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Contributions of Eric Wood to Hydrologic Remote Sensing

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What is Remote Sensing?

- Collecting data from a remote location ?
- Inverting satellite data into ready-to-use products ?
- Developing methods to improve remote sensing algorithms ?
- Analyzing different data sets to identify the most appropriate product for a specific purpose ?
- Merging remote sensing data with models ?

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Overall Objective

Estimating the global water cycle using remote sensing

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JOHN DALTON MEDAL 2007

Eric F. Wood

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The 2007 John Dalton Medal is awarded to Eric F. Wood in recognition of his outstanding contribution towards integrating the Earth sciences into the science of hydrology.

Eric F. Wood

Professor Eric F. Wood has had a distinguished career which has spanned the renaissance of hydrology as an earth system science. His early work, which focused on what might now be referred to as the systems analysis aspects of water science, is notable in its own right and has earned him much recognition. His recent contributions are: (1) spatially-distributed hydrologic modeling, (2) macroscale hydrologic prediction of the coupled water and energy balances of the land surface, and (3) remote sensing as an integral tool for observation and modeling of the hydrologic cycle.

Professor Wood's contributions to the hydrologic profession have been widely recognized. He is a Fellow of the AGU and AMS, and delivered the 2001 AMS Robert E. Horton Lecture – the sole named AMS lecture in hydrology. He has served in numerous editorial and review capacities. He is the past Chair of the AGU Committee on Fellows, the AMS Hydrology Committee, and the AGU Remote Sensing Committee. He has served the World Climate Research Programme in various capacities. He has had strong connections with the European hydrology community, dating to his time at IIASA in the 1970s. A steady stream of European researchers have studied with him and his group at Princeton.

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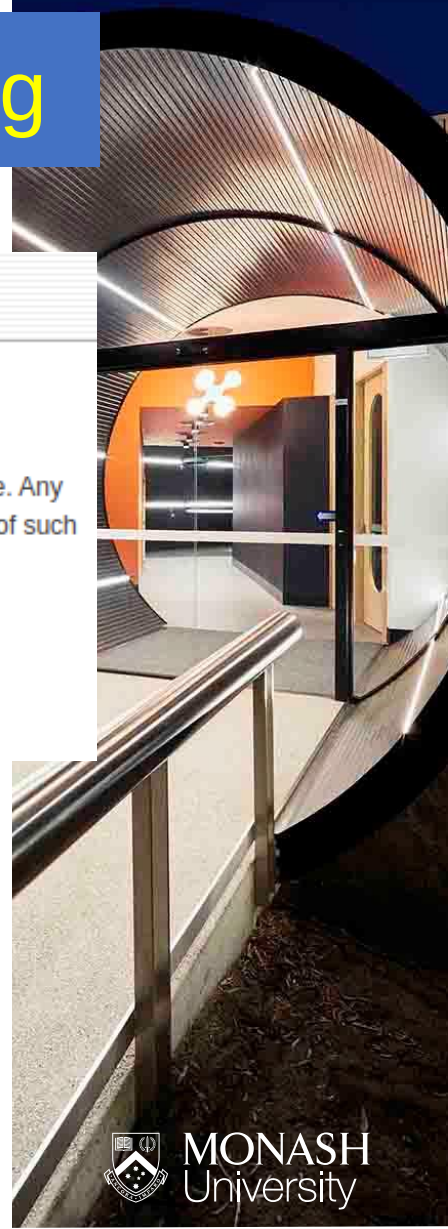

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Programme Groups

Great Debates

List of Accepted Contributions - ML14 John Dalton Medal Lecture

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EGU2007-A-11062
Wood, E. F.
The next frontier for hydrology: using satellite remote sensing to understand the global water cycle (John Dalton Medal Lecture)

