BPCRC RETREAT AGENDA (FINAL DRAFT)
February 23, 2014

8:30 am  Set up / Coffee & Bagels

9:00  State of BPCRC Overview (EMT)
    Name Change; Director Search Update;
    Space renovations:
    Third Pole Office- room 111; Innovation Space – room 125;
    Door linking Scott Hall and the PRR;
    New HVAC system installed in the Class 100 clean room
    Next External Advisory Board meeting (TBD, fall 2015)

9:30  BPCRC Education/Outreach Update (Jason Cervenec)
    Crowdsource Funding Opportunities; New Web Site

10:00  Media Manager (Laura Kissel)
    25th Anniversary of Polar Archives (Laura K., Lynn L., and Jason C.)

10:30  Break

10:45  Open discussion (Challenges and Opportunities)
    Your suggestions and concerns

11:30  Lunch - provided

12:00 pm  Adjourn
BPCRC Publications 2004 - 2014

Number of Publications

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Publications</th>
<th>Refereed Publications (inc. in press)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004-2005</td>
<td>123</td>
<td>102</td>
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<tr>
<td>2005-2006</td>
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<td>2006-2007</td>
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<td>100</td>
<td>92</td>
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<tr>
<td>2013-2014</td>
<td>96</td>
<td>78</td>
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</table>
### Byrd Polar and Climate Research Center
**Total Awards, Total Expenses & IDC**
**FY (1978 - 2014)**

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Total Awards - Direct and Indirect Costs</th>
<th>Total Expenses</th>
<th>IDC on Awards</th>
<th>IDC Paid by BPCRC Grant Expenses</th>
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</thead>
<tbody>
<tr>
<td>FY14</td>
<td>$4,713,521</td>
<td>$3,036,388</td>
<td>$1,147,922</td>
<td>$1,070,314</td>
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</tbody>
</table>

- **FY14 Awards:** $4,713,521
- **FY14 Expenses:** $3,036,388
- **IDC Awards:** $1,147,922
- **IDC Expenses:** $1,070,314

**Fiscal Year**

- **Total Awards - Direct and Indirect Costs**
- **Total Expenses**
- **IDC on Awards**
- **IDC Paid by BPCRC Grant Expenses**
### Number of Proposals Submitted by BPCRC PI's
#### Fiscal Years 2007 - 2014

<table>
<thead>
<tr>
<th>Year</th>
<th>Submitted</th>
<th>Funded</th>
<th>Not Funded</th>
<th>Pending</th>
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<tbody>
<tr>
<td>06-07</td>
<td>41</td>
<td>22</td>
<td>31</td>
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<tr>
<td>07-08</td>
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<tr>
<td>09-10</td>
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<td>44</td>
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<td>14</td>
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<tr>
<td>10-11</td>
<td>44</td>
<td>14</td>
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<td>5</td>
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<td>14</td>
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<tr>
<td>13-14</td>
<td>31</td>
<td>5</td>
<td>24</td>
<td>2</td>
</tr>
</tbody>
</table>

- **Submitted**: $21.3M - S
- **Funded**: $2.6M - F
- **Not Funded**: $80k - P
- **Pending**: $11.2M - S
- **Funding for Fiscal Years**:
  - 06-07: $353k - F
  - 07-08: $594k - P

06/30/2014
Total Number of Grants and Awards Dollars (FY1998 - 2014)
2014 = 25 total awards (13 new; 12 continuing)
BPCRC Principal Investigators (PIs) by Department (2014)

- 1 PI in Engineering, 5%
- 8 PIs in Earth Sciences, 42%
- 7 PIs in BPCRC, 37%
- 3 PIs in Geography, 16%
- 1 PI in Engineering, 5%

Total Active PIs = 19
BPCRC Expense Credit Distribution FY 14 ($1,070,314) compared to the budget received in FY 14 ($915,211)

Net gain: $155,103

Arts & Sciences funds to support BPCRC budget (74%) $677,256
Office of Research funds to support BPCRC budget (26%) $237,955

ASC Investment ~$677,256
Return on IDC: ~$792,032
Return on Investment: ~17%

OR Investment: ~$237,955
Return on IDC: ~$278,282
Return on investment: ~17%
Earth Sciences
11 Students, 64.7%

