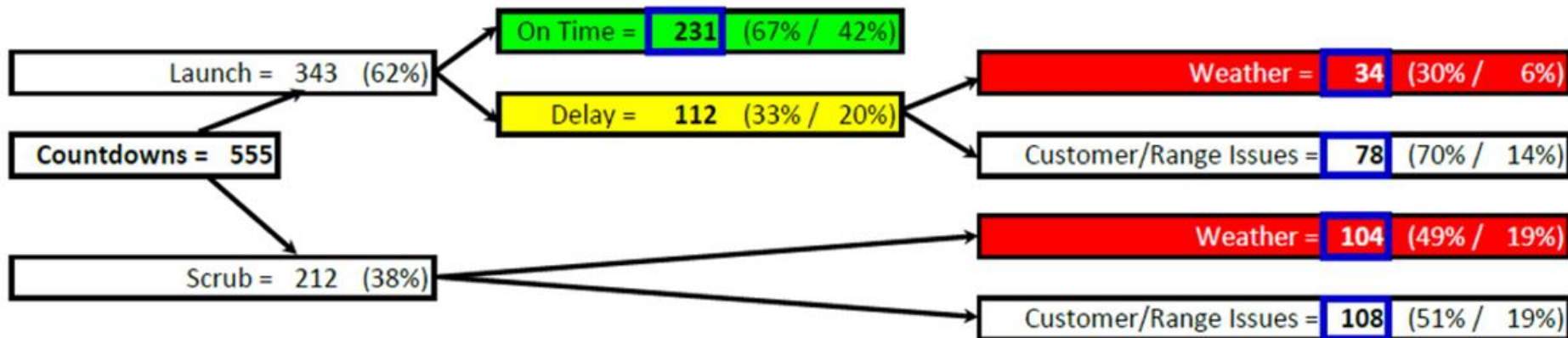


Launch Weather Decision Support System

Eastern Range Weather Impacts to Rocket Launches 1-Jan-88 to 6-Jul-16

(% Prev / % Total)



Weather is vital to launch operations



30% of launch delays due to weather

49% of launch scrubs due to weather

25% of countdowns impacted by weather

Figure 1. Weather impacts to DOL activities at the Eastern Range.
Compiled by the 45th Weather Squadron, Patrick AFB.

