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Near Real-Time Data System

The Near Real-Time (NRT) data system produces the daily maps published on the Drought Watch website (www.agr.gc.ca/drought). In the NRT system, weather and climate data from stations across Canada are collected, quality-controlled and displayed in maps that show near-current conditions and can be compared against historical averages, putting current weather conditions in context. NRT maps, generated within 12 hours of data collection, display the location, extent and intensity of weather conditions across Canada. This information helps the agricultural sector in preparing for and coping with weather impacts and related risks.

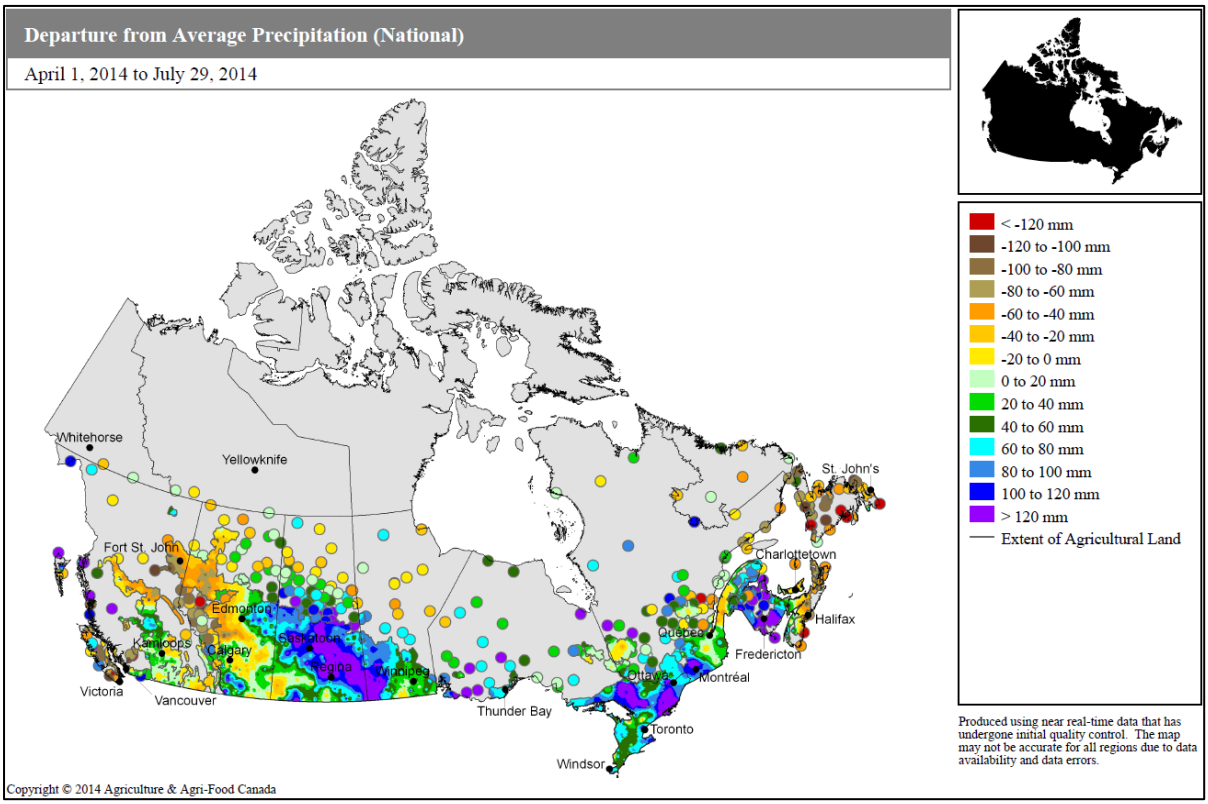
Weather stations, such as the Stevenson screen above, measure air temperature and contribute to daily observations used in the NRT data system.

Operational since 2006, the NRT system receives large amounts of raw data from national, provincial and private sources. Agriculture and Agri-Food Canada (AAFC) uses information such as weather radar images, relative cloud heights, weather bulletins, independent weather observations, and reports from regional contacts on significant weather events to conduct specific data quality control on the daily raw data. Incoming weather observations are then compared with historical values for trends and against neighbouring stations for any regional inconsistencies.

When data quality control is complete, the NRT system fills in any missing or flawed values and stores the final values in the system database. This final daily dataset then runs through an automated process to create a variety of weather and climate maps.

The majority of the maps produced through the NRT system are based on fundamental weather variables of temperature and precipitation. Mapping products include basics like daily precipitation (mm) and daily maximum and minimum temperature (ºC), but also more complex products like deviations from normal, percentiles and derived products like growing degree days for crop growth. A map selector tool on the Drought Watch website allows users to select the map they want to view based on map type, extent and timeframe, which ranges across days, weeks, seasons and years. Users can choose from countless current and archived maps.

Canada



One of the most popular maps on Drought Watch, the map above shows how rain during the 2014 growing season varies from average amounts. This is one of more than 300 maps produced daily using the NRT data system.

AAFC's National Agroclimate Information Service (NAIS) of the Agro-Climate, Geomatics and Earth Observations (ACGEO) Division of the Science and Technology Branch leads the ongoing development of the NRT data system. Partners include Environment Canada, Natural Resources Canada, Saskatchewan Ministry of the Environment, Manitoba Agriculture, Food and Rural Development, Alberta Agriculture and Rural Development, Ag Weather Quebec and Weather Innovations Inc. NAIS is communicating on an ongoing basis with other potential partners to increase the density and extent of data sources across Canada.

For more information please contact AAFC's **National Agroclimate Information Service** at nais-snia@agr.gc.ca or visit AAFC's **Drought Watch** website at www.agr.gc.ca/drought.

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For more information, reach us at www.agr.gc.ca or call us toll-free at 1-855-773-0241.