HIGH-PERFORMANCE COMPUTING
IMPACTS RESEARCH, FACULTY & STUDENTS

SOUTH DAKOTA STATE UNIVERSITY

Handout #5

REQUESTING $1.9 MILLION OF ONE-TIME FUNDS FOR A HIGH-PERFORMANCE COMPUTING CLUSTER AND HIGH-VELOCITY DATA STORAGE FOR HIGH-PERFORMANCE COMPUTING.

High-performance computing is critical technology for South Dakota State University and its mission as the state's 1862 land-grant university to conduct critical research to solve the complex problems of the state, region, nation and even the world.

Research drives economic development. The recent South Dakota Board of Regents economic impact study determined SDSU's research and scholarly activities produced $67.6 million in research expenditures in FY 19, resulting in $104.5 million in economic impact and 603 jobs. That equates to a return of $1.54 on every $1 spent on research.

HPC provides systems that, through a combination of processing capability and storage capacity, rapidly solve complex computational problems across a diverse range of scientific, engineering and industrial fields. The technology is essential for scientific researchers to generate discoveries and innovate breakthrough products and services.

The expansion of SDSU's current HPC capacity and storage is needed to ensure access to data processing for numerous applications, including those in engineering, biotechnology, biomedical sciences and precision agriculture. SDSU's current capacity has been effective, but there is a high demand for more.

HPC would be made available to students, researchers and faculty working across the state of South Dakota. It benefits today's scientific research that depends on computer-intensive methods around big data technology and high-performance computing. High-quality research also improves the social health and economic competitiveness of our state and region.