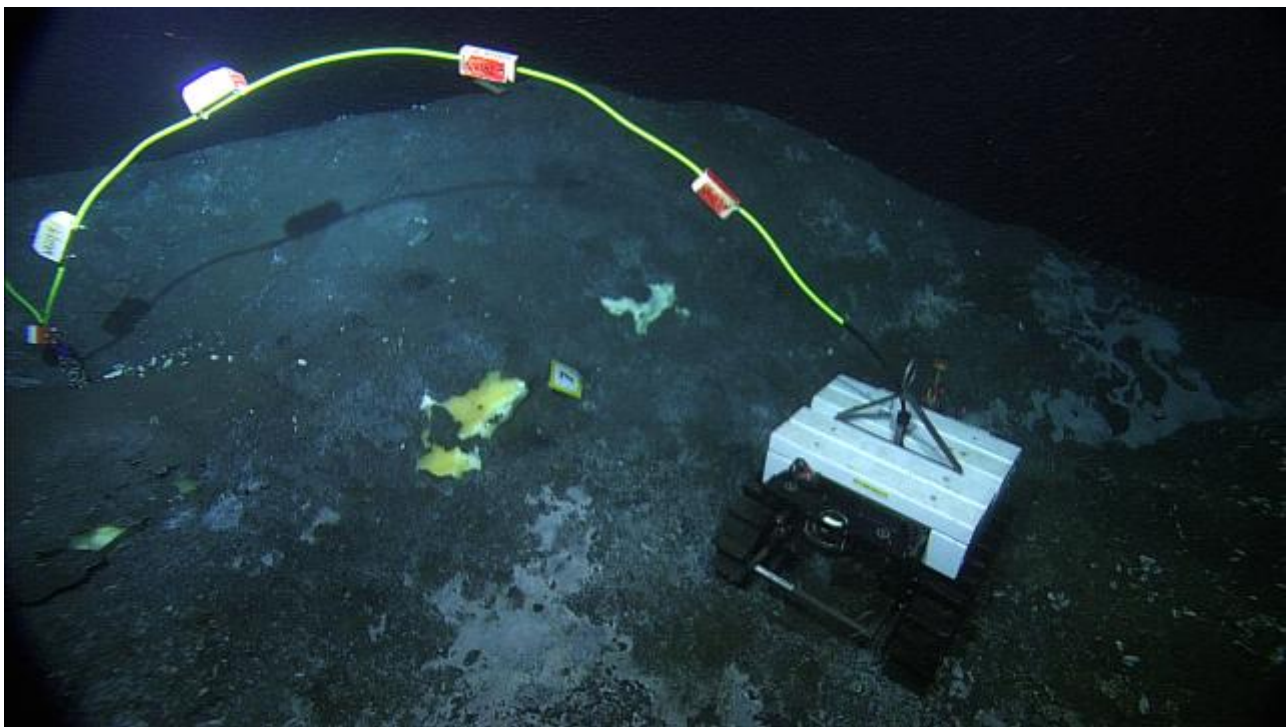


Barkley Canyon under the microscope

Submitted by Virginia Keast Fri, 2015-10-30 13:45

From submarine canyons to oxygen minimum zones, and from methane seeps to unique gas hydrate mounds, Barkley Canyon offers remarkable biodiversity in a wide range of depths and environments.



Wally the seafloor crawler explores the gas hydrate mounds at Barkley Canyon.

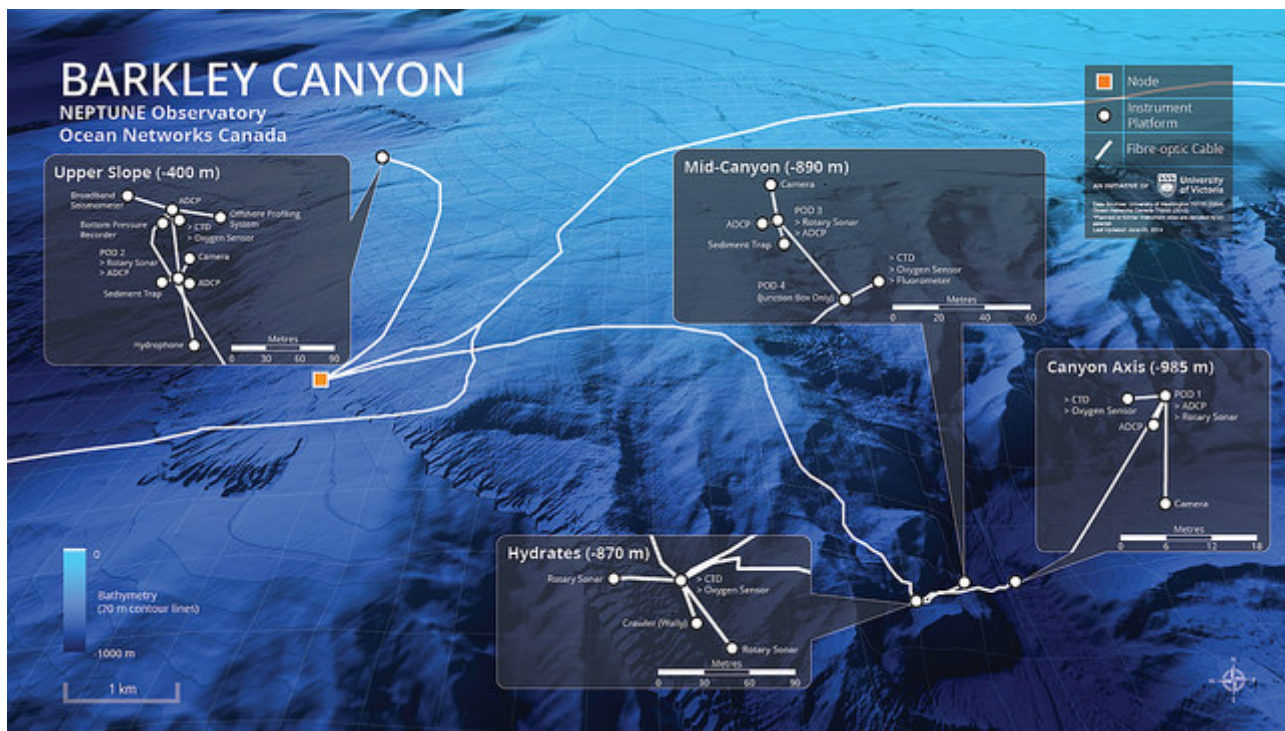
Ocean Networks Canada (ONC) has sensors and instruments that span a range of ocean depths in Barkley Canyon. For the past five years, this area, which is one of the most diverse and deep ocean environments, has attracted scientists from around the world and across disciplines. In October, ONC hosted a Barkley Canyon Refresh Workshop that brought together researchers from across North America and Europe to review science goals, areas requiring additional study, and to develop a plan for the future of Barkley Canyon observing.

