

Climatic Perspectives

A WEEKLY REVIEW OF CANADIAN CLIMATE

Canadian Climate Centre

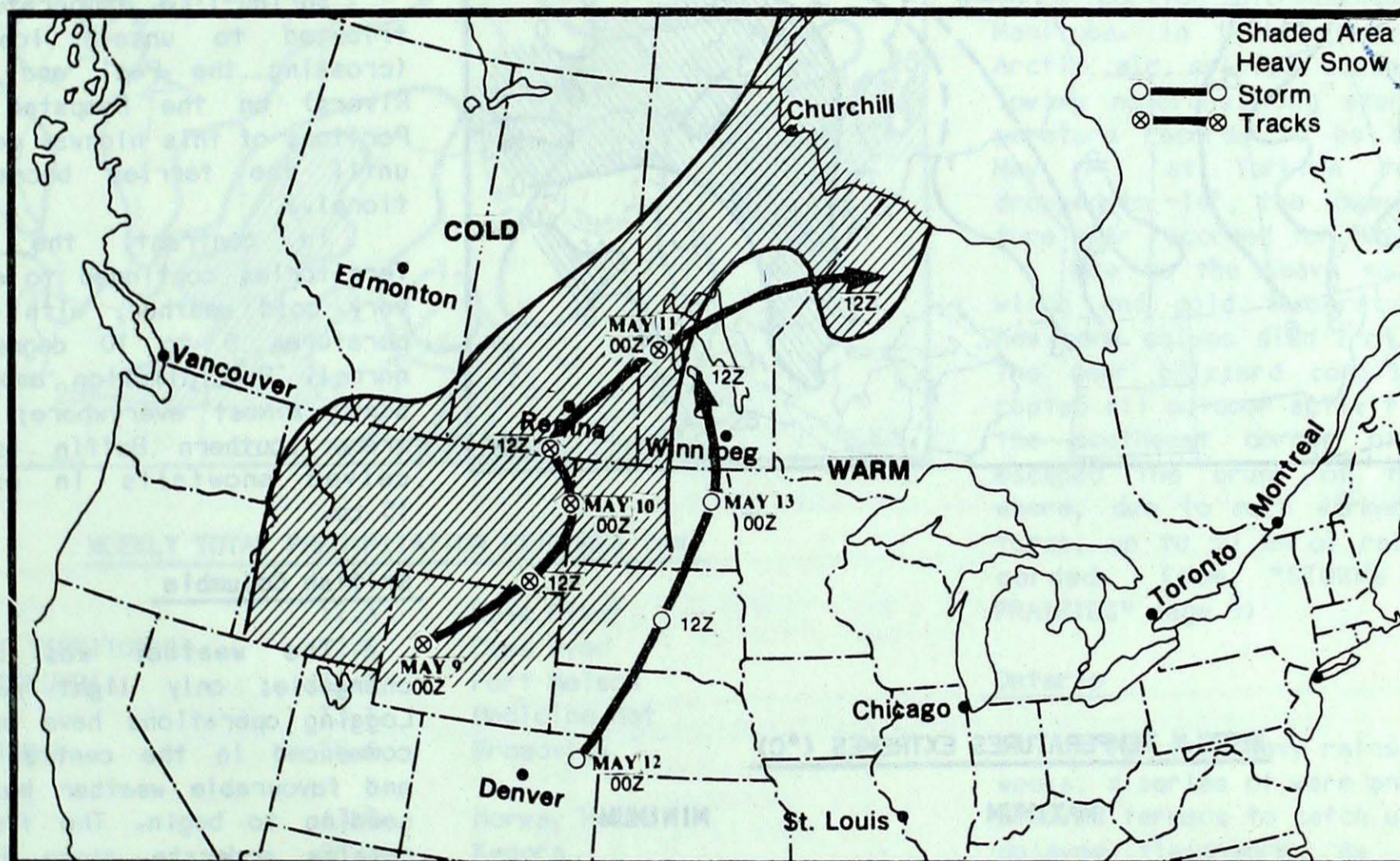
MAY 20, 1983

(Aussi disponible en français)

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FOR THE PERIOD MAY 10-16, 1983

