

What is NVIS?

Night Vision Imaging Systems (NVIS) is an integrated cockpit solution that enhances the pilot and flight officer's nighttime vision.

The BC Wildfire Service (BCWS) utilizes advanced NVIS certified pilots along with BCWS NVIS Flight Officers (NFOs) in NFO helicopters for detection and reconnaissance as well as to coordinate NVIS pilots in larger helicopters with belly tanks for water delivery.

How has the use of NVIS progressed within the BC Wildfire Service?

While NVIS technology is not new, its full integration into aerial firefighting operations is relatively new to fire agencies. Aerial firefighting brings unique challenges to NVIS technology, especially when combining fire, smoke and mountainous terrain.

BCWS began trialing NVIS for aerial firefighting in 2019. In 2024, we began integrating NVIS into our fire operations for night aerial firefighting with rotary wing aircraft. During the 2024 wildfire season, 45 NVIS missions were flown including detection, reconnaissance and heli-tanking.

In 2025 we further expanded the program with an increased number of NVIS aircraft contracted (four) for a longer contracted period, an increased number of BCWS NFOs trained and utilized (nine), and an increased number of missions (260). Missions were conducted in each of B.C.'s six regional fire centres, including night reconnaissance, heli-tanking and detection.

For 2026, we have increased the number of NVIS-capable helicopters contracted (five), increased contract lengths and trained more BCWS NFOs. There are 12 BCWS NFOs rostered for the 2026 fire season.

We will continue to utilize this technology for fire de-

tection. The use of NVIS observation will depend on the frequency of events that meet conditions appropriate for NVIS missions. For example, a useful scenario would be where multiple ignitions may be expected to occur (e.g., a lightning event) in a populated area during a period of high fire hazard.

This technology will also be used to support over-night operations including reconnaissance, mapping and information gathering. Relaying information on fires such as fire behaviour, movement and any threats to values will assist crews and machinery working at night as well as incident commanders and other decisionmakers.

BCWS NFOs will also continue to guide larger NVIS helicopters with belly tanks to conduct water drops on wildfires at night. This can be very effective at suppressing newly discovered fires that otherwise, without NVIS technology, might not get water on them until the following morning. Additionally, larger and more complex incidents can have their night operations supported with aerial water delivery.

Has this technology changed B.C.'s firefighting strategy?

Simply put, NVIS is another tool in the wildland firefighting toolbox. For effective wildfire management, it takes the collaboration of trusted tools and technologies as well as an openness to exploring and safely integrating emerging advancements.

Overall, the strategy remains the same: to manage wildfires and protect communities in the most effective way possible while prioritizing the safety of our personnel.

Learn more:

[Aviation in the BC Wildfire Service](#)

[How we use night vision technology \(YouTube\)](#)