



PLACES & SPACES &

M A P P I N G S C I E N C E

INTRODUCTION

Are you interested in seeing science from above? Curious to see what impact one single person or invention can have? Keen to find pockets of innovation? Desperate for better tools to manage the information flood? Or are you simply fascinated by maps?

This science exhibit is meant to inspire cross-disciplinary discussion on how to best track and communicate human activity and scientific progress on a global scale. It has two components: the physical part supports the close inspection of high quality reproductions of maps for display at conferences and education centers; the online counterpart at <http://scimaps.org> provides links to a selected series of maps and their makers along with detailed explanations of how these maps work. It also has the schedule of physical showings as well as information on the Places & Spaces Advisory Board. The exhibit is a 10-year effort. Each year, 10 new maps are added resulting in 100 maps total in 2014.

MAPS AND ADDITIONAL EXHIBIT ELEMENTS

1st Iteration (2005): The Power of Maps



2nd Iteration (2006): The Power of Reference Systems



3rd Iteration (2007): The Power of Forecasts



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SCHEDULE

2011 Physical Exhibits

Mar 1 - May 1

University of Michigan (Tim Utter).

Aug 1 - Oct 1

University of North Texas, Denton (Kathryn Masten).

2011 Poster Exhibits

Feb 8-11

Scientometrics Workshop, iConference, Seattle, WA.

Feb 17-21

AAAS Annual Meeting, Washington, DC.

Mar 5-6

Web Science Meets Network Science Workshop, Northwestern University.

Apr 12-14

Second Science Meets Network Science Workshop, Northwestern University, Chicago, IL.

2010 Poster Exhibits

Dec 2-3

NSF Workshop on the Science of Science Measurement, Washington, DC.

Dec 1-2

Mapping the Structure and Evolution of Sustainability Science Workshop, Washington, DC.

Nov 29-30

NSF Star Metrics Workshop, Washington, DC.

Nov 16-17

Royal Society Global Science Report Launch Conference, Kavli Royal Society International Center, London, England.

Nov 11-16

Cultural Dimensions of Innovation Conference, University College, Dublin, Ireland.

Ongoing Physical Exhibits

Dec 20, 2008 - Present

The Institute for Research Information and Quality Assurance, Bonn, Germany.

2007 - Present

Storm Hall, San Diego State University, CA (André Skupin).

Aug 14, 2007 - Present

WDG Architecture, Washington, DC.

Dec 20, 2006 - Present

NSF, Washington, DC (Deborah MacPherson & Janice M. Hicks).

Please visit <http://scimaps.org> for more information and dates.

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4th Iteration (2008): Science Maps for Economic Decision Makers



5th Iteration (2009): Science Maps for Science Policy Makers



6th Iteration (2010): Science Maps for Scholars

7th Iteration (2011): Science Maps as Visual Interfaces to Digital Libraries

8th Iteration (2012): Science Maps for Kids

9th Iteration (2013): Science Maps for Daily Science Forecasts

10th Iteration (2014): Telling Lies With Science Maps

The Illuminated Diagram (ID) display (below left) combines the incredibly high data density of two large prints — a map of the world and a map of science — with the flexibility of an interactive program driving a touch panel display and two projectors that illuminate the maps. Touching a science area on the lectern's touch screen leads to an illumination of the origin of all papers on the selected scientific topic in the geographic map. The intensity with which a geographic area glows is a representation of its contribution to ongoing research in the topic area. Conversely, touching a city leads to an illumination of all the scientific areas that are studied there on the topic map.

The WorldProcessor globes (below right) bring dimensionality to three diverse views of scientific inquiry and global diffusion. Foreign U.S. patent holders are represented in a relationship scaled by productivity; worldwide patent grants are plotted on a global scale through history, and geomorphic representations of areas of exceptional innovation and productivity; finally, science itself is shaped into sculptural form that is generated from the proximity of scientific fields of research to each other.



Hands on Science Maps for Kids (below). If science always seemed to be “above” understanding, here’s an interactive way for children and adults to view science from above. See where science gets done and what each area of science means to the other. One map shows our world and the places where science is practiced or researched. The other shows major areas of science and their complex interrelationships. Both base maps also appear in the Illuminated Diagram display (above). Watercolor paintings by Fileve Palmer were digitally added by Elisha Hardy to make different continents as well as different areas of science more tangible. Children and adults alike are invited to help solve the puzzle by placing major scientists, inventors, and inventions at their proper places.

