

Environmental Consortium

of Hudson Valley Colleges & Universities

River Summer Task Force Report

Steering Committee Meeting 10 February, 2012

Summary

This report documents the River Summer 2011 program. It is the final River Summer program funded by the 2008 Mellon grant. With approval from Mellon, we received a no cost extension and were able to run the program for an additional summer. We continued to work towards our goals: 1) Increase connections among faculty at different institutions and from different disciplines, and 2) Facilitate the development of curriculum and activities by faculty and teachers at their home institutions and schools based on River Summer's field & place based activities. River Summer 2011 ran from July 7th through July 16th. A total of 95 individuals from 43 different institutions and organizations participated in this year's program (see Appendix I: Participant List). We used the theme of climate change past, present and future to connect numerous field based activities from a variety of disciplines.

Task Force meetings and planning

The topic of climate change has many facets, and while some task force members had familiarity climate science, we realized that there was a wealth of information on this topic especially with regard to teaching the topic, reading lists, and field based/hands on activities. We enlisted several individuals to help us focus and develop this year's program including: Andy Revkin (Pace Academy for Applied Environmental Studies), Mary-Elena Carr (Columbia Climate Center), Ken Eklund (game developer designing Future Coast) and Eve Mosher (artist behind the HighWaterLine project)

Logistics and program modifications

Assigned readings

Similar to last year's program, we decided to include a manageable amount of assigned readings that would form the basis of focused discussions during the program. We included *The Psychology of Climate Change Communication* by Debika Shome and Sabine Marx (available online <<http://www.cred.columbia.edu/guide/>>, and a collection of articles and other information (See Appendix II for an annotated reading list)

Journaling

Based on the success we had in RS09 and RS10, we continued to include the journaling in this year's program. After a brief discussion of the day's activities, two participants volunteered to write the journal entry. The RS2011 journal is available on line at:

<http://www.riversummer.org/photos/module1_2011.html> and
<http://www.riversummer.org/photos/module2_2011.html>

Modules

RS2011 had two modules:

Module 1 – Port Jefferson to West Point

This was the first year we started in Long Island Sound (LIS); the geology of Port Jefferson and the transit to NY Harbor was an excellent way to begin, allowing us to compare water quality measurements between LIS and the Hudson River with the participants. Expanding into Long

Island Sound serves as a good example of how adaptable the River Summer approach is. Similar to last year, we included an entire day of staging and set-up prior to the start of Module 1, which made everything run a lot smoother. We started the module on the morning of the first day and finished by the mid-afternoon of the last day; extending the time on both ends of the program allowed the inclusion of additional activities and adequate time for discussion and wrap-up.

Module 2 – Poughkeepsie/Kingston/Tarrytown

A highlight of the summer occurred the first day of Module II when we hosted a group of summer undergraduate interns at Cary Institute of Ecosystem Studies and a group of high school students participating in a pre-college program at Marist College for an onboard program focused on Hudson River Fish. The experience continued into the evening with the entire group attending a local foods dinner on Marist waterfront hosted by Geoff Brackett (Marist College) and discussion about energy use and climate led by John Cronin (Beacon Institute for Rivers and Estuaries). The wrap-up for Module II was conducted underway, leaving Kingston early in the morning on the last day and putting participants ashore in Tarrytown.

Appendix III contains the final RS11 activity schedule.

No Adirondacks module

While we were initially committed to an Adirondack Module for RS11, the available funds would not permit both a river and an Adirondack module. In the end, we opted for the river modules, which typically allow us to impact a larger number of participants. The Adirondacks are important, and we feel there are excellent opportunities with some additional connections and content development.

Participants

We had a fairly even mix of college faculty/researchers, organization representatives, teachers, and students with the dominant group being faculty (see figure below for breakdown). Of the 95 participants in this year's program, there were 66 who were new to River Summer and 29 that had participated in previous River Summer Programs. Of the repeaters, 8 participated in a different role or taught a modified program. From our measures of assessment, RS11 was very successful. Participant evaluations were quite positive. A few quotes:

“The transit aspect of the trip was important, Hearing from the guest learners and scientists incredible.”

