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## Role of Library and Information Centres in Disaster Management

Kishor Chandra Satpathy  
*Indian Statistical Institute*, [ksatpathy@isical.ac.in](mailto:ksatpathy@isical.ac.in)

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**LIBRARY AND INFORMATION  
SERVICES IN ASTRONOMY V:  
COMMON CHALLENGES,  
UNCOMMON SOLUTIONS**

Cambridge, Massachusetts, USA  
18–21 June 2006

These proceedings of a conference held in June 2006 in Cambridge, Massachusetts, provide an overview of issues facing astronomy librarians around the world. The conference theme of “Common challenges, uncommon solutions” reflected the range of problems encountered by astronomy librarians and the creative solutions they have developed for them. The conference also provided an opportunity for these librarians, who usually work in physical isolation from colleagues, to meet each other and communicate in person rather than electronically. The value of such meetings cannot be over-estimated.

A wide range of topics was covered, ranging over matters such as the Virtual Observatory, citation analysis, open access, the Astrophysics Data System (ADS), preservation of material, the history of astronomy, electronic journals and numerous other matters. The papers in this volume are talks given by 9 invited speakers, and papers derived from 28 oral presentations and 34 posters.

Researchers in astronomy would benefit from perusal of this volume, since too much of what their librarians do for them tends to be invisible and taken for granted. John Huchra, in his paper at this conference, said, among other things: “Libraries have always been the one place to consolidate information about accessing information. You should continue this task and advertise your skills”. That is what this volume hopes to do.



VOLUME  
377

LIBRARY AND INFORMATION  
SERVICES IN ASTRONOMY V:  
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UNCOMMON SOLUTIONS

Edited by  
Sandra Ricketts, Christina Birdie  
and Eva Isaksson



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Sandra Ricketts, Christina Birdie and Eva Isaksson

LIBRARY AND INFORMATION SERVICES IN ASTRONOMY V:  
COMMON CHALLENGES, UNCOMMON SOLUTIONS

*COVER ILLUSTRATION:*

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**Volume 377**

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PO Box 4666, Room C454 – ESC, Brigham Young University, Provo, Utah, 84602-4666  
Phone: 801-422-2111 Fax: 801-422-0553  
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*L<sup>A</sup>T<sub>E</sub>X* Consultant: T. J. Mahoney (Spain) – [tjm@iac.es](mailto:tjm@iac.es)

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IN ASTRONOMY V:  
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Proceedings of a Conference Co-hosted by the Harvard-Smithsonian  
Center for Astrophysics and Massachusetts Institute of Technology  
Cambridge, Massachusetts, USA  
18–21 June 2006

Edited by

**Sandra Ricketts**

*Anglo-Australian Observatory, Sydney, Australia*

**Christina Birdie**

*Indian Institute of Astrophysics, Bangalore, India*

and

**Eva Isaksson**

*University of Helsinki Observatory, Helsinki, Finland*



SAN FRANCISCO

ASTRONOMICAL SOCIETY OF THE PACIFIC  
390 Ashton Avenue  
San Francisco, California, 94112-1722, USA

Phone: 415-337-1100  
Fax: 415-337-5205  
E-mail: [service@astrosociety.org](mailto:service@astrosociety.org)  
Web Site: [www.astrosociety.org](http://www.astrosociety.org)  
E-books: [www.aspbooks.org](http://www.aspbooks.org)

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## Preface

On the warm, sunny morning of 19 June 2006, 115 librarians, astronomers, information specialists and others gathered in Cambridge, Massachusetts for the Fifth Library and Information Services in Astronomy conference. Participants came from 22 countries to see and hear presentations on the theme: Common Challenges, Uncommon Solutions. For those interested in statistics, approximately 50% of attendees were from the U.S., 25% from Europe, and the remainder from the rest of the world.

There is nothing new about facing challenges, but the challenges themselves change over time, and new ones arise, e.g. the development of the Virtual Observatory, increasing electronic publishing, Open Access, and more. At the same time, astronomy librarians are still greatly concerned with preservation, with archives and with the historical aspects of astronomy. So we had stimulating talks and posters on all these matters and much more.

The home of the ground-breaking online tool of the worldwide astronomical research community, the Astrophysics Data System (ADS), was a particularly well-chosen meeting place for this conference. ADS is a bibliographic tool made for astronomers by information specialists. With ADS we have a concrete example of the convergence that Ann Wolpert, director of MIT libraries talked about in her presentation. According to her, libraries as places will continue to exist, but if you are a researcher, you can use these new tools, wherever you are, and make that place your library.