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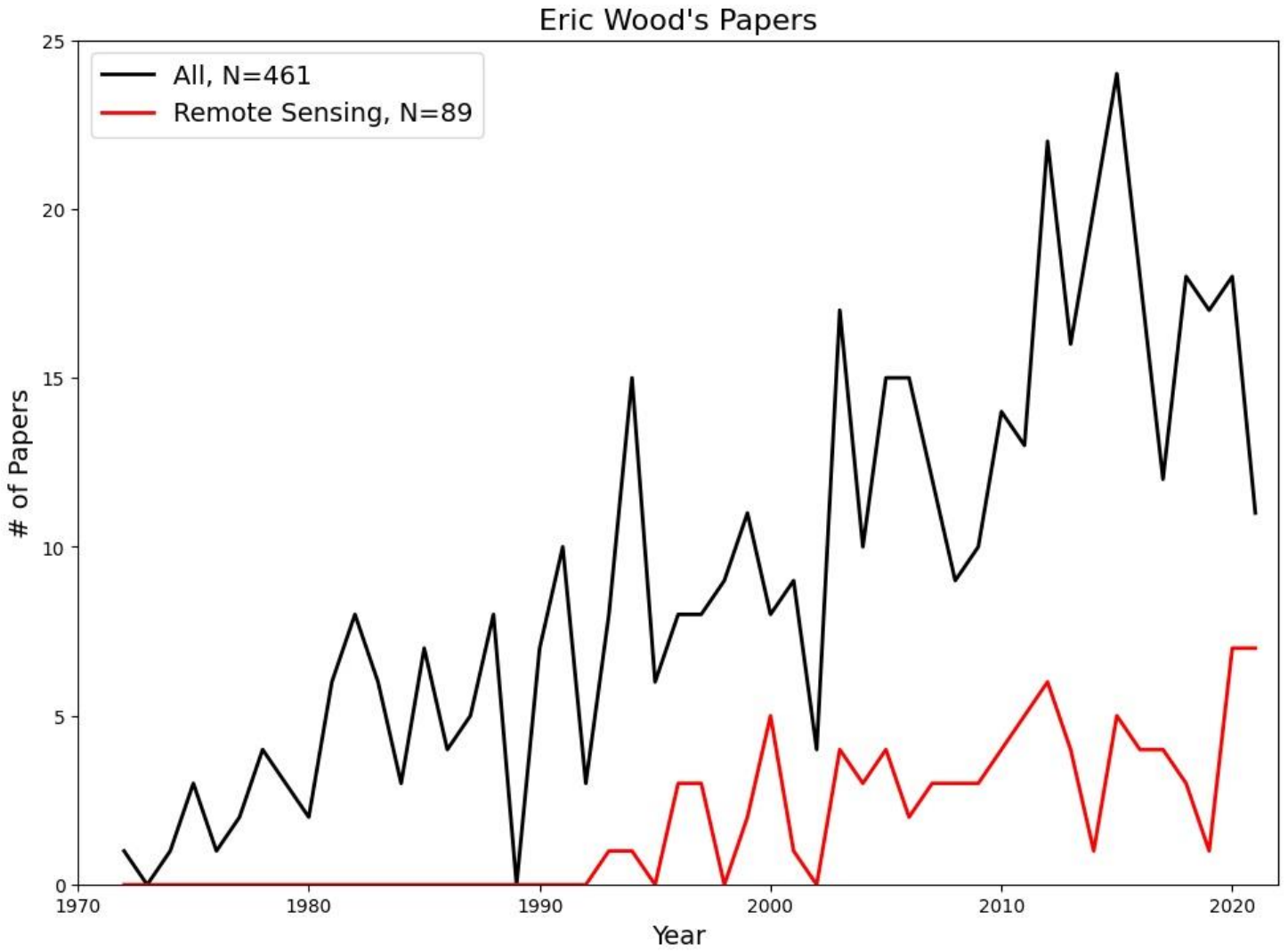
Eric’s Publications