“I really like the collaborative team effort in gathering data and exchanging ideas aboard a boat.”

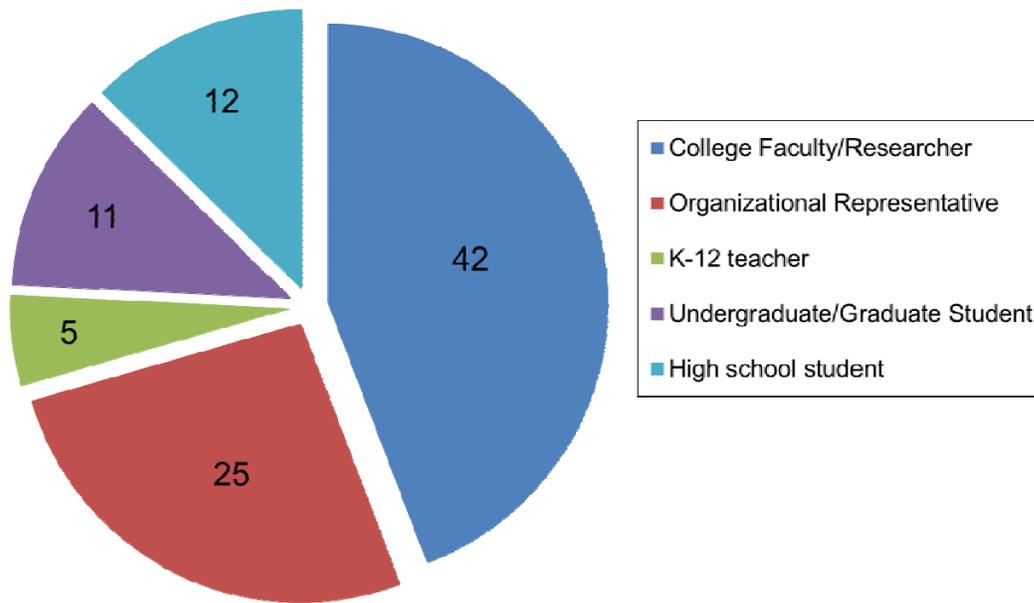
“I relish learning from other people. I work in a vacuum and it is sorely missed during the year.”

“I liked everything. It yielded so many rewards. The professional development is invaluable!”

“Well planned events and great connections to resources.”

“Everything I expected and a billion times more!”

RS11 Participants (95 Total)



Program

RS11 followed in the direction of curricular activities connected by a common theme; this approach continues to work well. The lengthening of the modules allowed sufficient time for numerous activities as well as time to participate in discussions and synthesize the gathered information at the end of the module. The set-up day at the beginning of the program contributed greatly to a smooth program. The journal continues to work well and provides an excellent archive of our journey in the participants' own words, and the participants list it highly on their evaluations as a way to recap and discuss at the end of the day. Once again, the task force participants played a crucial role in program development and were an incredible resource.

River Summer Transitions to the Future

The Mellon grant ended December 31, 2011 and there are currently no funds to continue the program in its current form. A meeting of the River Summer task force was held to discuss possible funding sources and potential programmatic adaptations. The Committee discussed the following recommendations:

- Gather feedback from RS faculty participants for statistics on impacts which will be needed for further funding
- Examine ways to fit the program into some of the new cross cutting NSF grant opportunities – especially those focusing on inter-disciplinarity
- Examine connections with SESYNC the National Socio-Environmental Synthesis Center through Alan Berkowitz
- Consider focusing on where we have the potential for collaboration of colleges – such as the mid-Hudson section of the river
- Work through college administration to generate understanding of the need to invest in faculty development and renewal
- Adjusted models might include piggybacking on times the Seawolf is already in the estuary for a Barnard program. Providing time for faculty development along with time for students.

