

Local forecast by "City, St" or "ZIP"
 City, St Go

Find us on Facebook
 SPC on Facebook
 @NWSSPC
 NCEP Quarterly Newsletter

Home (Classic)
 SPC Products
 All SPC Forecasts
 Current Watches
 Meso. Discussions
 Conv. Outlooks
 Tstm. Outlooks
 Fire Wx Outlooks
 RSS Feeds
 E-Mail Alerts

Weather Information
 Storm Reports
 Storm Reports Dev.
 NWS Hazards Map
 National RADAR
 Product Archive
 NOAA Weather Radio

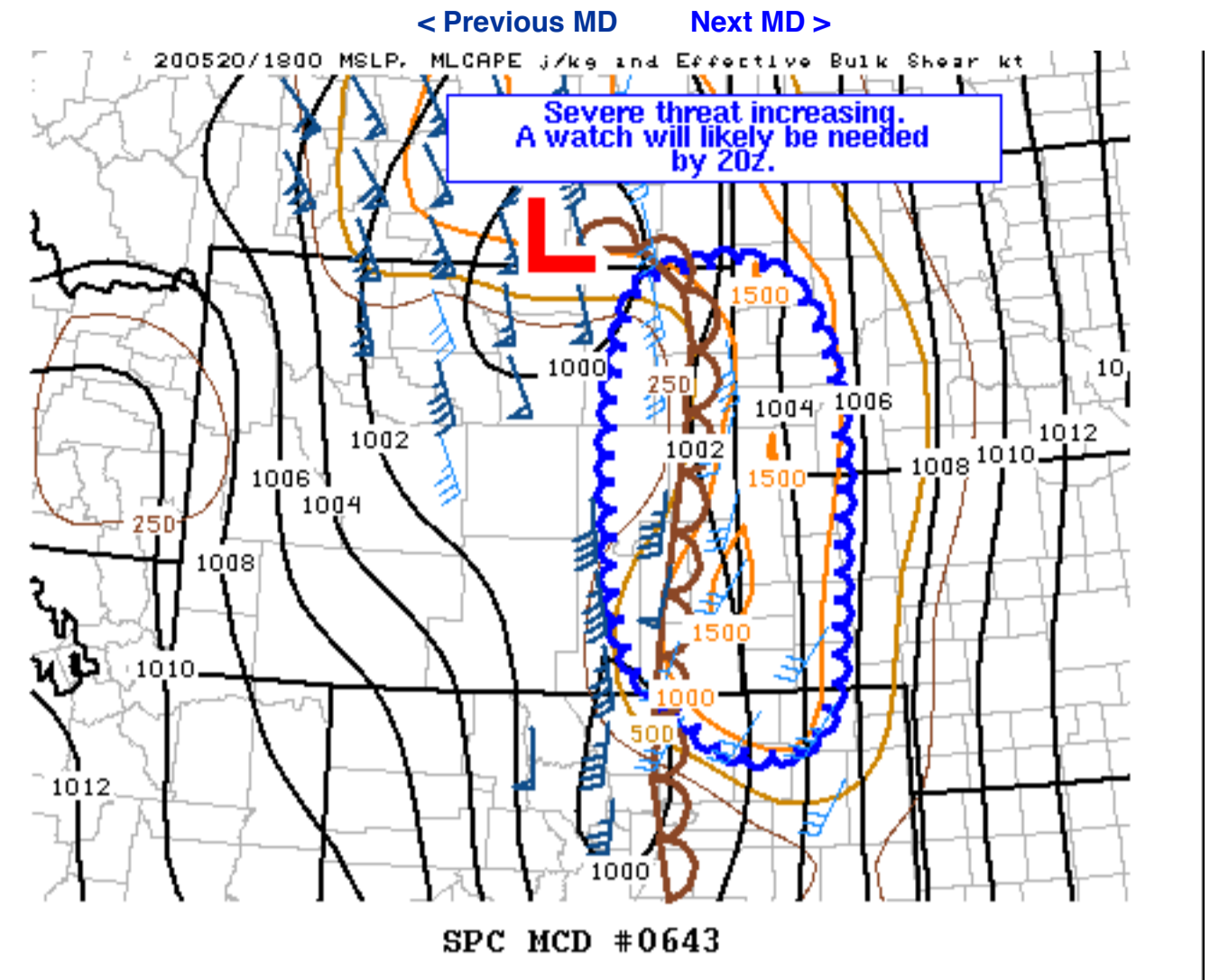
Research
 Non-op. Products
 Forecast Tools
 Svr. Tstm. Events
 SPC Publications
 SPC-NSSL HWT

