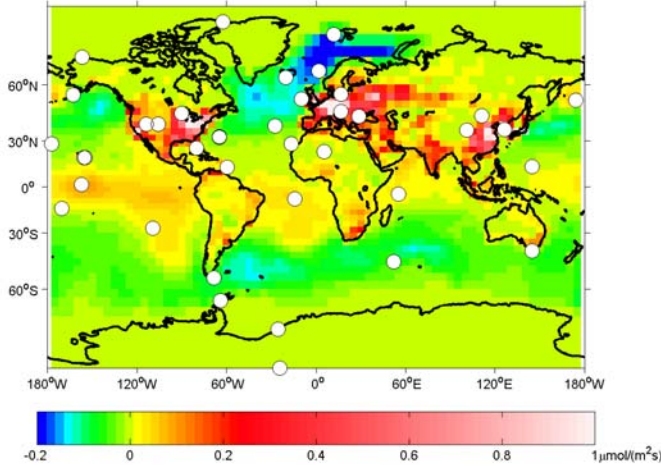


# CEE 570 / NRE 569

## INTRODUCTION TO GEOSTATISTICS

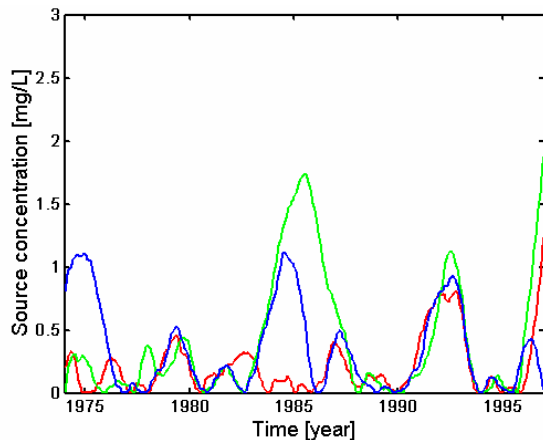
Geostatistics provides a set of statistical tools for incorporating spatial and temporal information in data analysis and processing. Because the majority of environmental parameters are correlated in time and/or in space, geostatistical analysis is critical to making optimal use of limited available information. This course will introduce the main geostatistical tools for describing and modeling spatial variability, and for interpolating environmental attributes at unsampled locations. Although the course will focus on interpolation (i.e. kriging) tools, simulation and inverse modeling methods will also be introduced. The emphasis will be on building a strong, practical foundation in applying standard tools, and providing information on how and when to incorporate more advanced analysis tools. Additional tools such as sampling design or the incorporation of different types of information (continuous, categorical) in prediction will



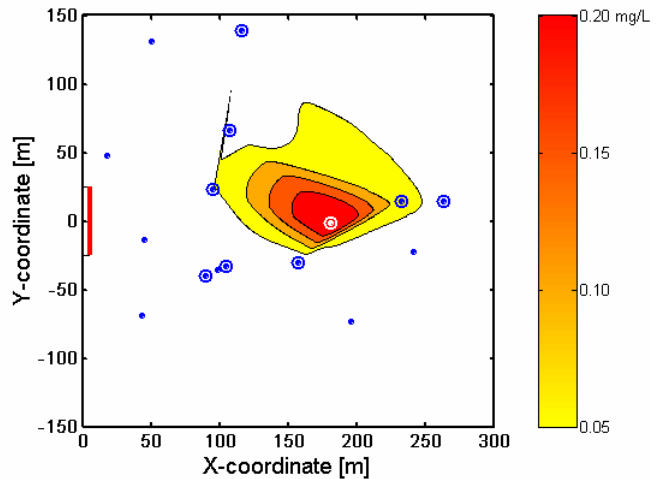
Estimating global carbon dioxide emissions using geostatistical inverse modeling

also be addressed. Examples used in the course will be drawn from a wide range of environmental applications. This course is intended for a multidisciplinary Masters and Ph.D. level audience, and especially for students working with spatially and/or temporally distributed data as part of their research. The course will involve a project selected by each student or group of students. The projects will focus on analyzing a dataset of particular relevance to each group.

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Geostatistical simulations of 1,4-dioxane release history from Gloucester Landfill



1,4-dioxane plume downgradient from Gloucester Landfill

CEE 570 / NRE 569 will be offered in Winter 2005-2006, Mondays and Wednesdays 3:30 – 5:00pm. For additional information, contact Prof. Anna Michalak at [anna.michalak@umich.edu](mailto:anna.michalak@umich.edu)