

A SEARCHABLE DIGITAL ARCHIVE OF ISSW PROCEEDINGS IS AVAILABLE ONLINE!

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Abstract

Have you wished you could look at an ISSW Proceedings volume you missed? Is there an ISSW Proceedings article you wish you could look at or a particular subject for which you would like to see all the ISSW papers? There is now an online archive of all ISSW Proceedings built by the Montana State University Library Digital Collections and the ISSW Steering Committee. The digital archive, on a Montana State University server, is accessed through the ISSW Steering Committee site at www.issw.net or at <http://arc.lib.montana.edu/snow-science>. The Proceedings are searchable by keyword, author, or title. The archive contains abstracts and papers from 1976-2010.

The idea for the digital archive was first presented to the ISSW Steering Committee in 2002. A permanent ISSW website was launched on the avalanche.org server in 2006 and digital versions of the 2002, 2004, and 2006 Proceedings and historical summaries were made available online. The name "International Snow Science Workshop" was Servicemarked in 2008. Work continued in 2008 and 2009 to find an organization to help transfer the Proceedings to digital format and create a database. Discussions between the Earth Sciences Department and the Montana State University Library regarding digital conversion and a physical location for the archive culminated in an agreement with ISSW in 2010. Donated time from numerous volunteers and funds from the American Avalanche Association, the Canadian Avalanche Association and the ISSW Steering Committee led to a completed archive in 2011 as well as commitments for online access to future Proceedings.

KEYWORDS: ISSW, international, snow, science, workshop, proceedings, online, website, avalanche

1. INTRODUCTION

This paper announces and describes the online availability of all International Snow Science Workshop (ISSW) Proceedings. The history of the development of the idea is described as are the various features of the websites and search engine.

2. HISTORY LEADING UP TO THE ONLINE PROCEEDINGS

The idea for the online digital Proceedings archive has been an initiative of the International Snow Science Workshop (ISSW) Steering Committee for many years. The idea was first proposed to the Steering Committee by the Secretary, Rich Marriott, in 2002. In 2004, the Steering Committee approved formal Servicemarking (comparable to Trademarking) of the name International Snow Science

Workshop and asked Carol Peck and Bob Comey to explore a permanent website and papers online in conjunction with the Jackson Hole meeting. The Servicemark was achieved in 2006. Rich Marriott, Rod Newcomb, and Craig Sterbenz (2006 ISSW Chair) worked with Carol Peck to add digital versions of the 2002 and 2004 and 2006 Proceedings. By 2007, digital versions were up on the web page hosted by American Avalanche Association at avalanche.org. In 2008, Rich Marriott provided funds to establish www.issw.info as a permanent URL for the ISSW Steering Committee. He was commissioned to find funding for database development and hosting costs and a permanent site for the Proceedings to reside. Work on this task continued and by 2009 Hosting of the Steering Committee site moved to ISSW2008.com, but the Proceedings remained on the avalanche.org website. Colin McCubbin (ISSW 2008 Webmaster) took on the task of volunteer webmaster, and ISSW 2009 contributed funds to pay for webmaster work to

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improve the site and move it to a permanent physical server.

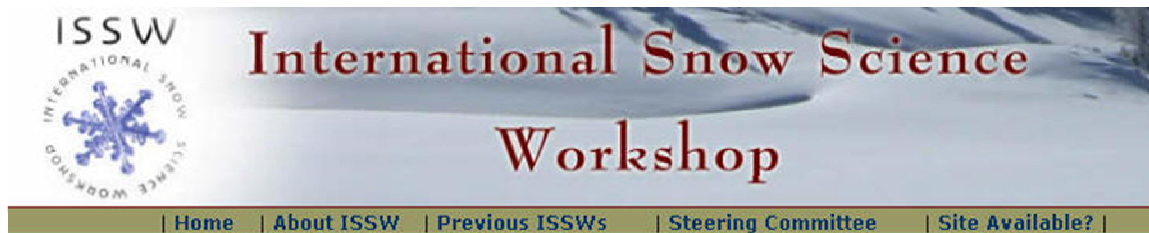
Independently, in 2008, Steve Custer, then Head of Earth Sciences at Montana State University (MSU), attended an annual meeting with the Earth Sciences Library Liaison and Montana State University Library staff. The Dean of Libraries, Tamara Miller, asked if there were any initiatives the Department felt were important. Steve responded that he had many student requests for ISSW papers. His collection was limited, the papers were difficult to obtain and a collection of these papers would be valuable. Furthermore, in 1982, at the third workshop for snow and avalanche scientists from around the world in Bozeman, MSU Earth Scientist John Montagne first used the International Snow Science Workshop title and the Merging of Theory and Practice theme (Montagne and Shearer, 1994, Marriott, 2006). There was a rich history of avalanche research at MSU in the Earth Sciences, Civil, and Mechanical Engineering Departments. Students in the Snow Science Program, as well as graduate students and faculty researchers in other programs needed access to the Proceedings. This made MSU a logical place to collect these papers and make them available to all. The Dean said this kind of initiative was appropriate for the MSU Library to support and that a digital approach was the best option. Sheila Bonnard, the Earth Sciences liaison librarian, took up the idea, discussed it with the digital initiatives librarian Jason Clark, and kept forward pressure on the initiative. In 2009, she suggested that ISSW should be contacted. The Library verbally committed resources and personnel to the project to overcome the high cost of conversion of the Proceedings to digital format and provide a physical location for the archive.

