

ICEYE x Transport for NSW

How ICEYE Flood Insights supported situational awareness and post-event validation during Ex-Tropical Cyclone Alfred in February 2025.



The client

Transport for New South Wales is responsible for developing safe, integrated, and efficient transport systems for the people of NSW.

Their customers are at the centre of everything that they do, including transport planning, strategy, policy, procurement and other non-service delivery functions across all modes of transport, including roads, rail, ferries, light rail and point to point services.



The challenge

The Impact of Ex-Tropical Cyclone Alfred on New South Wales

In early 2025, Ex-Tropical Cyclone Alfred brought historic flooding to parts of northern and central New South Wales, significantly impacting public infrastructure. The storm overwhelmed road and rail networks, leading to widespread closures and service disruptions. Critical transport corridors were submerged, impacting TfNSW response operations and infrastructure assessments. The event highlighted challenges in flood resilience, particularly the need for TfNSW to have improved real-time data and flood mapping to support coordinated response and recovery planning.

The need for improved flood intelligence

TfNSW first encountered ICEYE's data through the New South Wales Department of Customer Service (DCS) in 2022 for a flood event in the Forbes and Parkes regions. At that time, the data helped them validate other datasets they had on flood extent and depth, including internal modelling outputs and external vendor feeds.

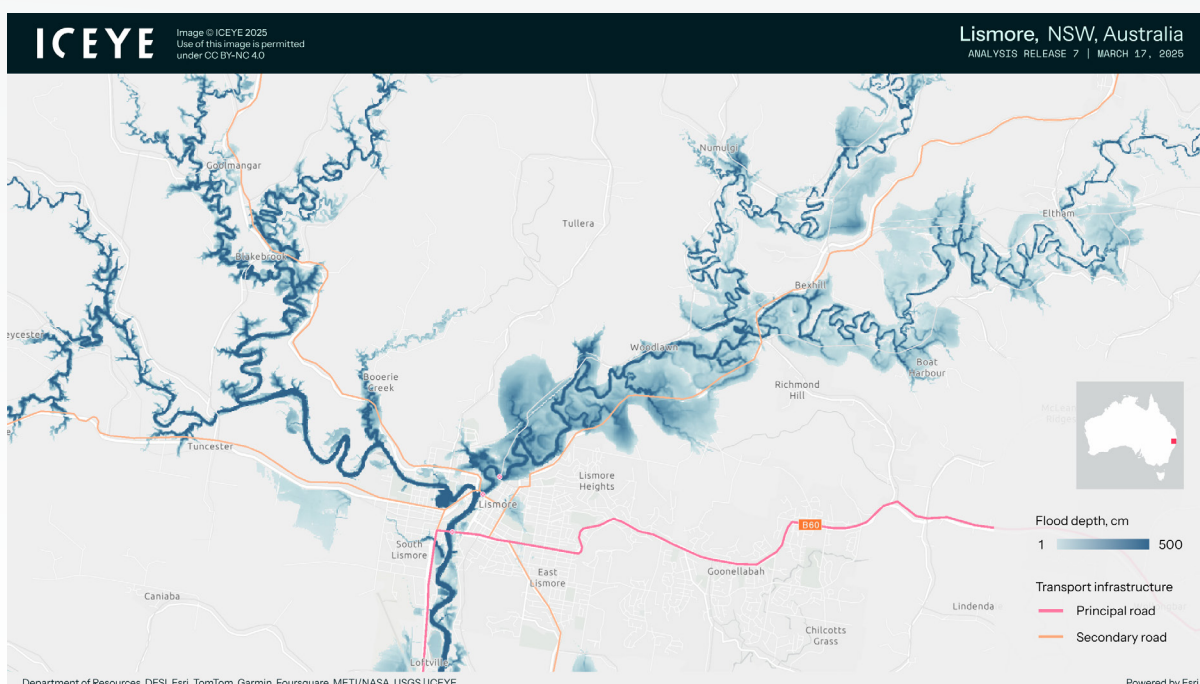
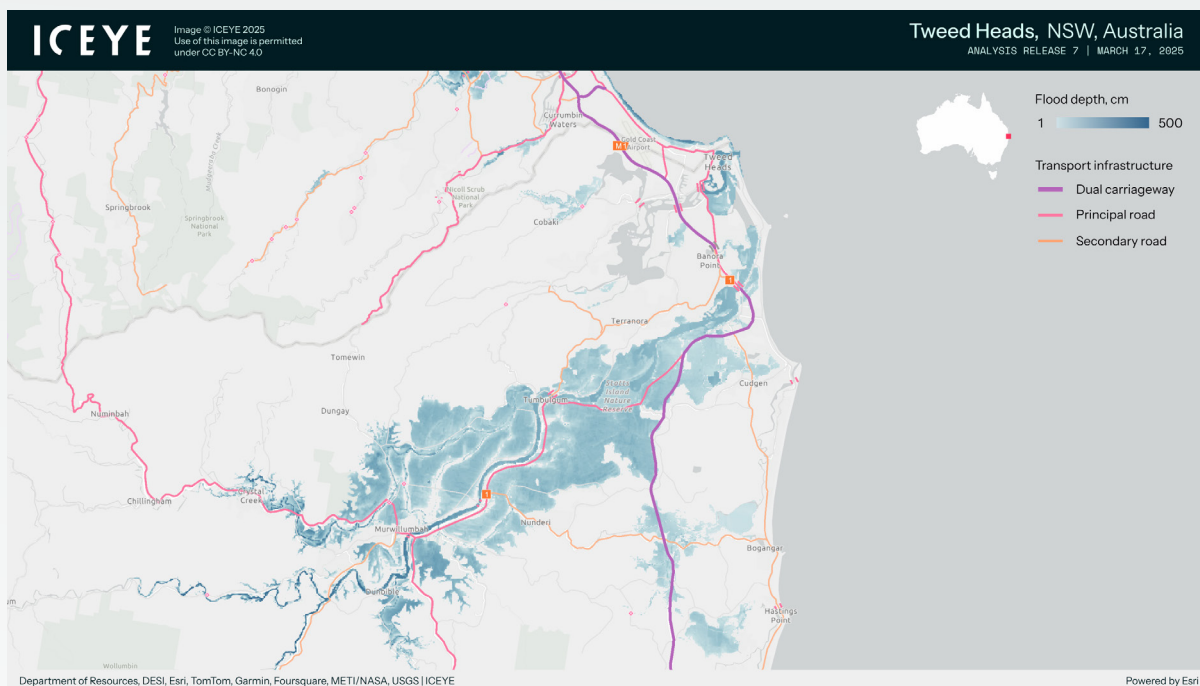
During Ex-Tropical Cyclone Alfred in 2025, TfNSW required a solution to integrate flood information across different data sources. Their core tool provided near real-time flood extent modelling. However, given the scale and complexity of the flooding, there was a clear need to validate internal models using external sources to ensure accurate understanding of conditions on the ground.



