

NWS Form E-5 (04-2006) (PRES. BY NWS Instruction 10-924)	U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL WEATHER SERVICE	HYDROLOGIC SERVICE AREA (HSA) Burlington VT	
		REPORT FOR: MONTH YEAR December 2021	
MONTHLY REPORT OF HYDROLOGIC CONDITIONS		SIGNATURE /s/John Goff, Senior Svc. Hydrologist	
TO: Hydrologic Information Center, W/OS31 NOAA's National Weather Service 1325 East West Highway Silver Spring, MD 20910-3283		DATE 12/21/2021	

When no flooding occurs, include miscellaneous river conditions below the small box, such as significant rises, record low stages, ice conditions, snow cover, droughts, and hydrologic products issued (NWS Instruction 10-924).

An X inside this box indicates that no flooding occurred within this hydrologic service area.

The month of November 2021 was another, rather uneventful month from a hydrological perspective across NWS Burlington's HSA. The 30-day period was characterized by frequent frontal passages producing mainly light precipitation in the form of rainfall. Some light snow was observed more consistently by the end of the month. Given the relatively light nature of the precipitation during most of these events, month-end departures averaged slightly below normal for most of the area outside the Champlain Valley proper but generally fell within an inch of normal (see Figure 1 and Table 1). The most notable event occurred during the 12th and 13th when a deeper plume of moisture along a strong frontal boundary produced two-day totals exceeding 1 inch in many locales across Vermont. Slightly lesser totals were observed in northern New York (Figure 2). With frequent bouts of light precipitation, and lack of vegetative uptake and evapotranspiration, streamflows across Vermont and northern New York all showed steady state or slight recovery into the normal to above normal range (Figures 3 and 4). Near surface soil moisture levels also trended wetter. However, some deeper level, ground water shortages remained across northeastern Vermont as evidenced by data from a United States Geological Service monitoring site in northeastern Vermont near the town of Glover (Figure 5). Given all these indicators, little change was observed in the areal coverage of abnormally dry conditions (D0) shown on the United States Drought Monitor across portions of north central and northeastern Vermont (Figure 6).

