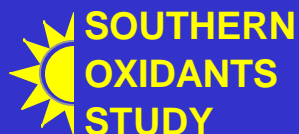


- Light wind, high temps, and chance of showers.
- Thanks!: Metro Airport Authority & Health Department.
- A Farewell Message From Jim & Fred

- "Miss Piggy" flies again. Plan for Saturday, July 17th.
- "Old Heidelberg" beckons us to dinner tonight
- Thoughts for the day.

The Daily Plan-it

*The SOS Field Study
Newsletter
Issue 28
July 16, 1999*



Hail and farewell to the 1999 Nashville Field Study

Light, southerly winds.
Temps High.

Hot, humid with the chance of PM thunderstorms.

SOS Special Thanks to...

Metro Airport Authority & Health Department

SOS wishes to thank the **Metropolitan Nashville International Airport Authority** for providing the use of the 2nd floor of the H. P. Gassaway Building as the headquarters for the 1999 SOS field study. We only paid for our share of the operating costs and, that, my friends, is one heck of a deal. In particular, we want to recognize **Jennifer Swallows** and **Greg Gamer** for working with us to secure the use of the building. Professional and compassionate, that's quite a combination.

An equally heartfelt round of SOS thanks goes to our local "hosts" the Metropolitan Health Department Air Pollution Control group. They have assisted us in a

myriad of ways including sending us daily ozone data and helping with the surface hydrocarbon sampling project. We particularly want to single out the contributions of **Rob Raney, Fred Huggins, and Matt Grupke.**

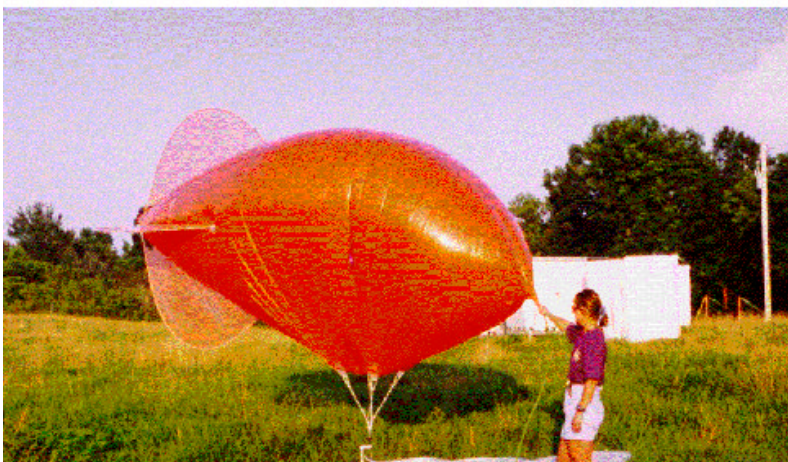
Kudos from Jim and Fred

Well it's over! All indications are that the SOS 1999 Field Study was an unqualified success. The weather was cooperative with a mix of hot stagnant days and cooler days with more robust transport, with just enough rainy days to give us a break. Early looks at the data lead us to believe that we have a wonderfully rich data set that will keep us all busy for many months to come and provide significant new insights into the processes responsible for the formation and distribution of ozone

and fine particles. It was, of course, disappointing that engine problems on the G-1 prevented our colleagues from PNNL, BNL, Battelle and ANL from playing a bigger role. Yin-Nan Lee and Paul Doskey carried the DOE flag high in the absence of the full crew. We will have a chance to work together again in Texas 2000.

The quality and quantity of the data collected is the result of a great deal of hard work on the part of all that participated in or supported the field study. We want to express our sincere appreciation to all of you for your efforts. A lot of people worked long hours, often outdoors when it was hot and humid, to make sure we had the best possible data. You are to be congratulated. It has been a privilege to work with all of you. You have our heartfelt thanks.

Where do we go from here? Now that we have gathered this wonderful data set we need to start to reduce, analyze and report our results. In order to facilitate that process we will keep the study web and FTP sites open to facilitate communication and data exchange. If you have any questions,



drop a note to the webmaster (webmistress?). The teams that have worked together to plan and execute the study will now focus on data analysis. We plan to hold a data analysis workshop in March. This will afford an opportunity to get together and discuss our results. We will also look into the possibility of a couple of sessions devoted to the study at the fall meeting of the AGU in 2000. We hope this lays the basis for the publication of scientific results from the study and an assessment of the findings regarding the management of ozone and fine particles in the Southeast.

