

ON WATER, INFORMATION AND CONFLICTS

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With rapid progress in satellite imagery, increasingly connected electronic devices on the ground, and the analytical capability to leverage both information sources, we are on the brink of a data revolution in water resources. These new data sources allow us to see between traditional gauges in regions where in situ information is challenging to collect. We can also now see beyond the gauges to monitor water resources in physically inaccessible regions. First, I will discuss the challenge of mapping micro-hydropower potential for rural electrification. Focusing on Nepal, we developed a parsimonious stochastic process-based model to predict streamflow frequency in highly seasonal and sparsely gauged regions. We integrated the prediction model in a webGIS tool that leverages satellite data and the increasing penetration of mobile phone technology to collect and disseminate local infrastructure design information in remote communities. Second, I will discuss the potential for remote sensing to inform the management of coupled human-water systems in regions that are inaccessible due to war or political reclusiveness. I will present recent applications to war-torn Syria and to a highly strategic transboundary aquifer in the Arabian Peninsula.

Meet & Greet with refreshments will be held at 11:45

1310 Newmark Civil Engineering Laboratory (Yeh Center)

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