

science

inspiration

ambition

**flood and drought
research
infrastructure**



**Natural
Environment
Research Council**

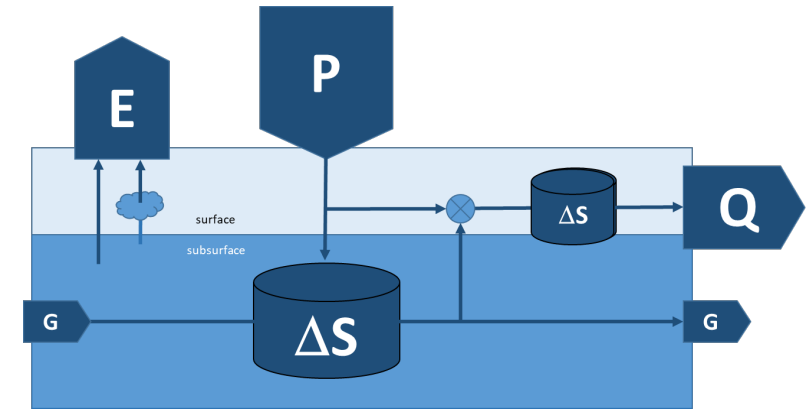
Where are we?



research community
needs



collation and synthesis of needs



feasible solution

3 linked sensor networks
with live digital integration

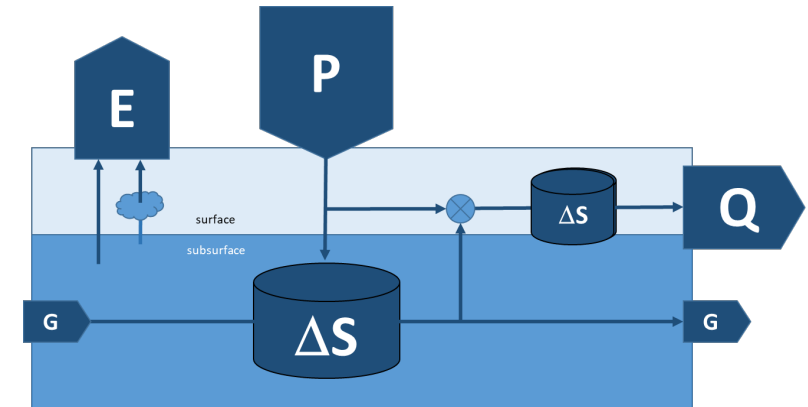
Where are we?



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**THANK
YOU!**



FDRI
FLOODS &
DROUGHTS
RESEARCH
INFRASTRUCTURE

logistics

setup day-to-day practical details



Natural
Environment
Research Council

science



Natural
Environment
Research Council

science

hydrometric
science

science of
measurement
of water

hydrological
science

research on
movement and
distribution of water



interconnected
intelligent and
multi-variable
sensors...

utilising SMART infrastructure

*...live control,
processing, modelling
and dissemination*



ambition

what difference will FDRI make, the big stories...?

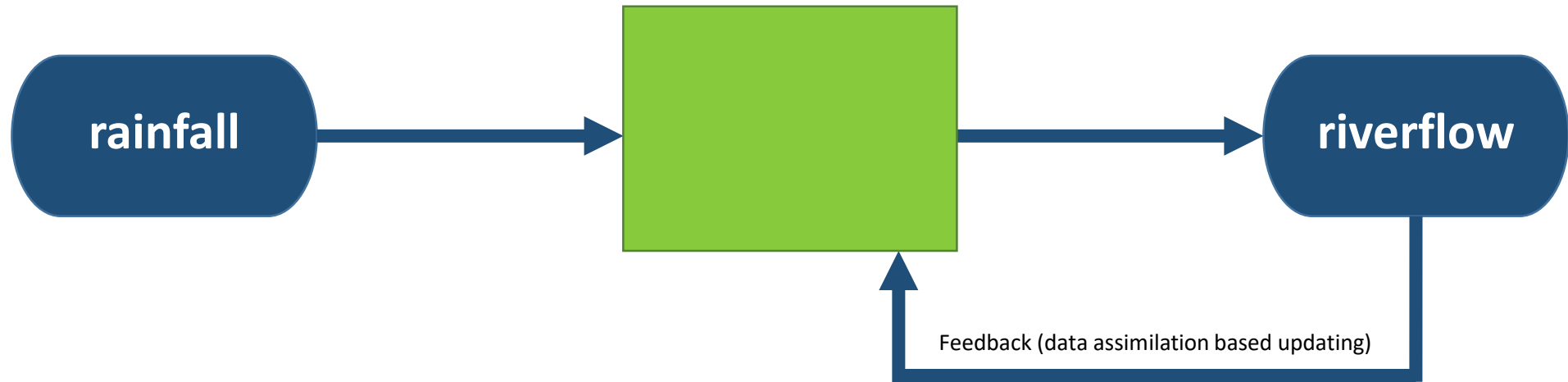
(Hannah Cloke, CAG 12 Jan 2024; PB9 9 Feb 2024)

what will *live integrated field & digital infrastructure* enable that UK hydrological researchers currently cannot do....?