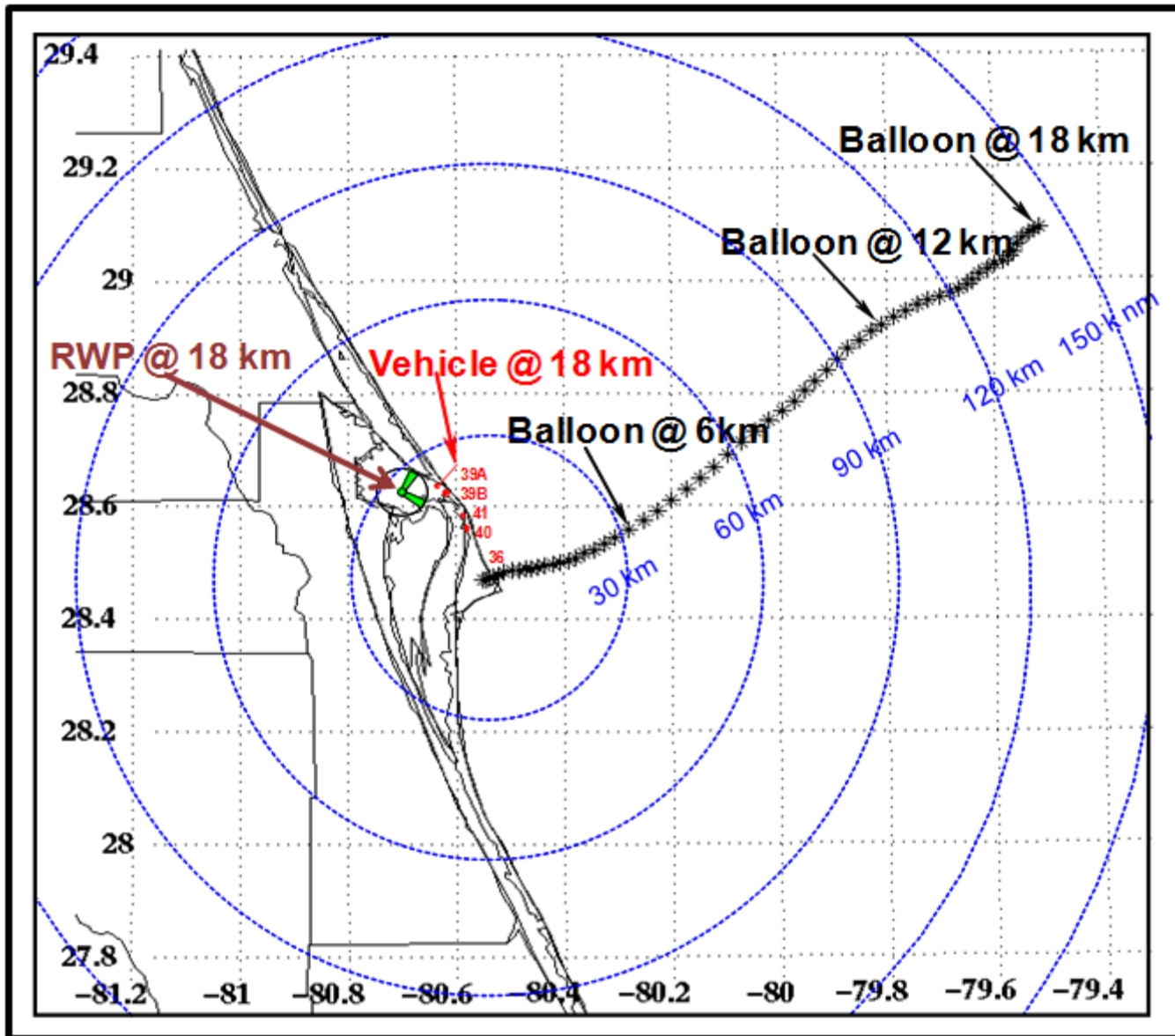


Figure 2. Example winter balloon and vehicle trajectories.

