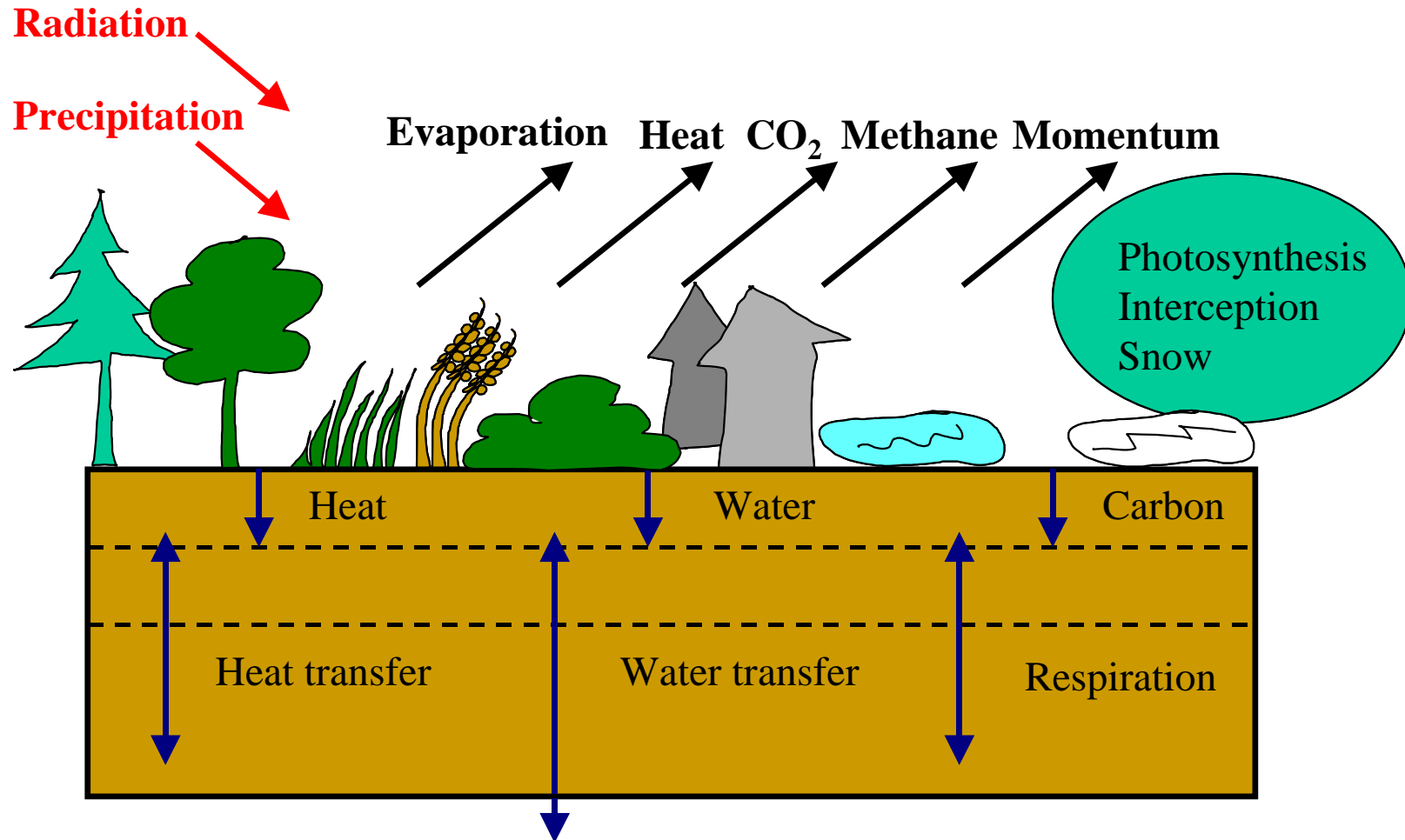


# JULES: Joint UK Land Environment Simulator

E.M Blyth, CEH, UK

# JULES



# History

- 1997 Original MOSES written
- 1999 MOSES2 released – incorporating TRIFFID DGVM
- 2002 Meeting to identify JULES Science questions
- 2003 JULES specification
- 2004 ‘beta’ version of JULES released to CLASSIC (and a few others)
- May 2005 JULES.v0 frozen
- October 2006 Official JULES launch v1.


