hill (Speaker)
4 Sept 2017 → 5 Sept 2017

Evolution 2017

Jon Hill (Participant)
23 Jun 2017 → 28 Jun 2017

iEvoBio

Jon Hill (Participant)

23 Jun 2017

Mozilla Science Lab Bi-monthly Community Call

Jon Hill (Speaker)
13 Apr 2017

Year 12 Pathways to STEM

Jon Hill (Presenter)
1 Mar 2017

Tools and methods for constructing the Tree of Life

Jon Hill (Organiser)
19 Dec 2016 → 20 Dec 2016

'Good enough' practice in computational Geography

Jon Hill (Organiser)
28 Nov 2016

58th Phylogenetic Symposium "Evolution meets Ecology"

Jon Hill (Participant)
18 Nov 2016 → 20 Nov 2016

Automatically creating large phylogenies

Jon Hill (Invited speaker)
23 Mar 2016

Recreating the Mesolithic Storegga tsunami event

Jon Hill (Invited speaker)
17 Mar 2016

The terrifying tsunami that devastated Britain

Jon Hill (Interviewee)
1 Mar 2016

Arthur Holmes Meeting 2015 - Tsunami Hazards and Risks: Using the Geological Record

Jon Hill (Participant)
25 Sept 2015

Evolution 2015

Jon Hill (Participant)
26 Jun 2015 → 30 Jun 2015

SupertreeToolkit Workshop

Jon Hill (Organiser)
15 Dec 2014

OpenTree Hackathon

Jon Hill (Participant)
15 Sept 2014 → 19 Sept 2014

Prehistoric North Sea 'Atlantis' hit by 5m tsunami

Jon Hill (Interviewee)
1 May 2014