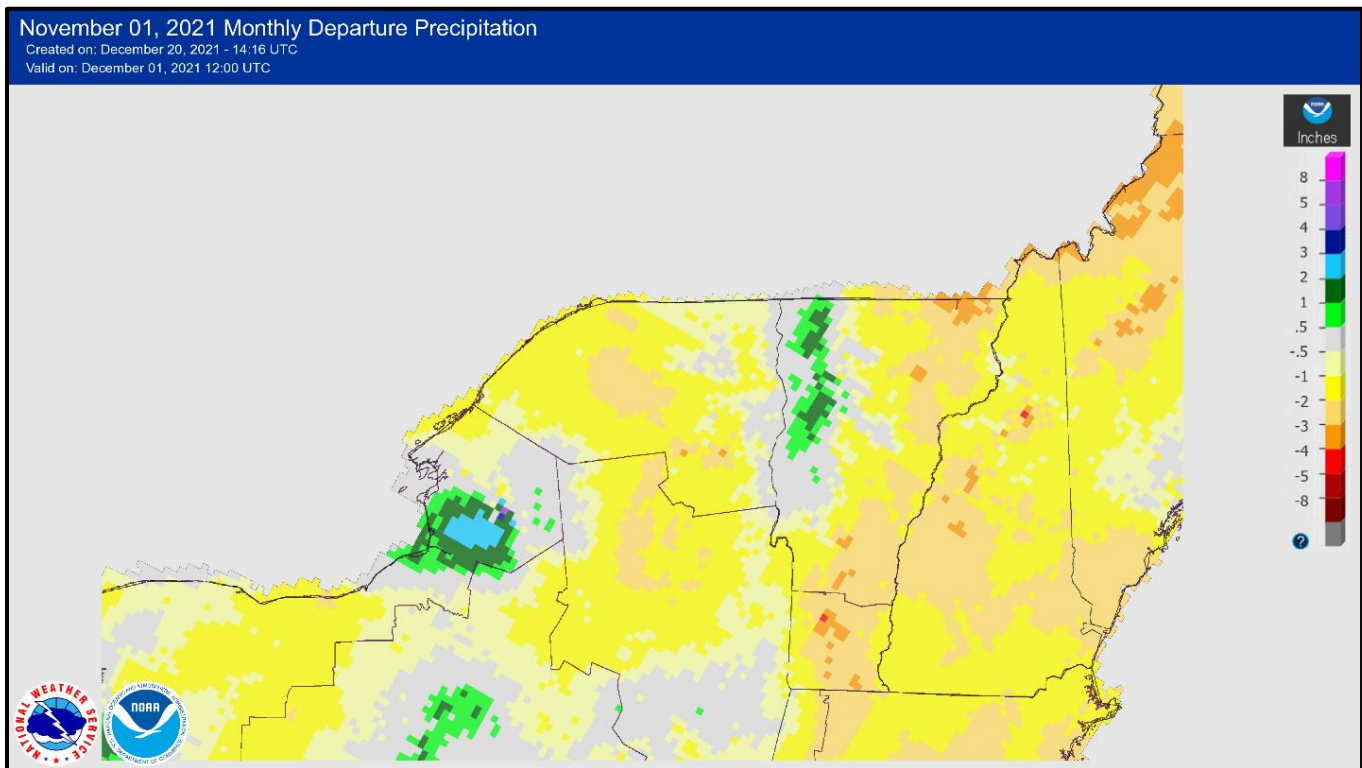


Figure 1: November 2021 precipitation departures for NWS Burlington's HSA. Departures generally averaged slightly below normal for the area except in the Champlain Valley.

OBSERVING SITE (ASOS platforms)	PRECIPITATION DEPARTURE (in in., NOV 2021)
St. Johnsbury, VT	-0.72
Burlington, VT	+0.47
Montpelier, VT	-0.29
Morrisville, VT	-0.29
Springfield, VT	-1.04
Massena, NY	-0.57
Saranac Lake, NY	-1.15
Plattsburgh, NY	-0.92

Table 1: November 2021 precipitation departure (in inches) for selected NWS ASOS platforms in the NWS Burlington HSA.