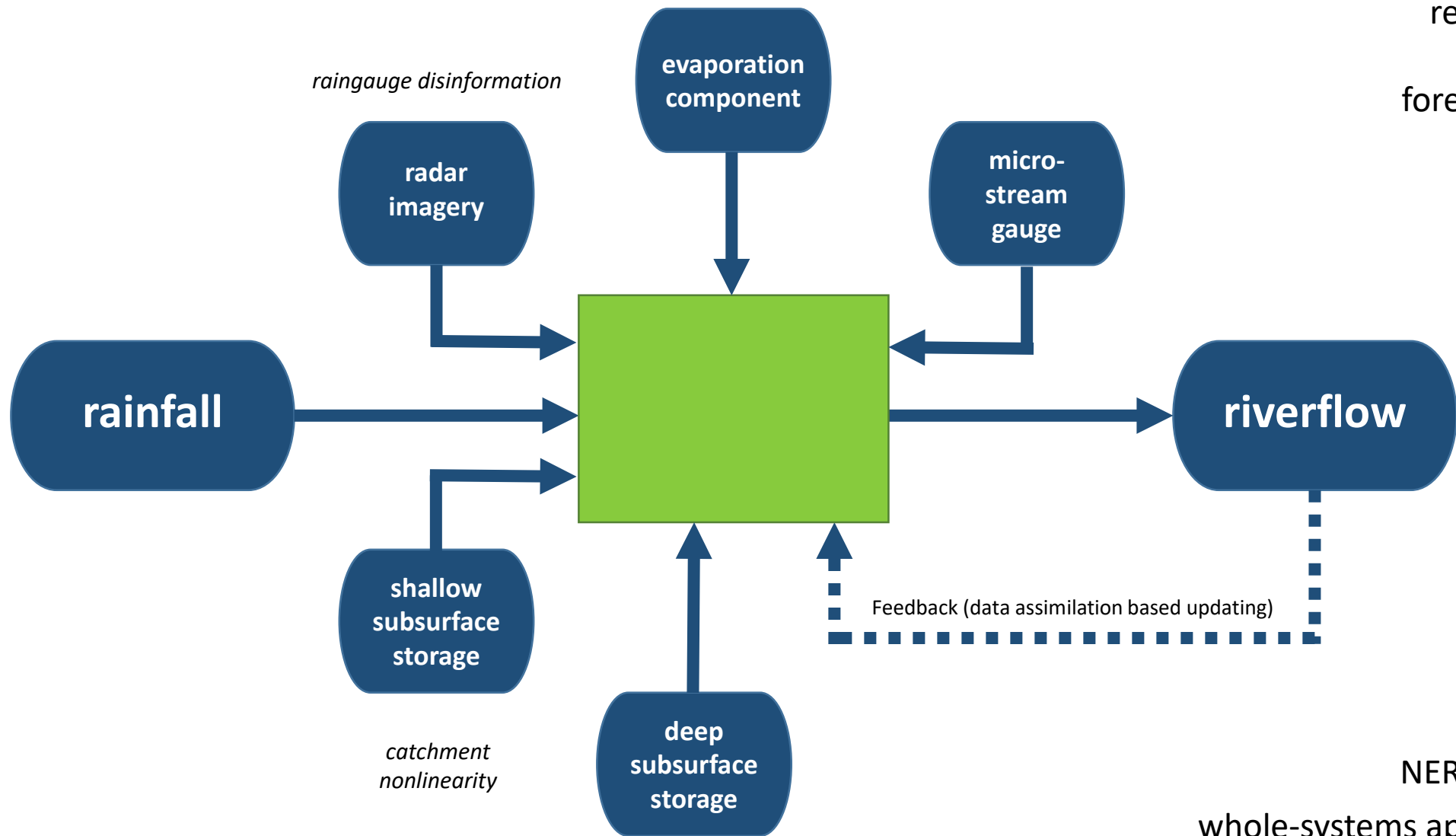
what would be **transformative**...?

