

This report provides a summary of the awards supported by funds transferred from DOE to NSF as DOE's contribution to the U.S. Global Change Research Program in support of 3 international activities/programs as approved by the U.S. Global Change Research Program on 14 March 2014. The programs are the International Geosphere-Biosphere Programme, the DIVERSITAS programme, and the World Climate Research Program. All program awards ended as of 09-23-2015.

### Preview of Award 1247560 - Final Project Report

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#### Cover

Federal Agency and Organization Element to Which Report is Submitted:	<b>4900</b>
Federal Grant or Other Identifying Number Assigned by Agency:	<b>1247560</b>
Project Title:	<b>Coordinating International Global-change Research and Synthesis to Help Guide Society onto a Sustainable Pathway: The International Geosphere-Biosphere Program</b>
PD/PI Name:	<b>Sybil Seitzinger, Principal Investigator</b>
Recipient Organization:	<b>International Geosphere</b>
Project/Grant Period:	<b>10/01/2012 - 09/30/2015</b>
Reporting Period:	<b>10/01/2014 - 09/30/2015</b>
Submitting Official (if other than PD\PI):	<b>Sybil Seitzinger Principal Investigator</b>
Submission Date:	<b>09/22/2015</b>
Signature of Submitting Official (signature shall be submitted in accordance with agency specific instructions)	<b>Sybil Seitzinger</b>

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#### Accomplishments

**\* What are the major goals of the project?**

- 1) Advance Earth-system science
- 2) Enhance our international network to create and sustain leadership in research and activities in support of global sustainability.
- 3) Set new research priorities and develop the international research agenda for the coming decades by engaging a range of stakeholders.
- 4) Deepen the engagement between IGBP scientists and the Earth observations community and major space agencies
- 5) Communicate Earth-system research to an ever-broader audience

## Major Activities:

The activities reported here pertain to the IGBP Secretariat, which coordinates the program's international network (core projects and national committees), implements the decisions of the Scientific Committee, and communicates IGBP research to a variety of stakeholders. As with previous years the Secretariat liaisons for the core projects attended Scientific Steering Committee (SSC) meetings, communicated regularly with the International Project Offices (IPOs), and continued to facilitate cross-project collaboration and communication. The past year witnessed significant progress with IGBP's overarching synthesis, with the submission of 11 synthesis manuscripts for publication. Routine administrative tasks including record-keeping and managing meetings and memberships, and archiving in view of IGBP's closure at the end of 2015. Below are some examples of the range of activities that the Secretariat undertook in the past year. **In parentheses after each heading is the number of the goal that the item refers to (see goals above).**

### **30th IGBP Scientific Committee Meeting (1, 2, 3)**

The meeting (28-30 April 2015) was held in Austria at the International Institute for Applied Systems Analysis (IIASA). Over 40 participants met to discuss three main themes: IGBP's landmark synthesis, the program's transition to Future Earth, and a special event to be held at the American Geophysical Union Fall meeting at the end of 2015. An associated symposium, organized by IIASA, included an international symposium and public lecture around the theme of "Integrated Science for Sustainable Transitions."

The SC meeting was preceded by a one-day meeting of our core project international project offices (IPOs), with discussions on what makes a successful core project, and discussions with the newly appointed Future Earth Executive Director, Paul Shrivastava. Following the SC meeting, a one-day IGBP SC Officers meeting was held to further advance detailed discussions on the closing of IGBP as a program.

### **27th IGBP SC Officers Meeting (1, 2)**

The IGBP SC Officers meeting (20-21 October 2014) was held in Stockholm at the Royal Swedish Academy of Sciences (KVA). Members of the Future Earth interim secretariat from the five global hubs also attended portions of the meeting. The meeting focused on IGBP's final syntheses, including a Landmark Synthesis Event at the American Geophysical Union (AGU) Fall Meeting, 14-18 December 2015, in San Francisco.

### **Core Project SSC meetings**

NSF funding contributed to the IGBP core projects' Scientific Steering Committee (SSC) meetings, which were held around the world, with IGBP Secretariat liaisons attending. Among these, for example, the PAGES SSC met in Las Cruces, Chile, in January 2015, preceded by a two-day symposium of science presented by researchers from South America. Core project SSCs discussed the transition to Future Earth, among other topics.

