

OpenCLIM project: Modelling services at your fingertips

Official Launch Virtual Event:
Bridging the physical divide with digital
DAFNI Conference 2021

OpenCLIM Project

Background

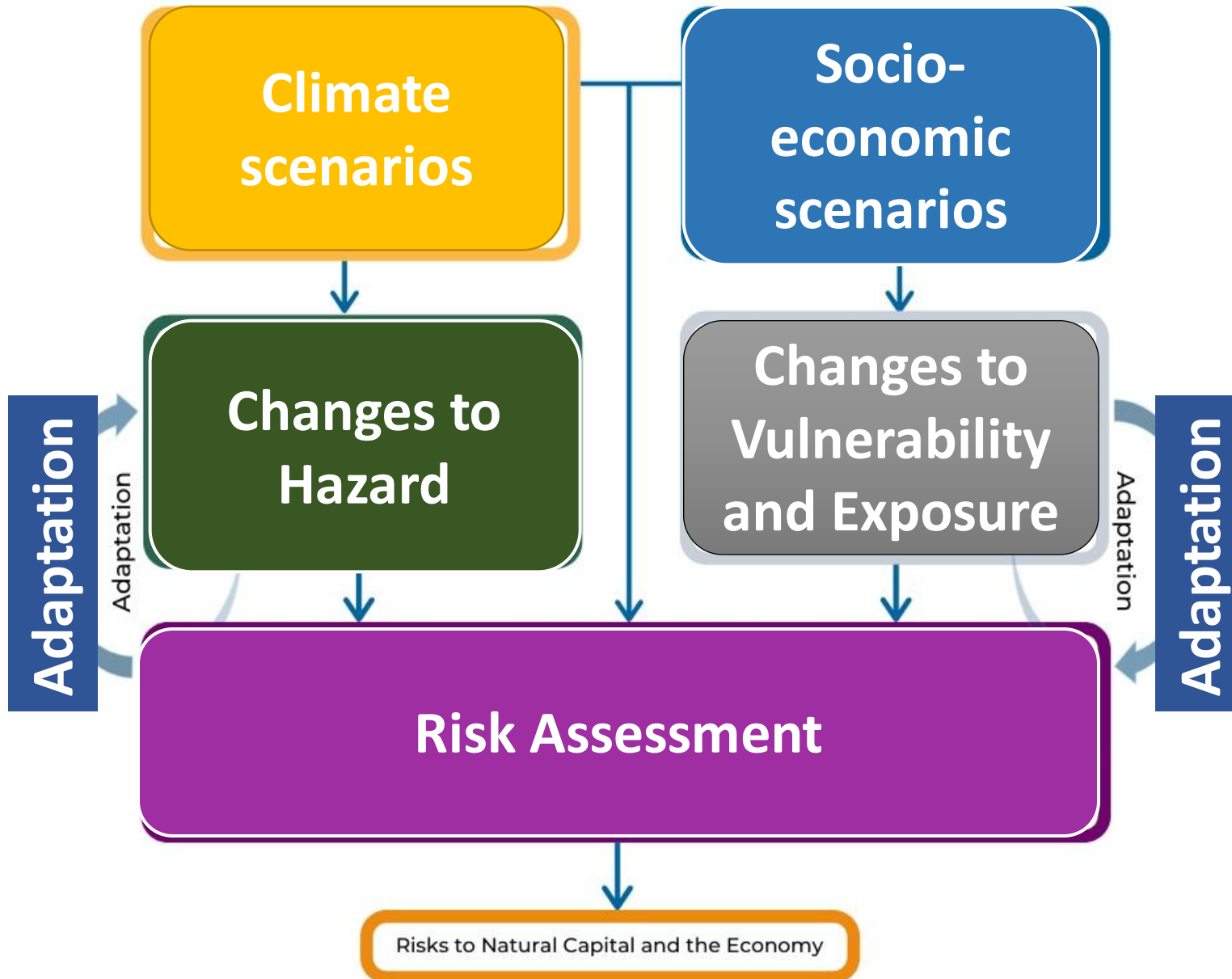
- Goal: to deliver the assessment method for Climate Change Risk Assessment 4 (CCRA4) and beyond –i.e., enhance the UK's climate change risk capability
- A 28 month project under the UK Climate Resilience programme
- The vision is to develop and implement an advanced open, integrated, spatial, model framework around a community of developers and users.
- Using DAFNI for software integration and a robust legacy

