SHARPpy: Fueling the Python Cult

Sounding and Hodograph Analysis and Research Program for Python

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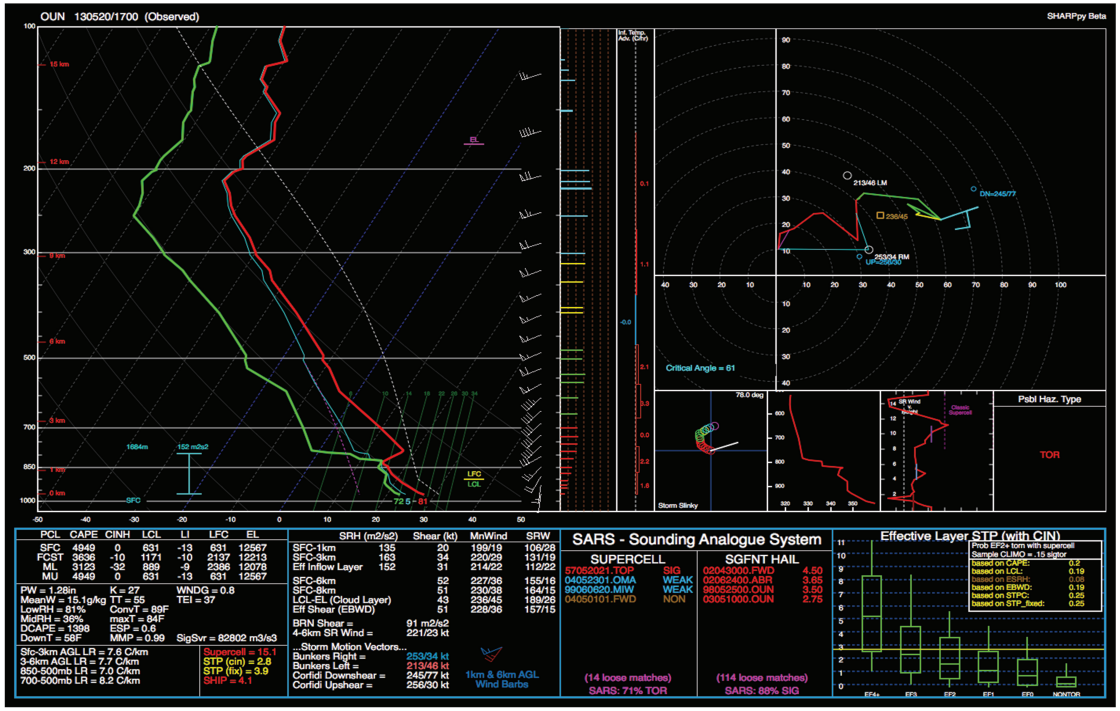
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Initiative

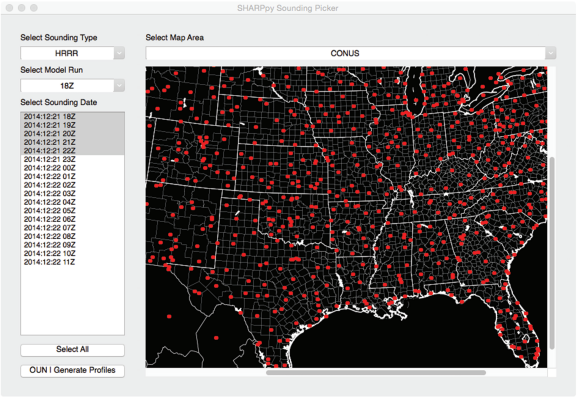
- Fill the need for an open source, multi-platform sounding analysis program.
- Further develop a sounding analysis program for use by both research and operations.
- Collaborating with the Storm Prediction Center to use tried and tested routines for otherwise ambiguous calculations (CAPE).

Collaboration

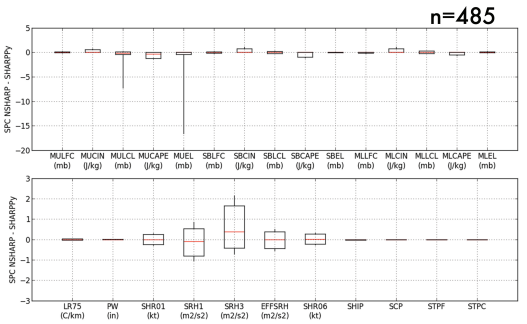
- Rich Thompson (SPC)
  - Donated code and databases from the original SPC NSHARP to be used in this project.
- Ryan Jewell (SPC)
  - Provided sounding data for a more rigorous testing of the code base and guidance on implementing SARS.
- Bryan Smith (SPC)
  - Provided data to make VROT and EF-STP insets.
- Matthew Bunkers (NWS UNR)
  - Assisted in implementing the Bunkers Storm Motion Vector algorithm and donated the NWS UNR precipitable water vapor climatology.
- Tim Supinie & David John Gagne II (SoM):
  - Testing and troubleshooting for the SHARPpy code.



Interactivity

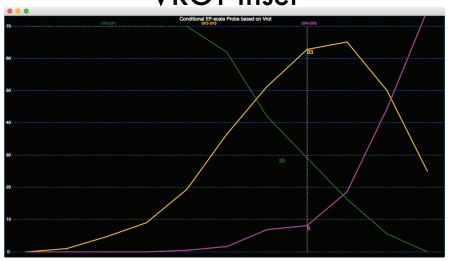


Scriptability



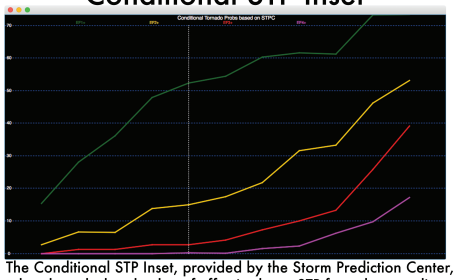
https://github.com/sharppy

VROT Inset



The VROT inset, provided by the Storm Prediction Center, takes an input VROT value and displays the conditional probability of a tornado of a certain EF rating based on a climatology of VROT values associated with different tornado intensities. This climatology comes from the SPC Tornadic Storm and Environment Database

Conditional STP Inset



The Conditional STP Inset, provided by the Storm Prediction Center, takes the calculated value of effective-layer STP from the sounding profile and displays where it lies in the tornado intensity climatology from th SPC Tornadic Storm and Environment Database.

Moving Forward

- Continue to test and refine existing routines and user interface functionality
- Continue to define and address the needs of both the operational and research atmospheric scientists
- Maintain existing collaborative relationships with NWS/SPC operational and research communities