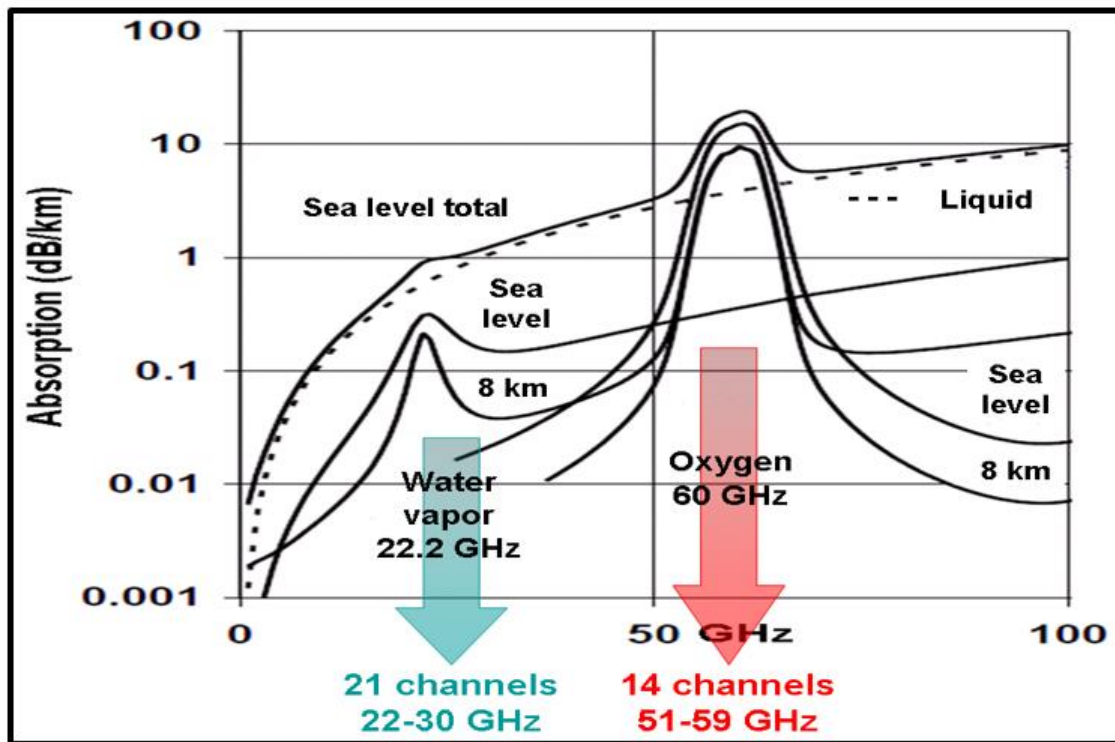


Figure 4. Atmospheric microwave spectrum.



Figure 3. RDX Microwave Thermodynamic Profiler.



Microwave and infrared emission from air are converted into **temperature**, **humidity** and **liquid** profiles

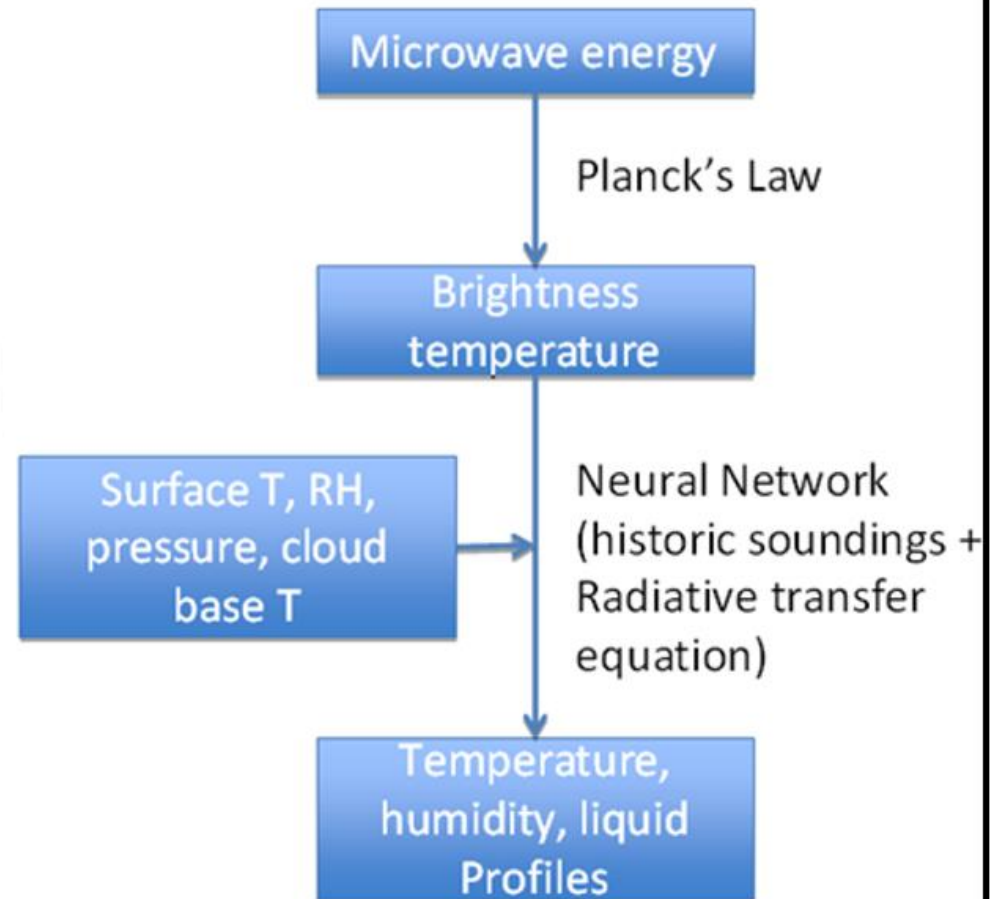


Figure 5. MTP profile retrieval schematic diagram.

