TEXAQS-II Wind Profiler Network Update

Wind Profiler Network

NWP Verification
TEXAQS-II Upper Air Network as of Today

Existing Upper-air Network
- Full tropospheric profilers
- Boundary-layer profilers
- NWS Rawinsondes
- NEXRAD

TexAQS-II Enhancements
- Boundary-layer profilers
- Serial rawinsondes
TEXAQS-II
East Texas
Wind Profiler
Network
Wind Profiler Data Products
http://www.etl.noaa.gov/et7/data/sitemap/Texas/

South Central US
Clickable site map

Click on site location to display images.

Huntsville
Images created by the NOAA Environmental Technology Laboratory

Signal to Noise Ratio | Wind Barb | Virtual Temperature | Virtual Potential Temperature | Surface Meteorology

Click on image to display full size.

Updated: 11/10/2005 21:32 UTC

Links
South Central US Trajectory Tool
Data/Image Archive
West Coast US Clickable Map
ETL Data/Image Library
Data questions and/or requests
For boundary-layer profilers, two wind displays are available...
... for NPN profilers, only colored barbs are available.
RASS Temperature Products

- 5-min profile every hour
- lower height coverage
- 60-m resolution
- $T_v$ or $\Theta_v$
Surface Meteorology

- Updated hourly
- 2-min averages
- Anemometer at 10 m
- P/T/RH sensors at 2 m
- Rain gauge
- Most current obs. at left
Huntsville, TX
DISCLAIMER: These data have not been edited and should be considered preliminary. These data cannot be published without permission from the Environmental Technology Lab.
Radar reflectivity measured by wind profilers provides diurnal evolution of convective boundary-layer mixing depth. Also day-to-day, and seasonal variability. Mixing depth estimates based on profiler turbulence and aerosol lidar backscatter are well correlated.

Number of "clear" data points = 62
Average X = 1265 m
Average Y = 1302 m
Correlation coefficient = 0.94
RMS Scatter = 146 m

Horizontal variations in mixing caused by land-use differences are effected by wind speed.

After widespread rain
ETL Wind Profiler Web-based Feedback Form

South Central Profiler Network
Forecasters please answer these questions regarding profiler data.

Did you find this product useful? ☐ yes ☐ no

Indicate the type(s) of application(s) for which you consulted this product:
☐ Freesail Passage
☐ Air Quality
☐ Wind Advisory
☐ Aviation weather
☐ Nocturnal Low Level Jet
☐ Other

If these data played a role in the issuance/cancellation of an advisory/watch.warning, please select the appropriate type(s):
Use Ctrl+Shift+K to select multiple

Advisory: Wind
☐ Dense Fog
☐ Urban and Small Stream Flooding

Watch: Severe Thunderstorm
☐ Flood/Flash Flood
☐ Tornado

Warning: Severe Thunderstorm
☐ Flood/Flash Flood
☐ Tornado

Comments?

Did it help issue or cancel an advisory, watch, or warning?

Useful?
Application?
### Evaluation Results

<table>
<thead>
<tr>
<th>Time (UTC)</th>
<th>Product</th>
<th>Site</th>
<th>Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>198 206.50 25</td>
<td>thetaw</td>
<td>pt</td>
<td>198 206.50 25</td>
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<tr>
<td>22:08</td>
<td>thetaw</td>
<td>pt</td>
<td>yes</td>
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<tr>
<td>198 206.50 25</td>
<td>thetaw</td>
<td>pt</td>
<td>yes</td>
</tr>
<tr>
<td>22:14</td>
<td>thetaw</td>
<td>pt</td>
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<tr>
<td>198 206.50 25</td>
<td>thetaw</td>
<td>pt</td>
<td>yes</td>
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<tr>
<td>22:26</td>
<td>thetaw</td>
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<tr>
<td>198 206.50 25</td>
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<tr>
<td>22:31</td>
<td>thetaw</td>
<td>pt</td>
<td>yes</td>
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**Office**

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<thead>
<tr>
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<th>Useful?</th>
<th>Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>198 206.50 25</td>
<td>thetaw</td>
<td>pt</td>
<td>yes</td>
<td>Other news, wind received reports of gusty winds (pt). Had g/s 3kts to 2106kts. lps 88d ws and vwp not available.</td>
<td></td>
</tr>
<tr>
<td>198 206.50 25</td>
<td>thetaw</td>
<td>pt</td>
<td>yes</td>
<td>Other follow up from previous note about gusty winds in pittsburgh area.</td>
<td>Consulted this product to observe what winds were up to 8-10kft agl. Shows no winds over 25-30kts up thru ~10kft agl. Will use 0-5 kft agl data again to help with upper air launch, in aligning radiothesodolite to track radioonde.</td>
</tr>
<tr>
<td>198 206.50 25</td>
<td>thetaw</td>
<td>pt</td>
<td>yes</td>
<td>Other checking winds for upper air launch and for continued reports of gusts over 30 kts from nearby airports.</td>
<td></td>
</tr>
<tr>
<td>198 206.50 25</td>
<td>thetaw</td>
<td>pt</td>
<td>yes</td>
<td>High Winds checked 2 min mean speed to compare to lps 88d ws and vwp data.</td>
<td></td>
</tr>
</tbody>
</table>

**Advisory, Watch, Warning**

<table>
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**Comments**

- Considered issuing wind advisory based on lps 88d ws and vwp not available. Public reports however, pt wind profiler showed winds no higher than 25kts at 6 kft agl so issued special weather statement, as winds, likely due to downward mixing from nearby popo, should subside after rain begins.
- profiler data was helpful due to its high resolution, also lps 88d ws and vwp unavailable. Lou G.
Thanks to NOAA, TCEQ, and cooperating agencies for supporting profiler obs. during TEXAQS-II.

Questions?