Geography
6 Students, 35.3%

BPCRC Graduate Student Department Distribution
FY 2014  July 1, 2013 - June 30, 2014
BPCRC Fellows and Postdoctoral Researchers

Number of Postdocs

- **BPRC Fellows**
- **Other Postdoctoral Researchers**

Years:
- 1987-88
- 1988-89
- 1989-90
- 1990-91
- 1991-92
- 1992-93
- 1993-94
- 1994-95
- 1995-96
- 1996-97
- 1997-98
- 1998-99
- 1999-00
- 2000-01
- 2001-02
- 2002-03
- 2003-04
- 2004-05
- 2005-06
- 2006-07
- 2007-08
- 2008-09
- 2009-10
- 2010-11
- 2011-12
- 2012-13
- 2013-14

- **BPRC Fellows**
  - 1987-88: 1
  - 1988-89: 1
  - 1989-90: 1
  - 1990-91: 1
  - 1991-92: 1
  - 1992-93: 1
  - 1993-94: 1
  - 1994-95: 1
  - 1995-96: 1
  - 1996-97: 1
  - 1997-98: 2
  - 1998-99: 3
  - 1999-00: 3
  - 2000-01: 0
  - 2001-02: 0
  - 2002-03: 0
  - 2003-04: 0
  - 2004-05: 2
  - 2005-06: 0
  - 2006-07: 0
  - 2007-08: 0
  - 2008-09: 2
  - 2009-10: 0
  - 2010-11: 2
  - 2011-12: 2
  - 2012-13: 3
  - 2013-14: 2

- **Other Postdoctoral Researchers**
  - 1987-88: 3
  - 1988-89: 0
  - 1989-90: 0
  - 1990-91: 0
  - 1991-92: 0
  - 1992-93: 0
  - 1993-94: 0
  - 1994-95: 0
  - 1995-96: 0
  - 1996-97: 0
  - 1997-98: 0
  - 1998-99: 0
  - 1999-00: 0
  - 2000-01: 0
  - 2001-02: 0
  - 2002-03: 0
  - 2003-04: 0
  - 2004-05: 0
  - 2005-06: 0
  - 2006-07: 0
  - 2007-08: 0
  - 2008-09: 0
  - 2009-10: 0
  - 2010-11: 0
  - 2011-12: 0
  - 2012-13: 0
  - 2013-14: 0
Student Graduations
July 2013 – June 2014

Jianbin Duan, Ph.D. (Shum) – Summer 2013
Ellyn Enderlin, Ph.D. (Howat) – Summer 2013
Wesley Haines, M.S. (Bromwich) – Summer 2013
Bradley Goodwin, Ph.D. (Mosley-Thompson) – Summer 2013
Jinwoo Kim, Ph.D. (Shum) – Summer 2013
Deb Leslie, Ph.D. (Lyons) – Autumn 2013
Y. Budi Sullistioadi, Ph.D. (Shum) – Autumn 2013
Aaron Wilson, Ph.D. (Bromwich) – Autumn 2013
Julien Nicolas, Ph.D. (Bromwich) – Spring 2014

Undergraduates
Loren Rosenbeck, B.Sc. (Wilson) – Autumn 2013
Daniel Barr, B.Sc. (Wilson) – Spring 2014
Honors, Awards and Accomplishments

July, 2013 – June, 2014 and forward

**Oliver Wigmore**, Nov. 2014, (Mark), awarded an OSU Presidential Scholarship. He also received funding for his Peru work from the American Philosophical Society Lewis and Clark fund, OSU Global Gateway Graduate Research Abroad Grant, OSU International Affairs, American Geographical Society Fellowship Council, and the OSU Dept. of Geography.

**David Bromwich**, January 2014, was selected to serve as a member of a new National Academy of Sciences Study entitled, ‘Development of a Strategic Vision and Implementation Plan for the U.S. Antarctic Program at the National Science Foundation.

**Geoff Dipre**, April 2014, (Polyak), received a poster presentation award from the Association of Environmental & Engineering Geologists for his poster entitled, ‘A Paleoseismicity Record for Cariaco Basin, Caribbean Sea: An analysis of Turbidites in Sediment Cores’.