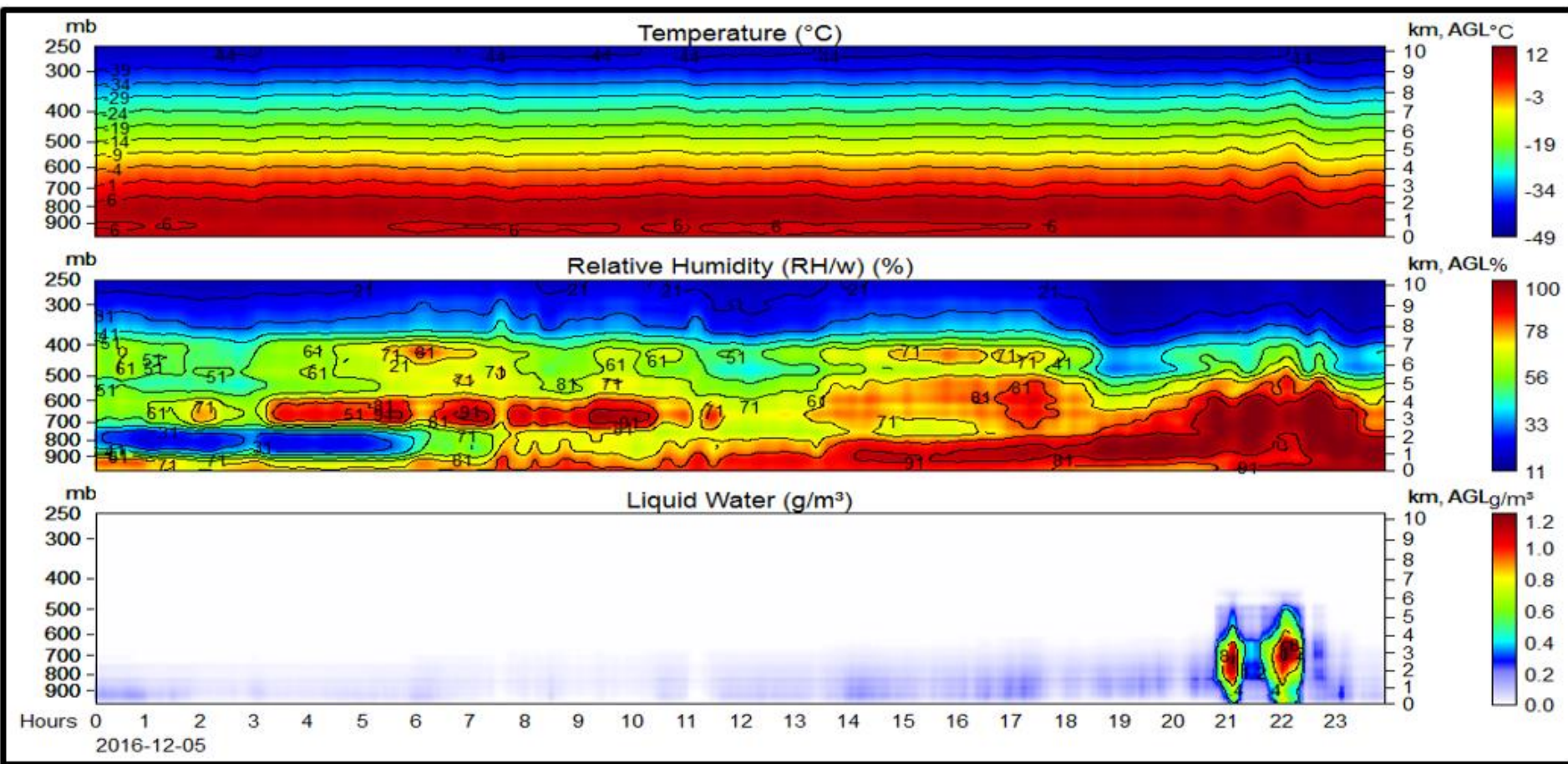


Figure 6. RDX MTP temperature, humidity and liquid soundings at Frisco, TX, 5 Dec 2016.

