1. Run **SHARPpy** (https://sharppy.github.io/SHARPpy/index.html).

Note: Quick guide available for SHARPpy installation.

2. From **Select Sounding Source** select a NUCAPS data source (e.g. NUCAPS CONUS NOAA-20).

3. NUCAPS soundings will appear on the map with **color coded quality flags**. These are the latest, real-time soundings collected from the Direct Broadcast system at the University of Wisconsin-Madison. **Click on any dot to view the NUCAPS sounding**. The selected dot will be light green.

*NOTE: NUCAPS does not retrieve wind data.*
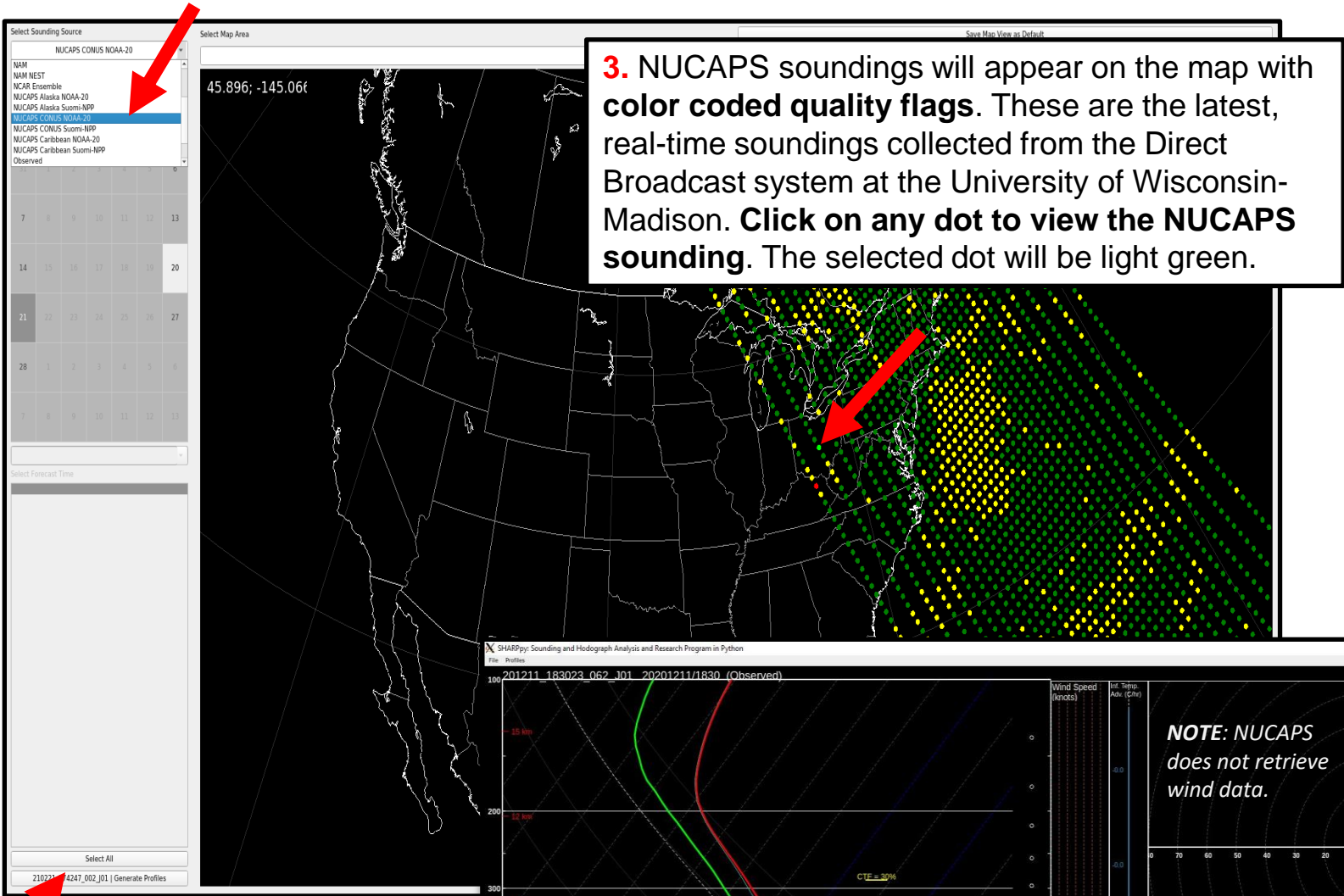
4. From **Select Forecast Time** click **Generate Profiles** in the bottom left corner of the GUI.

