

Joint Land Modelling Programme (JLMP)

What is JLMP?

National capability partnership between UKCEH, NCAS, NCEO, Met Office under the JWCRP (Joint Weather Climate Research Program).

We aim to support, release and update the **core land** configurations used across the JWCRP partnership and broader community. To enable world-class national capability in physical (weather, climate) and earth system modelling, as well as hydrological applications.

Our scope includes code, platforms, configurations and evaluation tools.

JULES Code Base

- Keeping the JULES code base up to date and compatible with the latest generation of supercomputing platforms and techniques is a major challenge.
- 5.8 was a closed release of JULES to enable re-factoring of the code
- Fields passed by argument rather than via USE statements
- JULES 5.8 released July 2020

Thanks to UM Systems Team

JULES Group Workspace

The JULES GWS has moved to `/gws/nopw/j04/jules` – all should be working.

Some improvements to SLURM scheduler and libraries being implemented via the CEDA helpdesk

More info soon on any suite changes required

Thanks to Dave Case and Doug Clark

Science Configurations

Global Land:

Implemented in HadGEM3
ISIMIP, LUMIP, LS3MIP

JULES – ES:

Implemented in UKESM1
TRENDY, ISIMIP, LUMIP,
LS3MIP

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Model description paper

JULES-GL7: the Global Land configuration of the Joint UK Land Environment Simulator version 7.0 and 7.2

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Abstract

We present the latest global land configuration of the Joint UK Land Environment Simulator (JULES) model as used in the latest international Coupled Model Intercomparison Project (CMIP6). The configuration is defined by the combination of switches, parameter values and ancillary data, which we provide alongside a set of historical forcing data that defines the experimental setup. The configurations provided are JULES-GL7.0, the base setup used in CMIP6 and JULES-GL7.2, a subversion that includes improvements to the representation of canopy radiation and interception. These configurations are recommended for all JULES applications focused on the exchange and state of heat, water and momentum at the land surface.

[GMD](#) | [Articles](#) | [Volume 13, issue 2](#)