No LISA conference takes place without huge amounts of work behind the scenes.

The Friends of LISA (FOL) once again did a sterling job of obtaining financial support, and enabling the attendance of many participants who would otherwise have been unable to meet in Cambridge.

The Local Organizing Committee (LOC) provided us with an excellent venue, and numerous fascinating and stimulating visits and tours. A special “Thank you” to Donna Coletti is due here. And congratulations to all for organizing such magnificent weather!

The Scientific Organizing Committee (SOC) arranged the program and ensured that we were presented with a wide and interesting variety of topics for discussion.

This time the editors have taken on the task of preparing the proceedings themselves! We are grateful to the various authors who submitted their papers in L<sup>A</sup>T<sub>E</sub>X format, which has made the whole process much easier. A special “Thank you” again to Eva Isaksson, without whose L<sup>A</sup>T<sub>E</sub>X skills this volume may never have appeared! Or at least taken much, much longer to produce. And we have had a great deal of help from Lisa Roper at ASP who has patiently answered all our questions about almost everything.

And of course, thank you to everyone who came to LISA V: the invited speakers, those who presented a talk or a poster, and all the others – without you all there would not have been a conference.

Sandra Ricketts, Christina Birdie, Eva Isaksson, June 2007



Heigh ho, heigh ho, it's off to LISA we go. (Photo: Ruth Kneale)

## Participants

- S. ABRAM, SirsiDynix, 120 Perth Ave, Apt. 412, Toronto M6P 4E1, Canada  
(stephen.abram@sirsidynix.com)
- A. ACCOMAZZI, Astrophysics Data System (ADS), Smithsonian Astrophysical  
Observatory, 60 Garden St. MS 67, Cambridge, MA 02138, USA  
(aaccomazzi@cfa.harvard.edu)
- V. M. ACOSTA, Instituto de Astronomía Universidad Nacional Autónoma de  
México, Apartado Postal 70-264 Ciudad Universitaria, México D. F.,  
04510, Mexico (veronica@astroscu.unam.mx)
- R. ALBRECHT, European Space Agency / ESO, Karl Schwarzschild Str. 3,  
D-85748 Garching, Germany (ralbrech@eso.org)
- N. ANILKUMAR, Physical Research Library, Navrangpura Opp Girls  
Polytechnic, Ahmedabad 380 009, India (nishtha@prl.res.in)
- L. BACON, Director of Publisher Services, EBSCO Information Services, 249  
Vanderbilt Ave. Norwood MA 02062, USA (lbacon@ebSCO.com)
- P. BANHOLZER, Goddard Space Flight Center, 8800 Greenbelt Road,  
Greenbelt MD 20706, USA (Gordon.S.Banholzer@nasa.gov)
- S. A. BARVE, Library, National Centre for Radio Astrophysics, PO Box 3,  
Pune University Campus, Pune 411 007, India (sunitab@ncra.tifr.res.in)
- E. BASINSKA, MIT Archives, Room 14N-188, Cambridge, MA 02139, USA  
(basinska@mit.edu)
- N. BAWDEKAR, Inter-University Centre for Astronomy and Astrophysics  
(IUCAA), Post Bag No. 4, Ganeshkhind, Pune 411 007, India  
(nub@iucaa.ernet.in)
- A. BEISER, Lowell Observatory Library, 1400 W. Mars Hill Rd., Flagstaff, AZ  
86001, USA (asb@lowell.edu)
- C. BIRDIE, Indian Institute of Astrophysics, Koramangala, Bangalore 560 034,  
India (chris@iiap.res.in)
- M. BISHOP, National Radio Astronomy Observatory Library, 520 Edgemont  
Rd., Charlottesville, VA 22903, USA (mbishop@nrao.edu)
- L. BOBIS, Observatoire de Paris, 61 avenue de l'Observatoire, 75014 Paris,  
France (laurence.bobis@obspm.fr)
- E. BOHLEN, Astrophysics Data System (ADS), Smithsonian Astrophysical  
Observatory, 60 Garden St. MS 67, Cambridge, MA 02138, USA  
(ebohlen@cfa.harvard.edu)

