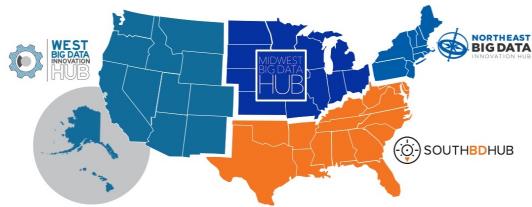


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## SDSC Receives New Funding for West Big Data Innovation Hub

### National Science Foundation extends awards for all four U.S. hubs

The National Science Foundation (NSF) has awarded a second round of funding for the country's four Big Data Innovation Hubs – organizations where academics, community leaders, regional business, and local and state government representatives collaborate to help solve grand challenges of regional importance.



The awards, valued at \$4 million each over a four-year period starting this month, double the budget from the first round of awards made in 2015. One Big Data Innovation Hub is located in each census region (Northeast, South, Midwest, and West). Three of the four are multi-institution collaborations.

Each Hub serves as a thought leader and convening force on social and economic challenges that are unique to the region – for example, fresh water in the West, agriculture in the Midwest, coastal flooding in the South, and aging urban infrastructure in the Northeast. Beyond their regional focus, the Hubs will coordinate to act as a single national body as needed to respond to issues that cross regions, such as U.S. transportation infrastructure and workforce development.

As a new service to the community, each Big Data Hub will maintain a seed fund for translational data science collaborations as part of its budget. This seed fund will provide grants to pilot early feasibility studies for innovative new solutions to grand challenges of importance to the region.

"Developing innovative, effective solutions to grand challenges requires linking scientists and engineers with local communities," said Jim Kurose, Assistant Director for Computer and Information Science and Engineering at NSF. "The Big Data Hubs provide the glue to achieve

those links, bringing together teams of data science researchers with cities, municipalities and anchor institutions.”

The collaborative award for continued funding of the West Big Data Innovation Hub was made to SDSC Director Michael Norman as Principal Investigator (PI) of the project at UC San Diego, and Christine Kirkpatrick, who leads SDSC’s Research Data Services group, as co-PI.

The West Big Data Innovation Hub – comprised of 13 states with Montana, Colorado, and New Mexico marking the eastern boundary – is led from UCSD, UC Berkeley, and the University of Washington. Among notable initiatives led by the West Hub is the California Water Data Challenge, in partnership with State of California Governor’s office and regional non-profits. The initiative includes a series of community activities designed to demonstrate the value of open data, with teams building tools that help generate insight from topics spanning post-wildfire water quality to water affordability.

This summer and fall, with additional funding from the Water Foundation and Leonardo DiCaprio Foundation, the West Hub will work with ethnic media journalists, offering fellowships that connect impacted communities with research and education efforts around water data.

The West Hub’s first years of operation include a diverse portfolio of mission-focused projects to drive coordinated effort in specific application areas as well as cross-cutting projects that produce frameworks and resources useful to multiple areas of inquiry and practice such as data sharing, cloud computing, and responsible data science.

As part of their efforts to increase workforce readiness in the region, the West Hub will collaborate with nonprofit organization The Carpentries to host data science Train-the-Trainer workshops, aiming to engage underrepresented groups and geographic areas not currently served by cognate programs. The partnership builds upon prior training workshops that included local government leaders across the Western region and the first Data Carpentry event with a tribal community.

Many of the West Hub’s continuing initiatives and collaborations will highlight challenges surrounding data ethics and responsible data science, bringing communities together through opportunities such as workshops on translational data science, Data for Good Exchange efforts and FAIR Data Awareness and Data Reuse Labs.

The West Hub’s requests for collaborative seed projects will serve to gather actionable community ideas throughout the year. Embarking on the next phase of growth and national coordination, the Hubs will also work with the National Science Foundation and additional

partners to host an All Hubs All Hands community data science meeting open to the public as a signature event in 2020.

“In the first three years of the West Big Data Innovation Hub, we built capacity and brought focus to the data-driven challenges faced by our Western constituents,” said Kirkpatrick. “This next phase allows for fine tuning of offerings that give rise to new collaborations, ideas, and combinations of data resources between academics and government (agencies).”

Specifically, the new award will enable the West Big Data Innovation Hub to develop and enable translational data science pilot projects to highlight the value of cross-sector collaboration, while emphasizing a pragmatic and holistic view of the data and analytics lifecycles, and focusing on supporting data science education and workforce development, according to the award announcement.

Another example of the unique team formation resulting from West Hub community engagement is the growth of a NSF-funded project at Boise State University’s School of Public Policy, focused on criminal justice and police data, public safety, and community trust.

“By facilitating data sharing with industry partners, and connecting researchers from Idaho with police departments in Arizona and Washington, we supported work that led to new levels of collaboration, and new connections for national-scale initiatives,” noted West Hub Executive Director and Co-PI Meredith Lee.

Additionally, efforts originating from UC Berkeley through Project Jupyter have led to 4.5 million publicly available Jupyter notebooks globally. This next phase of the Hub will further connect the scientific community with cloud resources to broaden computing access.

“By catalyzing partnerships that integrate academic researchers into the fabric of communities across the U.S., we can accelerate and deepen the impact of basic research on a range of societal issues, from water management to efficient transportation systems,” said Beth Plale, one of the NSF program directors managing the Big Data Hubs awards.

The NSF awards, numbers 1916481, 1916573, and 1915774, are titled ‘BD Hubs: Collaborative Proposal: West: Accelerating the Big Data Innovation Ecosystem.’

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