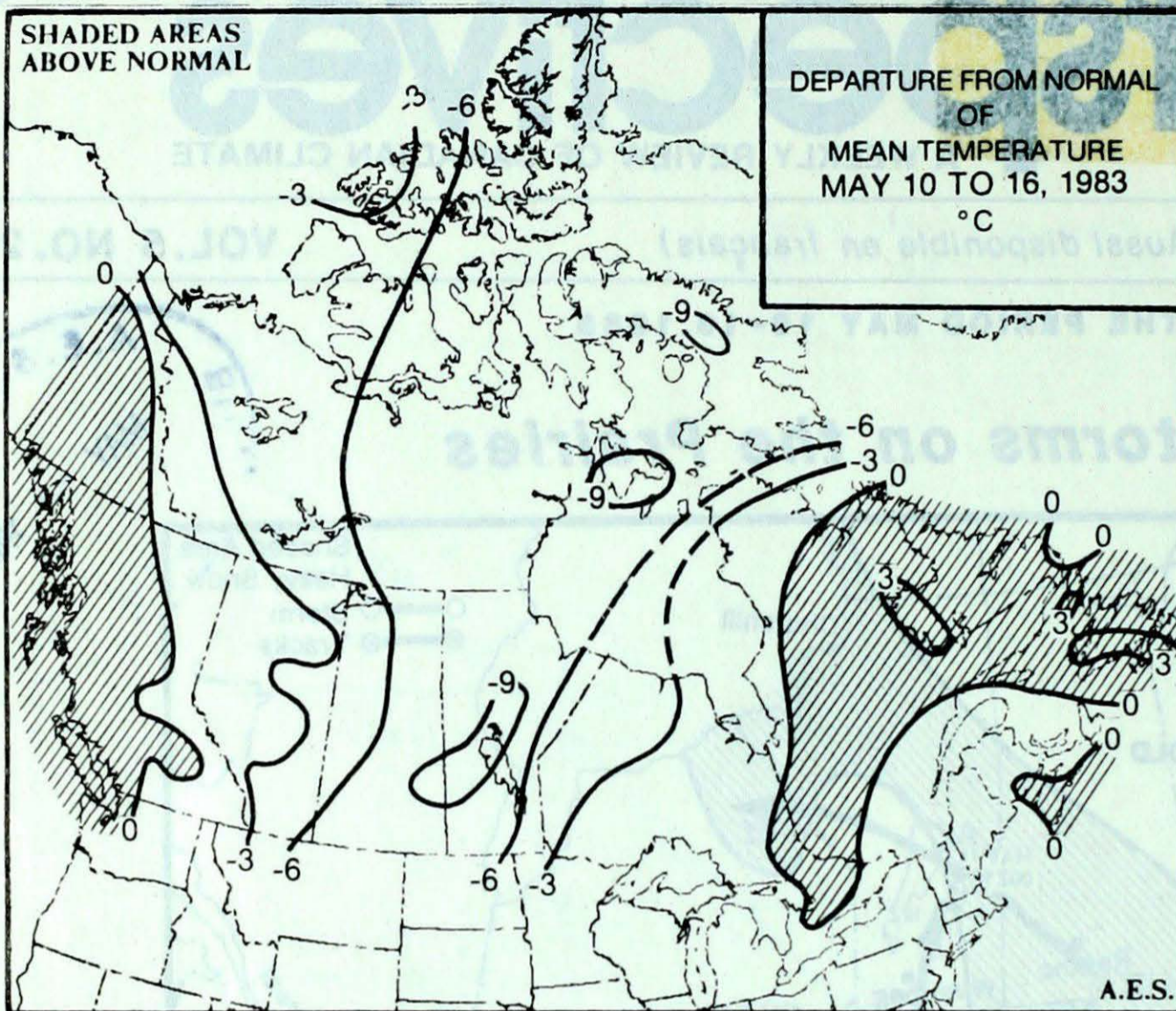
Major Spring Storms on the Prairies



Major spring storms produced blizzard-like weather in southern Saskatchewan and northern Manitoba. Heavy snowfalls of 20-35 cm accompanying 90 km/h winds reduced visibilities in blowing and drifting snow. Some southern Saskatchewan localities, especially near the U.S. border, received up to 50 cm of snow in 24 hours. Roads throughout the storm-struck areas remained clogged, and numerous schools were closed. Very strong winds snapped power lines, leaving residents without electricity for several hours. Unable to cope with the harsh weather, many newborn calves died in southern Saskatchewan. Last week's storm was the worst May storm in the Regina area since the turn of the century.

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and more.....



ACROSS THE COUNTRY...

Yukon and the Northwest Territories

Residents in the Yukon enjoyed plenty of sunshine and near normal temperatures. Only afternoon clouds and a few rain showers interrupted the bright sunny days. On May 10, the first seasonal outbreak of thunderstorms inundated the Selwyn Mountains causing roads to further deteriorate.

Spring-like temperatures contributed to unsafe ice bridges (crossing the Peel and Mackenzie Rivers) on the Dempster Highway. Portions of this highway were closed until the ferries became operational.

In contrast, the Northwest Territories continued to experience very cold weather, with mean temperatures 6 to 10 degrees below normal. Precipitation amounts were scant almost everywhere; only extreme southern Baffin Island received snowfalls in excess of 15 cm.

British Columbia

The weather was cool and changeable; only light rain fell. Logging operations have once again commenced in the central interior and favourable weather has allowed seeding to begin. The fire hazard remains moderate along the north coast even though some rain has fallen.

Alberta

Cool unsettled conditions prevailed with many new minimum record temperatures established. Seeding is only 25 per cent complete across the province. Frost and below normal temperatures have delayed growth, and as a result newly seeded crops have not yet emerged. Agricultural officials reported that at the moment no significant damage has occurred, but sugar beets might have to be reseeded. Northern agricultural regions require more moisture and much warmer temperatures.

