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**Climate Program Opening Workshop
August 21-25, 2017**

Lecture: *A Bird's-Eye View of Statistics for Remote Sensing Data*

Speaker: Noel Cressie

Abstract:

Remote-sensing data offer unprecedented opportunities to address Earth-system-science challenges, such as understanding the relationship between the atmosphere and Earth's surface using physics, chemistry, biology, mathematics, and computing. Statistical methods have often been seen as a hybrid of the latter two, so that a lot of attention has been given to computing estimates but far less to quantifying the uncertainty of the estimates. In my "bird's-eye view," I shall give a way to look at the problem using conditional probability models and three states of knowledge. Examples will be given of analyzing remotely sensed data of a leading greenhouse gas, carbon dioxide.