



## Jagdish Shukla, PhD

University Professor, Department of Atmospheric, Oceanic, and Earth Sciences  
Managing Director, Center for Ocean Land Atmosphere Studies

### Education

PhD, Meteorology, Massachusetts Institute of Technology

### Key Interests

Climate Change | Social Justice | Predictability of Weather and Climate | Monsoon Dynamics and Prediction | Deforestation and Desertification | Atmosphere Ocean Interactions

### CONTACT

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### SELECT PUBLICATIONS

- › Motesharrei, S., *et al.* (2016). Modeling sustainability: Population, inequality, consumption, and bidirectional coupling of the Earth and Human Systems *National Science Review*.
- › Huang, B., *et al.* (2017). Reforecasting the ENSO events in the past 57 years (1958–2014). *Journal of Climate*, 30(19), 7669-7693.
- › Shukla, J., *et al.* (2010). Toward a new generation of world climate research and computing facilities. *Bulletin of the American Meteorological Society*, 91(10), 1407-1412.
- › Shukla, J., *et al.* (2009). Strategies: Revolution in climate prediction is both necessary and possible: A declaration at the world modelling summit for climate prediction. *Bulletin of the American Meteorological Society*, 90(2), 175-178.

### Research Focus

Scientific contributions include studies of monsoons, deforestation, and predictability of weather and climate. My research led to the notion of Predictability in the Midst of Chaos, which established that in spite of the chaotic nature of weather (the Butterfly Effect), there is a scientific basis for prediction of short-term climate variations. My colleagues and I are engaged in research on predictability and prediction of weather and climate from days to weeks, at regional and global spatial scales.

### Current Projects

- HMA-LDAS: Hyper-resolution High Mountain Asia - Land Data Assimilation System.
- Next-Generation Large-Scale Fractional Freeze/Thaw Analysis.
- Advancing hydrologic modeling in High Mountain Asia by merging and downscaling satellite-based precipitation products.
- Enabling Sustainability in High Mountain Asia: Mapping Permafrost Degradation using Satellite Data Assimilation.