



Media Release
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Astronomical amount of data travels across Western Canada to support space research

Nearly 300 terabytes – the equivalent of about 25 million large phonebooks – of astronomical research data has been copied from the National Research Council's Herzberg Institute of Astrophysics' (NRC-HIA) Canadian Astronomy Data Centre (CADC) in Victoria, BC and transferred to Compute Canada/WestGrid storage facilities at the University of Saskatchewan in Saskatoon, SK as part of the Canadian Advanced Network for Astronomical Research (CANFAR) project.

Data stored at the CADC is continually collected by major astronomical facilities, including the Hubble Space Telescope, the Canada-France-Hawaii Telescope, the James Clerk Maxwell Telescope, and the twin 8-m telescopes of the Gemini Observatory.

"This data is critical; it is helping us answer questions about our Earth and space," says Chris Pritchett, Principal Investigator for CANFAR and Professor in the Department of Physics and Astronomy at the University of Victoria. "By maintaining a copy of this data in a completely different region, we are reducing risk of loss due to a possible earthquake, or other disaster, in British Columbia."

The CANFAR project, led by the University of Victoria, promotes space exploration and advances knowledge of the universe through effectively delivering, processing, storing, analyzing, and distributing massive datasets produced by astronomical surveys. The project leverages the high-speed CANARIE Network, Compute Canada - a national platform that integrates high performance computing resources of seven regional consortia across the country - and WestGrid's compute and storage resources, and the NRC-HIA's expertise. Through customized virtual compute and storage clouds, CANFAR provides astronomers with access to these datasets and other resources previously unavailable to them.

CANFAR is one of a number of projects across Canada that CANARIE has funded under its Network-Enabled Platforms Program. These projects help Canadian researchers leverage the ultra-high capacity research network by adopting advanced digital methods and fostering collaboration, with a goal of accelerating research outcomes.

"In addition to being able to utilize cloud resources, having this data available and securely backed up on Compute Canada/WestGrid infrastructure at the University of Saskatchewan ensures that astronomical researchers around the world will have faster and more reliable access to the research data CANFAR provides," says Rob Simmonds, Chief Technology Officer for WestGrid.

The data storage system at the University of Saskatchewan is a \$3.2 million investment by the university, the province of Saskatchewan, IBM and the Canada Foundation for Innovation. It is part of an inter-institutional pool of storage and computing facilities managed by Compute Canada/WestGrid.

"Compute Canada and WestGrid are pleased to provide the computing capability and scientific support which enable astronomical researchers to turn data into knowledge and to advance our understanding of the implications of that knowledge for our world and our civilization," says Susan Baldwin, Executive Director of Compute Canada. "Secure storage of the CANFAR data means discoveries will continue to occur over time."

The data travels from the West Coast to the prairies over multiple advanced networks, including BCNET, CyberaNet, SRnet and the CANARIE Network.

"CANARIE is proud to see CANFAR continue to deliver such value to the research community," says Jim Roche, President and Chief Executive Officer for CANARIE. "It demonstrates that the CANARIE network and its funding

programs meet a real need in Canada's research community, and together with our partners at BCNET, CyberaNet, SRnet and Compute Canada, supports Canadians who are exploring and making exciting discoveries about the universe."

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BACKGROUNDER

CANARIE

CANARIE Inc. is Canada's Advanced Research and Innovation Network. Established in 1993, CANARIE manages an ultra high-speed network that supports leading-edge research and big science across Canada and around the world. One million researchers, scientists and students at over 1,100 Canadian institutions, including universities, colleges, research institutes, hospitals, and government laboratories have access to the CANARIE Network. Together with 12 provincial and territorial advanced network partners, CANARIE enables researchers to share and analyze massive amounts of data, like climate models, satellite images, and DNA sequences that can lead to groundbreaking scientific discoveries. CANARIE is a non-profit corporation supported by membership fees, with the major investment in its programs and activities provided by the Government of Canada. CANARIE keeps Canada at the forefront of digital research and innovation, fundamental to a vibrant digital economy. For additional information, please visit: www.canarie.ca.

Compute Canada/WestGrid

Compute Canada is a national platform that integrates high-performance computing (HPC) resources at seven partner consortia across the country to create a dynamic computational resource. Compute Canada brings together high-performance computers, data resources and tools, and academic research facilities from around the country. WestGrid is the HPC consortium that encompasses 14 partner institutions across British Columbia, Alberta, Saskatchewan and Manitoba. Compute Canada/WestGrid have built a user community across Canada in disciplines ranging from the sciences and engineering to arts and humanities. This user community is supported by a distributed and cohesive team of technical staff and system architects. For additional information please visit: www.computecanada.org or www.westgrid.ca.