



## **New composite space-time models for studying climate-water-health systems using non Euclidean metrics**

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In this paper we propose new classes of composite space-time covariance models that can be used to represent integrated climate-water-health systems under conditions of uncertainty. We analyze the impact of the choice of the appropriate norm (non Euclidean space-time metrics in general) for estimation and prediction across space-time. The basic properties of space-time models are examined and their effects on the integrated systems are considered.