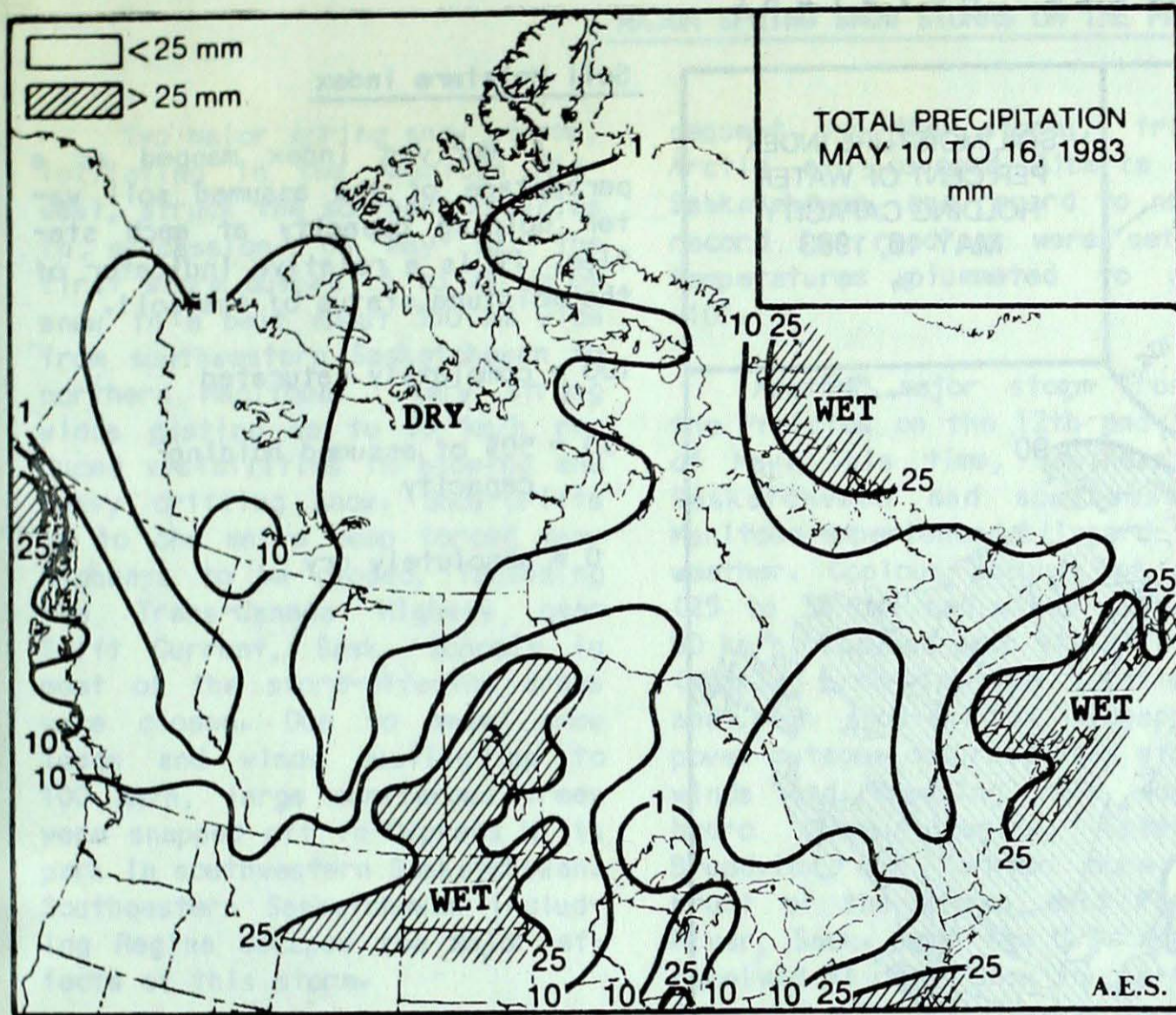
The Alberta Forest Service look-out towers are in operation. The forest fire hazard is high in

WEEKLY TEMPERATURES EXTREMES (°C)

| | MAXIMUM | MINIMUM |
|-----------------------|--|------------------------------------|
| YUKON TERRITORY | 17.7 Whitehorse | -22.6 Shingle Point |
| NORTHWEST TERRITORIES | 15.0 Fort Smith | -29.5 Byron Bay |
| BRITISH COLUMBIA | 24.8 Lytton | -4.5 Mackenzie |
| ALBERTA | 19.0 Coronation Grand Prairie Medicine | - 8.0 Coronation Fort Chipewyan |
| SASKATCHEWAN | 19.4 North Battlefield | -13.5 Yorkton |
| MANITOBA | 21.68 Portage la Prairie | -22.8 Gillam |
| ONTARIO | 26.6 Timmins | -14.0 Big Trout Lake |
| QUEBEC | 25.3 Matagami | -12.9 Inukjuak |
| NEW BRUNSWICK | 20.2 Chatham | -1.8 Fredericton |
| NOVA SCOTIA | 20.0 Truro | -2.5 Shelburne |
| PRINCE EDWARD ISLAND | 17.8 Summerside | 3.0 Charlottetown Summerside |
| NEWFOUNDLAND | 22.3 Deer Lake | - 7.8 Hopedale |

