

# BLUE WATERS

SUSTAINED PETASCALE COMPUTING

10/21/13

## Blue Waters User Monthly Teleconference



GREAT LAKES CONSORTIUM  
FOR PETASCALE COMPUTATION

CRAY®

# Agenda

Topics for this webconference:

- Blue Waters Science and Engineering Team Advisory Committee (SETAC)
- Upcoming Events: System Maintenance, Education Allocations, User Workshop.
- Usage tool on the BW portal.
- Mark Erbersole from NVIDIA presents the K20x NVIDIA GPU.
- Science Impact Input Discussion
- Future Blue Waters Users telecons/webinars
  - HPSS/GO Best Practices

## Science Impact Input

# SETAC

- Science and Engineering Team Advisory Committee (SETAC)
- Role: make recommendations to the project director on “positive change or improvement in scope or direction.”
- Duties of SETAC:
  - Advise the project director on overall Project vision and planning.
  - Provide high-level review and recommendations on directions, strategies.
  - Identify challenges and solutions for petascale applications.
  - Recommend strategies for improving communication.
  - Monitor operations and provide guidance.
  - Propose new metrics.
  - Advise the Blue Waters Technical.
  - Take part in follow-on and related activities.

Nominations should be sent via email to [wtkramer@illinois.edu](mailto:wtkramer@illinois.edu) no later than October 24, 2013.

# System Maintenance

- Next week
  - Half day outage to upgrade the system management software (SWM).
- Second week of November
  - Full day outage to upgrade Cray Linux Environment (CLE).
  - CUDA 5.5.
  - Improved resource usage reporting.

# Education Allocation

- Educational uses
  - semester-long courses, workshops, and institutes.
- Contribute to the development of a national workforce with expertise in petascale computing.
- Some possible educational topics include:
  - Large-scale datasets and optimization of I/O file access.
  - Developing and testing of codes that use advanced methods, languages and tools
  - Optimizing and scaling of a community code to a large-scale simulation.
  - Optimizing or developing new libraries and tools that will leverage architecture features or processor counts unique to the Blue Waters system.
  - Modeling of systems or codes.
  - Use of large-scale computation and data analytics in discipline specific classes and events.

For complete details and to submit a proposal, visit:  
<https://bluwaters.ncsa.illinois.edu/education-allocations>.

## Blue Waters Workshop

- December 3-5 at NCSA
- Advanced NVIDIA K20x “Kepler” programming
- Advanced HDF programming
- Presenting performance speedup
- Approaches to job resiliency.
- Overview of compiler, programming models, accelerator languages.
- Full agenda to appear ASAP.

# Portal Usage Tool

- Open access
- Dive-down
- Tables
- see [Usage](#)

Blue Waters User Portal | Usage

https://bluwaters.ncsa.illinois.edu/status-usage

Google

**BLUE WATERS**  
SUSTAINED PETASCALE COMPUTING

SIGN IN NCSA I

YOUR BLUE WATERS SYSTEM STATUS DOCUMENTATION EDUCATION RESOURCES IMPACT

MOTD MACHINE STATUS CALENDAR **USAGE**

USER 10135 HAS USED 0.00 TOTAL NODE HOURS.

BLUE WATERS SYSTEM ALLOCATION DETAILS

**Blue Waters Utilization**

■ Allocated ■ Used

Project Group

Blue Waters Startup  
Great Lakes Consortium  
Education  
PRAC  
Industrial  
Project Innovation and Exploration  
Illinois Allocations

Node Hours

PROJECT GROUP	ALLOCATED NODE HOURS	NODE HOURS USED	PERCENT OF ALLOCATION USED
Blue Waters Startup	191,100.00	1,216.15	0.64
Great Lakes Consortium	3,593,500.00	398,574.57	11.09
Education	60,251.00	4,191.59	6.96
PRAC	177,358,180.00	51,088,060.53	28.81
Industrial	2,000.00	0.00	0.00
Project Innovation and Exploration	40,500.00	27,571.10	68.08
Illinois Allocations	5,926,316.00	1,402,796.23	23.67

YOUR BLUE WATERS Summary  
SYSTEM STATUS MOTD Machine  
DOCUMENTATION Getting Started User Guide  
EDUCATION Overview Workshops  
RESOURCES Data Software  
IMPACT Impact Share Results  
ABOUT Welcome Blue Waters  
HELP Contact Us FAQ




# NVIDIA Presentation

- Mark Ebersole, NVIDIA
  - <https://twitter.com/CudaHamster>



## Request for publications, presentations, ...

- We need to be current on products that result from time on Blue Waters such as:
  - Publications, Preprints (e.g. [arXiv.org](https://arxiv.org)  ), Presentations.
- Appreciate updates sooner than annual reports.
- NSF PRAC teams send information to PoCs.
- See the [Share Results](#) section of the portal as well.

## Future Topics?

- Please send us your suggestions on topics for future teleconferences / webinars