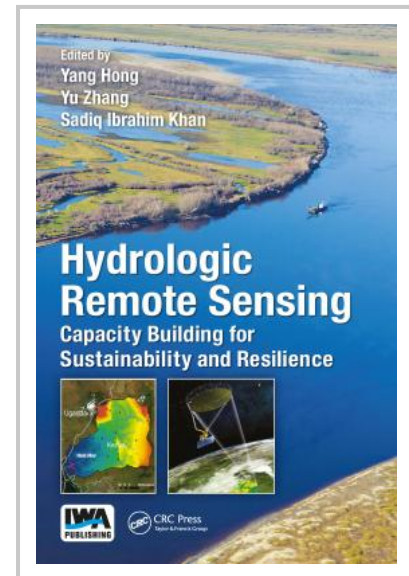


Hydrologic Remote Sensing: Capacity Building for Sustainability and Resilience

Environmental remote sensing plays a critical role in observing key hydrological components such as precipitation, soil moisture, evapotranspiration and total water storage on a global scale. As water security is one of the most critical issues in the world, satellite remote sensing techniques are of particular importance for emerging regions which have inadequate in-situ gauge observations. This book reviews multiple remote sensing observations, the application of remote sensing in hydrological modeling, data assimilation and hydrological capacity building in emerging regions.

- Presents an overview of the past, current and future remote sensing observations of the precipitation, soil moisture, evapotranspiration and total water storage
- Reviews the various applications of remote sensing in hydrological/land surface/climate modeling and Ensemble Square Root Filter (EnSRF) data assimilation
- Demonstrates techniques to help reduce devastating disasters triggered by hydrological hazards such as floods and landslides
- Explains how remote sensing, modeling and data assimilation can be utilized to improve societal resilience and environmental sustainability
- Shows how to create real-time flood and drought monitoring systems



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