- S. BORDE, Observatoire de Paris, CDS, 61 avenue de l'Observatoire, 75014 Paris, France <suzanne.borde@obspm.fr>
- S. BOSKEN, U. S. Naval Observatory (USNO), 6220 Broad St., Bethesda, MD 20816, USA <bosken.sally@usno.navy.mil>
- E. BOUTON, National Radio Astronomy Observatory, 520 Edgemont Rd., Charlottesville, VA 22903-2475, USA <ebouton@nrao.edu>
- F. BRUNETTI, Istituto Nazionale di Astrofisica, Osservatorio Astrofisico di Arcetri, Largo E. Fermi n. 5, 50125 Firenze, Italy <france@arcetri.astro.it>
- E. P. BRYSON, Canada-France-Hawaii Telescope Corporation, 65-1238 Mamalahoa Hwy., Kamuela, HI 96743, USA <bryson@cfht.hawaii.edu>
- J. BUCKLEY, Elsevier, 30 Corporate Dr., Suite 400, Burlington, MA 01803, USA <J.Buckley@elsevier.com>
- B. BULLOCK, National Research Council Canada – Herzberg Institute of Astrophysics, Dominion Astrophysical Observatory, 5071 W. Saanich Rd., Victoria, British Columbia V9E 2E7, Canada
- G. BURKHARDT, Astronomisches Rechen-Institut Heidelberg / Zentrum für Astronomie der Universität Heidelberg, Mönchhofstr. 12–14, D-69120 Heidelberg, Germany <Burkhardt@ARI.UNI-Heidelberg.de>
- M. CARTER, Thomson Scientific – Philadelphia, 3501 Market Street, Philadelphia, PA 19104, USA <Michael.Carter@thomson.com>
- M.-L. CHAIX, EDP Sciences, 17 avenue du Hoggar, P.A. de Courtaboeuf, 91944 Les Ulis cedex A, France <chaix@edpsciences.org>
- W. CLASPY, Case Western Reserve University, 11055 Euclid Avenue, Cleveland, OH 44106, USA <>wpc@cwru.edu>
- N. CLINE, Roy E. Larsen Librarian of Harvard College, Office of the Librarian, Widener Library, Room 110, Harvard University, Cambridge, MA 02138, USA <ncline@fas.harvard.edu>
- D. COLETTI, Wolbach Library, Harvard-Smithsonian Center for Astrophysics, 60 Garden St. MS56, Cambridge, MA 02138, USA <dcoletti@cfa.harvard.edu>
- B. CORBIN, U. S. Naval Observatory (USNO) (retired), 8826 Brierly Rd., Chevy Chase, MD 20815-4752, USA <brenda.corbin@verizon.net>
- S. DAVIS, South African Astronomical Observatory, PO Box 9, Observatory, Cape Town, 7935, South Africa <shireen@sao.ac.za>
- D. DEPOORTERE, Pontificia Universidad Católica de Chile, Av. Vicuña Mackenna 4860 Macul, 6904411 Santiago, Chile <ddepoort@puc.cl>
- J. DESHPANDE, NM Wadia Institute of Cardiology, 32 Sasoon Rd., Jahangir Nursing Home Compound, Pune 411 001, India <mailat@nmwcardiology.org>
- N. DESHPANDE, University of Pune, Dept. of Library and Information Science, Ganeshkhind Rd., Pune 411 007, India <njdeshpande@unipune.ernet.in>
- T. DOROKHOVA, Astronomical Observatory of Odessa National University, Marazlievskaya, 1v, 65014 Odessa, Ukraine <tnd@te.net.ua>