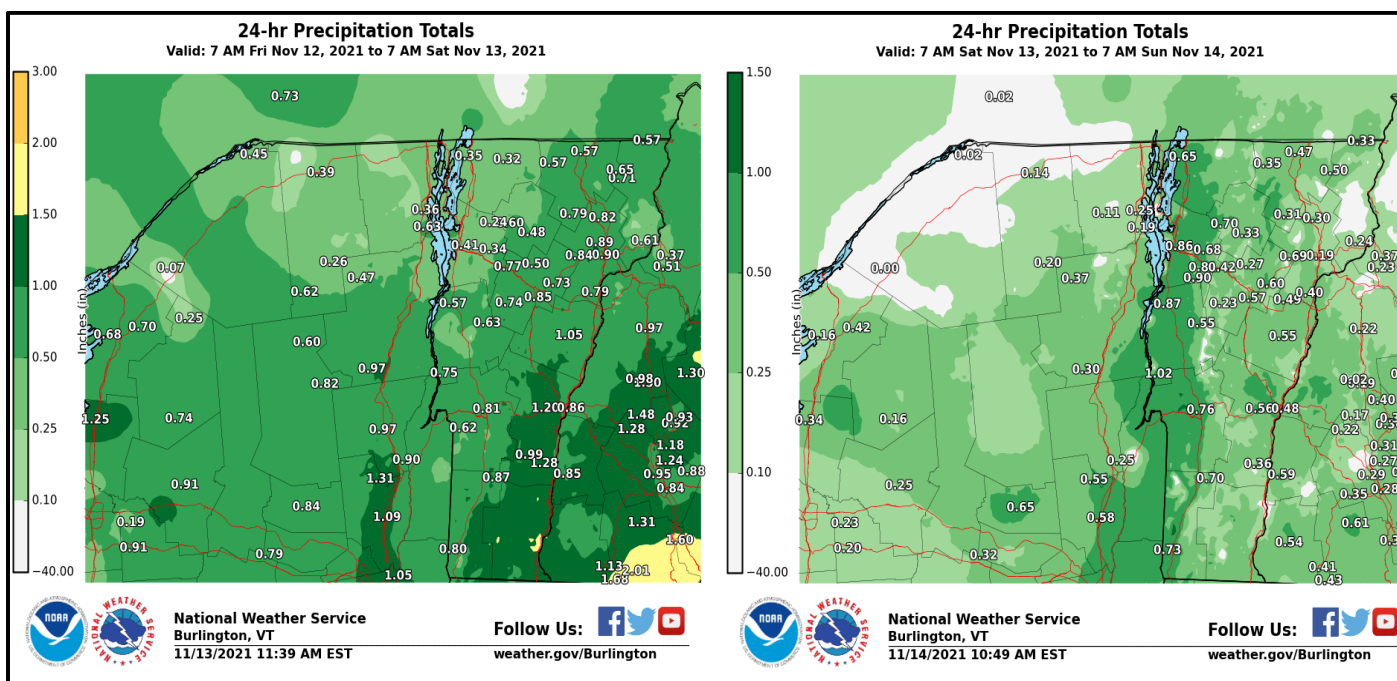
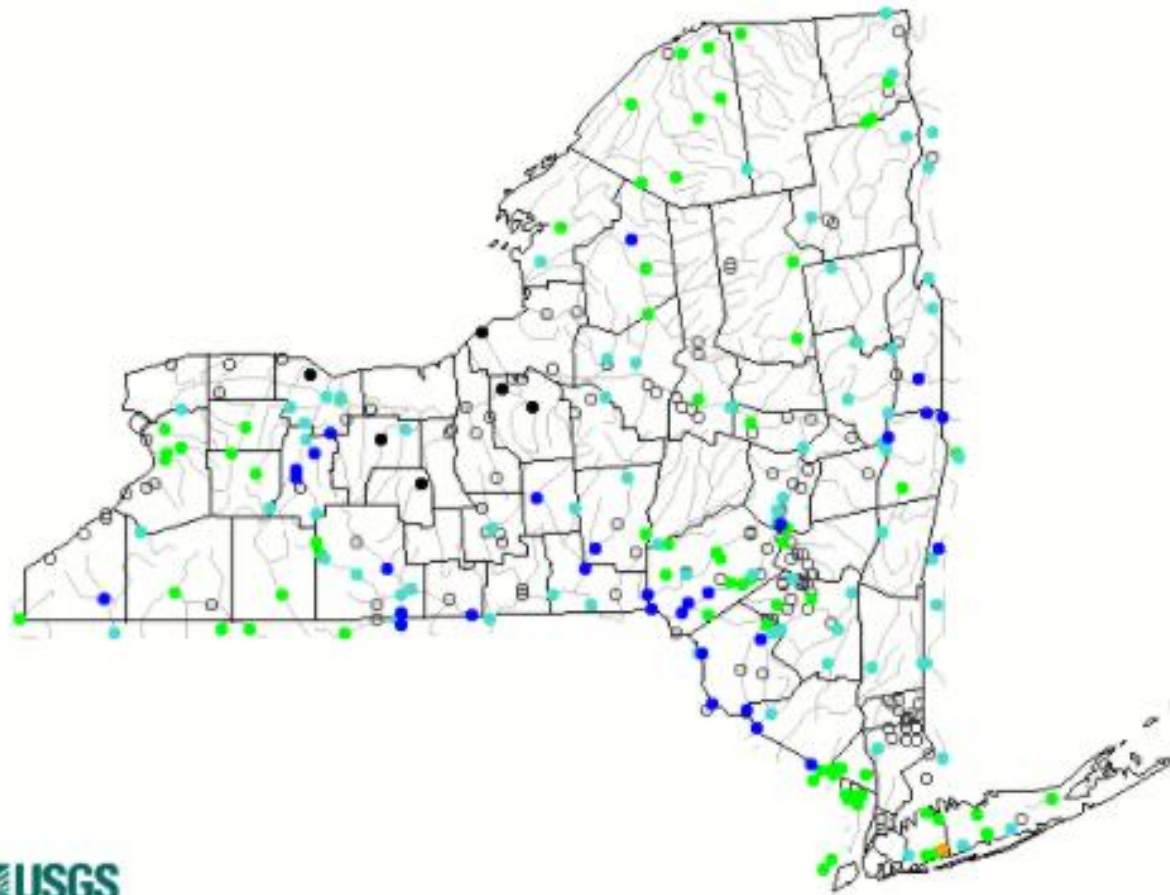


Figure 2: Two day rainfall maps for 12-13 November, 2021 across WFO Burlington, VT's HSA.