ACROSS THE NATION

| | | |
|---------------------------|-------|------------|
| Warmest mean temperature | 14.2 | Lytton, BC |
| Coollest mean temperature | -20.3 | Alert, NWT |



WEEKLY TOTAL PRECIPITATION EXTREMES (mm)

| | | |
|-----------------------|------|------------------|
| YUKON | 12.3 | Ross River |
| NORTHWEST TERRITORIES | 52.6 | Cape Dyer |
| BRITISH COLUMBIA | 22.0 | Fort Nelson |
| ALBERTA | 13.1 | Medicine Hat |
| SASKATCHEWAN | 35.6 | Broadview |
| MANITOBA | 43.0 | Norway House |
| ONTARIO | 26.4 | Kenora |
| QUEBEC | 40.8 | Gaspe |
| NEW BRUNSWICK | 30.8 | Chatham |
| NOVA SCOTIA | 68.8 | Eddy Point |
| PRINCE EDWARD ISLAND | 64.8 | Charlottetown |
| NEWFOUNDLAND | 64.4 | Port aux Basques |

SNOWFALL ON THE PRAIRIES (cm)

Large amounts of snow from last week's storm far exceeded the average values for May; in some cases, snowfalls surpassed record May values.

| | Last week | Normal for May |
|-----------|-----------|----------------|
| Regina | 26.2 | 3.2 |
| Estevan | 22.4 | 2.6 |
| Broadview | 32.8 | 6.4 |
| Yorkton | 23.0 | 2.2 |

On May 26, 1911 a major spring storm dumped 24 cm of snow in Regina.

the Lac La Biche area and in regions east of Slave Lake, but due to cool temperatures no forest fires have been reported.

Sunshine valley, the only ski resort open, was operating at less than half capacity. Due to rapidly deteriorating conditions, it will close after the long weekend.

Saskatchewan and Manitoba

Two major storms tracked out of the American midwest and dumped up to 50 cm of heavy snow across a large portion of Saskatchewan and Manitoba. In their wake very cold Arctic air spilled southwards allowing numerous long standing temperature records to be broken. On May 14, at Yorkton temperature dropped to -14° , the lowest temperature ever recorded for May.

Due to the heavy snow, strong winds and cold temperatures, many new born calves died from exposure. The near blizzard conditions disrupted all outdoor activities. Only the southeast corner of Manitoba escaped the brunt of the storm, where, due to much warmer temperatures, up to 50 mm of rain was recorded. (see "STORMS ON THE PRAIRIES" page 5)