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07 Feb 2020

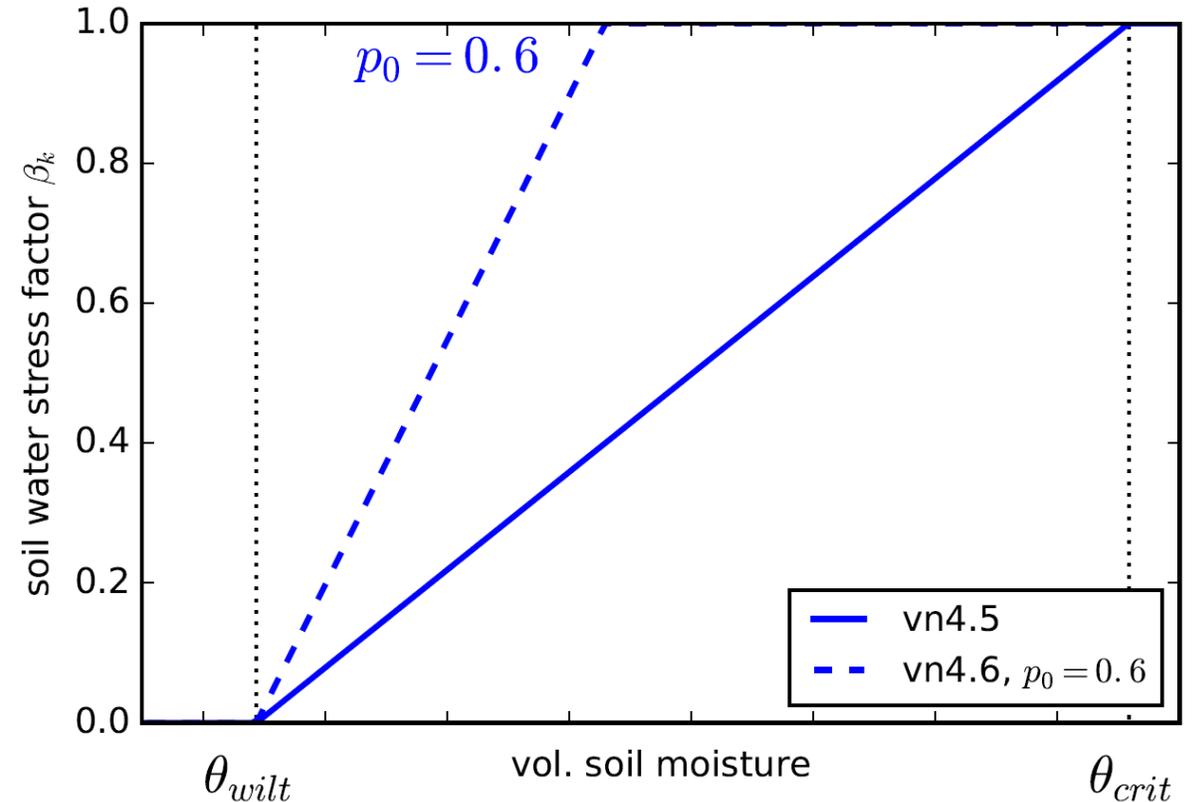


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Science Configurations: Global Land

GL7 has been released and widely used.
GL9 will be made available shortly and includes updates to roughness length and other parameters
GL10 is under development and includes results from JPEG

Thanks to Heather Rumbold and Karina Williams



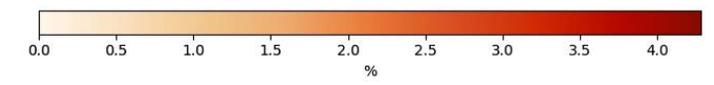
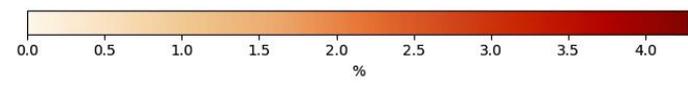
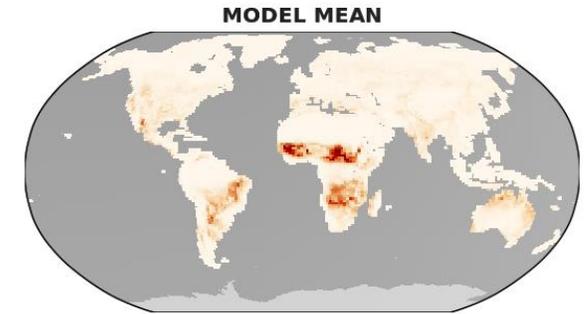
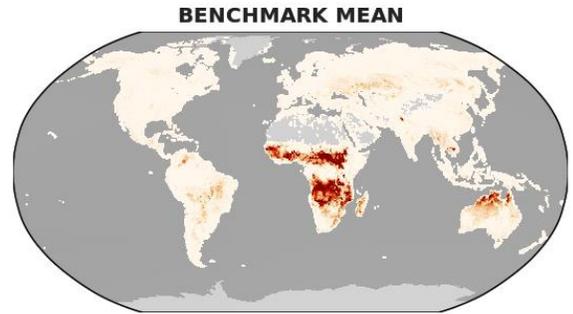
Science Configurations: UKESM

JULES-ES 1.0 is available
 JULES-ES 1.1 is currently being finalised and includes the INFERNO fire module

BurnedArea / GFED4S / 2001-2015 / global / Fire

Mean State	Relationships										All Models				
	Download Data	Period Mean (orig)	Model Period Mean	Model Period Mean	Benchmark Period	Benchmark Period	Bias [%]	RMSE [%]	Phase Shift [mo]	Bias Score [1]	RMSE Score [1]	Seasonal Cycle [1]	Spatial Distribut	Interannual Vari	Overall Score [1]
Benchmark	[-]	0.321													
Base	[-]	0.00	0.00	0.00	0.325	0.0371	-0.324	0.870	3.15	0.63	0.37	0.46	0.37		
Fire	[-]	0.253	0.290	0.0405	0.325	0.0386	-0.0471	0.920	2.06	0.73	0.39	0.80	0.68	0.48	0.58

