

Surface Temperature/Sea Level Pressure(SLP): As discussed in the Surface Temp/Wind Vector field description, the temperature field (in °F) here applies to the lowest MM5 vertical sigma level (0.998). Sea Level Pressure, in millibars (mb) or hectoPascals (hPa) is a derived field, using the nonhydrostatic pressure perturbation, the definition of the sigma coordinate system, the surface elevation and the temperature and moisture fields to obtain an approximate value of station pressure reduced to sea level valid for a particular MM5 grid cell.

Because of the method by which this field is constructed, small (1-2 mb) pressure distortions that are not related to any specific meteorological forcing or process can appear over steeply sloping terrain. Thus the field often appears less smooth than is commonly depicted in standard NWS representations. Occasionally, additional small perturbations appear which are directly related to nonhydrostatic mesoscale meteorological forcings. Gravity waves are the most common of these perturbations, but mesohighs and mesolows associated with strong convection, as well as other terrain-related effects (e.g., lee troughs, hydraulic jumps) can also appear on smaller scales than often seen with larger-scale models. These facts need to be kept in mind when interpreting the SLP field, particularly on the 15 km and 5 km domains.