### **IGBP Landmark Synthesis Events at AGU**

As part of the celebratory event to be held at the 2015 AGU Fall Meeting, IGBP is co-sponsoring over 60 scientific sessions covering a range of topics, as well as co-hosting an early-career scientists' event (in partnership with Future Earth); a booth; and an evening reception. The IGBP Secretariat has raised funds to support the participation of early-career scientists from the developing world and has worked actively to develop sessions as well as encourage abstract submission.

### **Maintaining strong links with international research programs (2, 3)**

The IGBP leadership attended the scientific committee meeting of the remaining global-change program, World Climate Research Program (WCRP). IGBP also continued its close engagement with the emerging Future Earth initiative (see below).

### \* What opportunities for training and professional development has the project provided?

The scientific staff of IGBP interacts closely with the various IGBP projects, including attending their Scientific Steering Committee meetings, Open Science Meetings, annual International Project Office meetings and various workshops. This enables them to keep up to date with and participate in the latest developments in their respective areas of scientific expertise.

The science staff regularly present and discuss recent scientific advances for the entire IGBP Secretariat staff to enable staff to participate in science communication activities.

A training budget allows staff to increase their skills through various training courses.

### \* How have the results been disseminated to communities of interest?

#### Standard products and tools

As with every year the IGBP Secretariat published the successful *Global Change* magazine and an annual report. The magazine is a highly successful biannual publication that includes news and features highlighting various dimensions of climate- and environmental change. It is distributed to a global readership of over 3,000 scientists, policymakers, funders, stakeholders and the general public. The annual report is a flagship publication that highlights the value of IGBP's core projects and synthesizing capacity. The report is distributed to 500 key stakeholders worldwide including all major funders.

IGBP continued to produce regular email bulletins and a "director's report" summarising key activities in the secretariat and is sent to the Scientific Committee, core projects, national committees and close stakeholders.

Visitor numbers to IGBP's website amount to tens of thousands of visitors monthly[[TK—Ninad is checking with Charlotte]]. IGBP is active on major social media sites Facebook and Twitter. In particular, the Secretariat has used Twitter successfully in conveying scientific information and stimulating discussion. The Secretariat actively promoted these tools to the core projects.

#### Archiving

IGBP has developed and is implementing a comprehensive archiving strategy to ensure electronic and hard copies of all IGBP reports and products will have long-term accessibility. The SC meeting agendas, minutes and background documents will be available, as will an archive of the IGBP website, stored by ICSU.

#### Infographics/data visualizations

IGBP produced several infographics relating to ocean acidification and deltas for inclusion in various products including a summary for policymakers on ocean acidification and the IGBP *Global Change* magazine.

#### Articles in high-impact journals

See the PowerPoint presentation and publications list submitted as attached pdf.

Supporting Files				
Filename	Description		Uploaded By	Uploaded On
<a href="#">(Download)</a> CorePro-slides-2015.pdf	Key findings from IGBP core projects during reporting period		Sybil Seitzinger	08/06/2015

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#### Products

## **Books**

### **Book Chapters**

### **Inventions**

### **Journals or Juried Conference Papers**

### **Licenses**

### **Other Conference Presentations / Papers**

### **Other Products**

### **Other Publications**

### **Patents**

### **Technologies or Techniques**

### **Thesis/Dissertations**

### **Websites**

#### *IGBP Website*

<http://www.igbp.net>

IGBP website with frequent updates on program activities and products

### **Supporting Files**

Filename	Description	Uploaded By	Uploaded On	
<a href="#">(Download)</a>	Publications list.pdf	Publications list for reporting period	Sybil Seitzinger	08/06/2015

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## Participants/Organizations