- P. DUBOIS, CDS, 11 rue de l'Université, 67000 Strasbourg, France  
<dubois@astro.u-strasbg.fr>
- G. EICHHORN, Astrophysics Data System (ADS), Smithsonian Astrophysical Observatory, 60 Garden St. MS 67, Cambridge, MA 02138, USA  
<geichhorn@cfa.harvard.edu>
- B. FRIDENA, Parker Library, Steward Observatory, University of Arizona, PO Box 210065, Tucson, AZ 85721, USA <bfridena@as.arizona.edu>
- A. GASPERINI, Istituto Nazionale di Astrofisica, Osservatorio Astrofisico di Arcetri, Largo E. Fermi n. 5, 50125 Firenze, Italy <gasperi@arcetri.astro.it>
- O. GINGERICH, Harvard Smithsonian Center for Astrophysics, 60 Garden St., Cambridge, MA 02138, USA <ogingerich@cfa.harvard.edu>
- M. GOMEZ, Instituto de Astrofísica de Canarias, C/ Vía Láctea, s/n, La Laguna, E-38200 Tenerife, Spain <mog@iac.es>
- M. E. GÓMEZ, European Southern Observatory (ESO), Alonso de Cordova 3107, Vitacura, 763-0581 Santiago, Chile <mgomez@eso.org>
- C. STERN GRANT, Astrophysics Data System (ADS), Smithsonian Astrophysical Observatory, 60 Garden St. MS 67, Cambridge, MA 02138, USA <cgrant@cfa.harvard.edu>
- W. GRAVES, Wolbach Library, Harvard-Smithsonian Center for Astrophysics, 60 Garden St. MS56, Cambridge, MA 02138, USA  
<wgraves@cfa.harvard.edu>
- U. GROTHKOPF, European Southern Observatory (ESO) Library, Karl-Schwarzschild-Str. 2, D-85748 Garching, Germany <esolib@eso.org>
- J. GRULA, Carnegie Observatories, 813 Santa Barbara St., Pasadena, CA 91101, USA <jgrula@ociw.edu>
- R. HANISCH, Space Telescope Science Institute, 3700 San Martin Drive, Baltimore, MD 21218, USA <hanisch@stsci.edu>
- J. HARTER, MIT Science Library, 14S-134, 77 Massachusetts Ave., Cambridge, MA 02139, USA <jedelman@mit.edu>
- A. HECK, Strasbourg Astronomical Observatory, 11 rue de l'Université, F-67120 Strasbourg, France <heck@astro.u-strasbg.fr>
- K. HEIDEMAN, Director of Publications, American Meteorological Society, 45 Beacon Street Boston, MA 02108-3693, USA <kheideman@ametsoc.org>
- E. HENNEKEN, Astrophysics Data System (ADS), Smithsonian Astrophysical Observatory, 60 Garden St. MS 67, Cambridge, MA 02138, USA  
<ehenneken@cfa.harvard.edu>
- A. HILLIER, Amateur Telescope Makers of Boston, 18 Spring St., Lexington, MA 02421-7958, USA <anna.hillier@verizon.net>
- A. HOLL, Konkoly Observatory, Konkoly-Thege Street 15-17, H-1121 Budapest, Hungary <holl@konkoly.hu>
- J. HOLMQUIST, Astrophysics Library, Princeton University, Peyton Hall – Ivy Lane, Princeton, NJ 08544, USA <jane@astro.princeton.edu>

- J. HUCHRA, Harvard Smithsonian Center for Astrophysics, 60 Garden St.,  
Cambridge, MA 02138-1516, USA <john.huchra@harvard.edu>
- M. D. HURN, Institute of Astronomy, Observatories, Madingley Rd.,  
Cambridge, CB3 0HA, UK <hurnm@ast.cam.ac.uk>
- E. HUYCK, University of Chicago Press, 1427 E. 6th St. 107, Chicago, IL  
60637, USA <ehuyck@press.uchicago.edu>
- E. ISAKSSON, University of Helsinki Observatory, PO Box 14, 00014 University  
of Helsinki, Finland <eisakso@cc.helsinki.fi>
- M. E. JIMÉNEZ-FRAGOZO, UNAM, Instituto de Astronomía, Km. 103  
Carretera Tijuana-Ensenada, 22860 Ensenada B.C., Mexico  
<jimenez@astro.unam.mx>
- L. JOHNSTON, Indiana University, 706 Bayberry Ct., Bloomington, IN 47401,  
USA <quazarblaze@yahoo.com>
- H. JOSEPH, Executive Director, The Scholarly Publishing and Academic  
Resources Coalition (SPARC), 21 Dupont Circle, NW Suite 800,  
Washington, DC 20036, USA <heather@arl.org>
- E. JURLANDER, Lund Observatory, Box 43, SE-221 00 Lund, Sweden  
<eva@astro.lu.se>
- P. KAMISATO, W.M.Keck Observatory, 65-1120 Mamalahoa Hwy., Kamuela,  
HI 96743, USA <pkamisato@keck.hawaii.edu>
- R. KELLY, Director, Journal Information Systems, The American Physical  
Society (APS), One Research Road, Box 9000, Ridge, NY 11961-9000, USA  
<rakelly@aps.org>
- B. KERN, University of Chicago, 5730 S. Ellis Ave., Chicago, IL 60637, USA  
<bkern@uchicago.edu>
- R. KNEALE, National Solar Observatory, 950 N. Cherry Ave., Tucson, AZ  
85719, USA <rkneale@nso.edu>
- M. J. KURTZ, Astrophysics Data System (ADS), Smithsonian Astrophysical  
Observatory, 60 Garden St. MS 31, Cambridge, MA 02138, USA  
<mkurtz@cfa.harvard.edu>
- S. LALOË, CDS, Observatoire de Paris. Bat. B., 61 avenue de l'Observatoire,  
75014 Paris, France <suzanne.laloe@obspm.fr>
- D. LAUGHLAND, Simmons College, 209 Waverly St., Arlington, MA 02476,  
USA <dlaughla@yahoo.com>
- N. LECROSNIER, EDP Sciences, 18 avenue du Hoggar, P.A. de Courtaboeuf,  
91945 Les Ulis cedex A, France <lecrosnier@edpsciences.org>
- S. LESTEVEN, CDS, Observatoire Astronomique de Strasbourg, 11 rue de  
l'Université, 67000 Strasbourg, France <lesteven@astro.u-strasbg.fr>
- D. MACMILLAN, University of Calgary, MLB 331C, 2500 University Drive  
NW, Calgary T2N 1N4, Canada <macmilld@ucalgary.ca>
- J. MADRID, STScI, 3700 San Martin Drive, Baltimore, MD 21218, USA  
<madrid@stsci.edu>