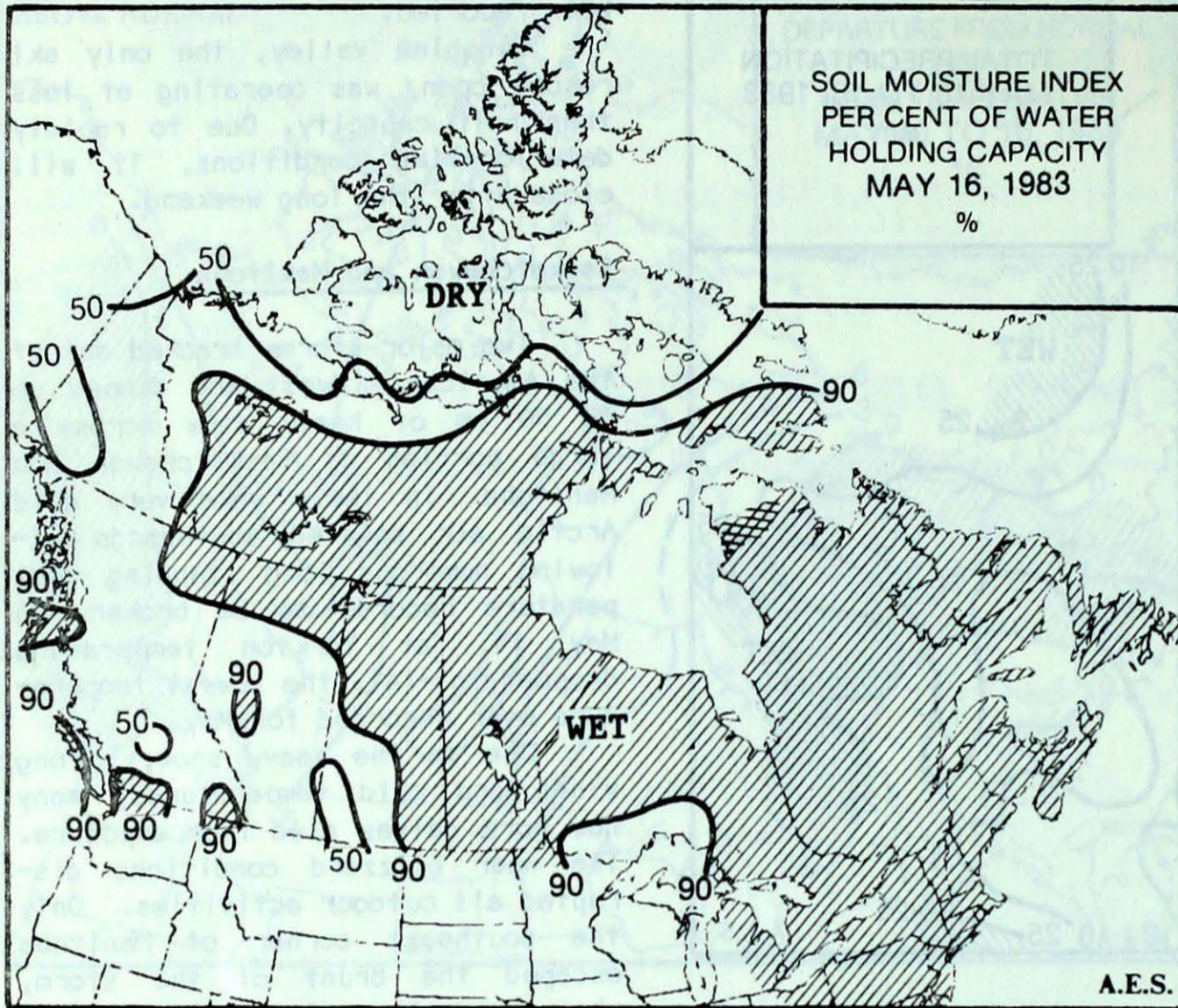
Ontario

After the heavy rains of recent weeks, a series of warm and dry days allowed farmers to catch up on their delayed field-work. As a result, spring seeding was now only slightly behind schedule. Very warm and hazy air that pushed into central and southern Ontario sent daytime temperatures soaring near the 25° mark. Wet weather arrived in northwestern Ontario during the mid-week, and rainfall amounts ranged from 15 to 25 mm. By the end of the week, rain had fallen over most of the province. On May 15, the weather turned unseasonably cold. In northern Ontario, temperatures plunged into the -6 to -10 degree range, setting numerous daily record low readings. North of Lake Superior, snow accompanied the cold.

Earlier frost had covered most of Ontario on the morning of May 10 when temperatures dropped to near -2° .

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SOIL MOISTURE



Soil Moisture Index

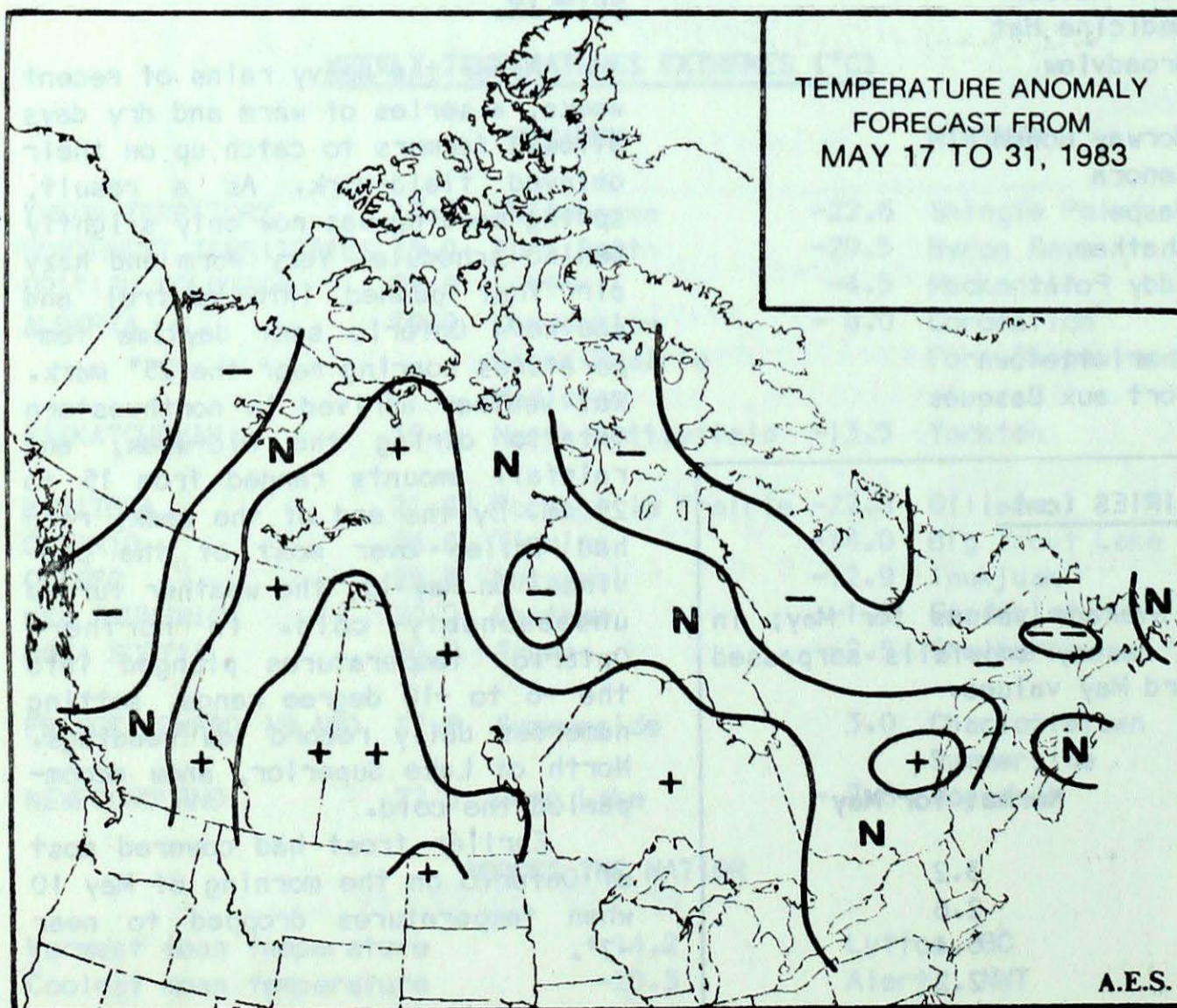
A derived index mapped as a percentage of the assumed soil water holding capacity at each station. It is a relative indicator of the moisture status of the soil.