In March, 2010 Rich Marriott was contacted and he polled the Steering Committee regarding the idea. The vote was unanimous in favor of hosting the digital collection at MSU because the Library staff had extensive experience in collection development, digital conversion, and serving materials to the public. By August, 2010 a Memorandum of Understanding was signed between ISSW and Montana State University Library. The data would be linked from the

ISSW Steering Committee website to MSU. Users could also go directly to MSU. A complete collection of Proceedings was achieved by combining materials from MSU and from Rich Marriott's collection. Fortuitously, in August, 2010, the American Avalanche association notified Rich that they would no longer be able to serve the ISSW Proceedings. Rich coordinated with Jason Clark (MSU), and Janet Kellam (President of AAA) allowing Colin McCubbin (ISSW web master) to move the Proceedings to the same server as the ISSW Steering Committee site. MSU delivered the first prototype of the database from the 2008 meeting to the Steering Committee in September, 2010. In November 2010, Dan Judd donated www.issw.net to the steering committee for use as a permanent ISSW website. Jason Clark at MSU estimated the project cost to be \$7,500 but MSU contributed resources and personnel which reduced the ISSW cost to between \$2,500 and \$3,000. Rich secured funding for the digital Proceedings archive from ISSW, the Canadian Avalanche Association and the American Avalanche Association. By September, 2011, all the Proceedings were up on the ISSW web page and at MSU. ISSW and the MSU Library plan to continue their collaboration into the future so that after each meeting you can anticipate that the proceedings will be added to the archive.

3. THE ONLINE SYSTEM

The web site <http://www.issw.net/> has information about ISSW as well as a chronological listing of all historic Proceedings volumes (Fig. 1). If you click on a date such as 2010 Squaw Valley, CA you are taken to that year's proceedings and meeting website (Fig. 2). If you click on the 2010 website you will see the original web page for that meeting. If you click on the Proceedings link you see the papers from that meeting as well as a link titled "Back to Home Page" which will take you to the MSU Library ISSW Digital Database (Fig. 3). The MSU web page also has the Proceedings linked by year similar to the ISSW web page (Fig. 4). On the MSU home page, which is also at <http://arc.lib.montana.edu/snow-science/index.php>, you can search all Proceedings (not just the year of interest) by keyword, subject, name, or title. There are two ways to search. One is to type a keyword,



The International Snow Science Workshop (ISSW) exists to facilitate the interdisciplinary exchange of ideas and experiences between snow science researchers and practitioners. The motto of the International Snow Science Workshop is "A Merging of Theory and Practice". ISSW hosts a biennial conference in the western North American mountain region that brings together researchers and practitioners from all over the world. In 2009, the first European ISSW was held in Davos, Switzerland and additional European ISSWs are planned.

The next ISSW Conference, ISSW 2012 will be held in Anchorage, AK, from the 16th September to the 21st September 2012. Visit the ISSW2012 website

Future ISSWs have now been approved for Grenoble, France (with an excursion to Chamonix): October 7 to October 11th 2013, (A .pdf poster is available, [click here](#)) and Banff, Alberta, Canada: September 28 - Oct 3, 2014. Please send any questions to: isswsteering@gmail.com

Previous ISSWs And ISSW Proceedings

Summaries of the history of each ISSW are provided below, including archived versions of their websites from 1996 onward. All ISSW Papers and Abstracts are now available online. The ISSW Proceedings database project was a joint development effort of Montana State University Library Digital Collections and the ISSW Steering Committee. Additional funding for the Project was provided by the Canadian Avalanche Association and the American Avalanche Association. [Click here for the ISSW Proceedings Database.](#)

