Geo Web Services and risk communication. The "Mountain Risks" experience

Simone Frigerio (1), Cees van Westen (2), Jean-Philippe Malet (3), Thomas Glade (4)

(1) National Research Council, Research Institute for Hydro-Geological Protection, Padua - Institute for the Dynamic of Environmental Processes, Milano, Italy – (simone.frigerio@irpi.cnr.it)
(2) Faculty of Geo-Information Science and Earth Observation (ITC) - University of Twente. Enschede, The Netherlands
(3) School and Observatory of Earth Sciences, Institute of Earth Physics, CNRS - University of Strasbourg, Strasbourg, France
(4) Department of Geography and Regional Sciences, University of Vienna, Vienna, Austria

Consiglio Nazionale delle Ricerche

irpi — Istituto di Ricerca per la Protezione Idrogeologica · IDPA · universität wien · ENGAGE Geomorphological Systems & Risk Research · ITC UNIVERSITY OF TWENTE. FACULTY OF GEO-INFORMATION SCIENCE AND EARTH OBSERVATION · CNRS EOST Ecole et Observatoire des Sciences de la Terre · Image Ville Environnement · UNIVERSITÉ DE STRASBOURG

Mountain Risks: 2007-2010 — A Marie Curie Research & Training Network
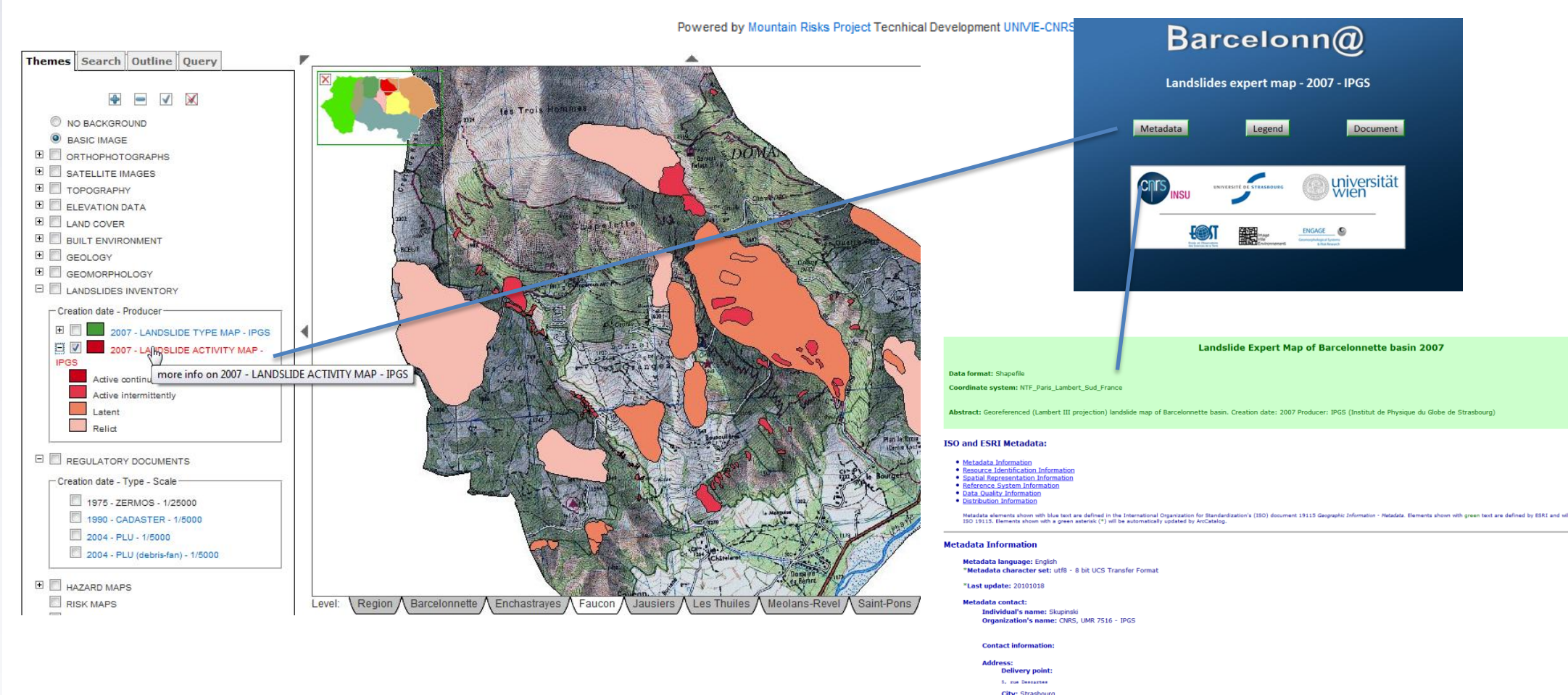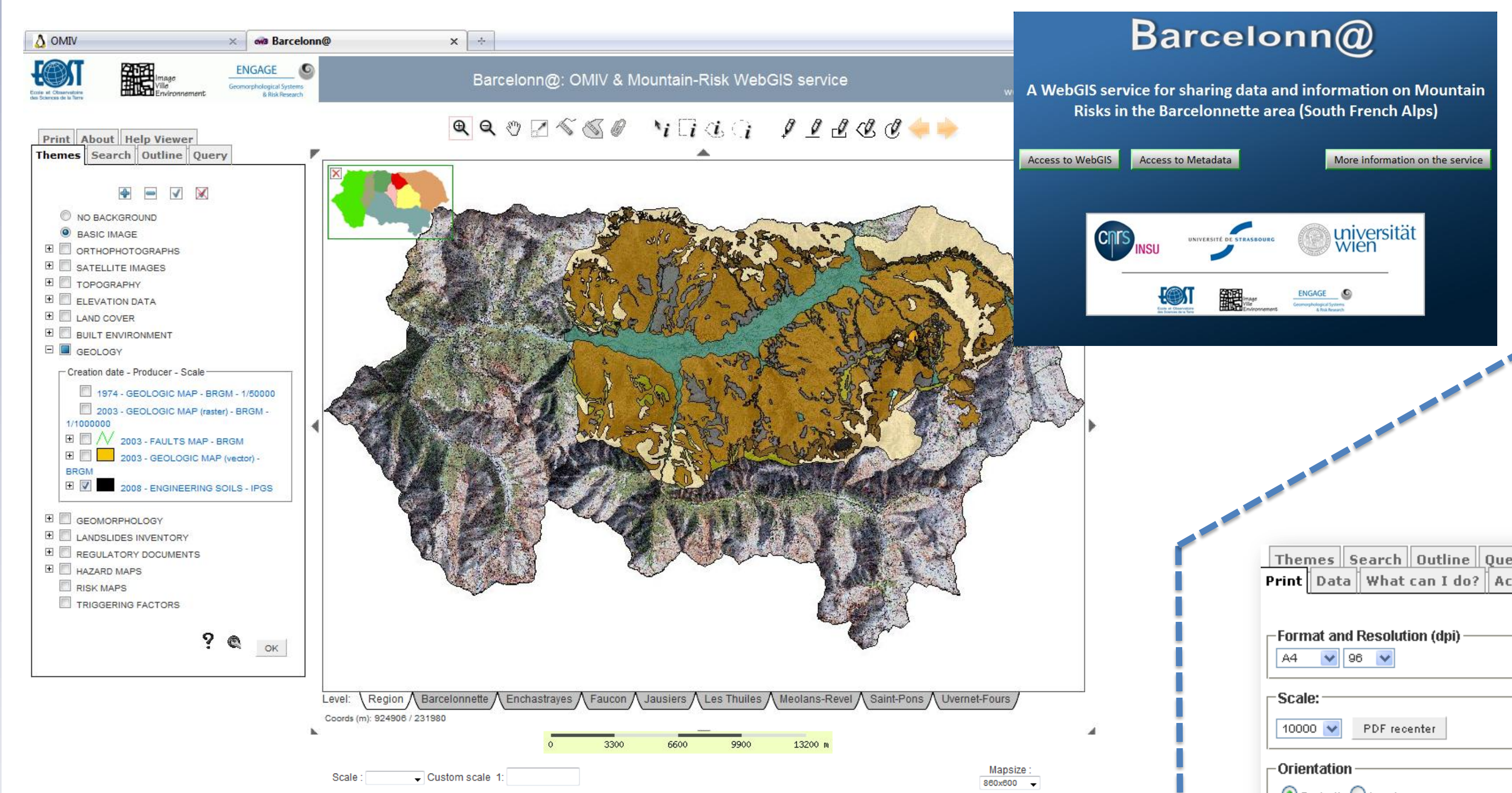
http://mountain-risks.eu

