WATER RESOURCES MANAGEMENT IN THE FACE OF CLIMATE CHANGE

WELCOME

About the Session

Organizers

- Mark Tompkins, NewFields, California
- Sharad Jain, National Institute of Hydrology, Roorkee

Speakers

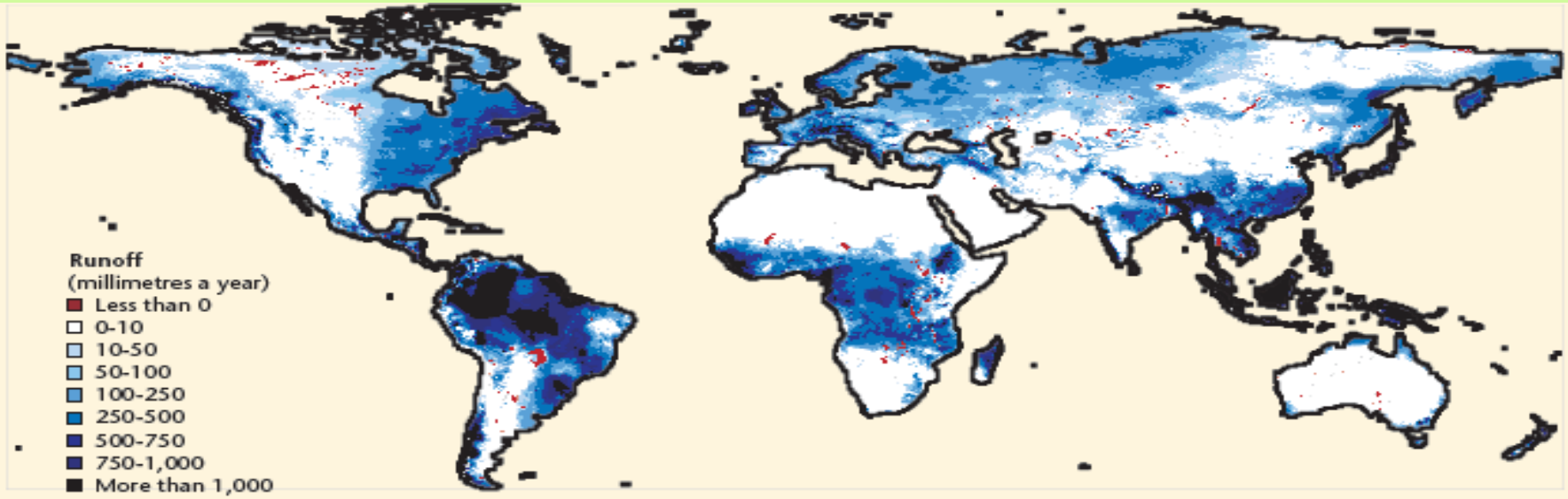
- V. V. Srinivas, Indian Institute of Sciences, Bangalore: Climate Change Causes and Hydrologic Predictive Capabilities
- Balaji Narasimhan, IIT Madras, Chennai: Emerging Water Resources Modeling Technologies to Understand Climate Change Impacts on Various Sectors and Develop Adaptation Strategies
- Kristin Gilroy, U.S. Army Corps of Engineers, Institute for Water Resources: Interactions and Adaptations of Natural and Constructed Elements of Water Resources Systems
- Peter Wijsman, Arcadis: San Francisco Bay – Adapting to Rising Tides from Different Perspectives

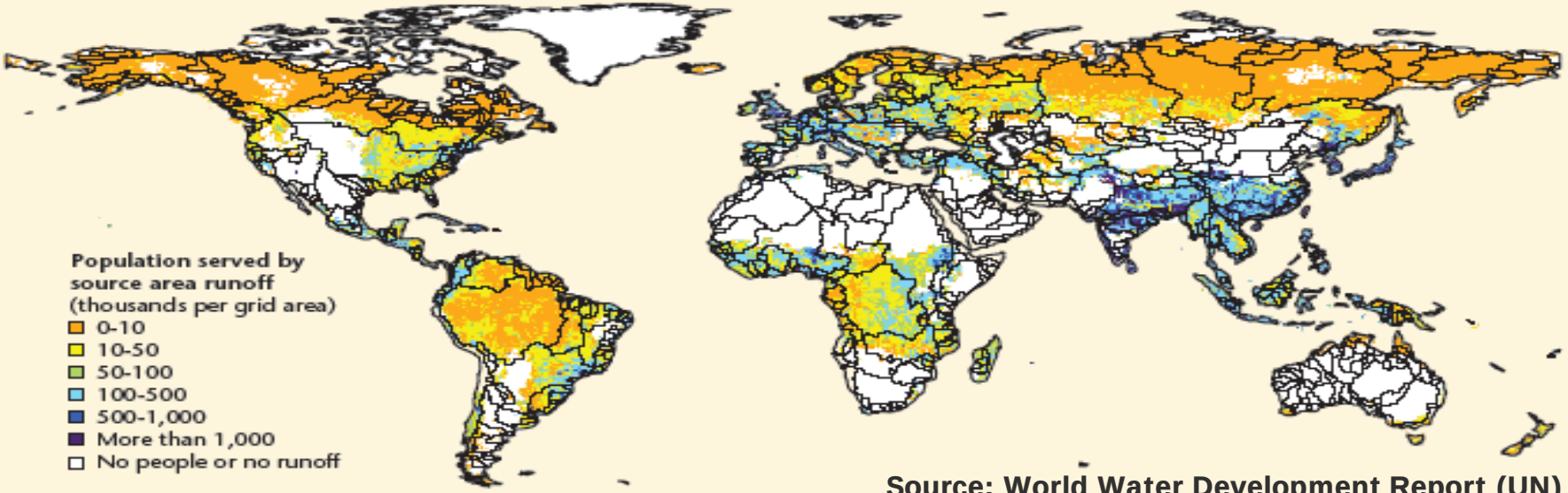
General Participants: Desiree Tullos, Todd Bernardy, Vijay Kumar, Vimal Mishra, Aditi Bhadra

Water Availability and Accessibility

- **Earth is a blue planet but a substantial portion of the renewable water is inaccessible to humans due to remoteness or an inability to store seasonal flows.**
- **Accessibility is also affected by socio-political preferences and capacity (expertize, funds, and technology) which can hinder delivery of water even when it is available.**

Runoff producing areas and population served





Source: World Water Development Report (UN)

Why Water Crisis ?

- **Uneven distribution of water resources over time and space and the way human activity is affecting the distribution today are fundamental sources of water crises in many parts of the world.**
- **Climate change is superimposed on the complex hydrologic regime; likely to enhance the crisis. Its influence is being felt throughout the water demand, storage and supply system.**

Why Water Crisis ?

- **Societies have responded to variability in the water cycle with interventions such as reservoirs, interbasin transfers and deep groundwater pumping. These stabilization arrangements introduce new patterns of variability and quality.**
- **While river flow regulation may stabilize flows and thus optimize water availability for a variety of human uses, they also alter natural flow regimes that impact the aquatic ecology.**

Way Forward

- **Financial and human resources that countries can commit to achieving improvement or restore the systems will differ greatly.**
- **Future management will be undertaken in an environment of greater uncertainty and high risk.**
- **A worldwide effort is to be made to improve our knowledge and understanding of changes in the global water resource.**