### What individuals have worked on the project?

Name	Most Senior Project Role	Nearest Person Month Worked
<a href="#">Seitzinger, Sybil</a>	PD/PI	12
<a href="#">Bondre, Ninad</a>	Co-Investigator	12
<a href="#">Broadgate, Wendy</a>	Co-Investigator	4
<a href="#">Smyth, Karen</a>	Co-Investigator	12
<a href="#">Gaffney, Owen</a>	Other Professional	4
<a href="#">Bostrom, Britta</a>	Other	2
<a href="#">Cutler, Hilarie</a>	Other	6
<a href="#">Wilson, Charlotte</a>	Other	12

### Full details of individuals who have worked on the project:

<b>Sybil Seitzinger</b> <b>Email:</b> sybil.seitzinger@igbp.kva.se <b>Most Senior Project Role:</b> PD/PI <b>Nearest Person Month Worked:</b> 12 <b>Contribution to the Project:</b> PI, Overall project management and direction <b>Funding Support:</b> over 40 countries, including NSF support <b>International Collaboration:</b> Yes, Australia, Austria, Botswana, Brazil, Canada, China, Finland, France, Germany, India, Indonesia, Ireland, Israel, Italy, Japan, Mexico, Monaco, Mongolia, Nepal, Netherlands, New Zealand, Norway, Spain, Sri Lanka, Sweden, Switzerland, Taiwan, United Kingdom, United States <b>International Travel:</b> Yes, New Zealand - 0 years, 0 months, 7 days; Brazil - 0 years, 0 months, 7 days; Germany - 0 years, 0 months, 5 days; Switzerland - 0 years, 0 months, 6 days; Austria - 0 years, 0 months, 7 days
<b>Ninad Bondre</b> <b>Email:</b> Ninad.Bondre@IGBP.kva.se <b>Most Senior Project Role:</b> Co-Investigator <b>Nearest Person Month Worked:</b> 12 <b>Contribution to the Project:</b> senior science editor and science liaison <b>Funding Support:</b> over 40 countries, including NSF <b>International Collaboration:</b> Yes, Austria, Botswana, Chile, China, France, Germany, India, United Kingdom, United States <b>International Travel:</b> Yes, Austria - 0 years, 0 months, 7 days; Germany - 0 years, 0 months, 7 days; Chile - 0 years, 0 months, 10 days
<b>Wendy Broadgate</b> <b>Email:</b> wendy@IGBP.kva.se <b>Most Senior Project Role:</b> Co-Investigator <b>Nearest Person Month Worked:</b> 4 <b>Contribution to the Project:</b> no change <b>Funding Support:</b> over 40 countries including NSF <b>International Collaboration:</b> Yes, Australia, Botswana, Germany, Norway, Sweden, Taiwan, United Kingdom, United States <b>International Travel:</b> Yes, Monaco - 0 years, 0 months, 3 days
<b>Karen Smyth</b> <b>Email:</b> Karen.Smyth@IGBP.kva.se <b>Most Senior Project Role:</b> Co-Investigator <b>Nearest Person Month Worked:</b> 12 <b>Contribution to the Project:</b> no change <b>Funding Support:</b> over 40 countries <b>International Collaboration:</b> Yes, China, Ireland, Lao People's Democratic Republic, Nepal <b>International Travel:</b> Yes, Austria - 0 years, 0 months, 7 days; Ireland - 0 years, 0 months, 6 days; China - 0 years, 0 months, 7 days
<b>Owen Gaffney</b> <b>Email:</b> Gaffney@igbp.kva.se <b>Most Senior Project Role:</b> Other Professional <b>Nearest Person Month Worked:</b> 4 <b>Contribution to the Project:</b> Director of Communications <b>Funding Support:</b> over 40 countries including NSF <b>International Collaboration:</b> Yes, Sweden, Switzerland, United Kingdom, United States <b>International Travel:</b> Yes, Switzerland - 0 years, 0 months, 7 days; United Kingdom - 0 years, 0 months, 3 days

**Britta Bostrom**  
**Email:** Britta@igbp.kva.se  
**Most Senior Project Role:** Other  
**Nearest Person Month Worked:** 2  
**Contribution to the Project:** Finance coordinator  
**Funding Support:** over 40 countries including NSF  
**International Collaboration:** No  
**International Travel:** No

**Hilarie Cutler**  
**Email:** Hilarie.Cutler@igbp.kva.se  
**Most Senior Project Role:** Other  
**Nearest Person Month Worked:** 6  
**Contribution to the Project:** Graphic designer  
**Funding Support:** over 40 countries  
**International Collaboration:** No  
**International Travel:** No

**Charlotte Wilson**  
**Email:** CharlotteW@igbp.kva.se  
**Most Senior Project Role:** Other  
**Nearest Person Month Worked:** 12  
**Contribution to the Project:** support staff  
**Funding Support:** over 40 countries including NSF  
**International Collaboration:** No  
**International Travel:** No

### **What other organizations have been involved as partners?**

Nothing to report.