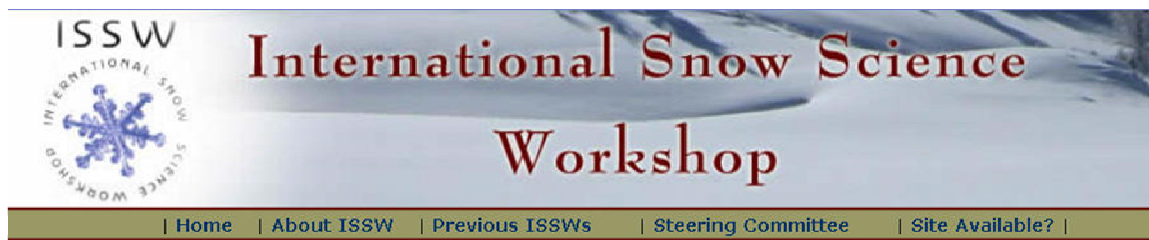
- [2010 Squaw Valley, CA](#)
- [2009 Davos, GR, Switzerland](#)
- 2008 Whistler, BC
- 2006 Telluride, CO
- 2004 Jackson, WY
- 2002 Penticton, BC
- 2000 Big Sky, MT
- 1998 Sunriver, OR
- 1996 Banff, Alberta
- 1994 Snowbird, UT
- 1992 Breckenridge, CO
- 1990 Big Fork, MT
- 1988 Whistler, BC
- 1986 Lake Tahoe, CA
- 1984 Aspen, CO
- 1982 Bozeman, MT
- 1980 Vancouver, BC
- 1976 Banff, Alberta

Click on a workshop for its Proceedings

Click here to get to the MSU database

For Information about ISSW contact: isswsteering@gmail.com

Figure1: Screen shot of the ISSW web page. Note the ISSW meetings are listed chronologically, and there is a link to the MSU database.



**ISSW 2010: October 17th - October 22nd
At the 'Resort at Squaw Creek' Squaw
Valley, CA**

Click on Proceedings

2010 Proceedings (Papers now hosted on-line at Montana State University)

Click on Meeting Site

2010 Web Site

Russ Johnson; Chairman

Preliminary: 920+ participants; 60 papers; 17 countries

ISSW returned to Squaw Valley 24 years after its first visit in 1986. The Workshop was held at the Resort at Squaw Creek which comfortably accommodated the largest ISSW to date with over 920 paid registrants - with 98 registrants from outside of North America.

ISSW continued to cover a broad range of practical and research topics. 60 oral presentations and over 90 posters included among others: investigations of how skiers trigger slabs, analysis of ECT and PST tests, avalanche mitigation, strength of snow anchors for rescue, analysis of snow and weather measurements, stability tests, effects of climate change on snow and avalanches, education and risk management. The field day on Wednesday, which had near perfect fall weather, included an Historic tour of Alpine Meadows and Squaw Valley Avalanche Paths, "A history of the Avalauncher" presentation by Pete Peters, hiking, biking and golf opportunities.

ISSW 2010 had 128 female registrants which led to another successful Avalanche Divas Social gathering. Over 430 people attended the Thursday night banquet where speakers were Wes Schimmelpfenning and Andrew McLean.



2010 T-Shirt

For Information about ISSW contact: isswsteering@gmail.com

Figure 2: Screen shot of what you would see if you clicked on the 2010 Squaw Valley, CA link in Fig. 1.

[Digital Collections Home](#) | [Mobile](#)

M International Snow Science - Montana State University Library

Your search for Workshops "**International Snow Science Workshop Proceedings 2010**" resulted in **165** record(s).

[Back to Home Page](#) ← **Link to the MSU ISSW Proceedings Database**

[View next 15 results](#)

Title: [Simple and Reliable Methodology to Compare Various Avalanche Beacons Taking into Account the Useful Range, Multiple Burial, and the Strength of the Third Antenna](#)

Journal: 2010 International Snow Science Workshop

Author(s): Schreilechner, Marcellus¹ Eck, Markus²; Schober, Michael² ¹Joanneum Research Forschungsgesellschaft mbH, Leoben, Austria ²PIEPS GmbH, Parkring 4, Lebring, Austria

Article Summary: In the spring of 2010, all commercially available avalanche beacons were compared in terms of their useful range, the quality of the indication of direction, the reliability of the mark function, and the strength of the third antenna with a newly devised chessboard experiment. The chessboard experiment is a field study where an area of 50 m x 50 m is subdivided into sections of 5 m x 5 m in order to simply record the search path. In previous studies presented at the ISSW (Eck et al., 2008; Schreilechner et al., 2009), a differential GPS (DGPS) was used; however, this methodology requires suffi