OpenCLIM Project

Key Issues

- Linking state-of-the-art models within an integrated framework (a bigger more complex model)
- This linkage involves substantial development
 - the integrated model framework design,
 - model coupling and
 - the role of adaptation
- Developing a community around this process
- Legacy: to ensure long term sustainability for CCRA4 and beyond

OpenCLIM Structure



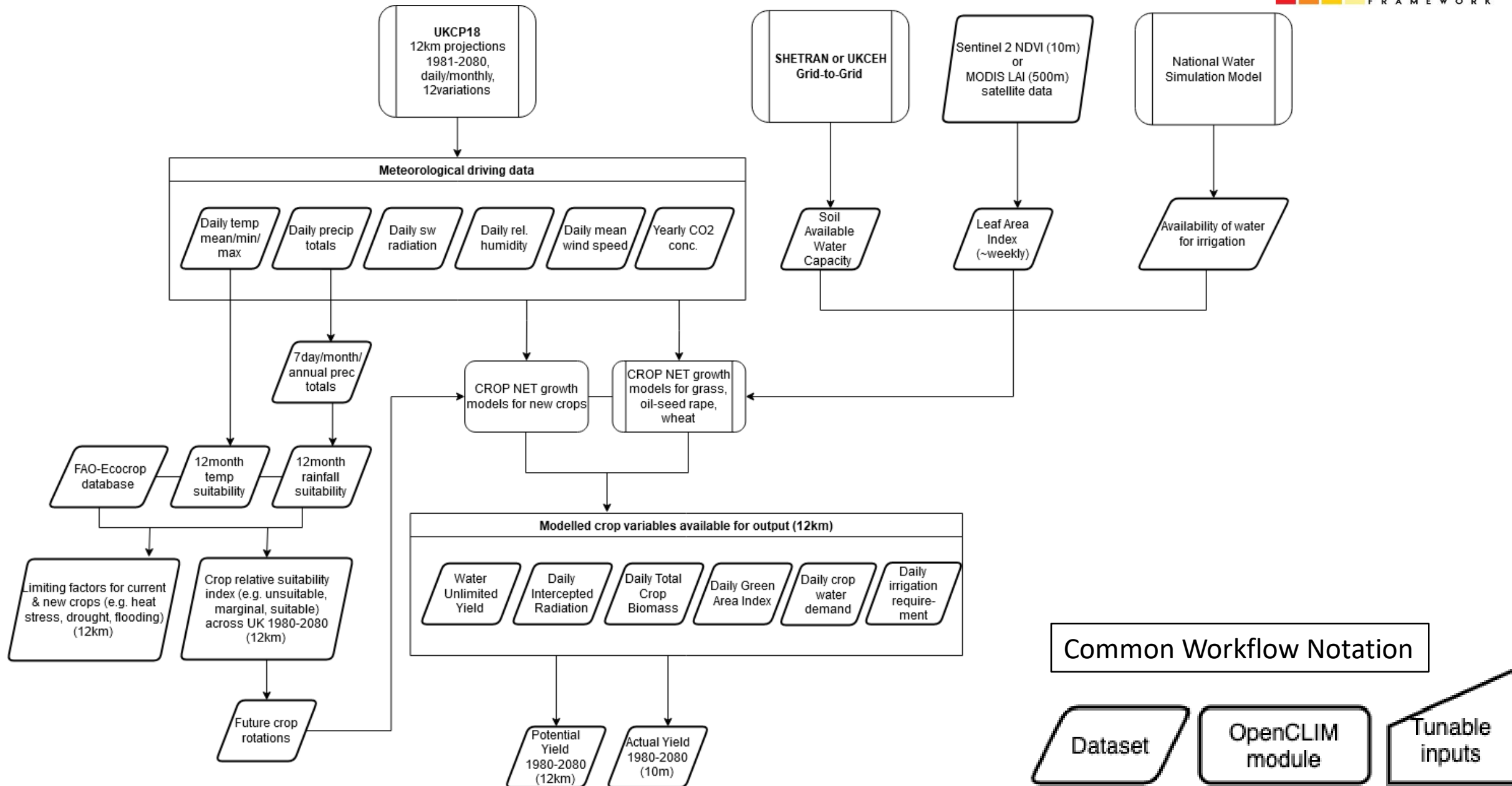
Exploring four sectors/issues

1. Agriculture
2. Heat stress
3. Inland flooding
4. Drought and Water supply plus
5. Land use and Biodiversity

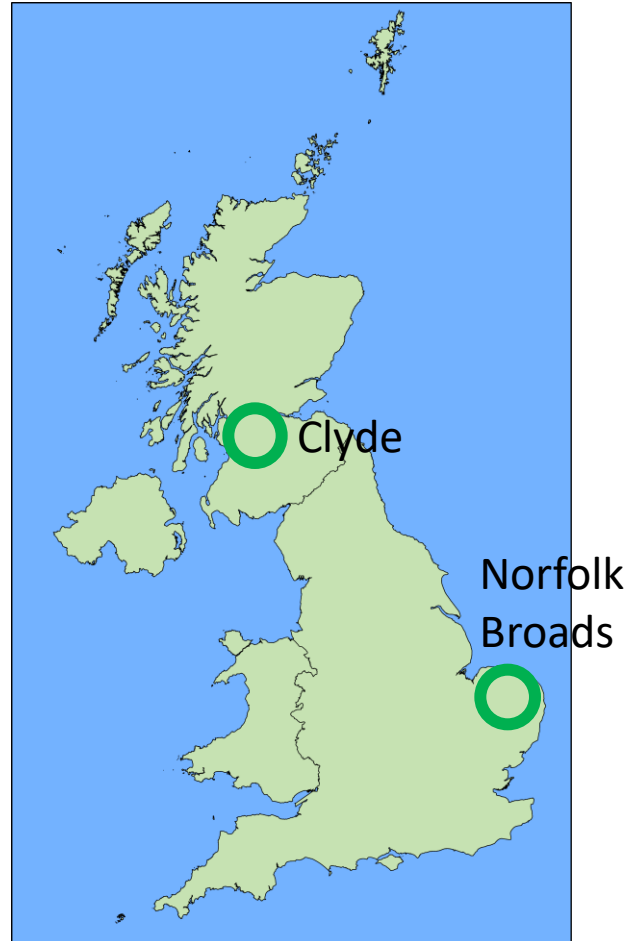
Workflows

- Workflows are an assembly of appropriate models and data that allow users to create complex system-of-systems simulations and make the results of these workflows available to share with other users.
- In OpenCLIM we are currently exploring the five sectors (workflows) combining all the models available to the project to be implemented on DAFNI.

Agriculture: Workflow



Geographical Coverage



Results Available

- Nationally – United Kingdom
- Devolved Administrations
- Local Authorities
- Sectors (if we can link the data to them)

OpenCLIM and DAFNI

- Data structure – much more flexible to a range of outputs/questions
- Consistent underlying assumptions are inherent in what we plan
- Start-stop nature – this is building a process and foundation (with commitment and funding)
- Access remains an issue as these models are complex
 - OpenCLIM workflows as an evolving scientific resource allowing a wide range of queries by experts – progressive improvement
 - Data cubes sampling this space for specific queries – a searchable database
 - Web interface for tightly defined queries – essentially specific models within OpenCLIM with well defined inputs and outputs

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