- T. MAHONEY, Instituto de Astrofísica de Canarias, C/ Vía Láctea, s/n, La Laguna, E-38200 Tenerife, Spain <tjm@iac.es>
- F. MARTINES, INAF – Osservatorio Astronomico di Palermo, Piazza del Parlamento 1, 90134 Palermo, Italy <martines@astropa.unipa.it>
- D. MCGARRY, UCLA (retired), PO Box 931119, Los Angeles, CA 90093-1119, USA <dmcgarry@library.ucla.edu>
- F. MÉRIDA MARTÍN, Instituto Nacional de Técnica Aeroespacial, Crtra de Ajalvir, km. 4, Torrejon de Ardoz, 28850 Madrid, Spain <meridamf@inta.es>
- J. MERRILL-OLDHAM, Malloy-Rabinowitz Preservation Librarian, Harvard University and Harvard College Library, Weissman Preservation Center, 90 Mt. Auburn Street, Cambridge, MA 02138, USA <jmo@harvard.edu>
- K. MORAN, Royal Observatory Edinburgh, Blackford Hill, Edinburgh, EH9 EHJ, UK <ksm@roe.ac.uk>
- J. MOY, National Optical Astronomy Observatory, 950 N. Cherry Ave., Tucson, AZ 85719, USA <moy@noao.edu>
- M. NEEDLES, MIT Haystack Observatory, Off Rte. 40, Westford, MA 01886, USA <mneedles@haystack.mit.edu>
- R. NOEL, Indiana University, Swain Hall Library, 208, Bloomington, IN 47405, USA <rnoel@indiana.edu>
- M. NOGA, MIT Science Library, 14S-134, 77 Massachusetts Ave., Cambridge, MA 02139, USA <mnoga@mit.edu>
- F. OCHSENBEIN, CDS, Observatoire Astronomique de Strasbourg, 11 rue de l'Université, 67000 Strasbourg, France <francois@astro.u-strasbg.fr>
- B. OPPERMAN, Ohio State University, 490D Science and Engineering Library, 175 W. 18th Ave., Columbus, OH 43210, USA <opperman.9@osu.edu>
- S. OTA, Stanford University, Physics Library, Varian Bldg. Room 300, Stanford, CA 94305-4061, USA <stella.ota@stanford.edu>
- E. OWENS, Portico, 100 Campus Drive, Suite 100, Princeton, NJ 08540, USA <evan.owens@portico.org>
- L. PEDERSEN, Brown University, Sciences Library, Box I, Providence, RI 02912, USA <lapedersen@brown.edu>
- A. PEPE, CERN, 513-R-024 CERN, Route de Meyrin, 1211 Geneva, Switzerland <alberto.pepe@cern.ch>
- J.-M. QUILBE, EDP Sciences, 17 avenue du Hoggar, P.A. de Courtaboeuf, 91944 Les Ulis cedex A, France <quilbe@edpsciences.org>
- N. REYMONET, Observatoire de Paris, 5 place Jules Janssen, 92190 Meudon, France <nathalie.reymonet@obspm.fr>
- S. RICKETTS, Anglo-Australian Observatory, PO Box 296, Epping NSW 1710, Australia <lib@aao.gov.au>
- L. ROBBINS, Department of Astronomy & Astrophysics, University of Toronto, Room 1306, 60 St. George St., Toronto M5S 3H8, Canada <robbins@astro.utoronto.ca>