Temporally integrated period mean

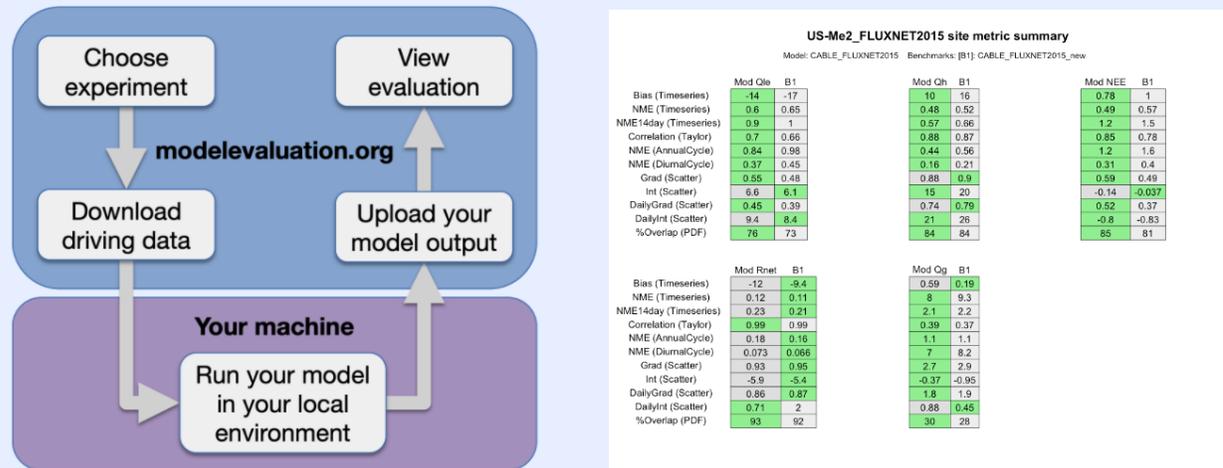


Thanks to Chantelle Burton and Eleanor Burke

Benchmarking and Evaluation

Welcome to modevaluation.org

modevaluation.org is a web application for evaluating and benchmarking computational models. Browse menus or create an account to begin.



US-Me2_FLUXNET2015 site metric summary

Model: CABLE_FLUXNET2015 Benchmarks: B1) CABLE_FLUXNET2015_new

	Mod Ota	B1	Mod Qh	B1	Mod NEE	B1
Bias (Timeseries)	-14	-17	10	16	0.78	1
NME (Timeseries)	0.6	0.65	0.48	0.52	0.49	0.57
NME 14day (Timeseries)	0.9	1	0.57	0.66	1.2	1.5
Correlation (Taylor)	0.7	0.66	0.88	0.87	0.85	0.78
NME (AnnualCycle)	0.84	0.98	0.44	0.56	1.2	1.5
NME (DiurnalCycle)	0.37	0.45	0.16	0.21	0.31	0.4
Grad (Scatter)	0.55	0.48	0.88	0.9	0.59	0.49
Int (Scatter)	6.6	6.1	15	20	-0.14	-0.037
DailyGrad (Scatter)	0.45	0.39	0.74	0.79	0.52	0.37
DailyInt (Scatter)	9.4	8.4	21	26	-0.8	-0.83
%Overlap (PDF)	76	73	84	84	85	81

	Mod Rnet	B1	Mod Og	B1
Bias (Timeseries)	-12	-9.4	0.59	0.19
NME (Timeseries)	0.12	0.11	8	9.3
NME 14day (Timeseries)	0.23	0.21	2.1	2.2
Correlation (Taylor)	0.99	0.99	0.39	0.37
NME (AnnualCycle)	0.18	0.16	1.1	1.1
NME (DiurnalCycle)	0.073	0.066	7	8.2
Grad (Scatter)	0.93	0.95	2.7	2.9
Int (Scatter)	-5.9	-5.4	-0.37	-0.95
DailyGrad (Scatter)	0.86	0.87	1.8	1.9
DailyInt (Scatter)	0.71	2	0.88	0.45
%Overlap (PDF)	93	92	30	28