?This workshop was an excellent opportunity to engage the research community. They helped us take stock of the accomplishments to date and then to assess where the science will take us moving forward,? said ONC's Science Services Associate Director, Richard Dewey.

Barkley Canyon's broad appeal

Barkley Canyon is an example of a submarine canyon and continental slope that collects a vast amount of data from eight different instrument platforms. These instruments support a multi-disciplinary range of core science themes, including

- canyon and slope dynamics;
- gas hydrates;
- the use of (enhanced) mobile platforms such as Wally for hydrates research, with plans to use AUVs and/or gliders for spatial studies;
- biodiversity in and around a canyon;
- carbon exchange across the slope margin; and
- benthic ecology and fisheries management studies.



Workshop participants expressed a strong desire to continue their research in the main instrumented sites of the upper slope, hydrates and on the canyon wall and canyon floor.

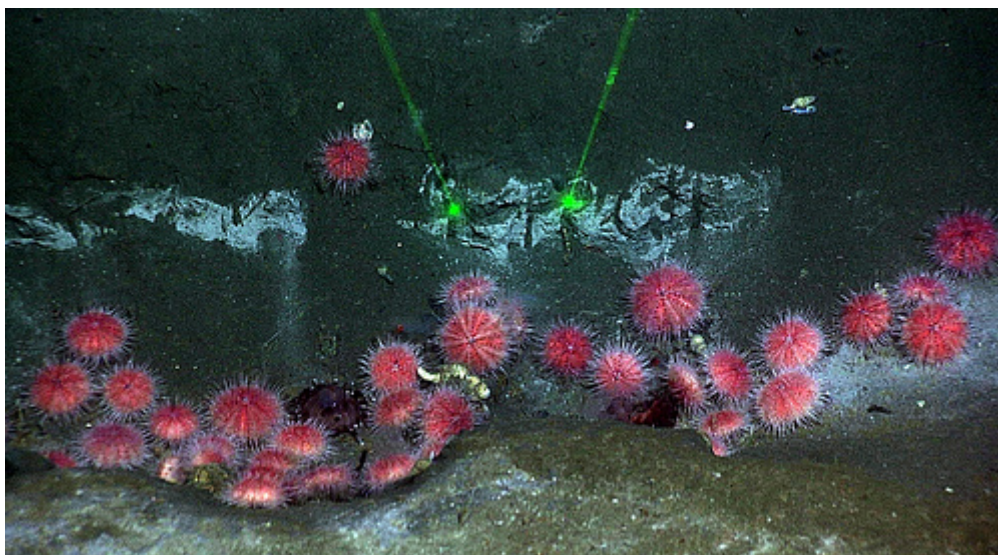
Scoping the future

Barkley Canyon's realtime data streaming was halted due to lost power and communications following a trawling incident in early 2015. While current plans for re-installation aim to have the site back online in summer 2016, this downtime provided an opportunity to engage with and learn from the researchers who use data collected from this region.

Recommendations for future study areas beyond the current footprint include instrumenting

- the head (400 m) of the canyon;
- the toe of the slope (both for dynamics and for seismic sensors); and
- up (600 m) and down (1200 m) the canyon from the present boundaries (at approximately 1000 m depth)

The discussions and contributions to the workshop are being compiled into a report, which will be posted in the near future on the Barkley Canyon Working Group web page.



A community of Fragile Pink sea urchins thrives at Barkley Canyon Upper Slope.

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