### **What other collaborators or contacts have been involved?**

#### **Partnership of the Global-Change programs**

#### **Funding agencies and international assessment panels**

International Council for Science (ICSU), the International Group of Funding Agencies (IGFA) and the Belmont Forum provide links to funders, Intergovernmental Panel on Climate Change (IPCC) provides links to international policy. We also maintain contacts and interactions with individual funding agencies in over 70 countries around the world.

#### **UN agencies and international conventions**

Subsidiary Body for Scientific and Technical Advise (SBSTA) of the UNFCCC. IGBP has numerous collaborations with UN agencies including UNESCO, WMO and UNEP.

#### **The observing community**

Group on Earth Observations (GEO), Global Earth Observation System of Systems (GEOSS), Global Climate Observing System (GCOS) and continues to collaborate with the NASA, and the European Space Agency (ESA)

#### **Research and capacity-building partners**

##### **Marine research**

Scientific Committee on Oceanic Research (SCOR).

##### **Atmospheric chemistry**

International Commission on Atmospheric Chemistry and Global Pollution (iCACGP)

##### **Regional collaborations**

Asia-Pacific Network for Global Change Research (APN) and the Inter-American Institute for Global Change Research (IAI), which support IGBP-related research and training activities. Collaboration with APN and IAI is important for helping develop the scientific agenda for research within IGBP in Asia and the Americas, especially through the IGBP regional support office in Brazil.

## Impacts

### What is the impact on the development of the principal discipline(s) of the project?

The sections on Activities and Findings contain information on some of the IGBP contributions to the disciplines associated with our projects. Here we provide some remarks on our contributions to the overall field of Earth-system science.

IGBP, through its core projects, has helped to advance scientific knowledge in a multitude of disciplines. The core projects have focused on the major components of the Earth system (atmosphere, ocean, land), the interfaces between these components, and integration across the system in terms of scope, space and time. Knowledge has been advanced within each of these fields through the work of the core projects, which themselves act to add value to US national programs by providing the international framework and global context for focused, disciplinary efforts and providing collaboration opportunities with experts from other countries.

While this is an important aspect in its own right, IGBP also has forged links between disciplines and promoted interdisciplinary science, particularly across social and natural sciences. IGBP provided the scientific infrastructure within which the core projects could pursue their own objectives while simultaneously collaborating on interdisciplinary goals. In this way, we have balanced focused process studies with integrative, systems-level analyses. Such systems-level integration cannot occur simply by assembling scientists from different disciplines at a common location. It is a rigorous scientific activity in its own right, and requires planning, coordination and a concerted effort to achieve. IGBP also has collaborated extensively with the other ICSU global-change programs.

In 2014/2015, IGBP worked to complete its second synthesis, which situates the program's research in the context of the development of the concepts of Earth-system science and the Anthropocene.

### What is the impact on other disciplines?

Given the importance of transdisciplinary research, IGBP continued to interact with social scientists and practitioners in the field. As they prepare for the transition to Future Earth, IGBP core projects have been keen to diversify their scientific steering committees to include members from other disciplines. Project liaisons from the IGBP Secretariat have helped facilitate this process and have been advising core projects regarding the movement to greater transdisciplinarity.

### What is the impact on the development of human resources?

IGBP and its core projects have fostered capacity-building activities. These include hosted a writing workshop for young researchers in developing countries, to develop their skills in preparing and submitting manuscripts for peer-reviewed publications. IGBP raised funds to sponsor a workshop on co-design/co-production with Future Earth at the coming AGU fall 2015 conference in San Francisco for early career scientists, with an emphasis on researchers from developing countries.