Education & Outreach
 About the SPC
 SPC FAQ
 About Tornadoes
 About Derechos
 Video Lecture Series
 WCM Page
 Enh. Fujita Page
 Our History
 Public Tours

Misc.
 Staff
 Contact Us
 SPC Feedback



Mesoscale Discussion 643



Mesoscale Discussion 0643
 NWS Storm Prediction Center Norman OK
 0207 PM CDT Wed May 20 2020

Areas affected...eastern WY...southwest SD...the western NE Panhandle and portions of northeast CO

Concerning...Severe potential...Watch likely

Valid 201907Z - 202030Z

Probability of Watch Issuance...95 percent

SUMMARY...Thunderstorms are expected to increase over the next couple of hours. Large hail and locally damaging wind gusts are possible. A watch will likely be needed by 20z.

DISCUSSION...A surface low near the southeast MT/northeast WY border, east of the Big Horn mountains, was noted in 18z mesoanalysis. A strong baroclinic zone across the High Plains as allowed modest surface moisture to spread across the region on gusty southeasterly low level winds. Surface dewpoints are generally in the 50s to the east of a dryline/surface trough extending southward across eastern WY into eastern CO. Strong heating has allowed temperatures to warm into the upper 70s to low 80s beneath a plume of steep midlevel lapse rates of 7.5-8.5 C/km. As a result, moderate destabilization is occurring, with MLCAPE values increasing to around 1500 J/kg.

Recently, vertically developing CU has been noted across parts of southeast WY over the higher terrain of the Laramie Range, but also further east near the dryline/surface trough near Platte and Goshen Counties. Water vapor satellite loops suggest stronger ascent is now spreading northeast across parts of western CO/WY and convective initiation is likely in the next couple of hours. Initially storms will likely develop off the higher terrain and shift northeast in the vicinity of the surface trough across east-central and northeast WY. Additional storms are expected to develop southward later this afternoon/evening into portions of southeast WY/far northeast CO and the western NE Panhandle as a cold front overtakes the dryline and develops eastward as the western upper trough ejects eastward. Shear profiles will strengthen with time, with effective shear greater than 40 kt and moderately long, straight hodographs favoring cells capable of large hail initially. A deeply mixed boundary layer resulting in steep low level lapse rates will allow for strong downdrafts capable of locally damaging winds. Storm clusters will likely experience some degree of upscale growth due to outflow interactions and an increasing low level jet during the evening as convection approaches the WY/SD/NE border. While the tornado threat appears low, backed southeasterly low level winds will enhance effective SRH toward western SD/NE as storms move into a more moist environment. Therefore, a tornado cannot be ruled out.

..Leitman/Guyer.. 05/20/2020

...Please see www.spc.noaa.gov for graphic product...

ATTN...WFO...LBF...UNR...BOU...CYS...BYZ...

LAT...LON 40520434 41250536 41980561 43380564 43720562 44480543
 44780529 44890509 45010447 45060379 44780320 44480295
 43970278 43040270 41030287 40510319 40410366 40520434

[Top/All Mesoscale Discussions/Forecast Products/Home](#)
 Weather Topics:
[Watches, Mesoscale Discussions, Outlooks, Fire Weather, All Products, Contact Us](#)

National Weather Service • Since 1870