- N. ROBERT, URSIDOC, 6 montee des coteaux du golf, 38080 Isle d'Abeau, France <Nathalie.Robert@ujf-grenoble.fr>
- A. K. ROBERTSON, Institute for Astronomy Library, 2680 Woodlawn Dr., Honolulu, HI 96822, USA <roberts@ifa.hawaii.edu>
- L. ROPER, Astronomical Society of the Pacific Conference Series, Room C454 ESC/Box 4666, BYU, Provo, UT 84602, USA <lisa@aspbooks.org>
- S. RUSSELL GONZALEZ, University of Florida, PO Box 117011, Gainesville, FL 32611-7011, USA <sargonz@uflib.ufl.edu>
- J. M. SAINZ BALLESTEROS, CASLEO-Complejo Astronómico El Leoncito, Library, Av. España 1512 Sur, San Juan 5400, Argentina <jlloveras@casleo.gov.ar>
- K. C. SATPATHY, Central Library, National Institute of Technology, Silchar, Assam 788 010, India <kishor\_satpathy@yahoo.com>
- L. SCHIAVONE, INAF – Turin Astronomical Observatory, Via Osservatorio, 20, I-10025 Pino Torinese, Italy <schiaivone@oato.inaf.it>
- J. SEARS, University of Michigan, 3026-D Shapiro Library, 919 S. University Ave., Ann Arbor, MI 48109-1185, USA <josears@umich.edu>
- J. STEFFEN, Department of Ecology and Evolution, University of Chicago, 1101 E. 57th St., Zoology 114B, Chicago, IL 60637, USA <j-steffen@uchicago.edu>
- D. STERN, Yale University, PO Box 208111, New Haven, CT 06520-8111, USA <david.e.stern@yale.edu>
- S. STEVENS-RAYBURN, Space Telescope Science Institute, 3700 San Martin Drive, Baltimore, MD 21218, USA <s.stevray@verizon.net>
- R. SVAŠKOVÁ, Astronomical Institute, Fricova 298, 251 65 Ondřejov, Czech Republic <bibl@asu.cas.cz>
- J. TAGLER, Elsevier, 360 Park Avenue South, New York, NY 10010, USA <j.tagler@elsevier.com>
- D. THOMPSON, Astrophysics Data System (ADS), Smithsonian Astrophysical Observatory, 60 Garden St. MS 67, Cambridge, MA 02138, USA <dthompson@cfa.harvard.edu>
- E. TSANG MUI CHUNG, Subaru Telescope, NAOJ, 650 N. A'ohoku Place, Hilo, HI 96720, USA <emiko@naoj.org>
- U. UGOCHUKWU, Kolej Gemilang, 19 C-2 Block B Jalan 18/35, Taman Seri Serang, Seri Kembangan, Selangor 43300, Malaysia <chimdi71@yahoo.ca>
- B. WELTHER, SAO (retired) / ADS volunteer, 53 Cedar St., Unit 3208, Woburn, MA 01801-2143, USA <barbara.welther@gmail.com>
- M. WHITE, University of Texas at Austin, Physics Mathematics Astronomy Library, RLM 4.200, Austin, TX 78712, USA <mwhite@mail.utexas.edu>
- F. WOELFEL, CDS, Observatoire Astronomique de Strasbourg, 11 rue de l'Université, 67000 Strasbourg, France <woelfel@astro.u-strasbg.fr>
- K. WOJTKOWSKA, Centre for Astronomy, Nicolaus Copernicus University, ul Gagarina 11, 87100 Torun, Poland <cfalib@astro.uni.torun.pl>

- M. WOLF, Astronomical Institute, Charles University Prague, V  
Holešovičkách 2, 18000 Praha 8, Czech Republic <wolf@cesnet.cz>
- A. J. WOLPERT, Director, Massachusetts Institute of Technology Libraries, 77  
Massachusetts Avenue, 14S-216, Cambridge, MA 02139, USA  
<awolpert@mit.edu>
- ZHANG JIAN, Purple Mountain Observatory, Chinese Academy of Sciences, 2  
West Beijing Rd., Nanjing 210008, The Peoples Republic of China  
<Jzhang@pmo.ac.cn>
- X. ZHANG, AURA-Gemini Observatory, 670 N. A'ohoku Place, Hilo, HI 96720,  
USA <xzhang@gemini.edu>

