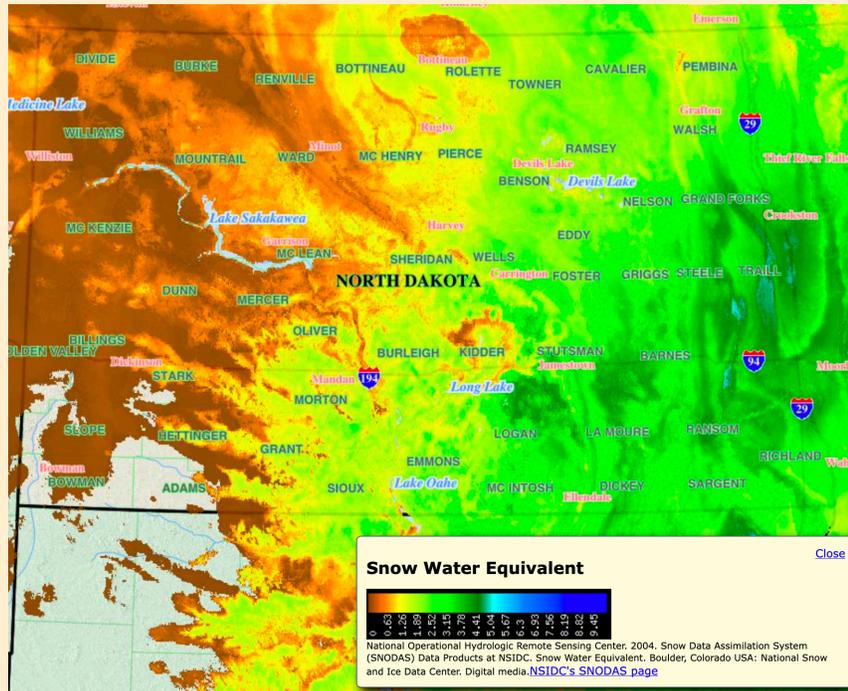


# THE ATMOSPHERIC RESERVOIR

*Examining the Atmosphere and Atmospheric Resource Management*



## A FLOOD OF CONCERN



By Mark D. Schneider

Preparations for this spring's flood season have been ongoing since last fall. North Dakota had its wettest fall on record in 2019 and the Department of Emergency Services (DES) has been working with numerous federal, state, and local agencies, including the National Weather Service (NWS) and ND State Water Commission, to coordinate response efforts ahead of the upcoming spring melt.

At the end of January when this article was written, Snow Water Equivalent (SWE) values of between four and five inches were widespread throughout the James and Red River Valleys (see graphic). Greg Gust, Warning Coordination Meteorologist for the NWS Fargo-Grand Forks Forecast Office gave his insight saying that: "After the wettest fall period (September-November) on record and highest fall season flood crest on the Red River north of Fargo, through Pembina, the eastern ND counties (Red River Basin) are on track for the second wettest snowmelt-runoff/fall-winter period (September-April), inclusive of the current SWE. A top five flood threat is currently showing in the January 23rd outlook probabilities, with a lot of winter yet to come."

Allen Schlag, Service Hydrologist for the NWS Bismarck Forecast Office commented about western and central North Dakota heading into the flood season: "Despite the record

setting fall moisture in 2019, the Missouri and James River reservoirs are on track to fully restore their flood control capacities before spring. Wet soils and full wetlands are a statewide concern that will enhance runoff even where there's unremarkable snow cover. Much of the Prairie Pothole Region (especially the James River and its tributaries) already has more than its full winter of SWE and will need help from Mother Nature in the form of an extended melt season, sublimation and evaporation to minimize the risk of significant flooding."

What remains to be seen is whether or not Mother Nature will cooperate with the spring melt ahead. It's vital for flood planners to prepare for the worst possible scenarios so that lives and property are protected. By working together and starting flood preparations early, flood impacts could at least be reduced. In fact, Schlag praised North Dakota's successful mitigation of floods: "During the last decade, we've had a fair number of top five (flood) events and with each passing year the costs associated with a given flood seem to be going down."