100 = completely saturated

50 = 50% of assumed holding capacity

0 = absolutely dry

TEMPERATURE ANOMALY FORECAST



Temperature Anomaly Forecast

The temperature anomaly forecast, for each of the 70 Canadian stations, is prepared by doing a search of historical weather maps to find cases similar to the present. The principle used is that a prediction for the next 15 days may be based on what is known to have actually happened during the 15-day periods. After the five best sets are selected, the surface temperature anomalies are calculated. This results in five separate forecasts. These are then averaged to provide the consensus forecast depicted.

++ much above normal

+ above normal

N normal

- below normal

-- much below normal

MAJOR SPRING SNOW STORMS ON THE PRAIRIES

Two major spring snow storms, initiating in the American Midwest, struck the southern Prairies in succession. On May 10, the first storm dumped 15 to 25 cm of snow in a belt about 350 km wide from southwestern Saskatchewan to northern Manitoba. Very strong winds gusting up to 95 km/h reduced visibilities in blowing and heavy drifting snow. Snow-drifts up to one metre deep forced many highways to be closed, including the Trans-Canada Highway near Swift Current, Sask. Schools in most of the storm-affected areas were closed. Due to heavy snow loads and winds gusting up to 100 km/h, large coniferous trees were snapped off in Cypress Hills park in southwestern Saskatchewan. Southeastern Saskatchewan including Regina escaped the major effects of this storm.

Most of Alberta remained snow free. Only extreme southern areas received snowfalls in the 15 to 20 cm range; however, nearly 50 cm fell at higher elevations. Sub-

sequent to the storms, frigid Arctic air covered Alberta and Saskatchewan, and record to near-record low readings were set as temperatures plummeted to near -10°.

Another major storm crossed the Prairies on the 12th and 13th of May. This time, southeastern Saskatchewan and southwestern Manitoba experienced blizzard-like weather. Copious amounts of snow (25 to 35 cm) and winds gusts of 80 km/h produced poor visibilities (nearly ½ km in some locations) and high snow-drifts. Widespread power outages occurred when strong winds and freezing rain downed hydro lines. Regina, Estevan, Broadview and Yorkton bore the brunt of the storm. West Poplar River, Sask. near the U.S. border received 52 cm of snow in one day. In contrast, only trace amounts fell in the Red River valley.

Drifting and blowing snow made roads treacherous, and numerous traffic accidents resulted.

Once again, many schools and highways were closed. Unable to cope with the heavy snow, strong winds and the cold, many newborn calves died in extreme southern Saskatchewan. During the storm, an Air Canada jet, while trying to land at Regina airport, skidded off a snow covered runway. A few passengers were shaken up. Afterwards, Regina airport was closed till the afternoon of May 13.

Although May snow storms on the Prairies are unusual, they are not rare. As recently as May 28, 1982, heavy snow fell on the Prairies dumping nearly 1 metre on Cypress Hills, in southwestern Saskatchewan. Cold temperatures prevented snow from melting for a few days.

Last week's snow storm was the worst May storm in the Regina area in more than 70 years. Statistically, central Saskatchewan can expect a major May snow storm once every 20 years.

A. Shabbar



....continued from page 3

In the Niagara Peninsula subfreezing temperatures did not last long enough to cause any serious damage to the fruit trees.

Québec

Although heavy rains abated in southern Québec, some southwestern localities continued to experience flooding, especially at the beginning of the week. Since the soil moisture in Québec is at capacity, any additional rain can easily result in flooding. In Montréal's Laval and Fabreville suburbs, at least 20 streets were submerged under one metre of water. The Mille-Isle River north of Montréal was 1.8 metre above

its normal level. So far this month rainfall at most southern Québec stations is already more than the monthly mean value.

Owing to water-logged fields, seeding in the St. Lawrence Valley was 2 to 3 weeks late. Early in the week, very warm air covered the province and produced a few record high temperatures. After the week-end, the weather turned cold setting a few record low temperatures.