<http://www.jchmr.org/jules/index.html>

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**JULES**  
Joint UK Land Environment Simulator

JULES is the Joint UK Land Environment Simulator. It is based on MOSES (Met Office Surface Exchange System), the land surface model used in the Unified Model of the UK [Met Office](#) (UK Meteorological Service). MOSES was originally designed to represent the land surface in Meteorological and Climate models, but is increasingly used for other purposes: predicting river flows, identifying global wetlands, quantifying water resources. It was therefore decided to officially release the model from its original role in two ways. Firstly, the model should become a community model and secondly, the model should be used and developed independently of the meteorological and climate model.

The code is available for any researcher, free of charge. A license can be downloaded from this website (see [Download the license](#)).

The development of the code is ongoing. The latest version is described in [Description of the code](#) and the next release versions, with dates, are outlined in [Management of JULES](#).

For further information, please contact [jules@jchmr.org.uk](mailto:jules@jchmr.org.uk)

# Modular

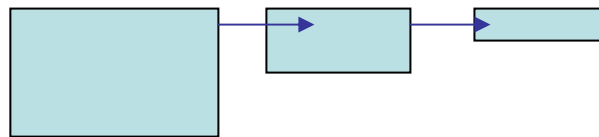
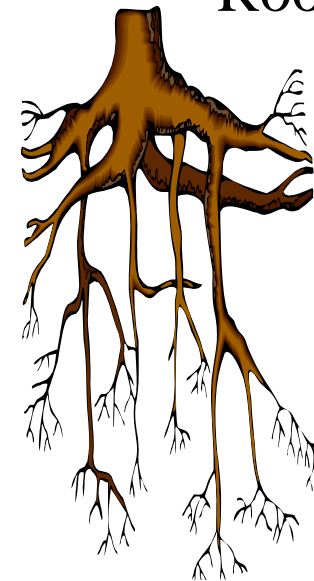
Tree model