November 2021



Search USGS streamgage

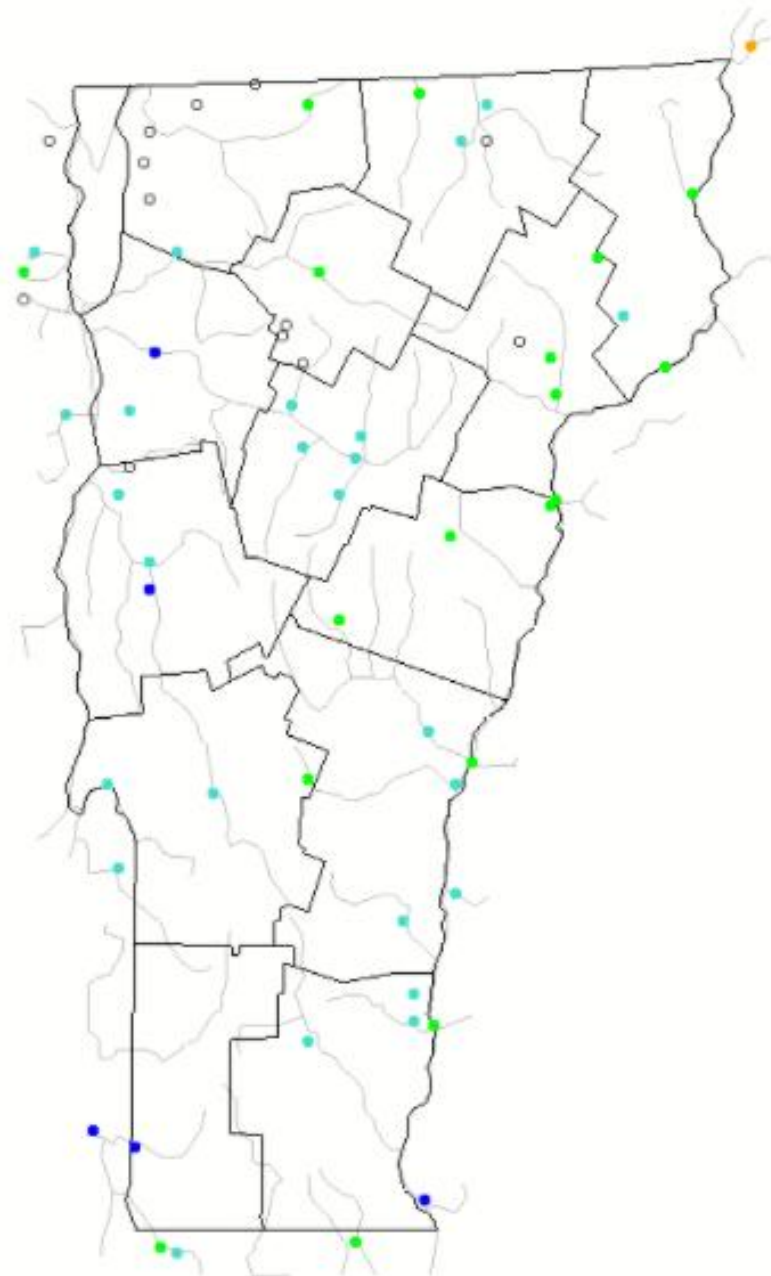
Choose a data retrieval option and select a location on the map

- List of all stations Single station Nearest stations Peak flow

Explanation - Percentile classes							
Low	<10	10-24	25-75	76-90	>90	High	Not-ranked
	Much below normal	Below normal	Normal	Above normal	Much above normal		

Figure 3. November monthly average streamflow for New York. Note near to above normal values for all sites in far northern portions of the state.

November 2021



Search USGS streamgage

Choose a data retrieval option and select a location on the map
 List of all stations Single station Nearest stations Peak flow

Explanation - Percentile classes							
Low	<10 Much below normal	10-24 Below normal	25-75 Normal	76-90 Above normal	>90 Much above normal	High	Not-ranked

Figure 4. November monthly average streamflow for Vermont. Values for nearly all streams and rivers ran in the near to above normal range.

