The spring semester came to a close with three talks. The last speaker for the Pacific Climate Impacts Consortium (PCIC) Seminar Series was Nic Annau from the Climate Research Division of Environment and Climate Change Canada. His talk on "Geological Net Zero: How we will stop fossil fuels from causing global warming" was jointly sponsored by the Pacific Institute for Climate Solutions, the Uvic Research Institute, and the Canadian Geoscience Council. Nic's presentation highlighted the importance of transitioning to renewable energy sources to mitigate climate change and protect the environment.

PCIC's computational support team recently finished some detective work that would make Sherlock Holmes proud. They were faced with a mysterious issue affecting the performance of the Plan2Adapt and Climate Explorer web-based tools. Users reported that the tools would sporadically fail to load, causing frustration and delays in their work. To understand what happened, a little background about how these tools function is required.

Plan2Adapt is a tool designed to help users understand climate change impacts on infrastructure and communities. It provides projections and impacts analysis that serve as the first phase in the development of a climate adaptation plan. The Climate Explorer is another tool that allows users to access climate data and explore its implications for various sectors.

To ensure the tools' reliability and performance, PCIC's computational support team developed a script to "replay" all of the user requests that had been made during the time the errors occurred. This allowed them to analyze the data and identify any potential issues. After tracking clues and running multiple experiments, they discovered that the issue was related to the application server's connection to the database clusters.

Further tests confirmed that the problem was caused by an unsecured connection between the application server and the database. As a result, the connections failed, leading to the errors users were seeing. PCIC's computer scientists then tested to see if this was indeed the case and found that the connections were still connected, and the proxy server behind UVic's firewall, which is situated between the application server and the database, was still running.

Despite all of this, the error had yet to reappear. In order to pin down the error, PCIC's computational support group began running experiments by bombarding three of the live production database clusters making requests for 16 hours. Yet, the errors occurred, trying a test application on a cluster of databases for an hour, then a test application on another cluster. The issue was then traced back to an unsecured connection between the application server and the database.

To solve the problem, PCIC's computer scientists developed a script that would automatically secure the connections. This script would run on the application server so that it proactively checks to see whether it needs to renew its connection to the database. As a result, the errors were resolved, and PCIC's tools are now running smoothly again.

As with many other places in BC, Terrace has faced several extreme weather events over the years. The city commissioned a report from PCIC that provided climate information and interpretation to support adaptation planning. The report, prepared by PCIC and Pinna Sustainability, provides projections and impacts analysis that serve as the first phase in the development of a Climate Adaptation Plan.