Earliest Topic (1990's): Soil Moisture

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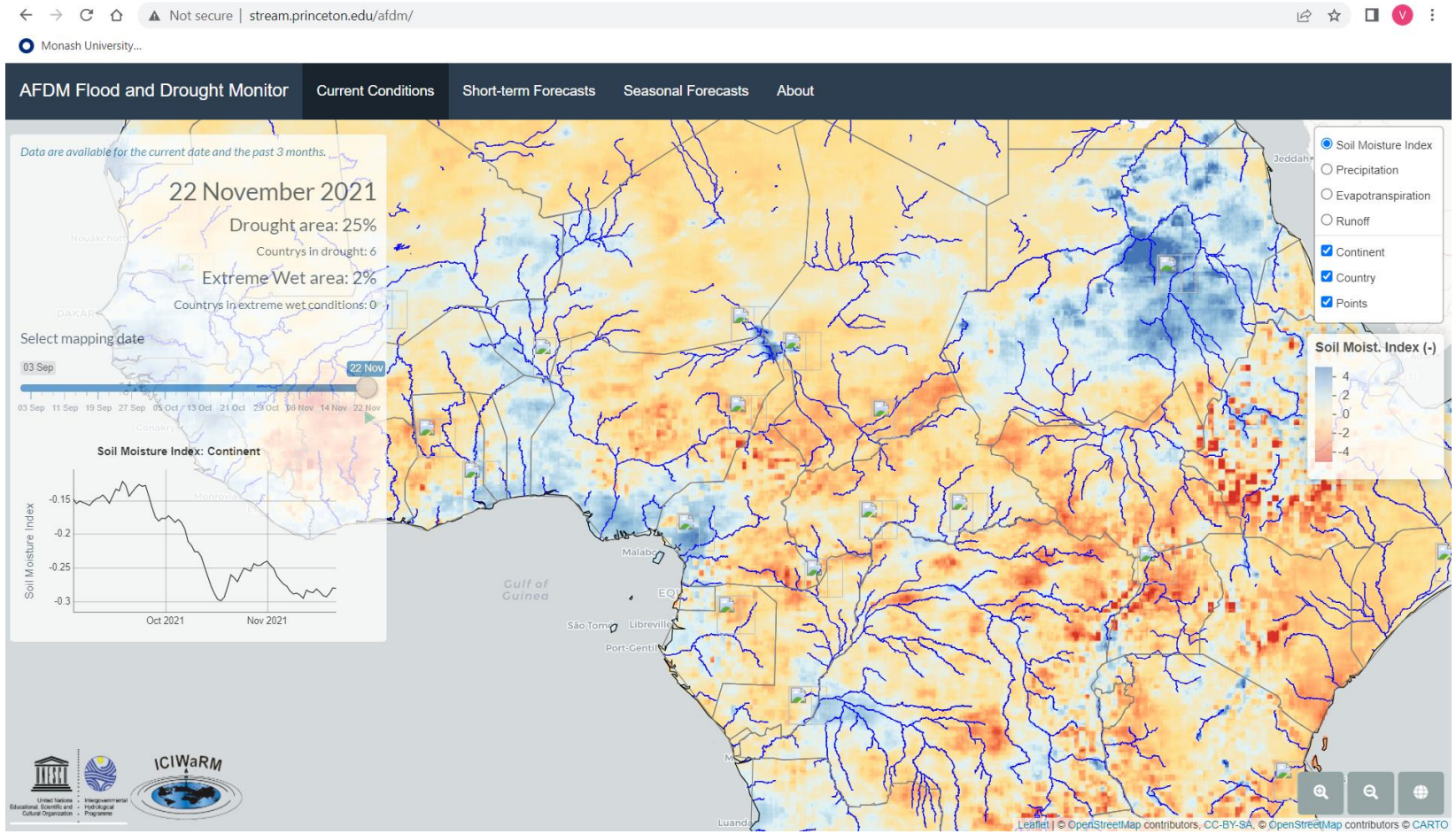
- Soil moisture estimates at the field scale