A follow up meeting is planned for later this spring to further examine next steps with Marist College offering as a host for the meeting and a possible outreach event with colleges.

Environmental Consortium of Hudson Valley Colleges and Universities

Bard College	Ramapo College of New Jersey
Barnard College	Rensselaer Polytechnic Institute
Barrington College	The Sage Colleges
Colgate University	The College of Saint Rose
Columbia University	Saint Thomas Aquinas College
CUNY Lehman College	Sarah Lawrence College
CUNY - Queens College	Siena College
Dominican College	Skidmore College
Fordham University	SUNY Columbia-Greene Community College
Hamilton College	SUNY - Dutchess Community College
Iona College	SUNY - Maritime College
Manhattan College	SUNY - New Paltz
Manhattanville College	SUNY - North Country Community College
Marist College	SUNY - Orange County Community College
Marymount College of Fordham University	SUNY - Purchase College
Marymount Manhattan College	SUNY - Rockland Community College
Massachusetts College of Liberal Arts	SUNY - Schenectady County Community College
Mercy College	SUNY - Stony Brook
Mount Saint Mary College	SUNY - Ulster County Community College
NYU	SUNY - University at Albany
College of Mount Saint Vincent	SUNY - Westchester Community College
The College of New Rochelle	The New School
Pace University	Union College
Polytechnic University	Vassar College

- Yellow notes school has had faculty participate

Impacts

The above graphic illustrates how widespread participation in the River Summer program has been among the various consortium member institutions. There are many connections that have been made within and between institutions through the time spent working and living on the research vessel.

While the program is looking at the very least at a major transition, and possibly closure, there remains a huge legacy that has been developed in: the interdisciplinary connections for the participants; the relationships between the participants from the many institutions in the Consortium and the wider Hudson Valley; the recognition of the impact of going out into the field to teach and learn; the knowledge of the how to take students into the field; and the more subtle impacts that participants noted in their changing relationship with 'place', for us the Hudson River. If you ask people to recall their most memorable learning experience many will cite a field trip they took in school...imagine then the learning impact of 5 days on a boat in the Hudson surrounded by a small group of colleagues!

NYSDEC Curriculum Pieces

As part of a grant from NYSDEC, several of the RS activities were developed as stand alone Hudson-based curricular components. Completed and currently available on the River Summer website (<http://www.riversummer.org/curricula/field.html>) are:

- Brian Jensen - Fisheries Biology

- Carol Rietsma - Marsh Ecology
- Tom Sarro – Comparing Forest Communities in Close Proximity
- Steve Schimrich - Geology of the Lower Hudson Valley
- Dan Farkas - Introduction to Using GIS Mapping Using
- Marilyn Powers - New Urbanism, the Political Economy of the Hudson River Valley and a Walking Tour Case Study
- Margie Turrin – Conservation History - The Historic Palisades Interstate Park Commission: A Collaboration Built on Differences
- Elizabeth Hutchinson – Seeing the Hudson Valley through the eyes of the ‘Hudson River School’
- Bob Spiegelman - Interdisciplinary Perspectives on "Muh-hekun-ne-tuk" River Sites, or "A Tale of Three Middens"

Filmclips

A series of half a dozen film clips are being developed as an introduction to the program and the various teaching methods and experiences. Designed to inform about the existing curriculum and materials on the website, each will lead the viewer to sets of podcasts or curriculum around the theme explored in the clip.

Podcasts

Continuing on with work started by Michelle Land and Donna Kowal, we worked with Besim Duhaj to produce iPod recordings that have been collected over the last several years of River Summer. editing them with short introductory clips and photo displays. We have the following audios cleaned up and posted with photo display. For each completed video a short 5 minute preview and a full length audio have been posted.

<http://www.riversummer.org/curricula/video.html>

As additional pieces are completed, they will be made available.

