EnvirVis 2017

Workshop on Visualisation in Environmental Sciences

Barcelona, Spain
June 12 – 13, 2017

Workshop Chairs
Karsten Rink, Helmholtz Centre for Environmental Research - UFZ, Germany
Ariane Middel, School of Geographical Sciences and Urban Planning, Phoenix, AZ, USA
Dirk Zeckzer, Leipzig University, Leipzig, Germany
Roxana Bujack, Los Alamos National Laboratory, USA

Proceedings Production Editor
Dieter Fellner (TU Darmstadt & Fraunhofer IGD, Germany)

Sponsored by EUROGRAPHICS Association

DOI: 10.2312/envirvis.20172009

Published by the Eurographics Association
–Postfach 2926, 38629 Goslar, Germany–
in cooperation with
Institute of Computer Graphics & Knowledge Visualization at Graz University of Technology
and
Fraunhofer IGD (Fraunhofer Institute for Computer Graphics Research), Darmstadt

ISBN 978-3-03868-040-6

The electronic version of the proceedings is available from the Eurographics Digital Library at `http://diglib.eg.org`

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Preface

In recent years, research in environmental sciences has become more and more important as we are facing increasing problems concerning climate change, water scarcity, pollution of the environment and changes in biodiversity. Visualization of complex monitoring or remote sensing data, as well as results based on statistical analyses or simulation of natural phenomena such as groundwater processes or migration of animal species under changing natural conditions is a crucial step for a better understanding of the data. It is essential for discovering correlations and communicating research results to the public. The size of the data and the heterogeneity of the information are additional challenges for the simulation and subsequent understanding of research results. Besides applying established visualization techniques to geoscientific data, advances are also made with the help of high-performance computing, virtual reality environments as well as specialized hardware.

The EnvirVis workshop invites contributions with a broad application area in environmental research from both visualization and environmental sciences. Our goal is to raise awareness to the importance of visualisation in geosciences and to establish a forum for interdisciplinary discussions.

Karsten Rink, Ariane Middel, Dirk Zeckzer, and Roxana Bujack

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Keynote

Decoding the Mysteries of Color Perception

Bernice Rogowitz

Abstract

Environmental data and model outputs are often mapped into color to create visual representations. The choice of color scales, for example, can easily lead to misrepresentations of the features in the data. This is because color is not a single dimension, but three, and each of these three dimensions differs in how it communicates information about magnitude, spatial resolution and temporal variation. Color can also be used to highlight, segment, and direct attention, which can inform (or mis-inform!) the interpretation of the data. This talk demystifies color perception and provides concrete guidance for its use in environmental sciences.