**Colin Sinclair**, April 2014, received an OSU Foreign Language and Area Studies stipend to conduct research over the summer.
Bryan Mark, Jason Cervenec, Jim DeGrand and Aaron Wilson, awarded a BETHA (Battelle Engineering, Technology and Human Affairs Endowment) grant, entitled “HEATED – Harnessing Education and Technology for Environmental Detection”.

Bryan Mark, 2014, awarded a Fulbright Scholar Grant. He is currently on travel for this grant and teaching at the Universidad Nacional Mayo de San Marcos, Lima Peru through April 2015. Bryan also received a grant from the Office of International Affairs for his continuing research program in the Andes.

Lonnie Thompson, 2014, was named one of the Columbus Foundation’s National Champions. Lonnie was also featured in a 2014 special edition of *Time* Magazine’s ‘Greatest Scientists’.

Dongyue Li, 2014, was awarded an NSF sponsored Pathfinder Graduate Student Fellowship travel grant through CUAHSI (Consortium for Universities for the Advancement of Hydrologic Science, Inc.).
July, 2013 – June, 2014 and forward

Ellen Mosley-Thompson, 2014, elected President of AGU’s Global Environmental Change Focus Group.

Terry Wilson, 2014, was elected Vice President of the Scientific Committee on Antarctic Research.

Aaron Wilson, 2014, was selected to participate in the New Generation of Polar Researchers (NGPR) Leadership Symposium, May 2-9, 2015 at the USC Wrigley/Boone Center for Environmental Leadership in Catalina Island, CA. He was also awarded an Ohio Supercomputer Center Annual Allocation Award.

21 faculty, staff and students presented their research at the 2013 AGU Annual Meeting in San Francisco.

19 faculty, staff and students presented their research at the 2014 AGU annual meeting in San Francisco.
Education and Outreach Program

• Overview
• Annual Review
• Upcoming Programs
• Discussion

Crowdfunding
Website
Affiliates
Ideas for Initiatives
Education and Outreach Program

Number of BPCRC Outreach Programs 2013-2014

<table>
<thead>
<tr>
<th></th>
<th>2013-2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>BPRC Tours</td>
<td>46</td>
</tr>
<tr>
<td>School Visits</td>
<td>14</td>
</tr>
<tr>
<td>Rock Boxes</td>
<td>40</td>
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<tr>
<td>Speaking Engagements</td>
<td>38</td>
</tr>
<tr>
<td>Total</td>
<td>138</td>
</tr>
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</table>

Number of Individuals Participating in BPCRC Outreach Programs 2013-2014

<table>
<thead>
<tr>
<th></th>
<th>2013-2014</th>
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</thead>
<tbody>
<tr>
<td>BPRC Tours</td>
<td>1287</td>
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<tr>
<td>School Visits</td>
<td>1891</td>
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<tr>
<td>Rock Boxes</td>
<td>4402</td>
</tr>
<tr>
<td>Speaking Engagements</td>
<td>4242</td>
</tr>
<tr>
<td>Total</td>
<td>11822</td>
</tr>
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</table>
Education and Outreach Program

Audience for BPCRC Outreach Programs 2013-2014

- Elementary School: 34%
- Middle School: 15%
- High School: 10%
- College: 8%
- Adult: 33%
Education and Outreach Program

Number of Outreach Programs and Number of Individuals Participating in Outreach Programs

![Graph showing the number of outreach programs and the number of individuals participating in outreach programs from 2010-2011 to 2013-2014. The graph shows an increase in both metrics over the years.]
Education and Outreach Program

Performance

- Views: 13,983
- Estimated Minutes Watched: 44,316
- Subscribers: 13

BYRD POLAR AND CLIMATE RESEARCH CENTER

THE OHIO STATE UNIVERSITY
Education and Outreach Program

• Funding for the E & O Program
  • BETHA Grant $40,000
  • Donations $10,000
  • Kane Lodge Grant* $5,000
  • Ohio Board of Regents ITQ Grant $40,000
  • Ohio Humanities Council Award $2,000
  • OSU Cares Grant $26,000
Education and Outreach Program