- Sterling Forest: The Sterling Iron Mine – Doc Bayne
- National Estuarine Research Reserve: The Role of the Reserve in the Estuary – Betsy Blair
- The Hudson River as a Literary Source: Source or Resource – Geoff Brackett
- The Beacon Institute for Rivers & Estuaries: Green Building at Dennings Point – Regan Chichester
- Hudson River Map Exhibit: Maps as a Means of Learning Your Area History & Resources – Patti Dunne
- Exploring Newburgh’s Revitalization – Melissa Everett
- Highland Environmental History: Protecting Sterling Forest – Howard Horowitz
- Archeological Sites on the Hudson River – Lucy Johnson
- Marathon Battery Factory: Foundry Cove – Eric Lind
- Using Side Scan Sonar to learn about the bottom of the river – Frank Nitsche
- Well Water Contamination and its effect on trust in public institutions – Diane Olsen
- Hudson River Fisheries Biology, History and Practice – John Mylod
- Hudson River Meanings – Ric Scarce
- Industrial Archeology of Foundry Cove – Tim Scarlett
- Catskill Geology & its role in the Hudson River School of Art – Steve Schimrich & Elizabeth Hutchinson
- The Hudson River Harbor: Swimming with the fishes– John Waldman

Please feel free to contact Tim Kenna tkenna@ldeo.columbia.edu or Margie Turrin mkt@ldeo.columbia.edu , if you have any questions or comments.

Appendix I – River Summer 2011 Participant List

Name	Institution/Organization	Category
Susan Fox Rogers	Bard College	College Faculty/Researcher
Elizabeth Hutchinson	Barnard College	College Faculty/Researcher
Gel Alvarado	Cary Institute of Ecosystem Studies	College Faculty/Researcher
Alan Berkowitz	Cary Institute of Ecosystem Studies	College Faculty/Researcher
Stuart Findley	Cary Institute of Ecosystem Studies	College Faculty/Researcher
Peter Groffman	Cary Institute of Ecosystem Studies	College Faculty/Researcher
Lia Harris	Cary Institute of Ecosystem Studies	College Faculty/Researcher
Rob Osborne	Cary Institute of Ecosystem Studies	College Faculty/Researcher
Pat Zolnik	Cary Institute of Ecosystem Studies	College Faculty/Researcher
Mike Gerrard	Director of the Center for Climate Change Law of Columbia Law School	College Faculty/Researcher
Roger Panetta	Fordham University	College Faculty/Researcher
Gina DiBenedetto	Franklin & Marshall	College Faculty/Researcher
Meryl Nadel	Iona College	College Faculty/Researcher
Emily Hauser	Kingston Community College	College Faculty/Researcher
Mary Ann Brueckner	Lamont-Doherty Earth Observatory	College Faculty/Researcher
Klaus Jacobs	Lamont-Doherty Earth Observatory	College Faculty/Researcher
Javier Martin-Fernandez	Lamont-Doherty Earth Observatory	College Faculty/Researcher
Neil Pederson	Lamont-Doherty Earth Observatory	College Faculty/Researcher
Mandy Freund	Lamont-Doherty Earth Observatory	College Faculty/Researcher
Dario Martin-Benito	Lamont-Doherty Earth Observatory	College Faculty/Researcher
Tim Kenna	Lamont-Doherty Earth Observatory	College Faculty/Researcher
Margie Turrin	Lamont-Doherty Earth Observatory	College Faculty/Researcher
Chris Bowser	Marist College	College Faculty/Researcher
Geoff Brackett	Marist College	College Faculty/Researcher
Dean Goddard	Marist College	College Faculty/Researcher
Michael Koch	Marist College	College Faculty/Researcher
Carol Pauli	Marist College	College Faculty/Researcher
Laurel Walker	Marist College	College Faculty/Researcher
Max Moser	Marist College	College Faculty/Researcher
Steve Sansola	Marist College	College Faculty/Researcher
Paula Willoquet	Marist College	College Faculty/Researcher
Alessandra Leri	Marymount College	College Faculty/Researcher
Phillip Meyers	Marymount College	College Faculty/Researcher
Tom Sarro	Mt. St. Mary's College	College Faculty/Researcher
Dorothy Peteet	NASA GISS	College Faculty/Researcher
Hannes Brueckner	Queens College	College Faculty/Researcher
Howard Horowitz	Ramapo College	College Faculty/Researcher
Ann LePore	Ramapo College	College Faculty/Researcher
Brent Turrin	Rutgers University	College Faculty/Researcher
Gil Hanson	Stony Brook University	College Faculty/Researcher
Kristen Menking	Vassar College	College Faculty/Researcher
Rock Hoff	West Point Military Academy	College Faculty/Researcher
John Cronin	Beacon Institute for Rivers and Estuaries	Organizational Representative
Joseph Puetz	Benedictine Hospital	Organizational Representative
Debbie Ashley	Board of Cooperative Educational Services (BOCES)	Organizational Representative
Michelle DeCurtis	Center for Environmental Earth Science Information Network	Organizational Representative
Arianna Feinberg	Center for Environmental Earth Science Information Network	Organizational Representative
Sabine Marx	Center for Research on Environmental Decisions	Organizational Representative
Victoria Rosoff	Center for Research on Environmental Decisions	Organizational Representative
Rich Schaifo	City of Kingston	Organizational Representative
Majja Niemstro	Clearwater	Organizational Representative
David Conover	Clearwater	Organizational Representative
Ken Darmstadt	Darmstadt Overhead Doors	Organizational Representative
Steve Noble	Forsyth Nature Center	Organizational Representative
Julie Noble	Forsyth Nature Center	Organizational Representative
Jonathan Korn	Kingston Planning Board	Organizational Representative
Lisa DiMarza	Mid-Hudson Children's Museum	Organizational Representative
Shanan Smiley	Mohonk Preserve	Organizational Representative