OVERVIEW

The risk communication is a critical but primary branch of risk governance, considering the transfer of knowledge as an essential component of disaster resilience. Through the EU funded "Mountain Risk" project, some Web frameworks have been designed for different aims . They cope with two common methodological and technical steps:
- ✓ A hierarchical database at municipality or regional level using different data switches.
- ✓ An open-source web frame, designed by CartoWeb 3 with MapServer engine and different customized plug-ins for Web Services.

Barcelonn@

- ▪ Geo-information in multi-source database
- ▪ Why a common front-end solution?
- ✓ Multiscale, multi-source and easy-to-use interface on processes, local elements and administrative map
- ✓ Sharing, downloading, training, educate with Web services
- ✓ Cooperation scientists – practitioners – stakeholders
- ✓ Flexible data upgrade (POSTGRESQL) and communication of results

Geo Web Services:
- • WebRiskCity
- • Barcelonn@
- • MultiRISK
- • Historic@

Links:
- • OMIV Barcelonn@: http://eost.u-strasbg.fr/omiv/main-page.html

Publications:
- • Frigerio, S., Skupinski, G., Puissant, A., Malet, J.-P., Rose, X. 2010. An open source platform for sharing information and communicating about risks: the Barcelonnette Basin (South French Alps) as pilot study. In: Malet, J.-P., Glade, T., Casagli, N. (Eds): Proceedings of the International Conference 'Mountain Risks: Bringing Science to Society', Florence, 24-26th November 2010, CERG Editions, Strasbourg, France, ISBN 2-95183317-1-5, 477-483.
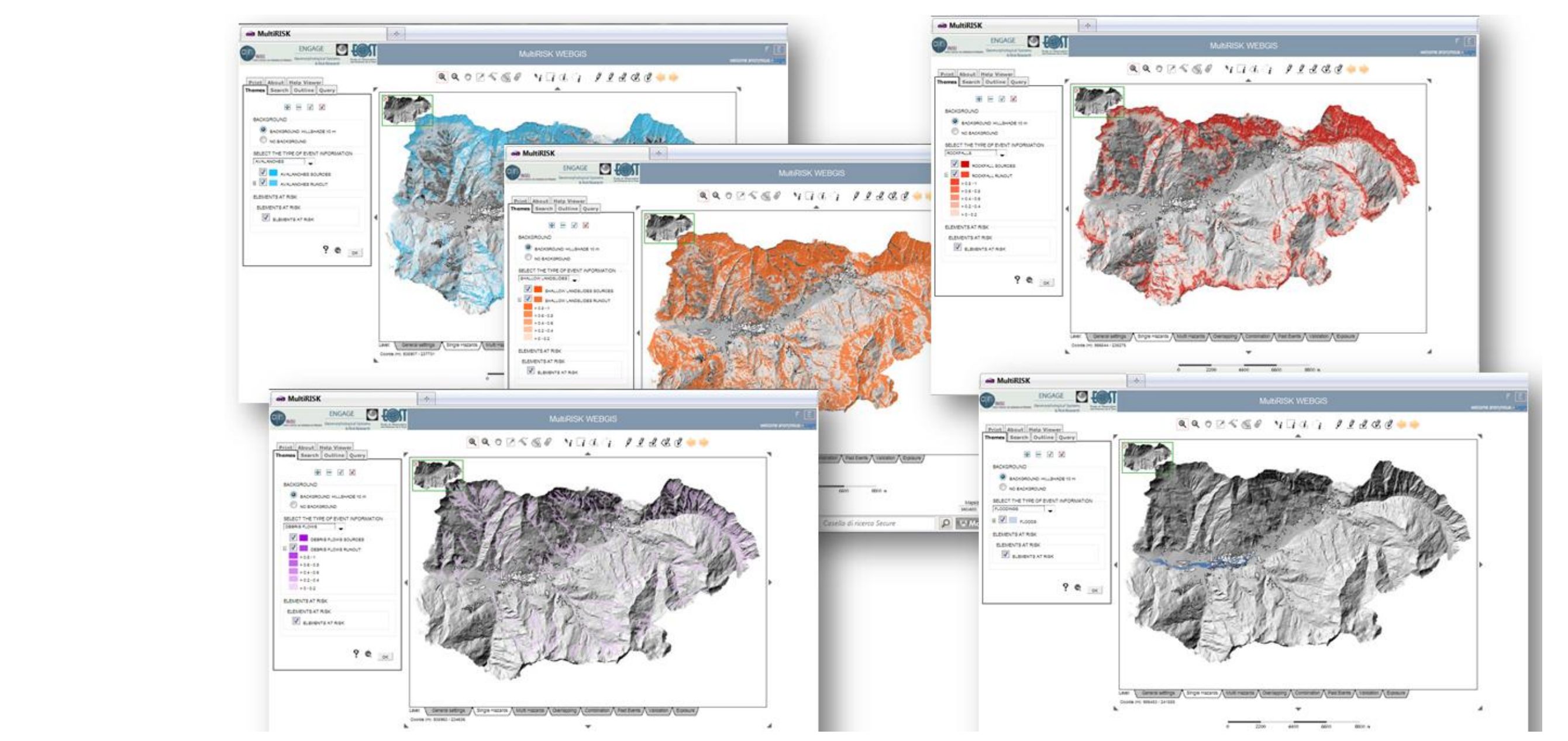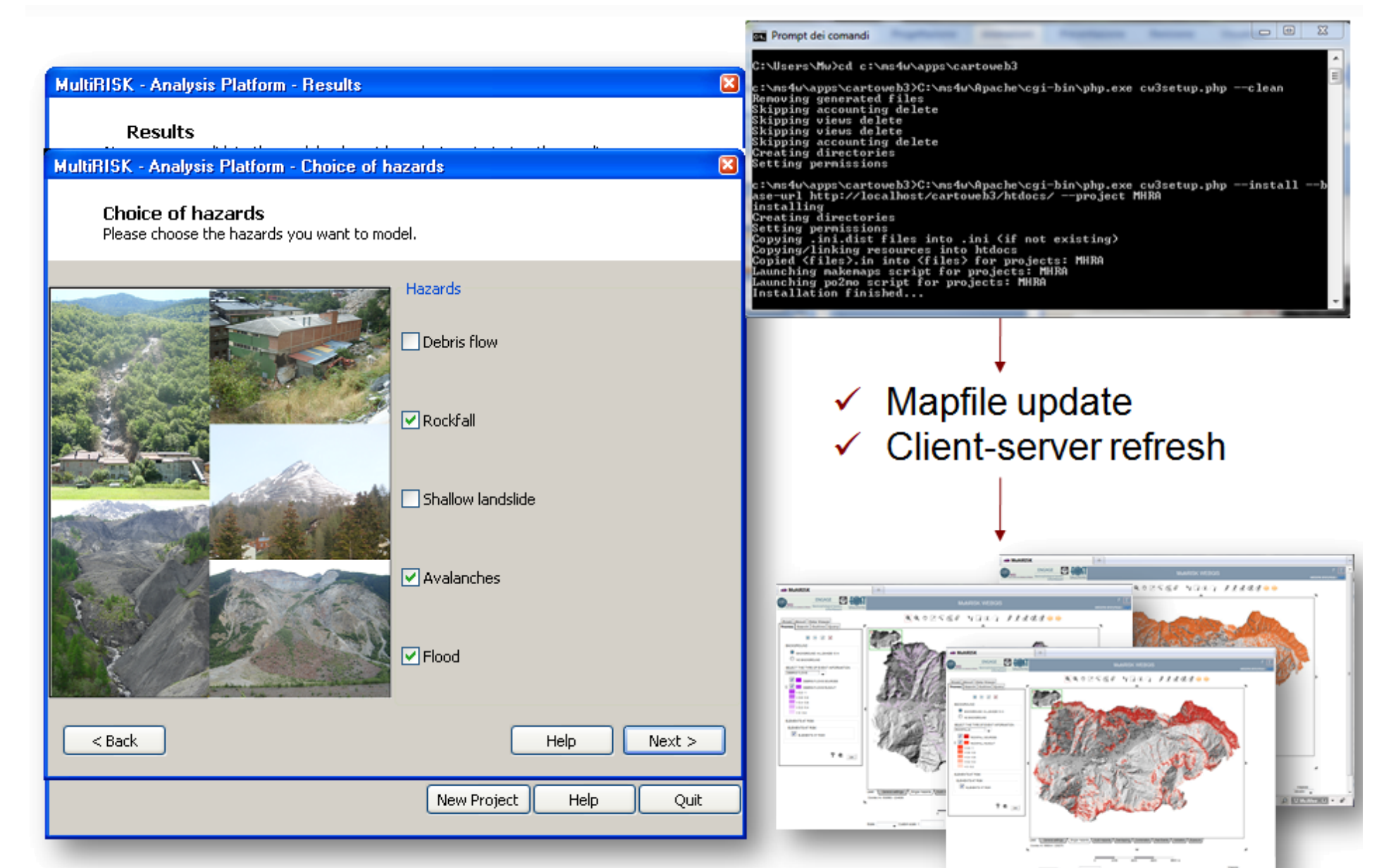
WebRiskCity
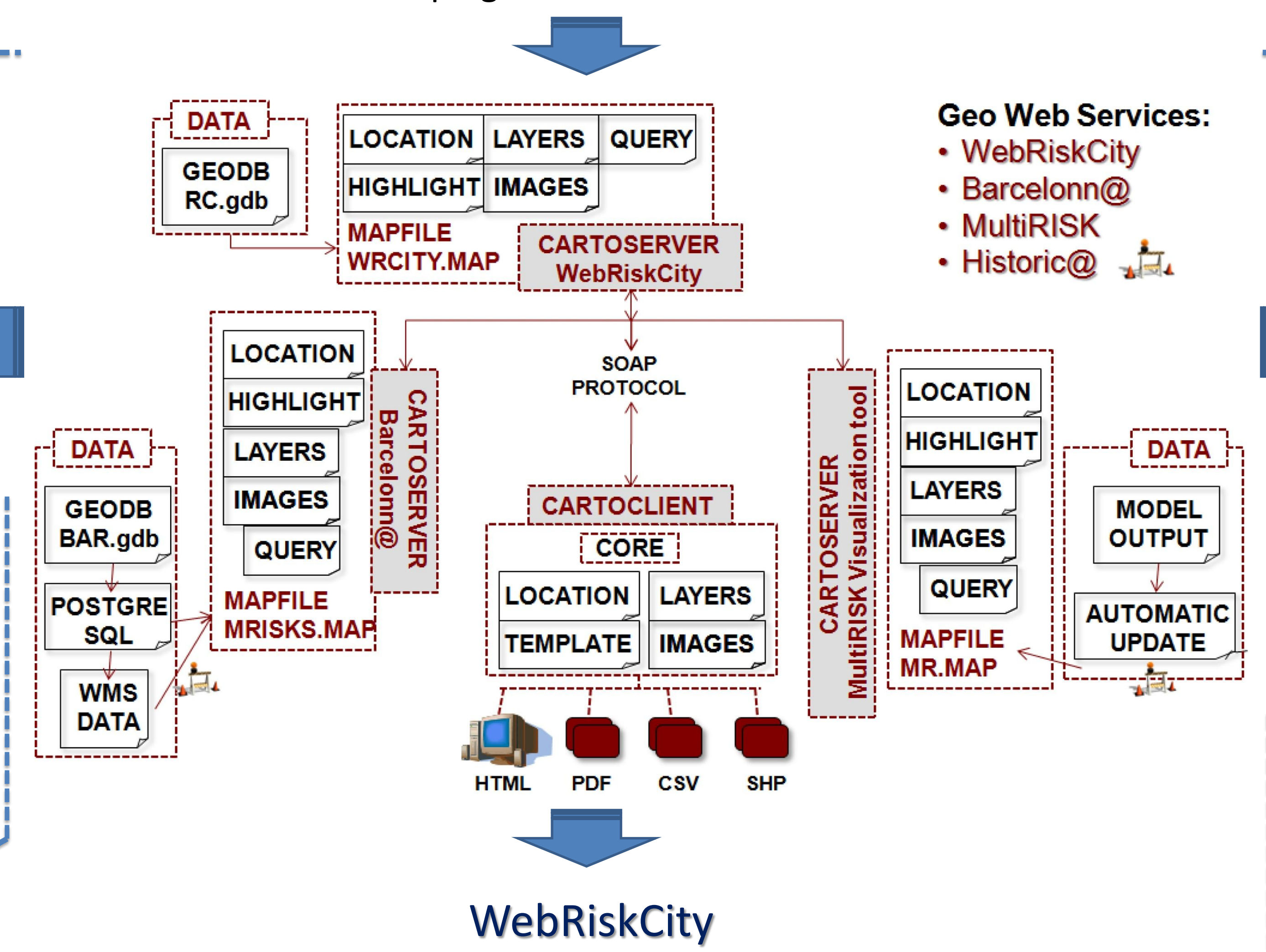
- ▪ Geo-information science in multi-hazard training
- ▪ Why a Distance Education Course?
- ✓ Theoretical background for multi-hazard risk assessment
- ✓ Guiding through spatial data requirements
