



WATER RESOURCES
IMPACT

March 2009 | Volume 11 | Number 2

**MANAGING
WATER RESOURCES
DEVELOPMENT IN A
CHANGING CLIMATE**

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MANAGING WATER RESOURCES DEVELOPMENT IN A CHANGING CLIMATE

Michael R. Lilly ~ Guest Associate Editor
mlilly@gwscientific.com

Climate change has captured public attention in recent years. This is particularly evident in the water resources community where we are seeing climate change come into watershed assessments, engineering design, and environmental requirements. Articles in this issue demonstrate the range of discussions taking place across the country on water resources. These topics represent a cross-section of presentations planned for AWRA's spring specialty conference in Anchorage, Alaska.

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... **Michael R. Lilly**

FEATURE ARTICLES

- 6 **Warmer Winters and Warmer Nights: A Mixed Blessing ...** **Ed Berg**

Climate changes and ecosystems responses can be difficult to understand. What differences do changes make between day and night conditions? This article presents a discussion about some of the various ecosystem processes that work at these timescales.

- 8 **Integrated Watershed Scale Response to Climate Change for Selected Basins Across the United States ...** **Steven L. Markstrom and Lauren E. Hay**

As the questions of climate change has moved from "if" it is happening to "how" it is changing our environment, it has become important to have regional assessment designs to allow us to better understand how changes are occurring now and in the future. The authors are using the Precipitation Runoff Modeling System (PRMS) to assess the potential effects of long-term climate change on 15 basins representing different hydroclimatic regions in the United States.

- 11 **Climate Change and Transboundary Water Resources ...** **Chundun Prakash Khedon, Rosario Sanchez, and John R. Giardino**

Management of water resources at international boundaries can be complex and involves the mixing of laws and management approaches from many different perspectives. The additional complexity of climate change will likely change some of the ways people look at managing water at international boundaries, as well as whether we have to go back and evaluate past treaties and management practices.

- 14 **Adapting to Climate Change Through Sustainable Design and Reduced Water Demand ...**
Jack Hébert and Michael Lilly

Northern communities in Alaska are dealing with both extreme environments and rapid changes in climate conditions. This article shows how some simple methods of reducing water use may help reduce the impacts of future water supply variability. An adaptive approach related to water supply and uncertainty involving demand reduction is discussed.

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**A Bi-Monthly Publication of the
AMERICAN WATER RESOURCES ASSOCIATION**

AMERICAN WATER RESOURCES ASSOCIATION
 4 West Federal Street • P.O. Box 1626
 Middleburg, VA 20118-1626
 (540) 687-8390 / Fax: (540) 687-8395
 E-Mail: info@awra.org • Homepage: www.awra.org

EDITOR-IN-CHIEF**N. EARL SPANGENBERG**

College of Natural Resources
 University of Wisconsin-Stevens Point
 Stevens Point, WI 54481
 (715) 346-2372 • Fax: (715) 346-3624
 E-Mail: espangen@uwsp.edu
 (Support for Dr. Spangenberg is provided by the
 College of Natural Resources
 University of Wisconsin-Stevens Point)

TO PLACE AN AD IN THIS PUBLICATION CONTACT**CHARLENE E. YOUNG**

(256) 650-0701 • Fax: (256) 650-0701
 E-Mail: charlene@awra.org

Water Resources IMPACT is owned and published bi-monthly by the American Water Resources Association, 4 West Federal St., P.O. Box 1626, Middleburg, Virginia 20118-1626, USA. The yearly subscription rate is \$80.00 domestic and \$95.00 for international subscribers. For the International Priority Shipping Option, add \$50.00 to the subscription rate. Single copies of *IMPACT* are available for \$15.00/each (domestic) and \$20.00/each (international). For bulk purchases, contact the AWRA Headquarters office.

IMPACT is a magazine of ideas. Authors, Associate Editors, and the Editor-In-Chief work together to create a publication that will inform and will provoke conversation. The views and conclusions expressed by individual authors and published in *Water Resources IMPACT* should not be interpreted as necessarily representing the official policies, either expressed or implied, of the American Water Resources Association.

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POSTMASTER: Send address changes to *Water Resources IMPACT*, American Water Resources Association, 4 West Federal St., P.O. Box 1626, Middleburg, VA 20118-1626. Copyright © 2009 by the American Water Resources Association.

• VOL. 11 • NO. 2 • MARCH 2009 •
 ISSN 1522-3175

ASSOCIATE EDITORS**FAYE ANDERSON**

(fayeanderson23@gmail.com)
 Graduate School, USDA • Washington, D.C.

ERIC J. FITCH

(fitche@marietta.edu)
 Marietta College • Marietta, Ohio

MICHELLE HENRIE

(michelle@mhenrie.com)
 Michelle Henrie | Attorney • Leed AP
 Albuquerque, New Mexico

JONATHAN E. JONES

(jonjones@wrightwater.com)
 Wright Water Engineers • Denver, Colorado

CLAY J. LANDRY

(landry@waterexchange.com)
 WestWater Research • Boise, Idaho

RICHARD H. MCCUEN

(rhmccuen@eng.umd.edu)
 University of Maryland • College Park, Maryland

LAUREL E. PHOENIX

(phoenixl@uwgb.edu)
 University of Wisconsin • Green Bay, Wisconsin

ADDITIONAL CONTRIBUTORS**TECHNICAL DIRECTOR****RICHARD A. ENGBERG**

(dick@awra.org)
 AWRA • Middleburg, Virginia

LEGAL CORRESPONDENT**J. BRIAN SMITH**

(brian@jones-smithlaw.com)
 Jones & Smith, LLC • Albuquerque, New Mexico

An Observation From the Editor-in-Chief ... This month's issue of *Water Resources IMPACT* got away from us. Problems with authors' schedules and Conference scheduling ended up putting us behind the eight-ball so that we could not get a completed issue out in a timely manner – hence the issue you hold in your hand. This will not happen again. From now on, your editorial board will have a “back-up” issue prepared so that scheduling problems will not interfere with the timely distribution of our bi-monthly issues. I apologize for the unacceptable delay for this issue, and I assure you that you can expect to receive your *IMPACT* “on time” in the future.

N. Earl Spangenberg

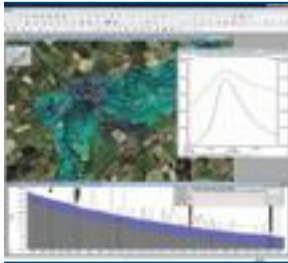
Front Cover ... Photo is of Portage Creek that flows from Portage Lake into Turnagain Arm, the bay that is just south of Anchorage heading toward Seward – Courtesy of Gary Whitton, Fairbanks, Alaska.



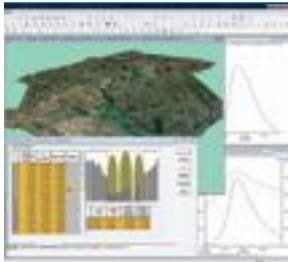
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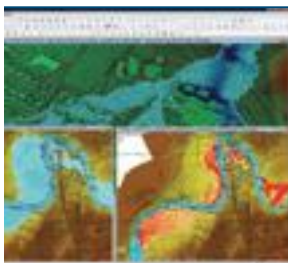
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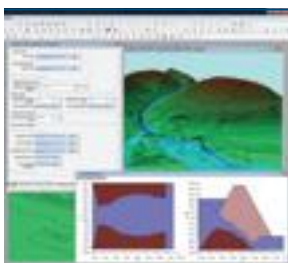
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modeling**



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**InfoWorks 2D
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