Appendix I – River Summer 2011 Participant List (continued):

Name	Institution/Organization	Category
Dan Miller	New York State Department of Environmental Conservation	Organizational Representative
Steve Stanne	New York State Department of Environmental Conservation	Organizational Representative
Laurie Fila	New York State Department of Environmental Conservation	Organizational Representative
Jean McAvoy	New York State Department of Environmental Conservation	Organizational Representative
Bob Daniels	New York State Museum	Organizational Representative
Guy Kempe	Rural Ulster Preservation Company	Organizational Representative
Chuck Snyder	Rural Ulster Preservation Company	Organizational Representative
Hayley Muskapf	Scenic Hudson	Organizational Representative
Shawn Bodie	Solartech Renewables	Organizational Representative
Miriam Straus	Friends School	K-12 teacher
Chris Chopp	Pace High School	K-12 teacher
Tom Mullane	Pearl River High School	K-12 teacher
Dora Kwong	Trevor Day School	K-12 teacher
Heather Hall	Wappinger High School	K-12 teacher
Oscar Azucena	Cary Institute of Ecosystem Studies	Undergraduate/Graduate Student
Ayah Bardan	Cary Institute of Ecosystem Studies	Undergraduate/Graduate Student
Kira Gilman	Cary Institute of Ecosystem Studies	Undergraduate/Graduate Student
Jillian Guenther	Cary Institute of Ecosystem Studies	Undergraduate/Graduate Student
Noelle Martinez	Cary Institute of Ecosystem Studies	Undergraduate/Graduate Student
Olivia Santana	Cary Institute of Ecosystem Studies	Undergraduate/Graduate Student
Arial Shogren	Cary Institute of Ecosystem Studies	Undergraduate/Graduate Student
Kristen Sloyer	Cary Institute of Ecosystem Studies	Undergraduate/Graduate Student
Alexandra Rodriguez	Cary Institute of Ecosystem Studies	Undergraduate/Graduate Student
Matt Trentman	Cary Institute of Ecosystem Studies	Undergraduate/Graduate Student
Zack Steele	University of New Hampshire Graduate Fellow	Undergraduate/Graduate Student
Alessandro Abys	Marist College	High school student
Kelsey Flynn	Marist College	High school student
Kristen Knight	Marist College	High school student
Austin O'Toole	Marist College	High school student
Zachary Radin	Marist College	High school student
James Sudo	Marist College	High school student
Courtney Vanni	Marist College	High school student
Olivia Waxler	Marist College	High school student
Matthew Nemia	Marist College	High school student
Philip Prince	Marist College	High school student
Adam Prinzo	Marist College	High school student
Amanda Weinberg	Marist College	High school student