5. The **skew-T** for the selected NUCAPS sounding should now pop up.
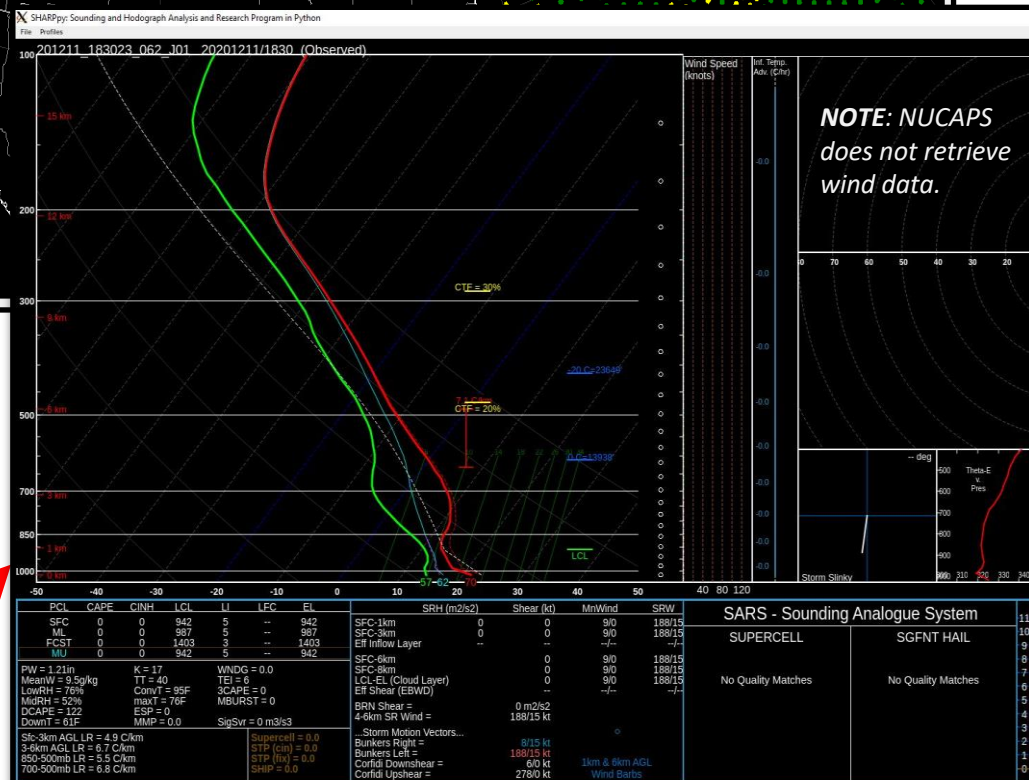
Loading Multiple Profiles