3 Areas of Focus

• Communicate the science of the Byrd Polar and Climate Research Center

• Improve educational materials and instruction in the Earth Sciences in both formal and informal settings

• Communicate accurate and timely information about climate change and increase educational opportunities
Education and Outreach Program

• 2015 Programs & Initiatives

• OSU Cares Programs & 4-H Booklet
• BETHA Maymester Course and Undergraduate Research Project
• Science Olympiad Tournament
• Summer Workshops for Educators
• Fall Film & Archives Exhibition
• Research Group Displays
• Innovation Space Renovation
Help fund the next wave of scientific research

Can we save ash trees from the invasive emerald ash borer?
David Showalter | Pier Luigi (Enrico) Bonello | The Ohio State University

$6,365 Pledged
100% Funded $6,250 Goal 0 Days

Successful
This project was funded on: 20 November 2014

In just the last decade, this wood-boring insect has killed tens of millions of ash trees in North America and is a growing threat to European ash. The goal of this project is to discover genes from Asian ash trees which allow them to resist the insect in order to save the multi-billion dollar ash resources in North America and Europe.
Education and Outreach Program

Glacier Environmental Change Group

Principal investigator: Bryan Merk

The Glacier Environmental Change Group researches patterns, processes, and impacts of environmental change, mostly in glaciated regions. The group integrates methods of glacial geology, glaciology, hydrology, and biogeochemistry. Specializing in tropical mountain regions, they study sites along the entire American Cordillera, in Africa, and in Central Ohio.

Glaciers impact environments and societies on different scales, from valleys to mountain ranges, and time scales, spanning from Earth's past. Understanding glacier environmental changes requires many techniques and perspectives. Precise measurements from sensors on satellites, airplanes, and UAVs quantify ongoing glacier volume changes; landforms and lake sediments reveal past glacier-climate changes; the hydrochemistry of surface waters reflects glacier melt contribution; and computer simulations help explain past and future dynamics.

The Glacier Environmental Change Group's research helps understand that:

- 71% of Earth's tropical glaciers are located in Peru.
- Glaciers in the tropical Andes are subject to long dry seasons. During this season, water from glacial runoff can be as high as 30% of the Santa River's total flow.
- Peak water is an idea that can be applied to persistent and accelerated glacier loss. Some of the wetlands in the Cordillera Blanca in Peru have already passed their peak water from glacier runoff.
- Agriculture, climate change perceptions, economic development, land use changes, and governance all play vital roles in water resource availability. Adaptation to climate change is dependent on these factors in addition to charging quantities of glacier runoff.

Visit the Glacier Change Group's website
Education and Outreach Program

People

- Santiago de la Peña
  - Principal Investigator/Post Doctoral
  - 614 688-8635
delapan5@osu.edu

- Katie Albanese
  - Graduate Fellow (NSF)
  - 614 688-0578
  - albanese.29@osu.edu

- Doug Alsdorf
  - Principal Investigator/Professor
  - 614 247-6908
alsdorf1@osu.edu

- LeSheng Bai
  - Senior Research Associate
  - 614 292-1060
  - bai@palmart1.mps.ohio-state.edu

- Joel Barker
  - Principal Investigator/Assistant...
  - 614 292-3041
barker.246@osu.edu

- Emilie Beaudon
  - Byrd Postdoctoral Fellow
  - 614 292-2682
  - beaudon.1@osu.edu

- Giuliano Bertagna
  - Visiting Scholar
  - 614 292-6531
  - bertagna.3@osu.edu

- Henry Brecher
  - Research Associate (Retired)
  - 614 292-6461
  - brecher1@osu.edu

- David Bromwich
  - Principal Investigator/Professor
  - 614 292-6692
  - bromwich.1@osu.edu

Discussion: Affiliates

- What?
- Why?