Appendix II – River Summer 2011 Reading List

1. **Defusing the Global Warming Time Bomb** by *Jim Hansen, NASA*

Appeared in Scientific American March 2004

Jim Hansen is an atmospheric scientist and climatologist.

We felt it was important to include a piece from Jim as he is considered one of the contemporary frontrunners in the climate science community to advocate on behalf of the science behind the warming Earth being real and irrefutable,

2. **Abrupt Climate Change** by *Richard Alley, Penn State*

Appeared in Scientific American November 2004

Richard Alley is a geoscientist who has stepped into the climate arena as he has studied the dramatic and accelerating changes in the polar regions.

We felt it was important to include a piece from Richard because he has been a leader in exploring new ways to reach the general public including running specials on PBS (Earth: The Operators' Manual available online at: http://www.earththeoperatorsmanual.com/broadcast_info)

3. **An Introductory Overview of Climate Change (an annotated ppt)** by *Art*

DeGaetano, Cornell

Presented for a NYS Climate Planning Meeting 2006

Art DeGaetano is an atmospheric scientist and the director of the federally supported Northeast Regional Climate Center (NRCC).

We felt it was important to include a piece from Art because he has focused on the impact on the Northeast and also touches on the role of models, certainties and uncertainties.

4. **Sea Level Rise and Storm Hazards, New York City** by *Vivian Gornitz, Center for Climate Systems Research, Columbia University and Goddard Institute for Space Studies*

Paper presented at Stevens Institute 2008 (a generalist summary of the following science paper)

Vivian Gornitz is a geologist and climate scientist who began looking at global sea levels in the 1980s. She has published and presented extensively on sea level and storm surge in the NYC and lower Hudson area. This paper is the science brief from the following paper.

5. **Impact of Sea Level Rise in the New York City Metropolitan Area** by *Vivian Gornitz^a, Stephen Couch^b and Ellen Hartig^c, ^aCenter for Climate Systems Research, Columbia University and Goddard Institute for Space Studies, ^bUS Army Corp of Engineers, NY, ^cWildlife Trust, LDEO*

Appeared in Global and Planetary Changes, 2002

This is the only science journal article we included but we felt it was an important assessment of storm impacts and sea level rise. If you do not make it through this paper please read #4.

6. **Reflections on the Scientific Process, as Seen in Climate Studies** by *Spencer*

Weart

Spencer Weart is a physicist and a historian specializing in the history of modern physics and geophysics. This piece is from his comprehensive website based on his book “*The Discovery of Global Warming*”

<http://www.aip.org/history/climate/index.htm>

Understanding how science is done i.e. the scientific process is key to the climate conversation and nicely summarized in this very readable assessment.

7. **The Climate Science Isn't Settled** by *Richard Lindzen, MIT*

An opinion piece from the Wall Street Journal in Nov. 2009. (Note that while it might appear that a section of the print is missing it is all there – just the type became a little split in the conversion to pdf.)

Richard Lindzen is one of the highest profile, and often cited, nay sayer scientists of climate change/global warming. It is important to see what the argument on the other side is.