Atlantic Provinces

Deluges of 30 to 70 mm of rains continued to keep fields saturated in the Maritimes. In New Brunswick and Nova Scotia, farmers

could not get on to their fields for spring seeding. For the 5th week in a row, Newfoundland Island experienced above normal temperatures and a few record high values were set. For example, on May 13, the temperature climbed to a record 22° at Stephenville (all-time record high for May is 27°).

The recent warm weather also advanced the growth of the forage crops in most areas. Growth of the fruit crops in the Annapolis Valley was 7 to 10 days ahead of schedule.

TEMPERATURE PRECIPITATION AND BRIGHT SUNSHINE DATA FOR THE WEEK ENDING 0600 GMT MAY 17, 1983

| STATION | TEMP | | | PRECIP | | SUN | STATION | TEMP | | | PRECIP | | SUN |
|------------------------------|------|-----|-----|--------|-------|-------|-----------------------------|------|----|-----|--------|------|------|
| | Av | Mx | Mn | TP | SOG | H | | Av | Mx | Mn | TP | SOG | H |
| YUKON | | | | | | | Thompson | -4 | 14 | -18 | 31.6 | 8.0 | 55.6 |
| Komakuk Beach | -10 | 1 | -18 | 5.0 | 14.0 | M | Winnipeg | 3 | 17 | -9 | 5.5 | M | 47.8 |
| Mayo A | 8 | 15 | -3 | 7.8 | M | M | ONTARIO | | | | | | |
| Watson Lake | 7 | 17 | -2 | 1.8 | M | M | Big Trout Lake | -1 | 15 | -14 | 12.9 | 2.0 | M |
| Whitehorse | 7 | 18 | -3 | 0.0 | M | 55.4 | Earlton | 9 | 26 | -6 | M | M | M |
| NORTHWEST TERRITORIES | | | | | | | Kapuskasing | 6 | 25 | -7 | 13.5 | M | M |
| Fort Smith | 2 | 15 | -8 | 3.5 | M | 55.8 | Kenora | 5 | 14 | -6 | 26.4 | M | M |
| Inuvik | -7 | 7 | -18 | 1.2 | 41.0 | 72.5 | London | 10 | 22 | -2 | 9.5 | M | 58.8 |
| Norman Wells | 1 | 10 | -7 | 0.8 | 0.0 | 73.0 | Moosonee | 3 | 22 | -7 | 12.1 | 3.0 | M |
| Yellowknife | -2 | 8 | -12 | 1.0 | M | 72.1 | Muskoka | 10 | 25 | -2 | 9.4 | M | M |
| Baker Lake | -15 | -7 | -24 | M | 86.0 | 53.7 | North Bay | 10 | 24 | -5 | 2.6 | M | 74.9 |
| Cape Dyer | -13 | -3 | -22 | 52.6 | 82.0 | M | Ottawa | 10 | 24 | 1 | 17.0 | M | 55.8 |
| Clyde | -16 | -4 | -24 | 4.0 | 112.0 | 93.3 | Pickle Lake | 3 | 21 | -11 | 11.0 | M | M |
| Frobisher Bay | -10 | 0 | -22 | 35.2 | 58.0 | 32.1 | Red Lake | 2 | 12 | -7 | 20.9 | M | 42.0 |
| Alert | -20 | -11 | -26 | 0.2 | 41.0 | 104.0 | Sudbury | 10 | 24 | -4 | 9.5 | M | 75.7 |
| Eureka | -19 | -10 | -24 | 0.0 | 12.0 | M | Thunder Bay | 6 | 18 | -6 | 0.4 | M | M |
| Hall Beach | -18 | -8 | -27 | 1.8 | 48.0 | M | Timmins | 8 | 27 | -8 | 18.5 | M | M |
| Resolute | -18 | -7 | -25 | 1.3 | 22.0 | M | Toronto | 9 | 20 | 0 | 8.4 | M | M |
| Cambridge Bay | -18 | -9 | -29 | 0.0 | 50.0 | 75.2 | Trenton | 9 | 24 | 0 | 8.6 | M | M |
| Mould Bay | -14 | -8 | -21 | 0.9 | 15.0 | 39.2 | Wlarton | 9 | 24 | 0 | 2.2 | M | 79.5 |
| Sachs Harbour | -13 | -7 | -17 | 2.4 | 18.0 | 28.4 | Windsor | 13 | 24 | 1 | 1.2 | M | M |
| BRITISH COLUMBIA | | | | | | | QUEBEC | | | | | | |
| Cape St James | 11 | 17 | 7 | 4.9 | M | M | Bagotville | 7 | 23 | -3 | 7.4 | M | M |
| Cranbrook | 9 | 18 | -2 | 13.4 | M | M | Blanc Sablon | 4 | 15 | -2 | 22.2 | M | M |
| Fort Nelson | 6 | 19 | -2 | 22.0 | M | M | Inukjuak | -5 | 3 | -13 | 9.0 | 63.0 | 24.7 |