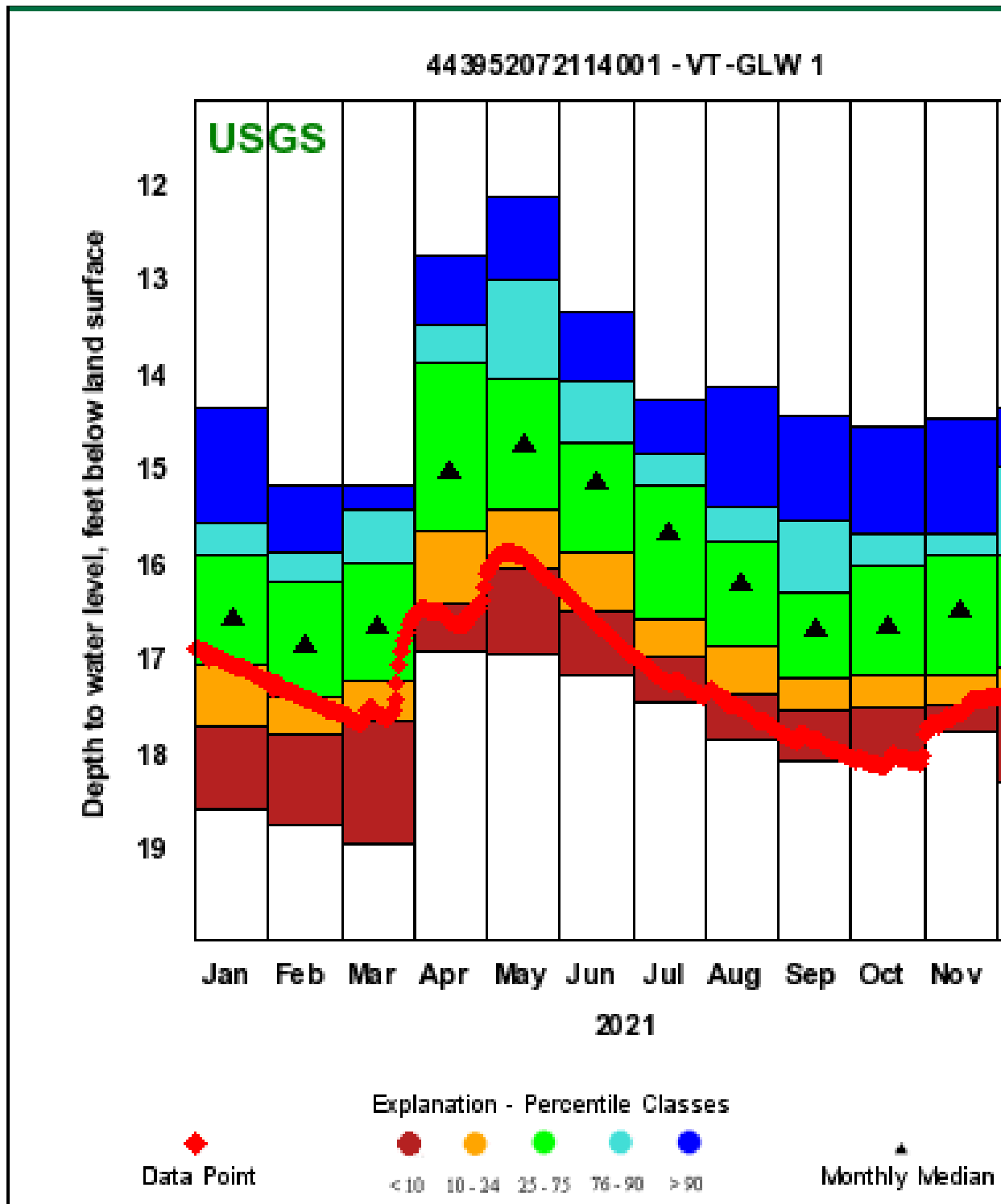


Figure 5: Data from USGS groundwater monitoring site VT-GLW1 (near Glover, VT) showing water levels remained below normal for the month of November.

U.S. Drought Monitor Burlington, VT WFO

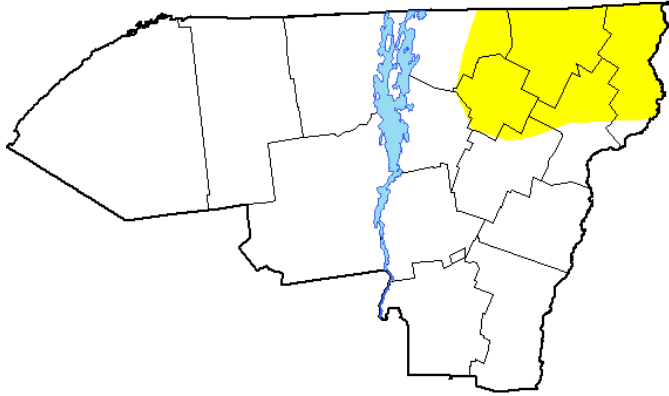
November 30, 2021

(Released Thursday, Dec. 2, 2021)

Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	84.35	15.65	0.00	0.00	0.00	0.00
Last Week <i>11-23-2021</i>	84.35	15.65	0.00	0.00	0.00	0.00
3 Months Ago <i>08-31-2021</i>	51.21	48.79	17.26	0.00	0.00	0.00
Start of Calendar Year <i>12-29-2020</i>	12.78	87.22	38.19	0.00	0.00	0.00
Start of Water Year <i>09-28-2021</i>	60.85	39.15	6.69	0.00	0.00	0.00
One Year Ago <i>12-01-2020</i>	16.34	83.66	39.83	0.00	0.00	0.00



Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

Author:

Richard Heim
NCEI/NOAA



droughtmonitor.unl.edu

Figure 6: US Drought Monitor map for the last week of November 2021. The areal coverage of D0 (abnormally dry conditions) remained virtually unchanged during the month despite recovery in near surface moisture and average streamflow levels.