OCEAN NETWORKS CANADA

VISION

Ocean Networks Canada enhances life on Earth by providing ocean intelligence that delivers solutions for science, society, and industry.

MISSION

Over the next decade, Ocean Networks Canada will launch world-leading, next-generation physical and digital infrastructures, grow data services, and foster partnerships for a bright ocean future and a resilient planet.

VALUES

Integrity

Respect

Commitment

Innovation

OCEAN INTELLIGENCE

is the bridge that connects data and knowledge to action and change.

University of Victoria

STRATEGIES

1

Advance ocean observing

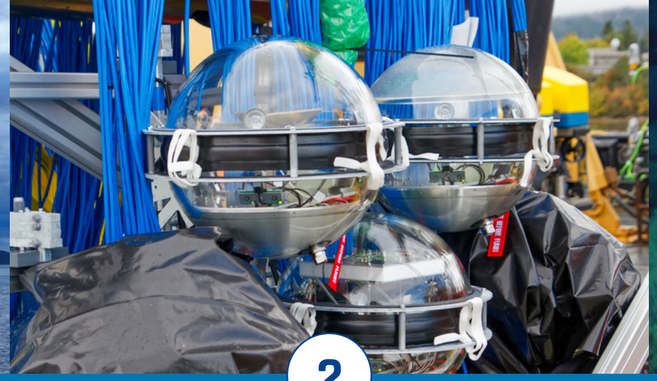
Ocean observation is a critical foundation for understanding our changing ocean and climate and the ocean's key role in buffering and moderating the Earth's climate. ONC's deep-sea, coastal, and land-based infrastructure contributes real-time, long-duration, high-quality data of high spatial and time resolution. ONC designs, builds, and operates ocean observing systems on behalf of scientific and industrial partners and for communities. We will advance ocean observing by continual improvements to our high-tech infrastructure and data collection, facilitating ocean observing and data collection by others by globally sharing these free and open data.

OBJECTIVES

- **Fill critical gaps** in Canada's ocean observing networks to address high-priority national, provincial, and regional needs.
- **Advance community-based ocean observing** and ocean-based citizen science with a focus on Arctic and coastal observing systems and by establishing Indigenous and community partnerships.
- **Evolve the observing networks and data access** to support current and future research and development, while simultaneously building on existing time-series data.
- **Increase capacity and build specialized skills across a diverse and equitably composed workforce** for world-class, multi-disciplinary research and development.
- **Partner internationally** to build global capacity for ocean observing and data stewardship.
- **Enhance ocean knowledge sharing** through learning, education, media communications, storytelling, and the arts.

WHAT DOES SUCCESS LOOK LIKE?

- ONC and its scientific network conduct the full spectrum of ocean-based research, from fundamental and applied research to technology development. ONC addresses global challenges and makes meaningful contributions to social, health, environmental, and economic benefits for Canadians.
- Coastal communities and citizen scientists are empowered to collect, share, and analyze ocean data through increased ocean observing partnerships that recognize and value multiple ways of knowing.
- Ocean observation data are freely used to inform science, technology, business, and progressive policy, with support and guidance from ONC and partners.
- A national, integrated ocean observing system is in place, facilitated by ONC and partners, and is being used widely by Canadians and internationally.



2

Develop and deliver world-leading data and ocean intelligence products and services

Unlocking the immense potential of ocean intelligence requires increasingly innovative data interpretation tools to help us understand complex systems. The global blue economy depends upon sustainable use of the ocean. Advanced data products are required to address and monitor the health of the ocean, inform safer shipping and ocean transportation, and provide vital ocean insights for communities. ONC will collaborate closely with local and Indigenous communities, public safety organizations, and governments to understand coastal impacts, including earthquakes, tsunamis, storm surge, and sea level rise, and to deliver solutions for mitigating risk of these natural hazards.

- **Make ocean intelligence accessible** to all stakeholders, from researchers, students, Indigenous partners, coastal communities and industry players, to policy-makers in all levels of government and international organizations.
- **Curate data and deliver data products and services** for immediate and future use by scientists, educators, ocean stewards, and decision-makers.
- **Provide training opportunities and resources** to foster development of the next generation of innovative thinkers and ocean stewards.
- **Create insights and tools** using machine learning and artificial intelligence, modelling, and visualizations.
- **Enable user-driven analysis** by developing regionally relevant decision-support tools to enable informed decisions on disaster mitigation measures.
- **Advance marine hazard alert systems** that provide timely information to coastal communities.
- **Advance policies and practices for data stewardship** that are based on community-developed principles for scientific datasets, data repositories, and Indigenous data governance.

- Stakeholders use sensor-based, high-resolution ocean big data consistently, including the widest range of data types available in ONC's data repository.
- Science-based decision-makers recognize ONC as a reliable, knowledgeable, and supportive partner.
- Decision-makers in all levels of government use ONC data products to advance public good.
- New ocean and climate policies are advanced making use of ONC's innovative data products and services.
- Educators and students access and use ONC's high-quality, data-rich learning resources and programs.

3

Enable ocean-based solutions for climate change mitigation and coastal resilience

As we face the growing impacts of climate change, coastal communities are disproportionately threatened by sea-level rise, storm surge, ocean warming and acidification, and declining seafood stocks. ONC is committed to working with partners to enable solutions for coastal resilience. Examples include establishing ecosystem-based aquaculture management, supporting science-based management of seafood and marine resources, transitioning to net zero marine transportation, and installing and operating ocean renewable-energy systems. ONC will make major contributions to advance Canadian leadership in the ocean economy through the development of climate change mitigation and adaptation technologies.

- **Develop climate monitoring and adaptation tools** that enable coastal communities and industries to thrive.
- **Partner with Indigenous communities** to identify priorities and co-create innovative climate solutions that bring together Indigenous approaches and scientific methods.
- **Build, operate, and maintain leading-edge ocean sensing systems** that advance sustainable, nature-based solutions for food production and carbon dioxide sequestration.
- **Develop scalable ocean technologies** that permanently remove carbon dioxide from the atmosphere in collaboration with partners.

- Ocean-based companies transition from carbon-intensive to sustainable operations, with solutions backed by ocean intelligence.
- Coastal Indigenous communities have access to regionally relevant, timely data on natural hazards and climate change and adaptation solutions, with ONC as a trusted partner.
- Canada meets its net zero emissions commitments by 2050, with ONC as a recognized partner in developing solutions to mitigate climate change.