With our sincere admiration and gratitude,

Jim and Fred

SOS Airforce Schedule

The **P-3** will head to the west of Nashville to conduct power plant plume characterization studies by following the TVA Johnsonville and Cumberland plumes northward during southerly flow conditions. Also, two isoprene vertical profiles will be conducted at 10 and 80 km downwind of Johnsonville. Takeoff is expected at 11:00 AM CDT and return to BNA is scheduled at 4:00 PM CDT. Except for a few calibrations (and the aforementioned vertical profiles) most of the plume characterization flight will be from 1500 to 2000 ft AGL. The **P-3** will not fly on Sunday in preparation for its transit back to Tampa-St. Petersburg on Monday.

"Old Heidelberg" meets New Heidelbergers

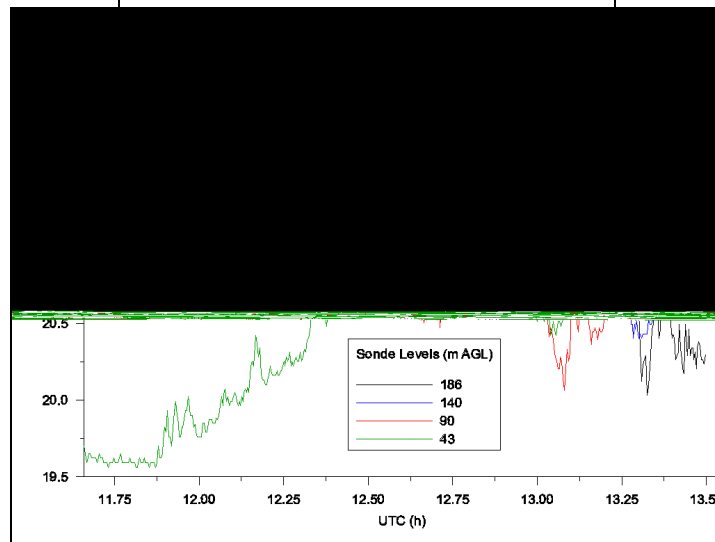
Calling all SOS personnel- particularly those of German ancestry!

On what may well be, for many of us, our last night together, we will be dining at the "**Old Heidelberg**" Restaurant (423 Union Street, downtown) at (7:00 PM CDT, 503 ft MSL). This is particularly appropriate since we have several "new" Heidelbergers (?Heidelburghians?) amongst us.

Balloon Bonanza

By Allen White

Members of NOAA/ETL launched a meteorological assault on the skies above Dickson TN. The Vaisala TMT-5A Tethersonde Met. Tower carries multiple radiosonde



packages on a balloon tether to take profile measurements of pressure, temperature, humidity, wind speed, and wind direction. The buoyancy required to raise the sonde packages is generated by filling the balloon (shown below) with helium, although we considered making use of the abundant hot air emanating from site director Ken Olszyna and the SOS Project Office. The safety of pilots in the Dickson area and the sanity of Jim Meagher were ensured by keeping the FAA abreast of all tethersonde operations and by marking the balloon and tether with highly visible strobe

lights during the night and fluorescent orange flags during the day.

Tethersonde flights were made on June 8-9 and June 13-14 during the morning and evening transition periods. Temperature traces from the four sondes used during the morning flight on June 14 are shown below. The early morning portion of the traces shows the stable temperature profile associated with the nocturnal inversion. The onset of daytime heating is indicated in the trace from the lowest sonde (green) at approximately 7.5 minutes before 1200 UTC. The newly developed convective boundary layer CBL grows by entraining warmer air from above the inversion. By 1330 UTC the CBL encompassed the balloon and the four sondes. Note the clearly indicated reversal in the temperature stability profile. The tethersonde data will be combined with the surface and canopy measurements of the surface heat flux and backscatter profiles from the monostatic sodar to gain a better understanding of the morning and evening transition periods.

SOS T-shirts

See Bill soon for your **free** SOS T-shirt. All Bill needs are your name, e-mail address, and phone & FAX numbers. He or she who hesitates is lost.

Thoughts for the Day

"Find joy in simplicity, self-respect, and indifference to what lies between virtue and vice. Love the human race. Follow the divine."

-Marcus Aurelius

"Our prime purpose in this life is to help others. And if you can't

help them, at least don't hurt | them.”

| -The Dalai Lama