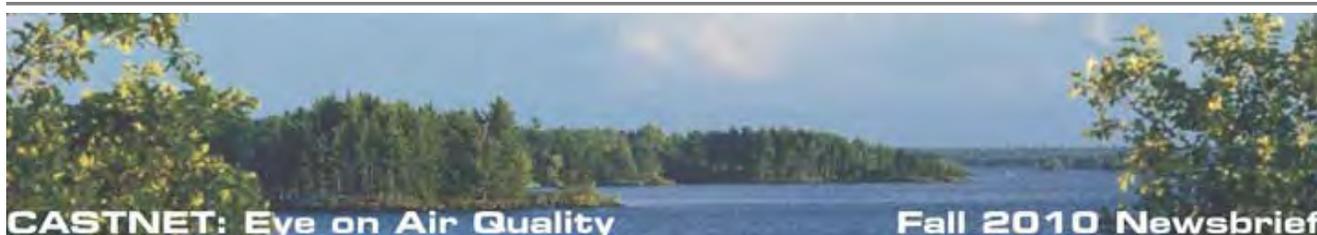


Dear CASTNET Site Operator:

This message is your **CASTNET: Eye on Air Quality** newsbrief for Fall 2010
(best viewed in HTML format in your e-mail reader)



NETWORK NEWS

E-mail newsbrief replaces newsletter

Welcome operators, to the first issue of *CASTNET: Eye on Air Quality*. We have discontinued your operator newsletter, *The Monitor*, in favor of this more concise e-mail communication.

You will receive this newsbrief in your mailbox each April, July, and October. It will keep you informed about what's going on in the CASTNET program, and provide you with some helpful instructions on the most frequent issues our network operators face in their weekly duties. We'll also provide a data validation statistic for each outstanding station so you know just how well your efforts paid off.

Read on to get started. We welcome your comments or suggestions to help you make your station servicing quicker and more convenient, and provide you better satisfaction in knowing that, as part of a nationwide air quality monitoring program, your efforts are worthwhile!

Ammonia monitoring at CASTNET sites

MACTEC is conducting an ammonia monitoring study at five CASTNET sites over the next year. The primary goals of the Ammonia CASTNET Chemical Speciation Network Study (ACCS) are to:

1. Assess the precision, accuracy, and bias of passive ammonia samplers;
2. Test a traditional CASTNET filter pack with an additional fourth stage filter impregnated with phosphorus acid to collect atmospheric ammonia and any volatilized ammonium;
3. Characterize Met One Super SASS mini-parallel plate denuders for ammonia collection; and
4. Compare Met One Super SASS ion module species collection with traditional CASTNET 3-stage filter pack species collection.

Site selection was based on proximity to predicted or known ammonia emissions sources and collocation with the National Atmospheric Deposition Program -- Ammonia Monitoring Network sites. Current Ammonia Monitoring Network sites are measuring ammonia concentrations at a 2-week interval, as an average of results obtained from triplicate Radiello passive samplers. ACCS sampling types will be run for two 1-week periods every six weeks, on a schedule that corresponds with the Ammonia Monitoring Network passive sampler exposure period. The five CASTNET ACCS sites are Rocky Mountain National Park, CO (ROM206); Palo Duro Canyon State Park, TX (PAL190); Cherokee Nation, OK (CHE185); Connecticut Hill, NY (CTH110); and Arendtsville, PA (ARE128).

Duplicate annular denuder systems will be used as the reference method. Use of the 4-stage filter pack proved problematic during initial testing. Further testing will take place, and if successful, sampling with the 4-stage filter pack will be incorporated into ACCS. Final results from ACCS will be available in late 2011.

Portable monitoring with filter pack to operate year-round

The NPS operates several portable ozone monitoring stations (POMS), in rural areas having no electrical power service. Up until this year, these POMS sites have operated on a summer-only basis and are operated by solar power. Joshua Tree National Park, CA, will soon begin operating its POMS this winter, on a year-round basis. The station is one of several POMS that also includes a CASTNET-style filter pack. The station will be fitted with a solar-powered, water-cooled environmental enclosure to keep the instrumentation near room temperature throughout the winter months.

OPERATOR TIPS & TRICKS

It's Tuesday, and I'm really busy today

Over the years we've had excellent compliance from site operators making their Tuesday site visits. Occasionally though, something may interfere with that schedule such as competing assignments, personal schedules, illness, dignitary visits to parks, road closures, fires, or weather. If you find yourself in the situation of not being able to make it to your station on Tuesday, or can only be there for a short time, make the best use of your "abbreviated" visit, and change the CASTNET filter pack. These are time-sensitive samples, and are most valuable when exchanged on the proper day.