## **Role of Libraries in Disaster Management: Experience from North East India**

Kishor Chandra Satpathy

*National Institute of Technology, Silchar-788010, Assam, India*

**Abstract.** India is a large country and prone to a number of natural hazards. Among all the natural hazards that that country faces, river floods are the most frequent and devastating. A shortfall in rainfall causes droughts or drought-like situations in various parts of the country. The country has suffered some severe earthquakes causing widespread damage to life and property. India has a coastline of about 8000 km which is prone to very severe cyclonic formations in the Arabian Sea and the Bay of Bengal. Another major problem faced by the country takes the form of landslides and avalanches. All the major disasters directly or indirectly affect libraries. With an increasing interest in spreading a culture of prevention in the field of disaster management, considerable emphasis is now being placed on research and development activities in the area of information technology for disaster preparedness and prevention. This has brought a significant positive change even through the number and frequency of disasters in this country has increased. The library can play a significant role in spreading awareness of disaster management. Keeping the above facts in mind the author describes a disaster and the role of Information technology in reducing its impact. The paper also describes the role of libraries in the management of the disaster. The author shares his personal experience of how North East India deals with disaster management. Finally, the future vision of disaster management is outlined.

### **1. Introduction**

The Indian sub-continent, due to its unique geographical location and geological features, has the distinction of being one of the most vulnerable areas for natural hazards, causing colossal losses of life and property. The country has experienced almost all kinds of natural disasters such as floods, cyclones, droughts, earthquakes, landslides and forest fires etc. Disasters seem to occur with a strange regularity and multiple disasters striking simultaneously in different parts of the country are not uncommon. While floods might devastate one part of the country, another area might be reeling under drought conditions causing severe economic and social tensions.

### **2. North East Scenario**

North East India is rich in natural resources and has a wealth of valuable flora, fauna, cultures and heritage. The North East region consists of the eastern part of the great Himalayas, comprising the whole of Arunachal Pradesh, and the eastern hill ranges comprising the Patkai-Manipur-Mizoram-Arakan-Chittagong

hill tracts and the Shillong-Mikir Plateau. Scenic blue hills and numerous meandering streams surround the entire region. Dominating the geography of the region is the Brahmaputra river providing the largest drainage network in the entire eastern region of the country.

Floods in the region are caused by a combination of natural and human factors. The unique geo-environmental setting of the region vis-a-vis the eastern Himalayas, heavy rainfall, weak geological formations, active seismicity, accelerated rates of erosion, rapid channel congestion, massive deforestation, intense land use pressure and high population growth especially in the flood plain belt and temporary palliative measures for flood control are some of the dominant factors that cause and intensify floods. Due to the unplanned exploitation of resources, coupled with the factors mentioned above, the regions are crippled with problems such as food deficiency, energy shortage, inadequate surface communication, flood, drainage congestion and declining productivity. Also, seismically, the North East region is one of the most active regions in the world. The region experienced two major earthquakes, one in 1897 of magnitude 8.7 and one in 1950 of magnitude 8.5, which are estimated to be the largest in the world.

### **3. Concept of Disaster Management**

The American Heritage Dictionary (2004) defined disaster as an occurrence causing widespread destruction and distress; a catastrophe. The disaster brings with it serious disruption of a society's functioning, causing widespread human, material or environmental losses.

Disaster management procedures, in order of priority, should mean immediate rescue, relief, rehabilitation and reconstruction measures because the victims are too shocked to show patience in their pitiable plight (Suri 2000). Disaster management includes planning, organizing, staffing, directing, coordinating, developing reporting and budgeting functions before the disaster, and rescue, relief and rehabilitation work after the disaster occurs. Though it is not possible to completely avoid natural disasters, sufferings are minimized by creating proper awareness of likely disasters and their impact and by developing a suitable warning system, disaster preparedness plan and management of disasters through the application of information technology tools. Changing trends have opened up a large number of scientific and technological resources and skills to reduce disaster risk. Information and knowledge play a key pivotal role in disaster management.

With an increasing interest in spreading a culture of prevention in the disaster management scenario, considerable emphasis is now being placed on research and development activities. In the North Eastern Region, institutes like the Indian Institute of Technology Guwahati and the National Institute of Technology Silchar are playing an important role in this sector by providing technical assistance and training.