8. An Inconvenient Truth: SOS from Al Gore – by *Patrick Bedard* Article from *Car and Driver*, September 2006

We included this article since much of the climate debate is directed at Joe Public or Joe Plumber! This is the car buying community. Again a nay sayer. (ps Tim’s Dad used this article as ammunition on him about why there is no climate crisis!)

9. The Geo-engineering Gambit – by *Kevin Bullis*,

An article from *Technology Review* Jan/Feb 2010. This article addresses some of the geo-engineering ‘fixes’ that have been considered and determined as too extreme in the past but are being given further consideration as we see the climate conversation become more accepted. For example the carbon sequestering deep down in the rock-base currently under study for the Lower Hudson area – in the Newark Basin along I-287 in Rockland NY and The Garden State Parkway in New Jersey.

10. A Plan to Keep Carbon in Check by *Robert Socolow and Stephen Pacala*, *Princeton University*

A piece from *Scientific American* Sept. 2006. Robert Socolow is a mechanical engineer and Stephen Pacala an ecologist, together they lead the Carbon Mitigation Initiative there. This piece addresses changes they suggest we can and should make to keep carbon in check.

11. Take Action Cards by *Eve Mosher*, *Founder of the Highwaterline Project*
<http://www.highwaterline.org/>

Eve Mosher, artist who developed this public artwork project in 2007 as a way to reach those people who are not traditionally involved in the climate conversations. She walked throughout lower Manhattan and as she drew the highwaterline on the ground she spoke to the residents and handed out information on “what to do”. These are her information cards.

Appendix III – River Summer 2011 Program

 <p>River Summer</p>	<p>River Summer 2011 Schedule *(Effective 6/24/11)</p>	 <p>Environmental Consortium</p>
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MODULE 1- LOWER HUDSON 7/7/11-7/11/11

Embark: Port Jefferson Harbor, Long Island New York, NY

Disembark: West Point, New York

Thursday 7/7/11 - Module 1 - Port Jefferson, LI to USMMA, Great Neck, NY-

Board SUNY Sea Wolf @ Port Jefferson Long Island (Note there is an LIRR train that runs to Port Jefferson from Penn Station via Jamaica Station that arrives at 9:52 AM.)

1000 - Participants unload their gear on boat – brief orientation to the program goals and Journaling – Tim Kenna & Margie Turrin, Lamont-Doherty Earth Observatory (LDEO)

1100-1500 Gil Hanson, SUNY Stony Brook

Title of the Curriculum –Long Island – the remains of a glacier

1530-2000 – Water Sampling as Transit LIS

2000 Eve –Layout Discussion Plan for Module

Journaling – group

Friday 7/8/11 -Transit from Great Neck to Pier 40, NYC

0900-1200 Roger Panetta, Fordham College

Title of curriculum: Stories from the East River

0800-1200 – Water Sampling as Transit

1300-1400 – Sabina Marx & Victoria Rosoff, Center for Research on Environmental Decisions (CRED)

Title of curriculum: The Psychology of Climate Change Communication

1800-2030 – Mike Gerard – Columbia Center for Climate Change Law

Title of Curriculum: Hudson River Environmental Legal Battles & Their Climate Implications

Journaling - group

Saturday 7/9/11 Transit Pier 40 - Piermont

0800-1200 - Margie Turrin & Tim Kenna

Title of Curriculum: Communicating Climate Science through crowd sourcing - HighwaterLine Activity (Eve Mosher) and Future Coast Project (Ken Eklund)

1300-1700 – Transit & water sample, Plankton Tow, Trawl, Sturgeon tag & River Summer Staff & Boat Crew

Activity: Trawling ; Plankton tows, Sturgeon – managing coastal resources

1900- 2030 – Klaus Jacobs, LDEO

Title of Curriculum: Running the Hudson with the Tides, NYC to Troy, in 2080!