- ✓ Language and approach for transfer of knowledge and awareness
- ✓ Translate scientific activities to a broader audience
- ✓ Virtual classmates and step-by-step instructions
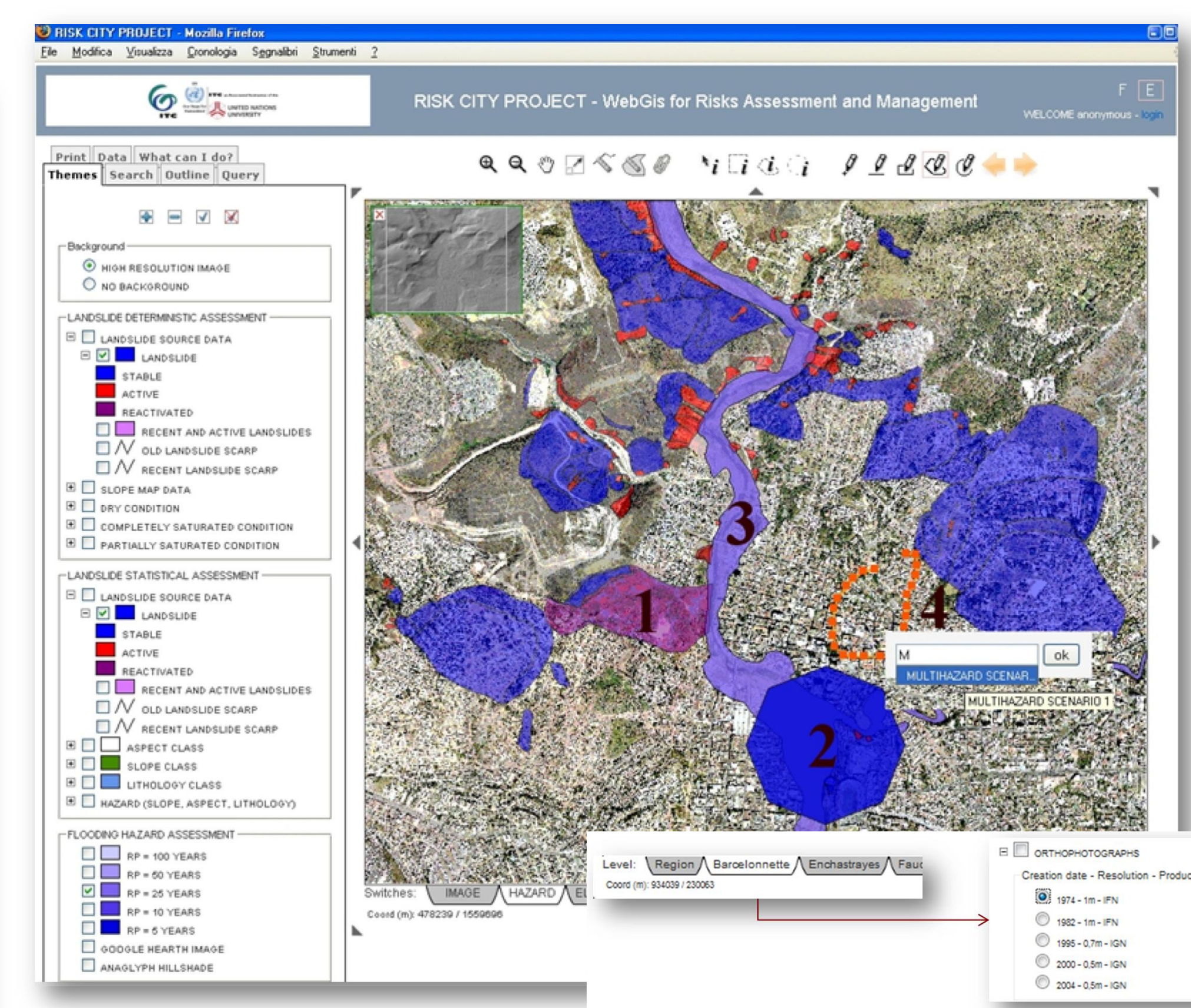
MultiRISK

- ▪ Geo-information for a multi-hazard framework
- ▪ Why is a web-service component needed?
- ✓ Visualisation of multi-dimensional MultiRISK modelling output
- ✓ Automatic upgrade solution of MultiRISK components
- ✓ Clusters by logic criteria
- ✓ Dynamic user-friendly interface

- ✓ Mapfile update
- ✓ Client-server refresh

Publications:
- • Kappes M.S., Gruber K. , Frigerio S., Bell R., Keiler M., Glade T. (2011). A Medium/Regional-Scale Multi-Hazard Risk Analysis tool: the MultiRISK Platform. Natural Hazard and Earth System Science (in submission).

Links:
- • Multi-Hazard Risk Assessment: http://www.itc.nl/unu/dgim/
- • WebRiskCity: http://geoserver.itc.nl:8181/cartoweb3/WebRiskCity/WebRiskCity.html

Publications:
- • Frigerio, S. and van Westen, C.J. (2010). RiskCity and WebRiskCity: data collection, display and dissemination in a multi - risk training package. Cartography and Geographic Information Science, 37 (2010)2, pp. 119-135.
- • ACSM Bulletin: http://www.webmazine.org/issues/current/index.shtml