Who paid for RAPID?

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Introduction

Several research grants have contributed to the development of RAPID. The funding agencies and the investigators that have supported my work are summarized here, and are very gratefully acknowledged!

Sources of funding that supported the development of RAPID

PhD dissertation research

Jun 2006 – Aug 2007: preliminary research on macro-scale river modeling and on Geographic Information systems. Paid for by:

- The U.S. National Science Foundation under the project EAR-0413265: CUAHSI Hydrologic Information Systems (PI: David R. Maidment)

Sep 2007 – Feb 2008: core RAPID development, matrix-based Muskingum method adapted for use on parallel computers, automated parameter estimation, and application to the SAFRAN-ISBA-MODCOU hydrometeorological model. Paid for by:

- The Hydrologic Systems and Reservoirs team at the Center for Geosciences of Ecole des Mines de Paris (Mines Paristech), France (team leader: Patrick Goblet)
- The French Agence Nationale de la Recherche under the Vulnérabilité de la nappe du Rhin (VulNaR) project (Co-I : Florence Habets)
- The French Programme Interdisciplinaire de Recherche sur l'Environnement de la Seine (PIREN-Seine) (Co-I : Florence Habets).

Jan 2008 – Jun 2009: adaptation of the RAPID code to utilize the river networks from the National Hydrography Dataset and runoff from the Noah-MP land surface model. Paid for by:

- The U.S. National Aeronautics and Space Administration under the Interdisciplinary Science Project NNX07AL79G (PI: Zong-Liang Yang)

Sep 2008 – Aug 2009: Computing equipment and travel funds to pursue existing collaborations and generate new RAPID research partnerships. Paid for by:

- The American Geophysical Union under a Horton (Hydrology) Research Grant (PI: Cédric H. David).

Postdoctoral research

Sep 2009 – Aug 2011: enhancement of the RAPID code (input/output capabilities and parallel computing performance) to allow for larger modeling domains. Paid for by:

- The U.S. National Aeronautics and Space Administration under the Interdisciplinary Science Project NNX07AL79G (PI: Zong-Liang Yang)

Sep 2011 – Aug 2012 testing of RAPID with state-of-the-art, off-the-shelf national datasets, in order to investigate the feasibility of real-time continental-scale modeling. Paid for by:

- The U.S. National Aeronautics and Space Administration under the Interdisciplinary Science Project NNX11AE42G (PI: Zong-Liang Yang)

UCCHM Research

Oct 2012 – Aug 2014: application of RAPID to the State of California and further improvement of parallel performance. Paid for by:

- The University of California Office of the President Multicampus Research Programs and Initiatives, through the University of California Center for Hydrologic Modeling (PI: James S. Famiglietti).

JPL Research

Sep 2014 – current: applications of RAPID on continental to global scales, accounting for water diversions, parallel performance, and computation of river width and height. Paid for by:

- The California Institute of Technology, Jet Propulsion Laboratory, through the Strategic Research and Technology Development fund Water Initiative (PI: James S. Famiglietti).

Further information

RAPID website: http://rapid-hub.org/

RAPID source code: https://github.com/c-h-david/rapid/