The solution

ICEYE's Flood Insights solution delivered observational satellite-based flood data throughout multiple flood events during 2022 and Ex-Tropical Cyclone Alfred in 2025. ICEYE data was considered a valuable tool to “triangulate” information from multiple systems and provide greater confidence in decision-making.

During Ex-Tropical Cyclone Alfred, TfNSW incorporated ICEYE data into internal dashboards used by response and operations teams. ICEYE Flood Insights served as a crucial data source—particularly in determining flood boundaries and supporting impact verification.



The results

During the flood event, ICEYE's Flood Insights data supported situational awareness and validated flood impact assessments for TfNSW. Rather than the number of users being the key factor, the actual value of ICEYE's data lies in its adoption as a shared reference dataset across multiple agencies. This common baseline helped ensure consistency in reporting, decision-making, and cross-agency coordination.

The Enterprise Security, Crisis and Emergency Management (ECCM) branch at TfNSW—including Senior Managers, GIS Analysts, Data Specialists, and Crisis Coordinators—utilised the data. ICEYE's insights supported the development of situational awareness reports that contributed to a shared operating picture of transport-related impacts across New South Wales.

Beyond ECCM, the data was accessed by other areas within TfNSW and external agencies, including Resilience NSW (now NSW Reconstruction Authority) and, the Department of Customer Service (DCS). While exact user numbers in these organisations are unknown, ICEYE's data was widely requested and treated as a trusted reference point by combat and support agencies alike.

TfNSW shared that ICEYE's supporting role helped increase confidence in the agency's flood impact validation efforts and added a layer of objectivity when cross-referencing reports, particularly during recovery phases. For example, when assessing infrastructure damage or regional claims, ICEYE provided a reliable, independent benchmark. By triangulating data from multiple sources—including ICEYE—TfNSW was able to strengthen the rigour and credibility of its emergency response planning and post-event evaluations.

“We see ICEYE playing a supporting role in both emergency response and recovery—particularly in verifying and enhancing the accuracy of data we receive from other sources. In the future, ICEYE could help resolve discrepancies between datasets, especially where ground reports, models, or third-party tools present conflicting information.”

Sharad Joshi

Senior Manager, ECCM Insights & Solutions,
Transport for New South Wales



Looking ahead, the agency recognises the importance of diverse, high-integrity data sources. Satellite-based observations from ICEYE are expected to remain a useful tool for verification and resilience-building across New South Wales' extensive transport network.

About ICEYE

ICEYE delivers unparalleled persistent monitoring capabilities to detect and respond to changes in any location on Earth, faster and more accurately than ever before.

Owning the world's largest synthetic aperture radar (SAR) satellite constellation, ICEYE provides objective, near real-time insights, ensuring that customers have unmatched access to actionable data, day or night, even in challenging environmental conditions. As a trusted partner to governments and commercial industries, ICEYE delivers intelligence in sectors such as defense and intelligence; insurance; natural catastrophe response and recovery; security; maritime monitoring; and finance.

ICEYE operates internationally with offices in Finland, Poland, Spain, the UK, Australia, Japan, UAE, Greece, and the US. We have more than 700 employees, inspired by the shared vision of improving life on Earth by becoming the global source of truth in Earth Observation.