Other relevant information can be found in the 'Accomplishments' section of the report.

### What is the impact on physical resources that form infrastructure?

Nothing to report.

### What is the impact on institutional resources that form infrastructure?

Nothing to report.

### What is the impact on information resources that form infrastructure?

Nothing to report.

### **What is the impact on technology transfer?**

Nothing to report.

### **What is the impact on society beyond science and technology?**

Detailed relevant information can be found in the 'Accomplishments' section of the report. IGBP's most significant impact beyond science and technology is our contribution to the IPCC reports, through the scientific feedback from members of core projects.

IGBP also has worked to engage the public in the past with events, and will do so at the coming AGU fall 2015 conference, where IGBP will sponsor a public multimedia performance by Bella Gaia, to communicate issues of the Anthropocene. The IGBP has engaged lay audiences with its magazine *Global Change* and its online presence, to communicate issues related to Earth-system sciences and the Anthropocene. A recent example is an interactive global map of deltas and how they are changing with sea level rise and human activities, in the magazine and online.

More broadly, toward the end of the 30-year history of IGBP, the program began engaging more with stakeholders and policy makers; these activities would not have been considered at IGBP's inception, when scientific efforts to bring together satellite data, globalize databases, and foster interdisciplinary research held center stage. As the science has matured and interdisciplinarity has grown, the IGBP was able to enter a phase in which it could include communities, for example in problem-solving deltas management, and bring policy-relevant scientific results to the attention of policy makers regarding carbon storage and other issues.

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## **Changes/Problems**

### **Changes in approach and reason for change**

Nothing to report.

### **Actual or Anticipated problems or delays and actions or plans to resolve them**

Nothing to report.

### **Changes that have a significant impact on expenditures**

Nothing to report.

### **Significant changes in use or care of human subjects**

Nothing to report.

### **Significant changes in use or care of vertebrate animals**

Nothing to report.

### **Significant changes in use or care of biohazards**

Nothing to report.

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## Preview of Award 0839981 - Annual Project Report

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### Cover

Federal Agency and Organization Element to Which Report is Submitted:	<b>4900</b>
Federal Grant or Other Identifying Number Assigned by Agency:	<b>0839981</b>
Project Title:	<b>Scientific integration and coordination activities of DIVERSITAS, the global change programme dedicated to Biodiversity science</b>
PD/PI Name:	<b>Deliang Chen, Principal Investigator Anne Larigauderie, Co-Principal Investigator</b>
Recipient Organization:	<b>International Council of Scientific Unions</b>
Project/Grant Period:	<b>10/01/2009 - 09/30/2016</b>
Reporting Period:	<b>10/01/2014 - 09/30/2015</b>
Submitting Official (if other than PD\PI):	<b>Deliang Chen Principal Investigator</b>
Submission Date:	<b>09/21/2015</b>
Signature of Submitting Official (signature shall be submitted in accordance with agency specific instructions)	<b>Deliang Chen</b>

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### Accomplishments

\* **What are the major goals of the project?**

Please refer to attached report.

\* **What was accomplished under these goals (you must provide information for at least one of the 4 categories below)?**

Major Activities:	Please refer to attached report.
Specific Objectives:	Please refer to attached report.
Significant Results:	Please refer to attached report.
Key outcomes or Other achievements:	Please refer to attached report.

**\* What opportunities for training and professional development has the project provided?**

Please refer to attached report.

**\* How have the results been disseminated to communities of interest?**

Please refer to attached report.

**\* What do you plan to do during the next reporting period to accomplish the goals?**

Please refer to attached report.

**Supporting Files**

Filename	Description	Uploaded By	Uploaded On
<a href="#">(Download)</a> DIVERSITAS_NSF_Progress report_FY14.pdf	Diversitas NSF Progress report FY2014	Deliang Chen	09/21/2015
<a href="#">(Download)</a> DIVERSITAS_Annual-Report_2013-14_Web.pdf	DIVERSITAS Annual Report 2013-2014	Deliang Chen	09/21/2015

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## Products

### Books

Nothing to report.