You should next change other sample media you are responsible for (IMPROVE, NADP, or other network programs). Everything else can wait an additional day. Met checks, multipoints, rain gauge checks, taking out the trash, even exchanging the ozone analyzer filter can wait, and should never be done in a hurry. Doing so usually results in a trip back to the station and potential data loss.

If you know you are not going to be able to visit the site at all, you should have a trained backup operator who should be available when you take an occasional annual leave or know you are going to miss a Tuesday visit. Realistically, that backup person probably doesn't do the station checks very often, so make sure they know how to do the critical tasks like exchanging the filter packs, completing the paperwork, and getting them in the mail. The more routine tasks can wait until you get back. Encourage your backup to call us if they have any questions, but don't expect them to do your multipoints.

Shelter temperature and valid data

Beginning October 1, 2010, ozone data from EPA and NPS-sponsored CASTNET sites will be incorporated into EPA's Air Quality System (AQS). These data are used by EPA to determine an area's compliance with the National Ambient Air Quality Standard for ozone. For ozone measurements to be valid, the temperature inside the shelter must be greater than 20° Celsius (C) but less than 30°C. As seasons change, temperatures cover a broader range between night and day. Most CASTNET sites have independently controlled heating or cooling systems, making tight control of temperature more difficult. Please check the local weather forecast before your weekly site visit to determine whether the heating or cooling system should be turned on during the coming week.

During your Tuesday call-in, also please inform MACTEC or ARS of any air leaks that may affect temperature inside your shelter. Corrective measures will be promptly developed and implemented.

NPS operator site visit reminders: Monthly ozone multipoint and precipitation checks

For most of you, the importance of performing routine instrument checks should be well understood, BUT as a reminder, routine *monthly* checks must also be done.

- **Ozone Multipoint:** We expect NPS site operators to complete an ozone multipoint check once a month, typically the first Tuesday of the month. An ozone multipoint challenges the ozone analyzer at three upscale points and a zero. The multipoint results are used to ensure acceptable linearity throughout the instrument's measurement range. DataView guides you through the various steps and it shouldn't take more than 30 minutes to complete. Please call our field support group should you need additional assistance.
- **Precipitation Performance Check:** We also expect NPS site operators to perform a monthly precipitation performance check. This tests the operation of the gauge more thoroughly than the old "10-tip tests" did. The procedure involves filling a graduated cylinder and pouring into a special funnel that fits into the existing rain gauge funnel. You will have to temporarily move the leaf/debris screen to fit the calibration funnel correctly. This test may not be practical in extremely cold weather. Again, DataView checklists will guide you through the procedure which shouldn't take more than 30 minutes. Sounds like a good thing to start before the ozone multipoint!

OUTSTANDING SITES

National Park Service (NPS) sites that achieved 95%-100% validated ozone data for June through August 2010 and

U.S. Environmental Protection Agency (EPA) sites that achieved 95%-100% validated ozone data for November 2009 through January 2010:

ABT147 ALC188 ALH157	CRMO-VC CTH110 CVL151	LYK123 MACA-HM MCK131	ROMO-LP SAL133 SAN189
ANA115 ARE128 ASH135	DCP114 DENA-HQ DEVA-PV	MCK231 MEVE-RM MKG113	SEKI-AM SEKI-LK SHEN-BM
BEL116 BFT142 BIBE-KB	GLAC-WG GRCA-AS GRSM-CD	OXF122 PAL190 PAR107	SND152 SPD111 STK138
BVL130 BWR139 CAD150	GRSM-CM GRSM-LR HOX148	PED108 PEFO-SE PINN-ES	SUM156 UVL124 VIN140
CANY-IS CDZ171 CHE185	HWF187 IRL141 JOTR-BR	PND165 PNF126 PRK134	VOYA-SB WSP144 WST109
CHIR-ES CND125 CNT169 COW137	JOTR-CC KEF112 KNZ184 LAVO-ML	PSU106 QAK172 ROM206	YELL-WT YOSE-TD ZION-DW

Please contact us with topics and tips of what you want us to explore next time in your **CASTNET: Eye on Air Quality** newsbrief.

For monitoring site assistance, please contact:

NPS CASTNET sites: contact Air Resource Specialists. Telephone: 1-800-344-5423 (Mountain Time)

EPA CASTNET sites: contact MACTEC. Telephone: 1-888-224-5663 ext. 6629 or ext. 6620 (Eastern Time)

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