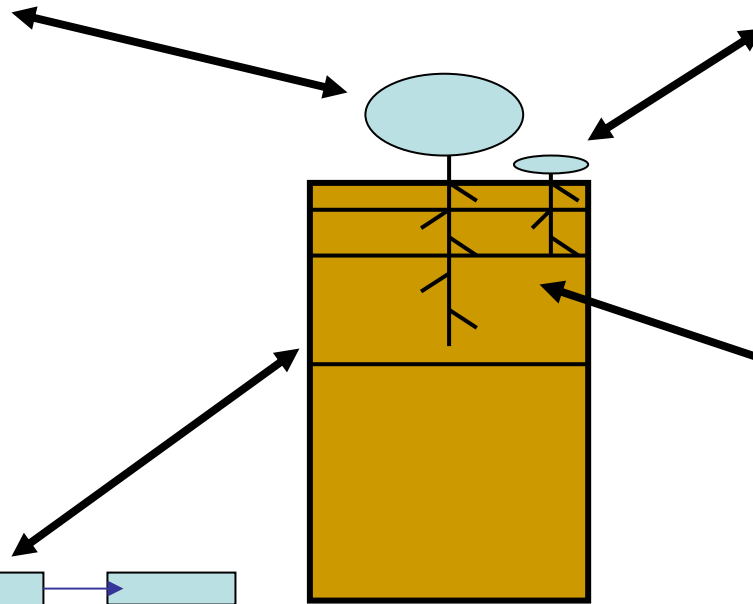
Crop model



Root model

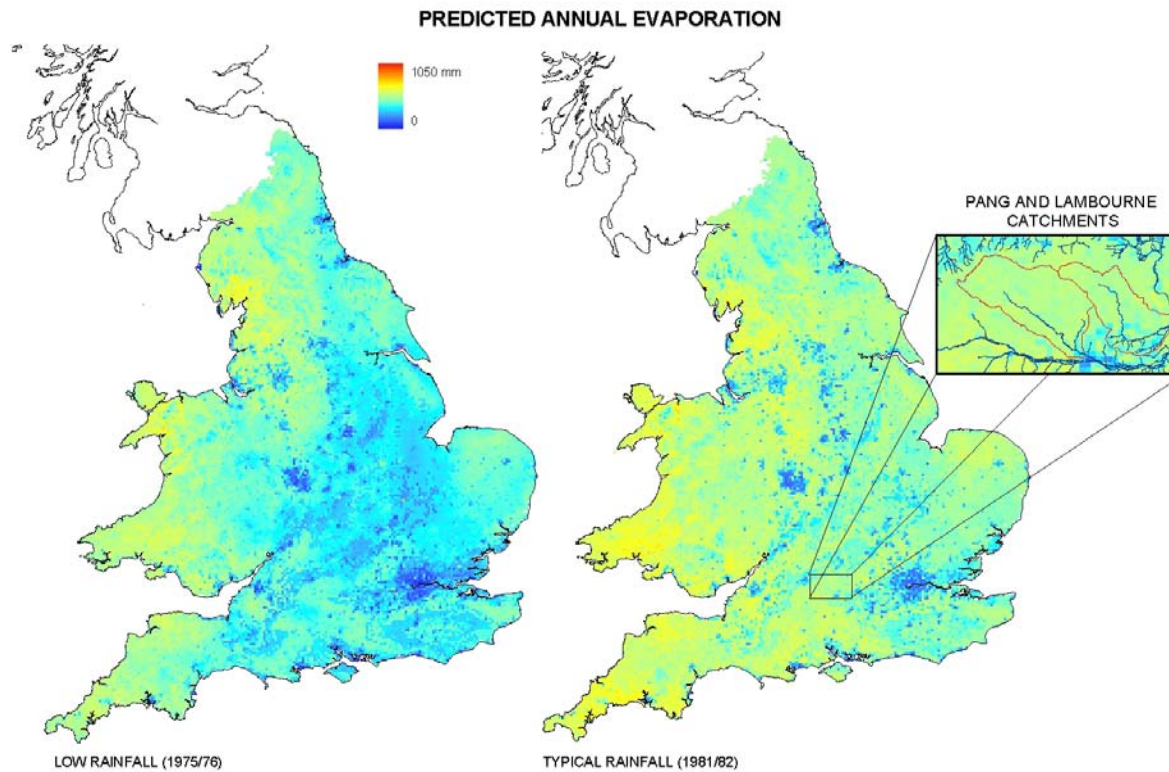


Hydrology model

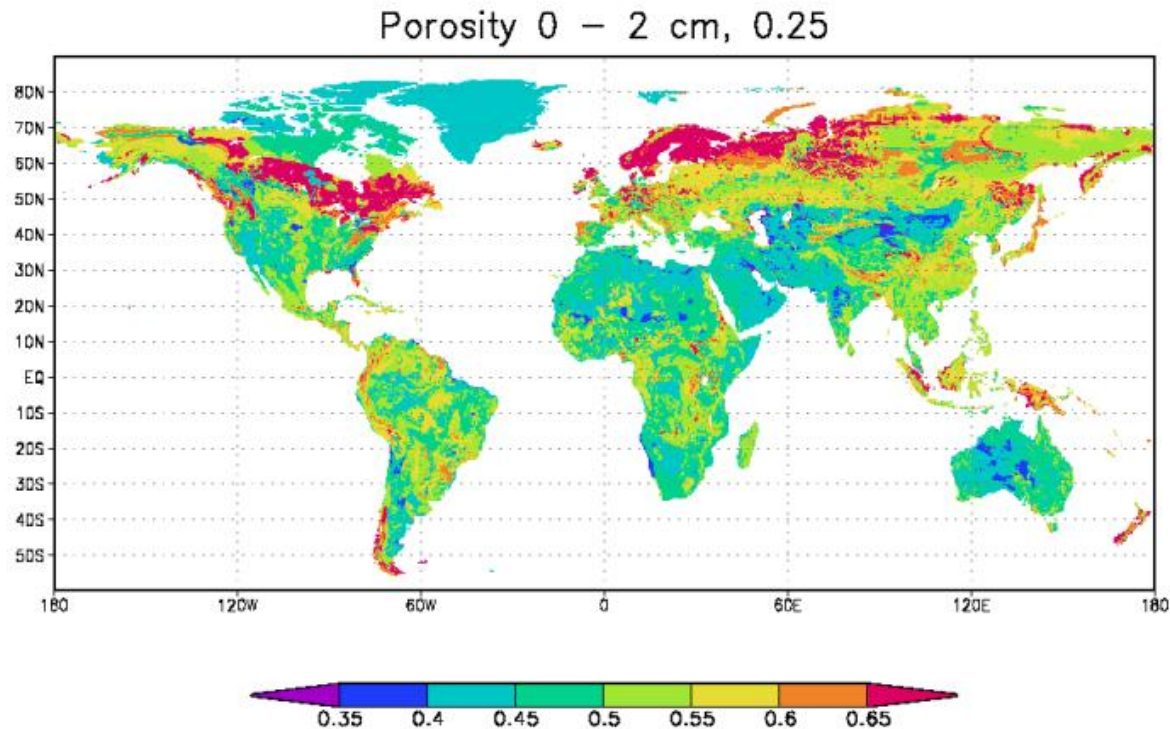


# Historic driving data 1960 – 2000

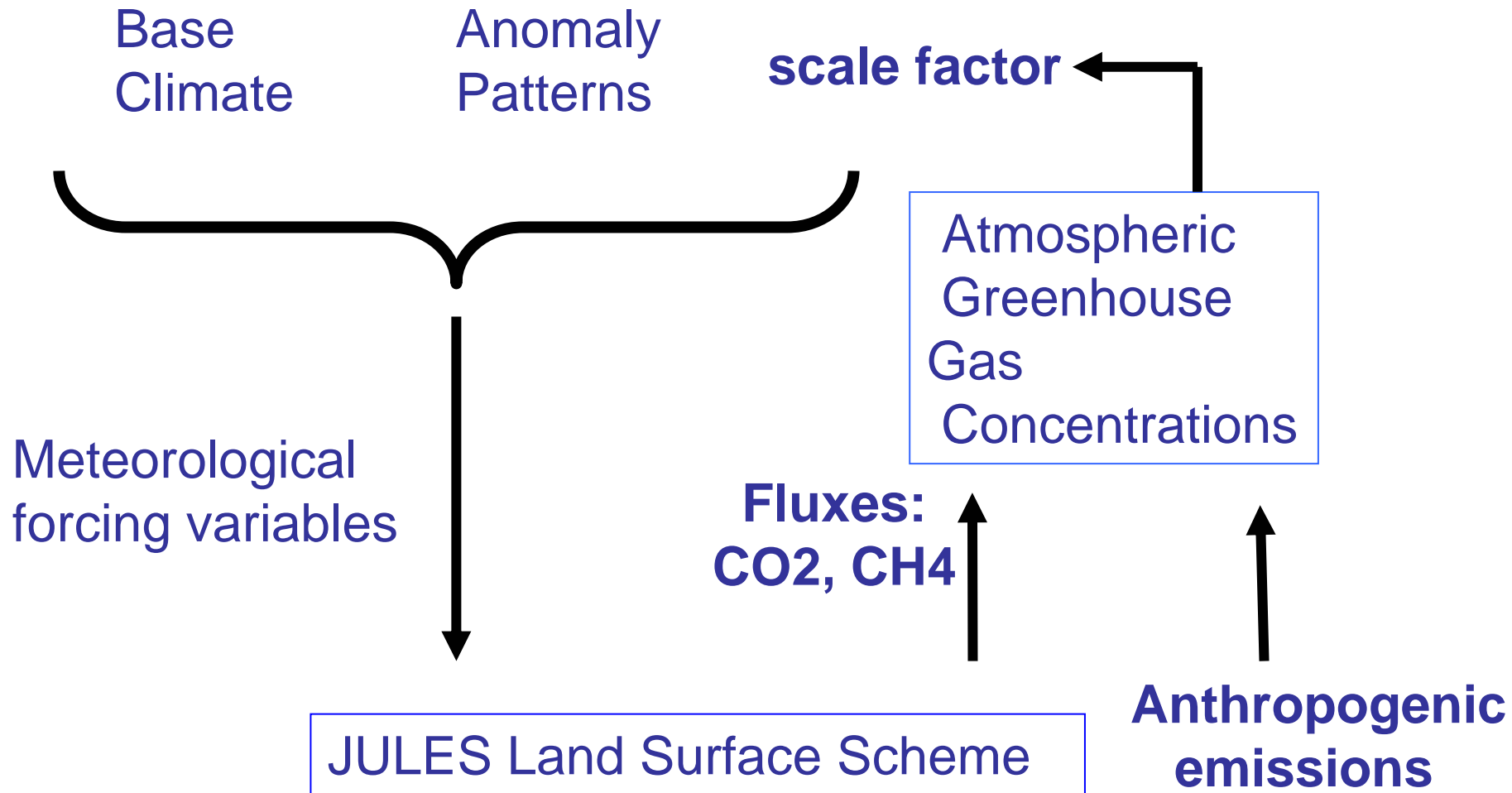