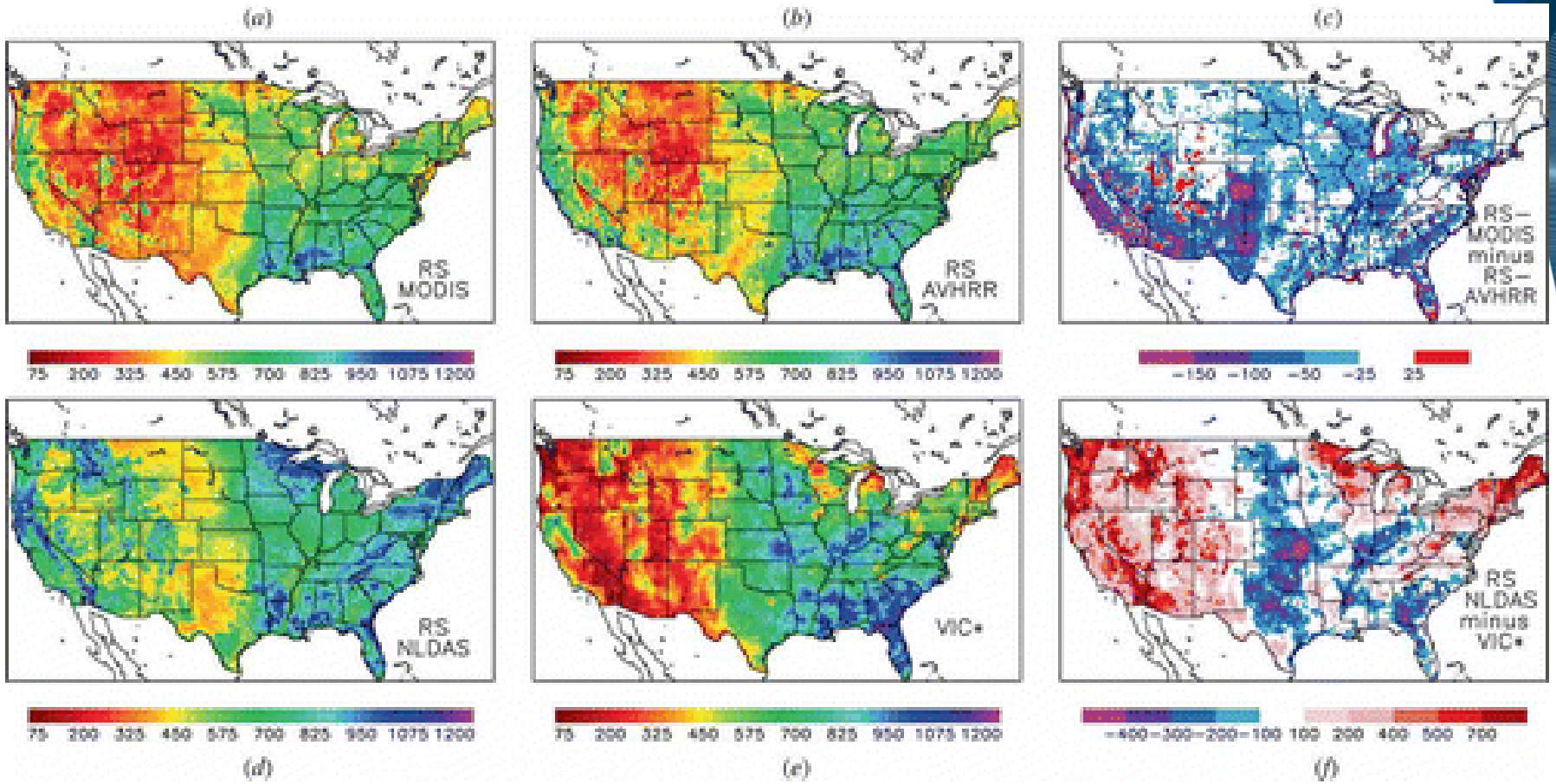
Late 1990's: Satellite Remote Sensing

- Starting with Special Sensor Microwave Imager (SSMI) data, later with a number of other sensors and satellites.
- Eventually led to the **Princeton Flood and Drought Monitor.**



