



# Automated Weather Interpreter for Air Operations

- Summary and detailed weather in standard formats.
- Operation-specific information.
- Automatic display of alert conditions.

## Tailored, Up-To-Date Weather Information

Among the most significant influences on the decisions made by a air force commander is the weather: how will present and near-future environmental conditions affect his ability to meet his objectives?

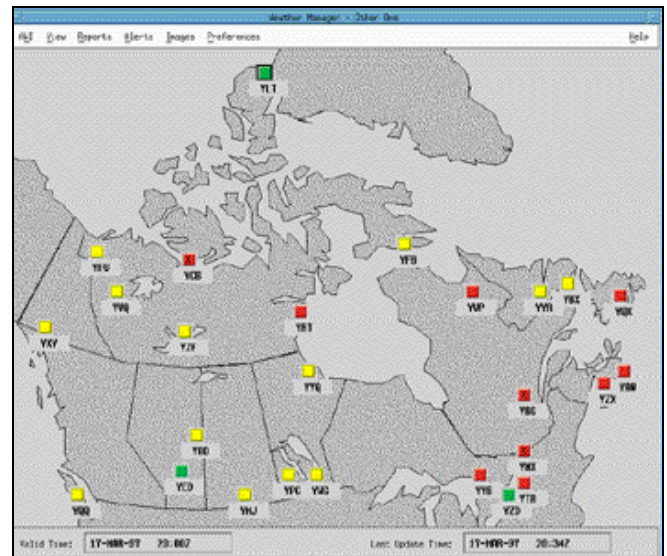
An important part of DRDC Valcartier Advanced Technology Battle Management System project provides specific, up-to-date information about the weather and its effect on air operations. A "Weather Manager" tool summarizes weather reports from the 26 Canadian Forces airfields in Canada, using colour-coded symbols on a map display, and allows detailed queries on weather reports. Warnings are generated and displayed for limitations on aircraft landing: when specific aircraft types cannot be accommodated by particular fields or when individual runways at a site are closed, for example.

A parsing software module receives standard weather reports and generates supplementary information of interest, including crosswind components for individual runways, landing distances for particular aircraft, rates of precipitation and wind-chill factors.

## Automatic Warnings

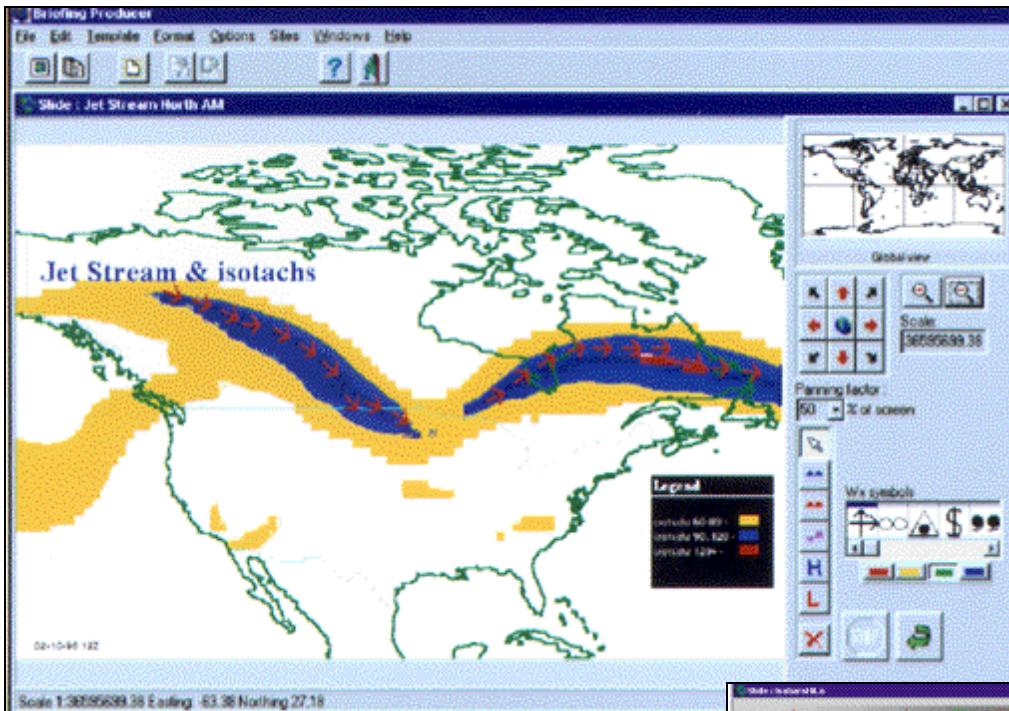
An "alert" module monitors current and forecast conditions to draw particular situations—both standard and user-defined—to the attention of the users of the system. This monitoring function is carried out continuously, without requiring action by the operating staff.

The Automated Weather Interpreter package also includes a graphics package tailored to the production of weather maps and to their incorporation in comprehensive weather briefings for command staff.

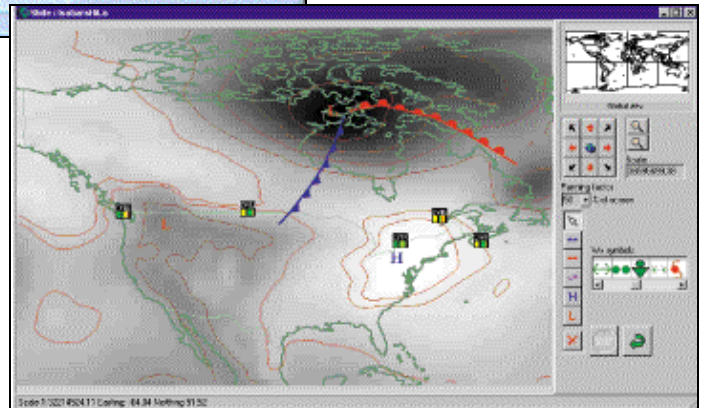


A Weather Manager screen summary of the weather constraints on air operations across Canada. The coloured square at each base indicates its condition with respect to "alert" criteria specific to that location: green indicates that no alert conditions have occurred, yellow that one or more "warning" states have been reached, and red that at least one "major" alert condition exists. A grey square indicates that the information for that site is out of date.

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*The jet stream is a high altitude, tube-like core of very fast winds that follows an ever-changing path around the earth. Aircraft generally avoid it when traveling east to west, but can benefit from its help in the opposite direction. It also often represents the boundary between warm and cold air masses, and effects the movement of weather systems.*



*A typical Weather Manager screen shows isobars and weather fronts, with good flying conditions (high pressure areas) in white; potentially poor flying conditions in dark shades. Tools are provided to allow a meteorological officer to reposition fronts and to add other pertinent symbols to the map.*

## For more information

### Project Leader

Phone: (418) 844-4000 ext.: 4457 Fax: (418) 844-4538

Email: [collabo-valcartier@drdc-rddc.gc.ca](mailto:collabo-valcartier@drdc-rddc.gc.ca)

### Defence R&D Canada – Valcartier

2459 Pie-XI Blvd North, Val-Bélair, Quebec G3J 1X5

Phone: (418) 844-4000 Fax: (418) 844-4635

[collabo-valcartier@drdc-rddc.gc.ca](mailto:collabo-valcartier@drdc-rddc.gc.ca)

[www.valcartier.drdc-rddc.gc.ca](http://www.valcartier.drdc-rddc.gc.ca)

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