### Book Chapters

Nothing to report.

### Inventions

Nothing to report.

### Journals or Juried Conference Papers

Nothing to report.

**Licenses**

Nothing to report.

**Other Conference Presentations / Papers**

Nothing to report.

**Other Products**

Nothing to report.

**Other Publications**

Nothing to report.

**Patents**

Nothing to report.

**Technologies or Techniques**

Nothing to report.

**Thesis/Dissertations**

Nothing to report.

**Websites**

Nothing to report.

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**Participants/Organizations****What individuals have worked on the project?**

Name	Most Senior Project Role	Nearest Person Month Worked
<a href="#">Chen, Deliang</a>	PD/PI	0
<a href="#">Larigauderie, Anne</a>	Co PD/PI	0

**Full details of individuals who have worked on the project:**

**Deliang Chen**  
Email: [Deliang.Chen@icsu.org](mailto:Deliang.Chen@icsu.org)

**Most Senior Project Role:** PD/PI  
**Nearest Person Month Worked:** 0  
**Contribution to the Project:** -  
**Funding Support:** -  
**International Collaboration:** No  
**International Travel:** No

**Anne Larigauderie**  
Email: anne@diversitas-international.org  
**Most Senior Project Role:** Co PD/PI  
**Nearest Person Month Worked:** 0  
**Contribution to the Project:** -  
**Funding Support:** -  
**International Collaboration:** No  
**International Travel:** No

### **What other organizations have been involved as partners?**

Nothing to report.

### **What other collaborators or contacts have been involved?**

Nothing to report

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## **Impacts**

### **What is the impact on the development of the principal discipline(s) of the project?**

Please refer to attached report.

### **What is the impact on other disciplines?**

Please refer to attached report.

### **What is the impact on the development of human resources?**

Nothing to report.

### **What is the impact on physical resources that form infrastructure?**

Nothing to report.

### **What is the impact on institutional resources that form infrastructure?**

Nothing to report.

### **What is the impact on information resources that form infrastructure?**

Nothing to report.

### **What is the impact on technology transfer?**

Nothing to report.

### **What is the impact on society beyond science and technology?**

Please refer to attached report.

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## **Changes/Problems**

### **Changes in approach and reason for change**

This NSF award was provided as a supplement grant to cover retrospectively DIVERSITAS activities in FY14.

### **Actual or Anticipated problems or delays and actions or plans to resolve them**

Nothing to report.

### **Changes that have a significant impact on expenditures**

Nothing to report.

### **Significant changes in use or care of human subjects**

Nothing to report.

### **Significant changes in use or care of vertebrate animals**

Nothing to report.

### **Significant changes in use or care of biohazards**

Nothing to report.

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### Preview of Award 1419393 - Annual Project Report

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#### Cover

Federal Agency and Organization Element to Which Report is Submitted: **4900**

Federal Grant or Other Identifying Number Assigned by Agency: **1419393**

Project Title: **WCRP Proposal to NSF for Funding by US Global Change Research Agencies - 2014-2018**

PD/PI Name: **Steven Wilson, Principal Investigator**

Recipient Organization: **International Council of Scientific Unions**

Project/Grant Period: **09/01/2014 - 08/31/2019**

Reporting Period: **09/01/2015 - 08/31/2016**

Submitting Official (if other than PD\PI): **Steven Wilson**  
**Principal Investigator**

Submission Date: **06/20/2016**

Signature of Submitting Official (signature shall be submitted in accordance with agency specific instructions) **Steven Wilson**

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### Accomplishments

#### \* What are the major goals of the project?

See the attached report

#### \* What was accomplished under these goals (you must provide information for at least one of the 4 categories below)?

Major Activities: see the attached report

Specific Objectives:

Significant Results: see the attached report

Key outcomes or Other achievements: see the attached report

**\* What opportunities for training and professional development has the project provided?**

see the attached report

**\* How have the results been disseminated to communities of interest?**

see the attached report

**\* What do you plan to do during the next reporting period to accomplish the goals?**

see the attached report

**Supporting Files**

Filename	Description	Uploaded By	Uploaded On
<a href="#">(Download)</a> WCRP report_grant_1419393.pdf	WCRP progress report FY2015	Steven Wilson	06/20/2016

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## Products

### Books

Nothing to report.