APPOINTMENTS
- Undergraduate Student
- Visiting Scholar
- Graduate Student
- Postdoctoral Researcher
- Research Associate
- Principal Investigator
- Staff Member

RESEARCH INTERESTS
- Satellite Hydrology Group
- Remote Sensing Group
- Polar Rock Repository
- Polar Meteorology Group
- Paleoclimatology Group
- Environmental Geochemistry Group
- Education & Outreach
- Archival Program
- Geological Sciences Group
- Glacier Dynamics Group
- Ice Core Paleoclimatology Group
- Goldthwait Polar Library
- Glacier Environmental Change Group
- Administration

- Glacier Dynamics
- Geological Sciences
- Satellite Hydrology
- Polar Meteorology
- Environmental Geochemistry
- Ice Core Paleoclimatology
Education and Outreach Program

• Discussion: Ideas for Initiatives

What’s Next?
• Wikipedia Entries
• Hemispherical & 3D Video
• Earth Sciences Inquiry Activities and Curricula
• NSF-Funded Undergraduate Initiative
• MOOC
We continue to have ~10 donors who give annually or on a routine basis. This includes contributions through OSU payroll deductions of $430/month.

Spontaneous donations do happen!

**Recent contributions:**

- Donation of $4,000 to BPCRC in March 2014 that was used for the purchase and installation of a weather station.
- Donations of $6,250 to BPCRC Education and Outreach Development Fund in both Dec. 2013 and Dec. 2014.
- Donations of $10,000 to BPCRC Ice Core Salvage fund in Dec. 2013 and 2014.
- Donations of $14,120 to the Polar Archives in Dec. 2014.
Byrd Polar Climate and Research Center
Development Fund Names and Numbers

**Friends of BPCRC (306976)**
Supports ongoing BPCRC research needs, BPCRC hosted workshops/conferences and Polar Library acquisitions.

**Rick Toracinta Graduate Scholarship in Atmospheric Sciences (667295)**
Established February 2, 2007 with gifts from the Byrd Polar Research Center, Alma and James Chaney, and numerous others in memory of Dr. E. Richard (Rick) Toracinta; used to provide annual scholarship awards to graduate students studying atmospheric science with preference given to students specializing in severe weather (thunderstorms, tornadoes, and hurricanes), polar meteorology or polar climatology.

**Garry McKenzie Undergraduate Research Support (310423)**
Supports general undergraduate research (travel, fieldwork and laboratory expenses).

**Roberto Filippi Alpine Studies Fund (314531)**
Support for students, researchers (current students, visiting researchers and postdocs) to perform paleoclimatological, glaciallogical and environmental Alpine related research. This includes salary, travel, research supplies and field related expenses.
**Ice Core Salvage Fund (310873)**
Used to upgrade resources and equipment that house the ice cores and other research equipment at the Byrd Center.

**Polar Rock Repository (311024)**
Supports education and outreach activities of the Polar Rock Repository.

**BPCRC Education and Outreach (312018)**
Donations in memory of geology student, Shawn Wight. Donations are used to support travel, research and scholarly activities.

**Global Climate Change Research Support (312019)**
Supports global climate change research, includes all aspects of ongoing research at BPCRC and may be used for travel, laboratory analysis, page or publication charges, and research facility usage.

**Archival Program Support Fund (605837)**
Established April 4, 2003, by the Byrd Polar Archival Program Fund. Income creates a small operating fund for the Program to support all activities common to an operating budget.
**Polar Archives General Fund (305978)**
Donations will support enhancement and preservation of the Byrd Polar and Climate Research Center Archival Program Collection.

**Byrd Polar Fellowship Program (600145)**
Established December 6, 1985, by the Admiral Richard Evelyn Byrd Foundation. Income provides fellowships to those pursuing advanced studies in either Arctic or Antarctic research.

**Henry H. Brecher Scholarship Fund (313523)**
Support of student glaciological field work, photogrammetric interpretation and /or other physical science research endeavors consistent with the mission of OSU BRPC.

**Emanuel D. Rudolph Polar Studies Fund (606237)**
Established October 1, 1993, with a bequest from Dr. Rudolph, third director of the Institute of Polar Studies, family, friends and colleagues. Income supports post doctoral and graduate research students and activities of the Goldthwait Polar Library.

**BPRC Polar Meteorology Group Development Fund (313884)**
This fund will support scholarly and research activities of the Byrd Polar and Climate Research Center Polar Meteorology Group. Funds will be used for staff travel, page charges, personnel, student support and supplies.