

# FORECASTING

## FORECAST CHECKLISTS AND DECISION TREES

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**Forecasting and Analysis Committee**

The following checklist is an initial step in the prediction of non-tropical cyclone-related South Texas heavy rain events. The checklist's purpose is to focus attention on risk potential.

Forecasters are advised to use both forecast and observed parameters.

### A CHECKLIST FOR NON-TROPICAL CYCLONE-RELATED SOUTH TEXAS HEAVY RAIN EVENTS

(checklist purpose is to focus attention on risk potential - use both forecast and observed parameters)

Decision Tree 3R  
 NWSFO, San Antonio, TX

	WEAK	MODERATE	STRONG
<b>Surface</b>			
(1) baroclinic zone, outflow boundary, slow-moving front? temperature gradient across zone	<8 deg F	8-12 deg F	>12 deg F
(2) moist inflow dewpoints	<60 deg F	60-68 deg F	>68 deg F
(3) moist inflow windspeed	<10kt	10-20 kt	>20kt
<b>850mb</b>			
(1) temperature advection	cold	neutral	warm T>13 deg F
(2) moisture ridge intersecting boundary with dewpoints	<10 deg C	10-14 deg C	>14 deg C
(3) wind maxima within moisture ridge with speeds	<10kt	10-20 kt	>20 kt
(4) angle that 850mb moist ridge intersects surface baroclinic zone	<45 deg	45-60 deg	>60 deg
<b>700mb</b>			
(1) temperature advection	cold or stg inversion T>10 deg C	neutral	warm with T 4 - 8 deg C
(2) moisture ridge near surface baroclinic zone with dewpoints	0 - 3 deg C	3 - 5 deg C	>5 deg C
<b>500mb</b>			
(1) dynamic forcing of vertical motion -- temperature advection -- vorticity advection	cold NVA	none/neutral none/neutral	warm PVA*
* may be weak or moderate if strong surface to 700mb forcing under 500mb ridge			
<b>200 or 300mb</b>			
(1) position relative to upper level jet streak (quadrants)	no streak	left front or right rear	right rear of polar AND left front of subtropical
<b>surface to 500mb wind shear</b>	>30kt	15-30 kt	<15 kt
<b>average relative humidity (surface to 500mb)</b>	<60%	60-75%	>65%
<b>Precipitable Water</b>	<1.25"	1.25 - 1.50"	>1.50"
<b>Stability Indices</b>			
K-Index	<30	30-35	>35
Lifted Index (LI)	>-1	-1 to -3	<-3