| Fort St John | 7 | 20 | -1 | 0.6 | M | M | Kuujuuaq | 0 | 16 | -8 | 18.6 | 1.0 | 44.2 |
| Kamloops | 13 | 24 | 3 | 2.2 | M | 69.7 | Kuujuuarapik | -1 | 16 | -11 | 8.8 | 0.0 | 26.6 |
| Penticton | 12 | 22 | 2 | 10.8 | M | 72.4 | Manawaki | 9 | 25 | -2 | 8.6 | M | 64.1 |
| Port Hardy | 10 | 16 | 3 | 4.9 | M | 42.6 | Montréal | 10 | 22 | 1 | 12.2 | M | 39.3 |
| Prince George | 9 | 20 | -3 | 7.3 | M | 73.8 | Mont-Joli | 4 | 12 | 0 | 15.0 | M | 31.9 |
| Prince Rupert | 9 | 16 | 3 | 10.9 | M | M | Natashquan | 6 | 17 | 0 | 13.4 | M | M |
| Revelstoke | 13 | 23 | 2 | 0.0 | M | M | Nitchequon | 3 | 15 | -11 | 14.4 | 9.0 | 49.6 |
| Smithers | 10 | 21 | -1 | 5.0 | M | 61.7 | Québec | 8 | 20 | 1 | 7.2 | M | 27.0 |
| Vancouver | 12 | 23 | 5 | 3.0 | M | 64.3 | Schefferville | 3 | 17 | -9 | 3.1 | 3.0 | 56.6 |
| Victoria | 11 | 21 | 4 | 19.2 | M | M | Sept-Îles | 5 | 18 | -3 | 18.4 | M | 30.3 |
| Williams Lake | 8 | 19 | -1 | 3.9 | M | M | Sherbrooke | 8 | 22 | 0 | 15.9 | M | 29.0 |
| ALBERTA | | | | | | | Val d'Or | 8 | 25 | -6 | 11.4 | M | 57.9 |
| Calgary | 6 | 17 | -6 | 2.8 | M | 57.4 | NEW BRUNSWICK | | | | | | |
| Cold Lake | 5 | 18 | -4 | 0.4 | M | 71.1 | Charlo | 7 | 15 | 2 | 25.2 | M | M |
| Coronation | 6 | 19 | -8 | 3.0 | M | 70.7 | Fredericton | 8 | 20 | -2 | 11.8 | M | M |
| Edmonton Namao | 7 | 18 | -5 | 2.4 | M | M | Moncton | 8 | 19 | 1 | 12.4 | M | 29.1 |
| Fort McMurray | 6 | 19 | -5 | 0.7 | M | 76.7 | NOVA SCOTIA | | | | | | |
| Jasper | 7 | 17 | -3 | 0.0 | M | 66.6 | Greenwood | 10 | 19 | 0 | 36.6 | M | M |
| Lethbridge | 6 | 18 | -7 | 2.0 | M | M | Shearwater | 10 | 17 | 4 | 39.4 | M | 27.1 |
| Medicine Hat | 6 | 19 | -7 | 13.1 | M | 51.1 | Sydney | 7 | 17 | 0 | 42.8 | M | 16.0 |
| Peace River | 7 | 18 | -4 | 3.7 | M | M | Yarmouth | 9 | 15 | 1 | 49.9 | M | 37.4 |
| SASKATCHEWAN | | | | | | | PRINCE EDWARD ISLAND | | | | | | |
| Cree Lake | 2 | 14 | -7 | 1.8 | M | M | Charlottetown | 8 | 15 | 3 | 64.8 | M | M |
| Estevan | 2 | 13 | -7 | 22.8 | M | 36.4 | Summerside | 8 | 18 | 3 | 38.6 | M | M |
| La Ronge | 3 | 17 | -7 | 2.7 | M | M | NEWFOUNDLAND | | | | | | |
| Regina | 2 | 12 | -5 | 31.8 | M | M | Gander | 7 | 20 | -1 | 30.0 | M | 26.0 |
| Saskatoon | 2 | 17 | -11 | 20.8 | M | M | Port aux Basques | 7 | 11 | 3 | 64.4 | M | M |
| Swift Current | 2 | 15 | -9 | 2.2 | M | M | St. John's | 7 | 20 | 1 | 42.0 | M | 21.0 |
| Yorkton | -1 | 11 | -14 | 31.8 | 4.0 | 41.1 | St Lawrence | 7 | 16 | 2 | 35.7 | M | M |
| MANITOBA | | | | | | | Cartwright | 4 | 18 | -6 | 14.0 | 0.0 | 60.8 |
| Brandon | 1 | 20 | -11 | 28.2 | M | M | Goose | 6 | 20 | -3 | 1.2 | 0.0 | 46.3 |
| Churchill | -10 | 5 | -18 | 7.2 | 41.0 | 36.4 | Hopedale | -3 | 15 | -8 | 1.3 | 10.0 | M |
| The Pas | -1 | 14 | -12 | 31.7 | 3.0 | 48.8 | | | | | | | |

Av = weekly mean temperature (°C)
Mx = weekly extreme maximum temperature (°C)
Mn = weekly extreme minimum temperature (°C)
TP = weekly total precipitation (mm)

SOG = snow depth on ground (cm), last day of the period
H = weekly total bright sunshine (hrs)
X = not observed
P = extreme value based on less than 7 days
M = not available at press time

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