e.g.,

real-time
flood
forecasting

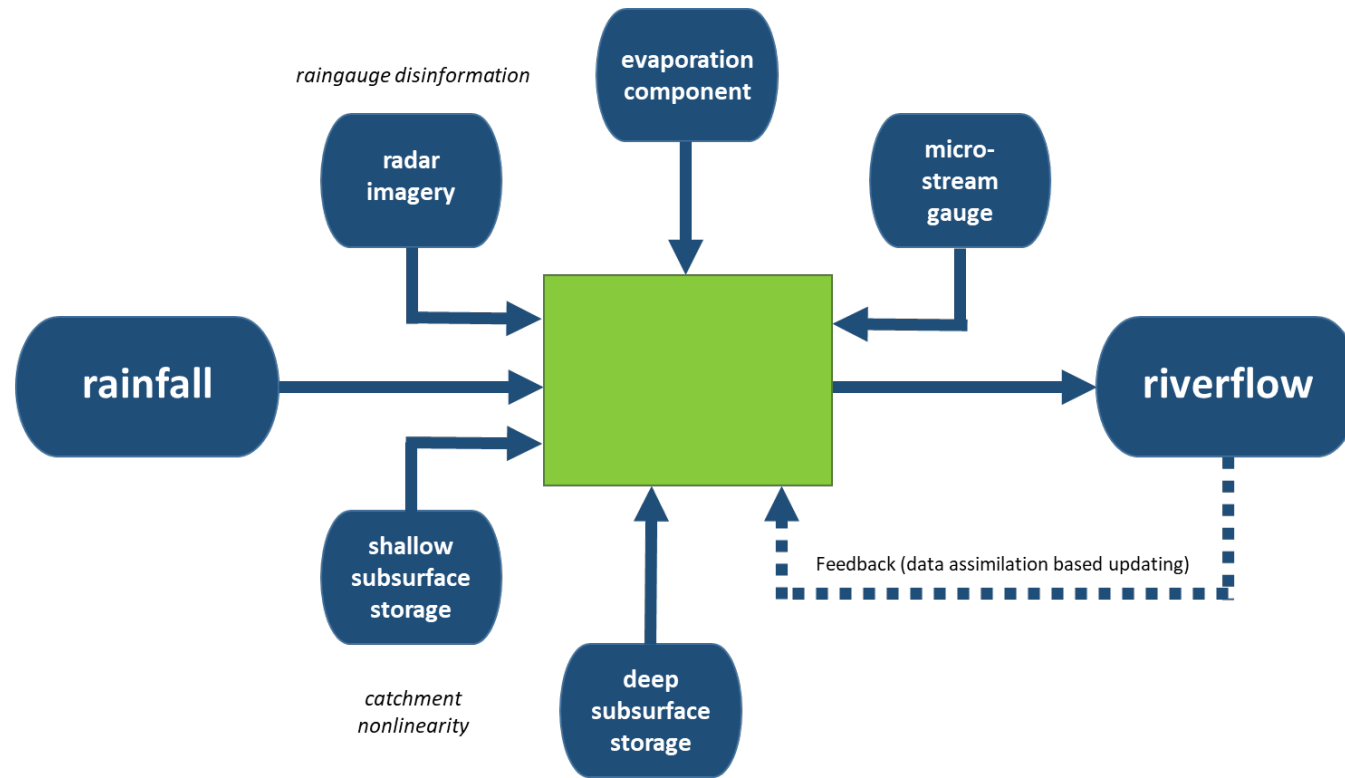


e.g.,



NERC goals
whole-systems approach
predict / respond to natural hazards

...need dozen
examples to select
from



inspire

enabling
researchers
to engage

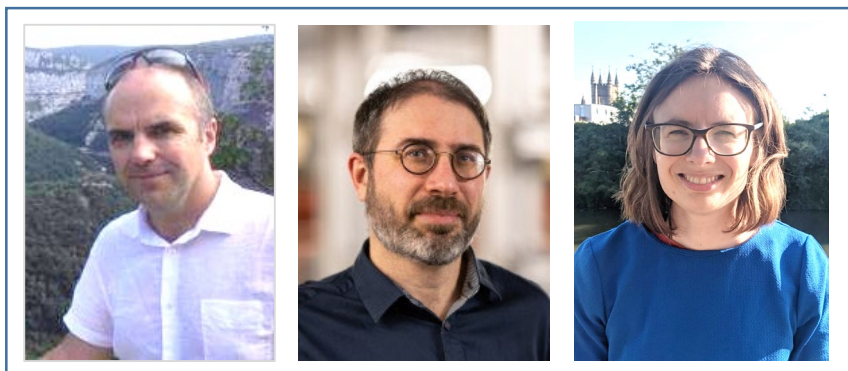


Natural
Environment
Research Council

opportunity

2024 small grants utilising
FDRI's *developing* 'SMART infrastructure'

embedded in FDRI Delivery Team



Gareth Old (lead)

Wouter Buytaert

Gemma Coxon

NERC CSA



Nick Chappell

to help develop this opportunity

with advice from Community Advisory Group (volunteered time)



Nick Chappell

Hannah Cloke

Lindsay Beevers

Andrew Tyler

Isabelle Durance

Joseph Holden

David Hannah

Jamie Hannaford

Lancaster

Reading

Edinburgh

Stirling

Cardiff

Leeds

Birmingham

UKCEH



Sean Longfield

Peter Singleton

Benn Kidd

Steve Kay

Imogen Barnsley

Tom Griffin

Philip James

EA

SEPA

ARUP

UKWIR

JBA

STFC

Newcastle

researchers funded to help enable researcher engagement in the science

to deliver

develop exact software needs

help finalise sensor type & placement

flood of ideas and engagement from NERC researchers

ensure use by researchers

attract policy maker (Defra family) interest

...and international interest



then NERC FDRI stimulated

world leading

hydrometric and hydrological science



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