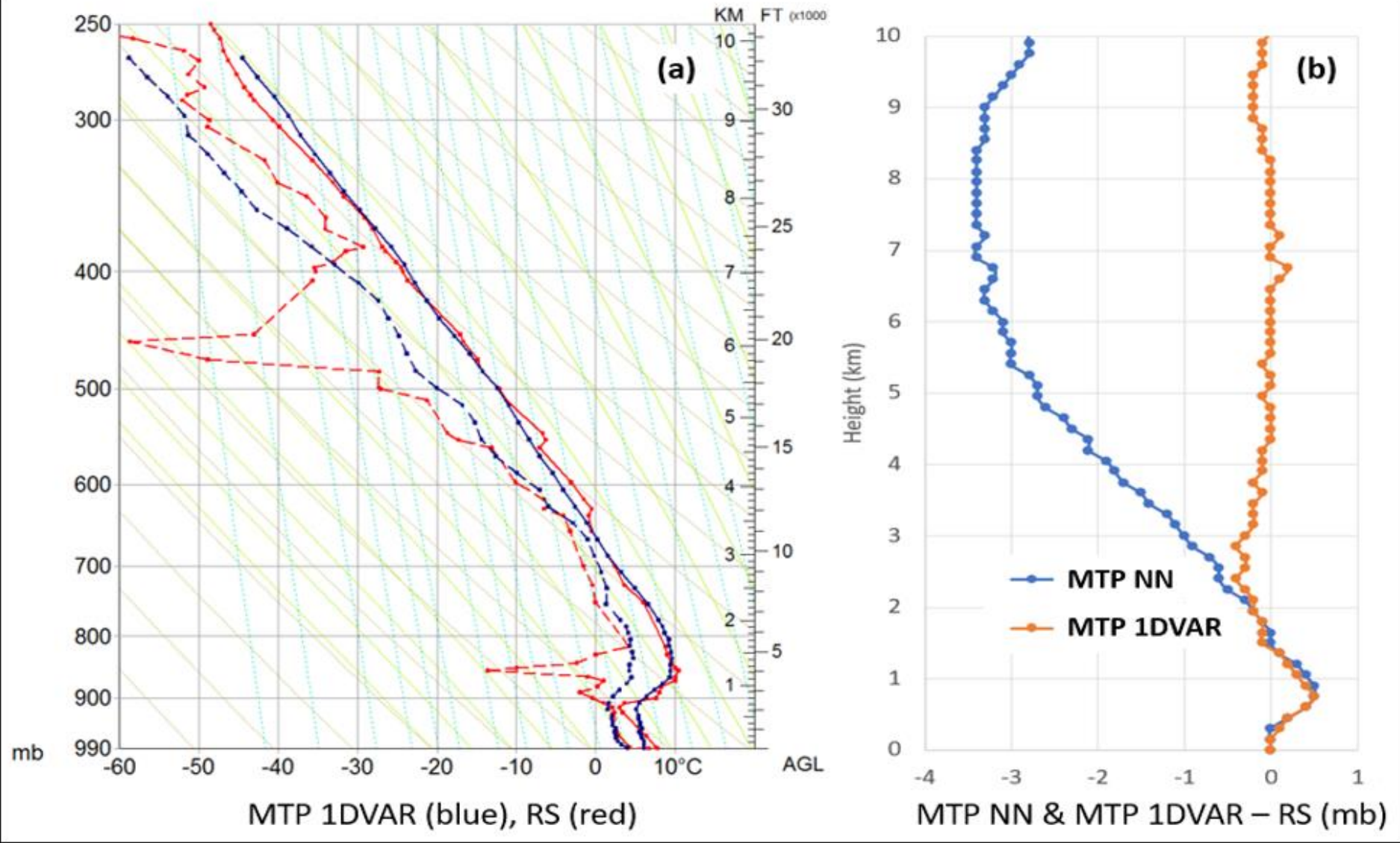


Figure 7. (a) MTP 1DVAR and radiosonde temperature (solid) and dewpoint (dash), (b) MTP NN and MTP 1DVAR minus radiosonde pressure.