2000’s

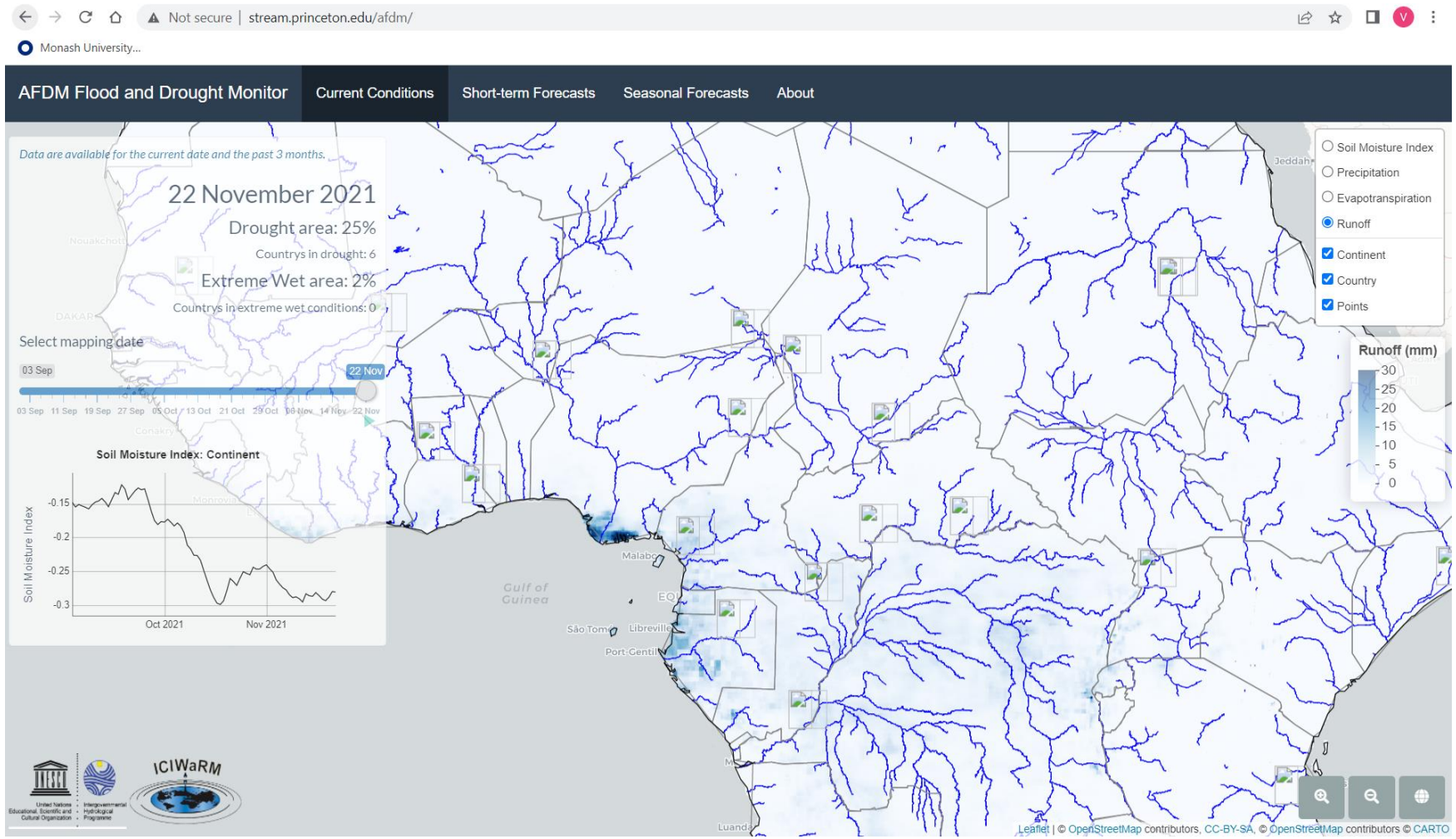
- Rainfall
- **Evapotranspiration** (and sensible heat fluxes)



- Late 2000’s: Air temperature

2010’s

- Vegetation, air humidity
- Radiation, **floods**



Impact

- Scientific: 461 papers, 44K+ citations, H-index 107.
- Flood and drought monitor.
- Numerous collaborations and projects.
- Planning EO missions.
- Data bases and models/methods for other studies and projects.
- Awards, medals, …

- Overall: enormous progress in observing and modelling the global water cycle.

Questions ?

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