- **Select a dot** on the map, click **Generate Profiles** to launch the skew-T window.
- Keep the skew-T window open. I**n the map** display**, select another point,** and click **Generate Profiles.**
- **In the skew-T window**, click the **Profiles → Collect Observed**
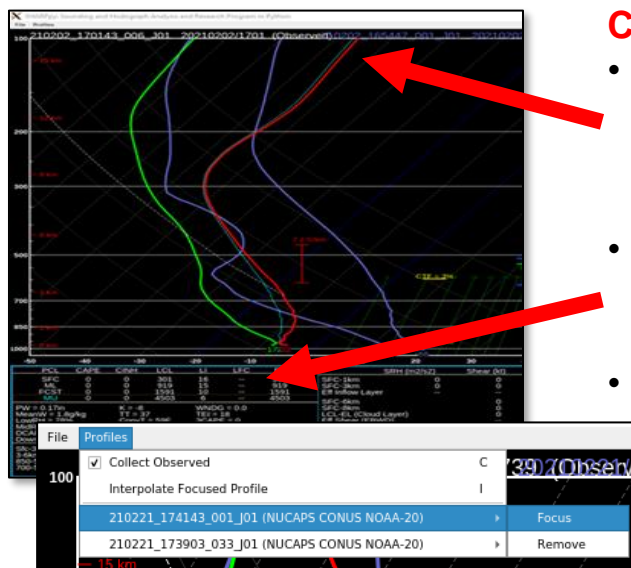

Changing Focus Profile

- The **focus profile** will have **green** (moisture) **and red** (temperature) **lines**.
- The **CAPE in the tables** are for the focus profile.
- Select **Profiles → <profile name> → Focus** to change the focus profile

Interpreting Quality Flags

- **Color coded quality flag** helps the forecaster to quickly interpret retrieval robustness before interrogating the sounding profile.
- Green dots can be used without reservation. Yellow, red dots may be useful alongside cloud top fraction.

Dot Color Meaning

Green	Yellow	Red
Successful infrared (IR) + microwave (MW) NUCAPS retrieval under clear or partly cloudy conditions	Failed IR + MW NUCAPS retrieval. Successful MW-only NUCAPS retrieval under cloudy conditions	Failed IR + MW NUCAPS retrieval. Failed MW-only NUCAPS retrieval under precipitating cloudy conditions
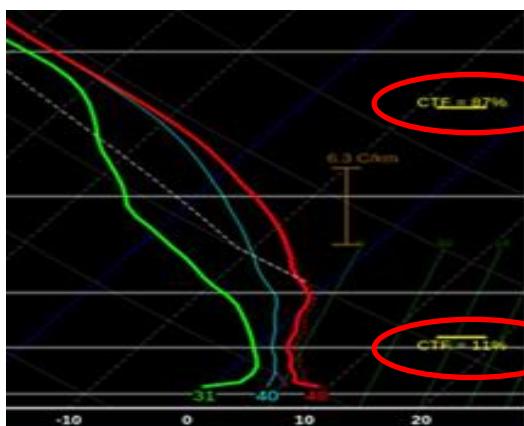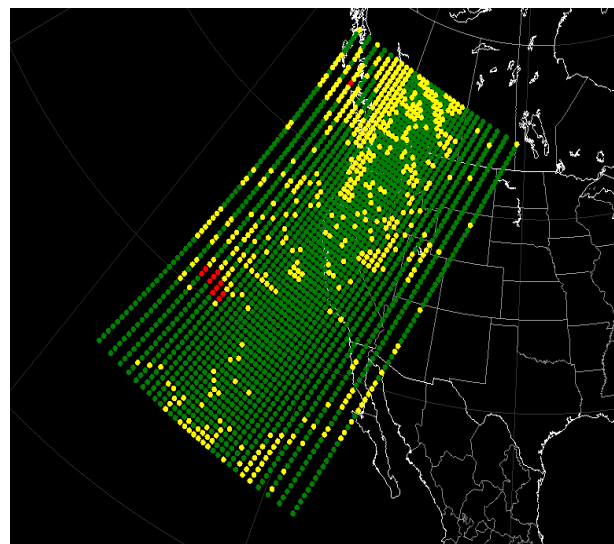
Interpreting Cloud Top Fraction

- NUCAPS produces a **model-independent cloud top pressure (CTP) and fraction** retrieval for two cloud layers. CTF can be compared with model output.
- CTF is also useful because **profiles above the cloud tops may be representative of the atmosphere, even for failed retrievals.**
- Clouds can introduce uncertainty and cause IR+MW retrievals to fail, *but cloud fraction alone does not determine the quality flag*.
- *Note: Quick Guide available for Quality Control*

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