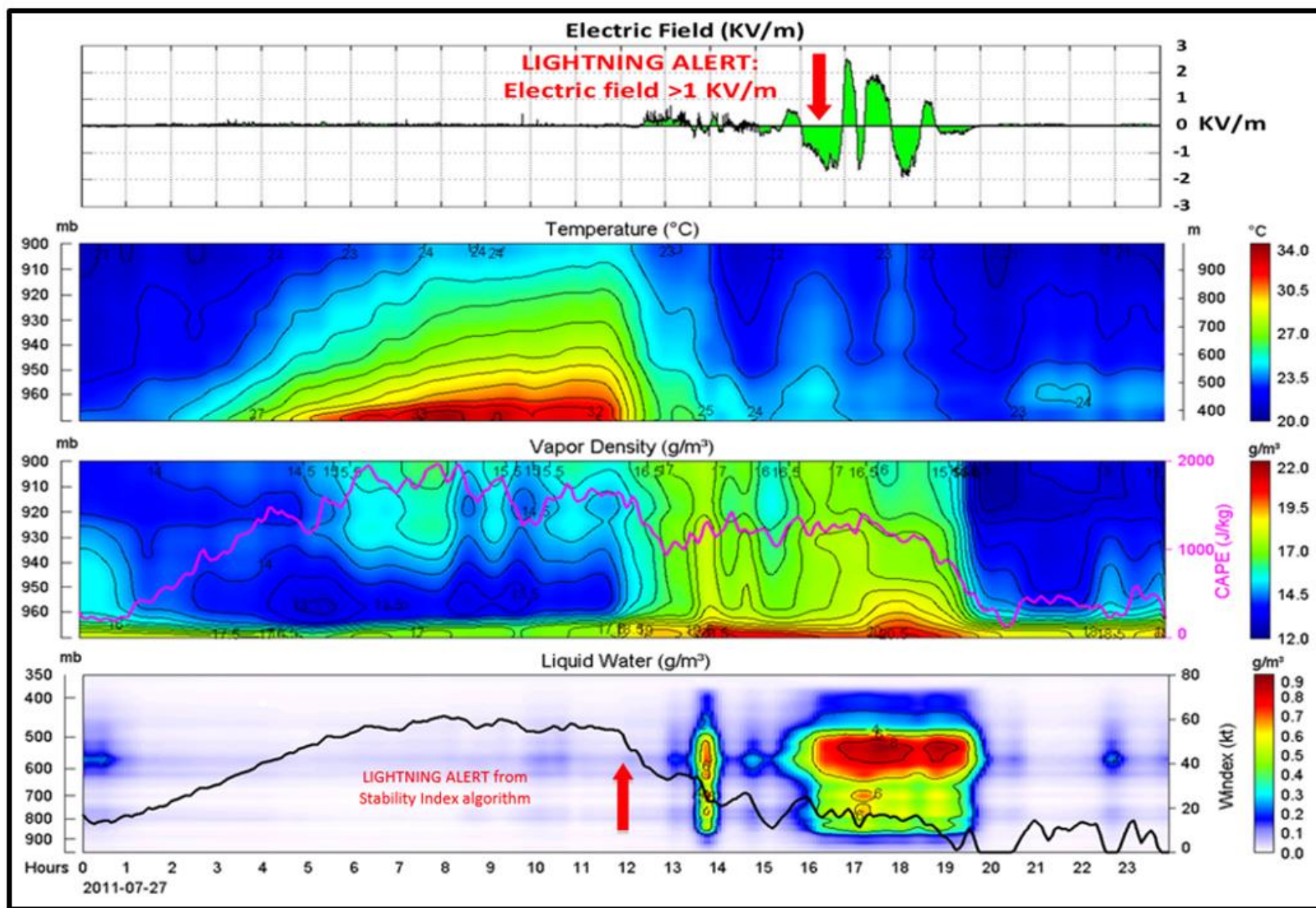


Figure 8. Example MTP lightning risk identification more than two hours in advance of an Electric Field Mill.

