



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

City, St



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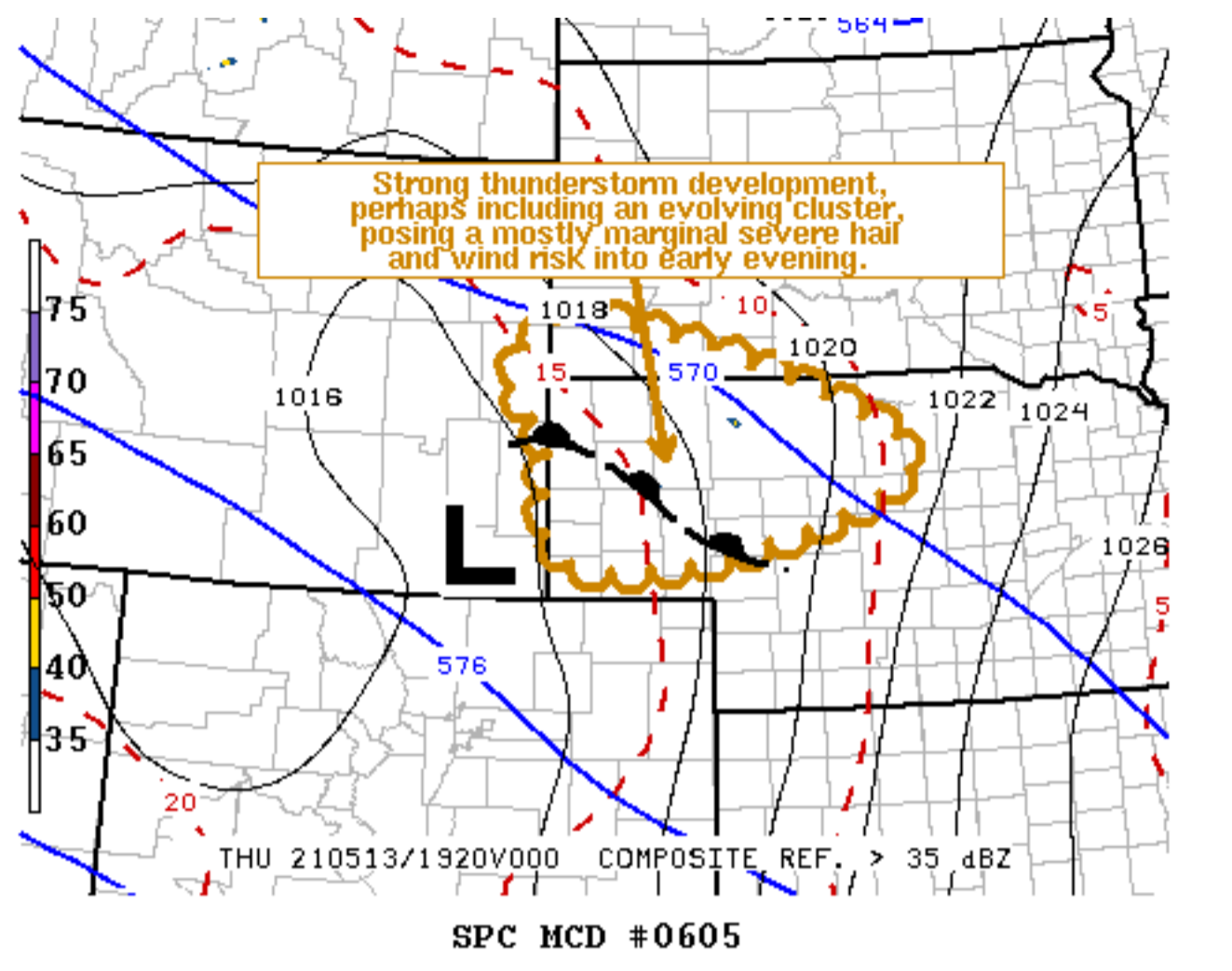
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SPC Feedback



Mesoscale Discussion 605

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Mesoscale Discussion 0605
NWS Storm Prediction Center Norman OK
0238 PM CDT Thu May 13 2021

Areas affected...Parts of northern/western Nebraska and adjacent portions of southeastern Wyoming and southwestern South Dakota

Concerning...Severe potential...Watch unlikely

Valid 131938Z - 132215Z

Probability of Watch Issuance...20 percent

SUMMARY...Strong thunderstorm development, possibly including an evolving cluster of storms, appears underway. This may pose a risk for hail and strong surface gusts which could occasionally approach or exceed severe limits into early evening. Due to the marginal anticipated risk, it is not clear that a severe weather watch is needed, but trends will be monitored.

DISCUSSION...Boundary-layer destabilization is underway across central portions of the high plains, modest due to low moisture levels, but becoming maximized as far north as the Nebraska Panhandle vicinity. This is generally north and east of a developing weak surface low, and along a strengthening zone of differential surface heating, which is becoming a focus for deepening convective development. This is probably being supported by increasing large-scale ascent, largely due to low/mid-level warm advection, downstream of a low-amplitude mid-level perturbation digging within northwesterly flow across the northern Rockies.

Deep-layer ambient mean flow only appears to be strengthening from 20-30 kt, but associated vertical shear, aided by veering profiles in low to mid-levels, is probably becoming conditionally supportive of organized convection. With mixed-layer CAPE, particularly around the Alliance, NE vicinity, as high as 500 J/kg, but up to around 1000 J/kg for surface-based parcels, there appears potential for at least a few stronger storms capable of producing small to marginally severe hail.

Given the steep low-level lapse rates associated with the modestly deep, well mixed boundary-layer, locally strong surface gusts might be the more prominent convective hazard, aided by sub-cloud cooling associated with melting and evaporating precipitation. It is possible that forcing associated with consolidating surface cold pools, coupled with the larger-scale ascent, could support an upscale growing, southeastward propagating cluster of storms by early evening.

..Kerr/Thompson.. 05/13/2021

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

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