Keywords: avalanche beacons, dgps

Subjects: Avalanche Beacons, dgps,

Date: 2010

[View additional details about item 335](#)

Title: [REMOTE DETECTION OF SNOW AVALANCHES IN SWITZERLAND USING INFRASOUND, DOPPLER RADARS AND GEOPHONES](#)

Journal: 2010 International Snow Science Workshop

Author(s): Lorenz Meier*, Daniel Lussi WSL Institute for Snow and Avalanche Research SLF, 7260 Davos Dorf, Switzerland

Article Summary: Remote detection of snow avalanches is an appealing instrument for monitoring snow avalanche activity during periods of bad visibility. It supports local avalanche management professionals with information on avalanche activity in a specific avalanche track, supporting them in verifying the results of artificial avalanche releases. Additionally, it provides a regional avalanche activity index for avalanche danger assessment. During summer 2009, we instrumented several sites in the Swiss Alps with infrasound microphones, Doppler radars or geophones. For each site, a local observer reported and

Keywords: snow avalanches, infrasound, doppler radar measurements

Subjects: SWITZERLAND, Doppler radar measurements, Infrasound

Date: 2010

[View additional details about item 336](#)

Figure 3: Screen shot of what you would see if you clicked on 2010 Proceedings. You may browse the papers from the meeting, or click on "back to home page" which takes you to the MSU ISSW Proceedings Database.

International Snow Science - Montana State University Library

International Snow Science Workshops (ISSW) Proceedings Professional Snow Science Papers and Poster Talks from ISSW Workshops

Search by Keyword, Subject, Name, or Title

Quick Search Advanced Search

Search: keyword, name, title... Search

Search by Year

Browse About Search Tips

Workshop Proceedings by Year
Keywords
Subjects

More information on International Snow Science Workshops (ISSW) Online Proceedings
More information on the history of ISSW and future Workshops

Quick Search searches title, summary, notes, keywords, and author fields.
Advanced Search allows searching by individual keywords, author, or title fields.
More information on searching

List of Subjects and Keywords

Sample Citations (Refresh page to cycle through samples.)

<u>COMPARISONS OF COLORADO, E. SIERRA, COASTAL ALASKA, AND WESTERN NORWAY AVALANCHE RUNOUT DATA</u> Author(s): Arthur I. Mears, P.E. Date: 1988 Keyword(s): runout distance, regression equation, mountain areas	<u>SNOWSMART: Communicating snow risk management to Canada's youth</u> Author(s): Sandra Mills, SMARTRISK, Toronto, Ontario, Gordon Ritchie & Peter Spear, Canadian Ski Patrol System, Calgary, Alberta, Clair Israelson, Canadian Avalanche Association, Revelstoke, British Columbia, Per Nilsen & Michel Villeneuve Parks Canada, Hull, Q Date: 2002 Keyword(s): education, risk behaviour, social marketing, and avalanche	<u>Total safety in mountain passes</u> Author(s): Jürg Rocco Pro Flüela, Klosters, Switzerland Date: 2009 Keyword(s): avalanche protection, avalanche control
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Figure 4: Screen shot from <http://arc.lib.montana.edu/snow-science/index.php>, the MSU ISSW Proceedings Database where you can search all Proceedings by year, keyword or subject. (Note, you can find the Proceedings from a year, or search the entire Archive (all years) by keyword, name, title, or subject.)

subject, or author of interest into the search box. If you type an author's last name in the search box, you can see all the articles that person has written. For example, if you type Montagne, the system returns 11 records from 1982 to 2006. The list of articles are not in order by year, so be sure to look at all the articles. The other approach is to open the alphabetical list of Keywords or subjects and click on a word in the list to see articles. The subject list shows the number of articles you will retrieve for each word. The keyword list does not. There are many ways to search the ISSW Proceedings Database.

4. CONCLUSION

The ISSW digital Proceedings archive could not have been accomplished without the collaboration of many individuals and organizations. We all hope that this service will help students, researchers and practitioners from around the world review the ideas that have been developed and presented over the years both today and in the future.

5. REFERENCES

- Marriott, R., 2006, The history of ISSW and the ISSW Steering Committee. International Snow Science Workshop, Telluride, Colorado, P. 420-427 [Available online at <http://arc.lib.montana.edu/snow-science/objects/issw-2006-420-427.pdf>.]
- Montagne, J., and Shaerer, P., 1994, ISSW Past, Present, and Future. International Snow Science Workshop, Snowbird, Utah, P. 105-115 [Available on line at <http://arc.lib.montana.edu/snow-science/objects/issw-1994-105-115.pdf>.]