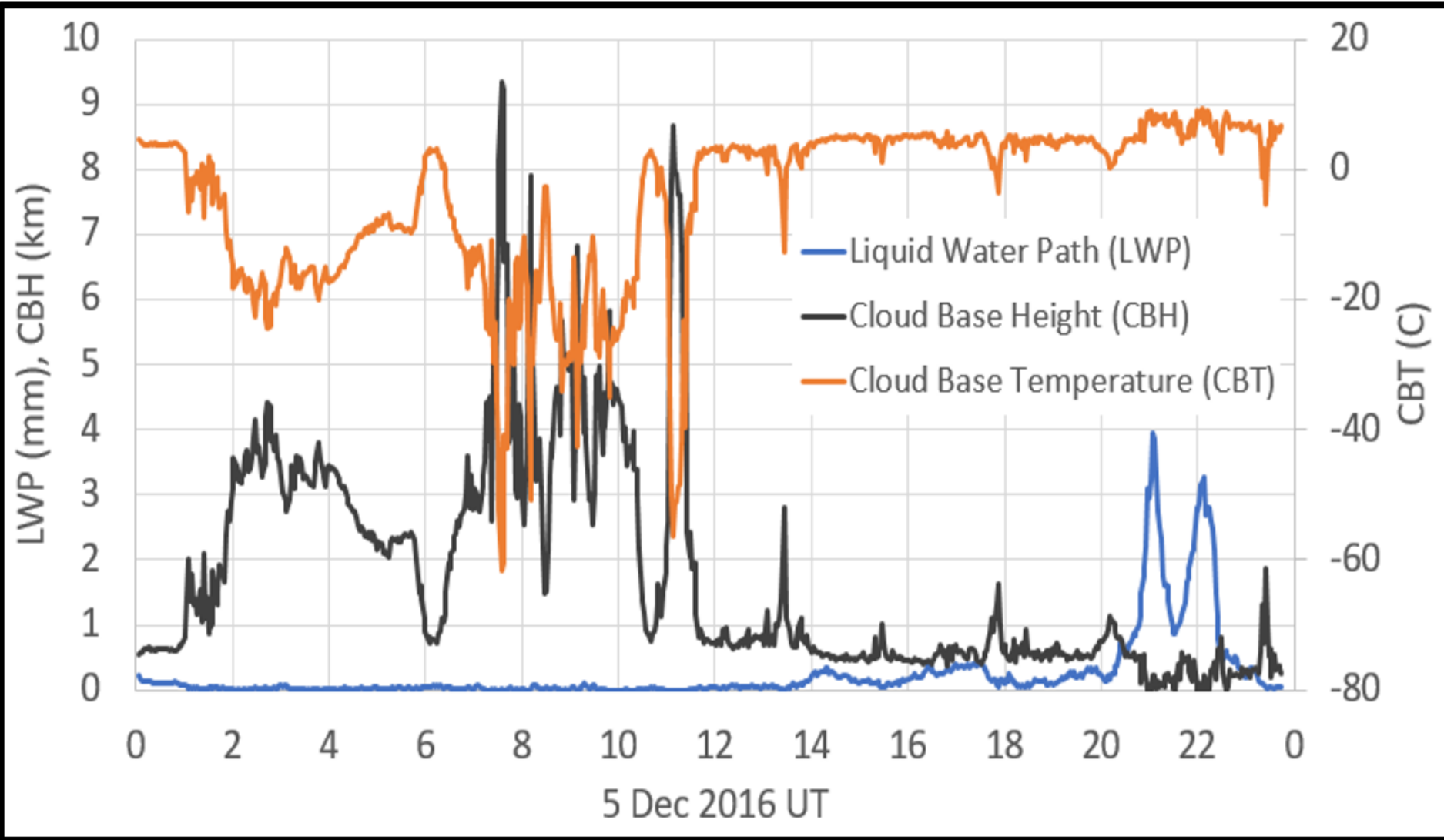


Figure 9. MTP liquid water path, cloud base height and cloud base temperature.