### Book Chapters

Nothing to report.

### Inventions

Nothing to report.

### Journals or Juried Conference Papers

Nothing to report.

### Licenses

Nothing to report.

### Other Conference Presentations / Papers

Nothing to report.

### Other Products

Nothing to report.

#### **Other Publications**

Nothing to report.

#### **Patents**

Nothing to report.

#### **Technologies or Techniques**

Nothing to report.

#### **Thesis/Dissertations**

Nothing to report.

#### **Websites**

Nothing to report.

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### **Participants/Organizations**

#### **What individuals have worked on the project?**

Name	Most Senior Project Role	Nearest Person Month Worked
<a href="#">Wilson, Steven</a>	PD/PI	0
<a href="#">Carlson, David</a>	Co-Investigator	12

#### **Full details of individuals who have worked on the project:**

<b>Steven Wilson</b> <b>Email:</b> steven.wilson@icsu.org <b>Most Senior Project Role:</b> PD/PI <b>Nearest Person Month Worked:</b> 0 <b>Contribution to the Project:</b> Former director of ICSU <b>Funding Support:</b> - <b>International Collaboration:</b> No <b>International Travel:</b> No
<b>David Carlson</b> <b>Email:</b> dcarlson@wmo.int <b>Most Senior Project Role:</b> Co-Investigator <b>Nearest Person Month Worked:</b> 12 <b>Contribution to the Project:</b> Director of the World Climate Research Programme Joint Planning Staff office <b>Funding Support:</b> support is provided by Norway for CliC, USA for GEWEX, Switzerland for SPARC - and new - China and India for CLIVAR, Sweden for CORDEX <b>International Collaboration:</b> Yes, Switzerland <b>International Travel:</b> No

**What other organizations have been involved as partners?**

Nothing to report.

**What other collaborators or contacts have been involved?**

WCRP continues positive and effective relationships with its co-sponsoring organizations, the Intergovernmental Oceanographic Commission (IOC) of UNESCO, the International Council for Science (ICSU) and the World Meteorological Organization. These three organizations recruit and determine the membership of WCRP's Joint Science Committee (JSC). On behalf of these three sponsors WCRP negotiated formal declaration of partnership with the emerging programme Future Earth sponsored by the Science and Technology Alliance for Global Sustainability. WCRP engages successfully with WMO co-sponsored programmes and technical commissions including the Global Climate Observing System (GCOS) through shared membership on the GCOS science panels for ocean, atmosphere and land (OOPC, AOPC and TOPC, respectively). Based on mutual interest in the development and definition of climate observing networks and essential climate variables, WCRP works with the Commission for Climatology through the CLIVAR/CCI/JCOMM/GEWEX Expert Team on Climate Change Detection and Indices (ETCCDI). WCRP, the World Weather Research Programme (WWRP) specifically, and the Atmospheric Research and Environment Branch (ARE) generally engage in mutually planned, implemented and sponsored research on sub-seasonal to seasonal prediction, high-impact weather and polar prediction.

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## Impacts

**What is the impact on the development of the principal discipline(s) of the project?**

see the report

**What is the impact on other disciplines?**

see the report

**What is the impact on the development of human resources?**

Nothing to report.

**What is the impact on physical resources that form infrastructure?**

Nothing to report.

**What is the impact on institutional resources that form infrastructure?**

Nothing to report.

**What is the impact on information resources that form infrastructure?**

Nothing to report.

**What is the impact on technology transfer?**

Nothing to report.

**What is the impact on society beyond science and technology?**

see the report

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## **Changes/Problems**

### **Changes in approach and reason for change**

Nothing to report.

### **Actual or Anticipated problems or delays and actions or plans to resolve them**

Nothing to report.

### **Changes that have a significant impact on expenditures**

Nothing to report.

### **Significant changes in use or care of human subjects**

Nothing to report.

### **Significant changes in use or care of vertebrate animals**

Nothing to report.

### **Significant changes in use or care of biohazards**

Nothing to report.

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