### **4. Disaster Management for Library and Information Centers**

Libraries have learned, through difficult and often disastrous personal experience, that they are not immune from disasters. An oft-cited definition of a

disaster is an unplanned event whose outcomes are tragic. Any preparation or planning conducted prior to a disaster will lessen its effects.

Thus every library has to have a disaster plan. A comprehensive disaster plan consists of several independent but interrelated smaller plans. Every disaster has three phases: before, during and after. A variety of plans is required to cope with each of these phases. In the “before phase”, which corresponds to everyday routine operations, two types of plan should be in operation: prevention and preparedness. Prevention plans recommend actions that will prevent most disasters. They include recommendations such as the repair of leaking roofs, the improvement of maintenance and the upgrading of security. Preparedness plans are designed to ensure that identified disasters can be managed. In the “during phase” a response to the disaster must be made. The effectiveness of the response is governed by the thoroughness of the preparedness plan. In the “after phase” recovery plans are implemented. Every successful recovery plan should address five action phases viz: damage appraisal/assessment; protection; mitigation strategies; implementation and ongoing assessment/evaluation (Uidenich 1999). In each of the prevention, preparedness, response and recovery plans it is essential that consideration be given to all areas likely to be affected by the disaster.

Every disaster plan must apply to the whole library and all its contents, including people, collections, records and equipment. It is highly desirable that the plan be prepared by a team rather than an individual. There are a number of steps involved in preparing a disaster plan such as conducting a risk analysis, identification of existing prevention and preparedness procedures, making recommendations to implement additional prevention and preparedness procedures, awareness and information campaigns, training of staff, allocation of responsibilities, devising procedures to respond to and recover from disasters etc.

## **5. Role of Library and Information Centers in Disaster Management**

The unique experience of the devastating flood of the Barak Valley, Assam, in the year 2004 reminds me of how a library can play a major role during the disaster. The entire Barak Valley remained cut off from the rest of the world for almost one month. All the major libraries in the downstream areas were completely flooded and damaged, while the public library of the Cachar district was converted to a rescue camp and rehabilitation center for people from downstream villages during the flood. It became the major source of information dissemination as other communication networks were not working. As a part of the local disaster management team and a member of local Non-Governmental Organizations (NGOs), I and the other library staff had to act as rescue workers and information providers. During the flood the library remained as a center of information dissemination. Only then did I realize how powerful a library can be in providing information at a time of crisis.

The library can play a major role in disaster management in different ways. Some of the vital roles of libraries in disaster management can be enumerated as follows: 1. Creation of an information base related to disasters/disaster management through a related collection. 2. Creation of awareness and disseminating information among people through publications related to disasters/disaster



management using print and electronic media. 3. Organization of outreach activities, workshops, group discussions, training, mock drills and capability building activities, book exhibitions etc. related to disasters/disaster management. 4. Maintenance of a database of experts/scientists and rescue workers to combat the disaster. 5. Resource sharing among different libraries involved in the disaster. 6. Creation of a disaster management information system/cell. 7. Development of various information, education and communication (IEC) materials for wider dissemination to provide better awareness. Effective disaster response depends upon the accurate and timely dissemination of information, which is an important component of disaster management. Communication problems arise partly from the destruction, disruption or non-availability of communication equipment and a public information system. The lack of information specific to the local area limits the effectiveness of disaster forecasting and response. Libraries can play a pivotal role by acting as disaster information centers. Thus there should be a disaster information center/cell at the library – a place for people to go in the event of a prolonged power outage or other local crisis; a warm, dry place where we will do everything we can to maintain access to news and public announcements.

## 6. Future Vision of Disaster Management

Disaster management is a multi-sector, multidisciplinary subject, which involves many role players. Therefore, it is resolved that all the role players, i.e. government/NGOs/communities/libraries, should work together for the goal of a disaster-free India. There should be proper planning at various levels from the national to the community which can include disaster preparedness and mitigation along with disaster response. With the planned approach, we can reduce the various impacts of disasters and can have safer communities and a safer India (Sharma 2001).

## 7. Conclusion

In disaster situations, a quick rescue and relief mission is essential. However, damage can be minimized considerably if adequate preparedness levels are achieved. Indeed, it has been noticed in the past, that if and when attention has been paid to adequate preparedness measures, loss of life and property has been considerably reduced.

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