Journaling – group

Sunday 7/10/11 Transit Piermont to West Point

0800-1200 Hannes Brueckner, Queens College of CUNY & LDEO

Title of curriculum: Creating our Mighty River – the geologic story of the Hudson River

0300-1700 Elizabeth Hutchinson, Barnard College

Title of curriculum: Storm King Art Center – Communicating through Art Forms

1900-2030 – Ann LaPore, Ramapo College

Title of Curriculum: Visualizing Data – Using Art to Display Science

Journaling - group

Monday 7/11/11 Wrap up and Discussion

0900 - 1500 Module 1 participants final wrap up of project

- Data – CTD sections, surface graphs
- Personal/Community/School/Work changes
- Concluding Journal
- Evaluation

Students depart from West Point

MODULE 2 – Poughkeepsie- Cold Spring -7/12/11-7/16/11

Embark: Waryas Park, Poughkeepsie

Disembark: Cold Springs Dock, Cold Spring New York

Tuesday 7/12/11 Waryas Park

1000-1030 – Participants unload their gear on boat, Boat Capt. – brief orientation to the program goals and Journaling – Tim Kenna & Margie Turrin

1030-1330 – Peter Groffman, Cary Institute of Ecosystem Studies

Title of curriculum: The Role of Urban Streams and Riparian Corridors in Climate Changes

1330 -1730 – Bob Daniels, New York State Museum

Title of curriculum: Hudson River Fish, trawling, seining

1800- Geoff Brackett , Marist College - Hosting local foods dinner on Marist waterfront

1900 John Cronin, Beacon Institute for Rivers and Estuaries

Title of curriculum: Energy in the Future – Its place in the center of the Climate Discussion

Journaling – orientation & discussion layout group

Wednesday 7/13/11 Mohonk

0900-1130 Shanan Smiley, Mohonk Preserve -

Activity: Phenology records – their collection and role in the climate story

1130-1330 Kirsten Menking, Vassar College, Dorothy Peteet, NASA GISS, LDEO

Title of curriculum: The story from lake cores – what seeds, needles and pollen can tell us about climate

1330-1630 Neil Pederson, Javier Martin-Fernandez, Mandy Freund, LDEO

Title of curriculum: Tree Rings – uncovering climate history from the history of tree growth

1800 – 2000 Transit to Kingston

Journaling - group

Thursday 7/14/11 Kingston

0800-1200 –Emilie Hauser, chair of the climate adaptation subcommittee for Kingston

Activity: Kingston Waterfront – implications for storm surge and Sea Level Rise

1300 - 1700 Kingston – Rich Schaifo, City of Kingston Climate Analyst & Steve & Julie Noble, Forsythe Nature Center

Title of curriculum: Tackling Climate at the Local Level: Kingston Climate Action Plan – Renewable Energy Initiatives –, Kirkland Hotel Geothermal, Dormstadt Overhead Doors, and Benedictine Hospital Solar uses, & Solartech Renewables local manufacturer

1800 Evening – Dan Miller, Hudson River National Estuarine Research Reserve

Title of curriculum: Sustainable Shorelines Project for the Hudson

Journaling - group

Friday 7/15/11 –

0800-1200 – Steve Stanne, Interpretive Specialist, HREP, DEC

Title of curriculum: Birds & their climate message – The role of the Breeding Bird Atlas

1200- 1300 – Transit to Tivoli

1300 –1500 - Susan Fox Rogers, Bard College

Title of curriculum: Writing in Place – connecting to your inner message

1500 –1700 – Stuart Findlay, Cary Institute of Ecosystem Studies

Title of curriculum: The changing role of the marshes in the Hudson River - and Sea Level Rise

1730 –2000 – Laurie Fila and Jean McAvoy, Hudson River National Estuarine Research Reserve

Canoeing Tivoli Bay

Journaling – group

Saturday 7/16/11 – Transit to Cold Springs

0900 - 1500 Module 2 participants final wrap up of project

- Data
- Concluding Journal
- Personal/Community/School/Work changes
- Wedges Game
- Evaluation

1500 Students depart
