FORECASTING

FORECAST CHECKLISTS AND DECISION TREES

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The following checklist is an initial step in the prediction of strong sustained winds in the northern part of west Texas. The intensity and duration need to be determined as well as the potential for extreme conditions. The checklist can be especially helpful to forecasters who lack experience in this area of the country.

HIGH WIND FORECASTS

Checklist 8-1
NWSFO, Lubbock, TX

DECISION TREE FOR HIGH WINDS (sustained westerly component of 30 mph or greater) IN THE NORTHERN PART OF WEST TEXAS (mainly winter and spring for the first 12 and 24 hour fcst periods)

1) Is 700mb pressure gradient*** ≥ 60m/200nm over NM and west TX (current and prog****)?
   - NO → winds 30 mph or greater are unlikely
   - YES ↓

2) Is PVA maxima (12 units or greater) forecast near or over area during daylight hours?
   - NO → winds 30 mph or greater are unlikely
   - YES ↓

3) Is model prog**** for surface pressure gradient ≥ 4mb/100nm?
   - NO → winds 30 mph or greater are unlikely
   - YES ↓

4) Is lifted index (current and prog****) ≤ +4?
   - NO → winds 30 mph or greater are unlikely
   - YES ↓

Go To Table of Gradients below

***700 mb Gradient Method

200nm gradient	Best wind fcst	200nm gradient	Best wind fcst
less than 20M	5 to 15 mph	50-59M	(1)20 to 30 mph
20-29M	10 to 20 mph	**60-69M	(1)25 to 35 mph (g* 40)
30-34M	12 to 22 mph	**70-79M	(2)30 to 40 mph (g* 50)
35-39M	14 to 24 mph	**80-89M	(3)35 to 40 mph (g* 55)
40-49M	(1)15 to 25 mph	**90-99M	(3)40 to 50 mph (g*60+)

(1) lake wind advisories (2) consider high wind warning (3) high wind warning probable

*occassional gusts to speed shown

**these extreme cases usually involve a strong, deepening cyclone moving through the area with no thick clouds and low lifted index values (≤ +4). Good idea to think "dust storm" under dry conds

****use NGM