## 1km England and Wales



# GSWP (Global Soil Wetness Project) driving data. 1986 – 1995 ~100km



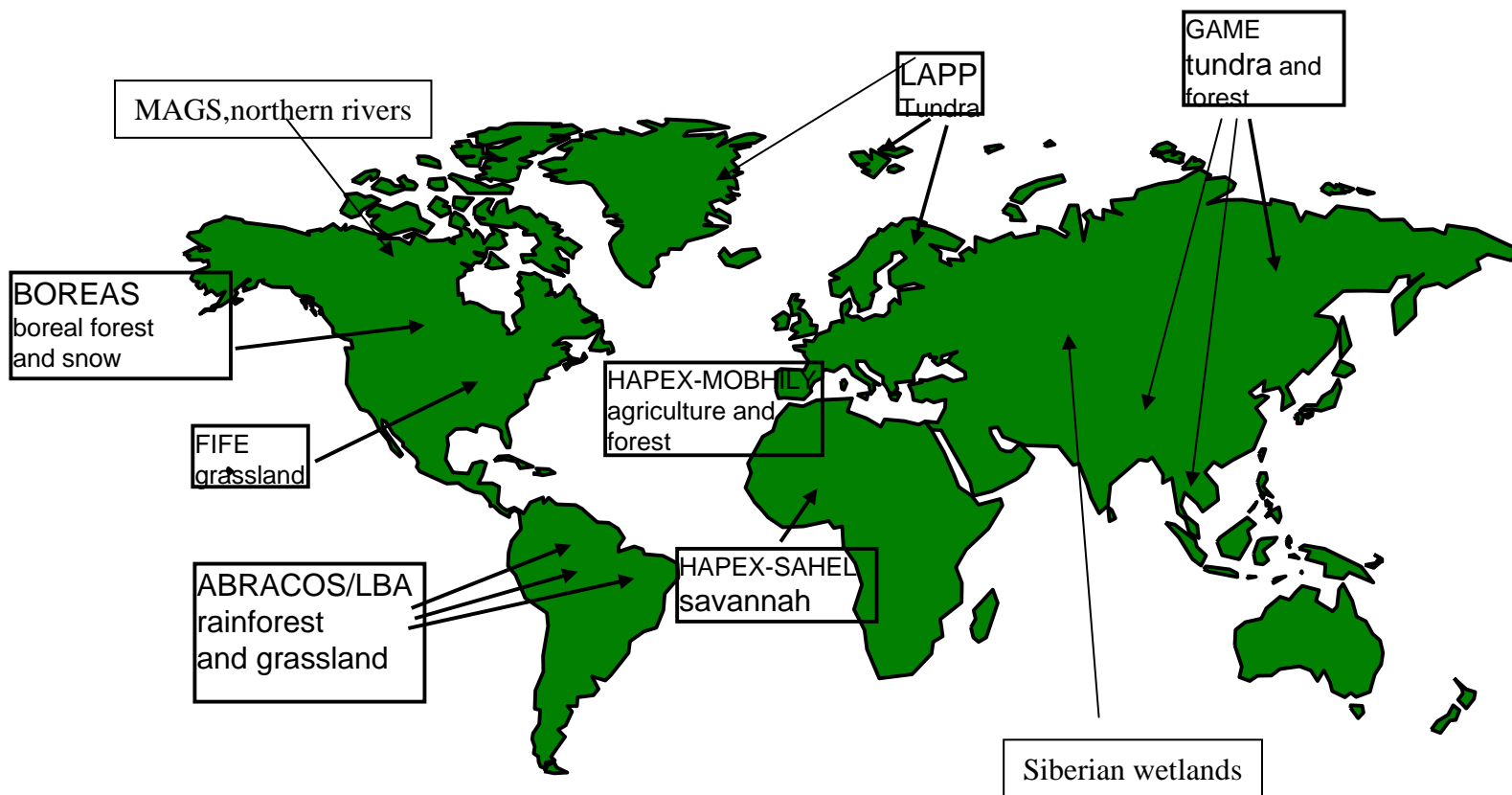
# Tools for climate research (IMOGEN)





# Test Data

Critical areas or hot spots



# Wetlands

## Lapland - Finland



## Somerset - UK



# Deserts

Sahel -  
Low rainfall



Arctic – freezing



# Forests

Amazon rainforest

Boreal forest



# Aim: The climate system – coupled

