

Optical and Scene Networks

**Wind Cave NP, SD
September 22, 2009**

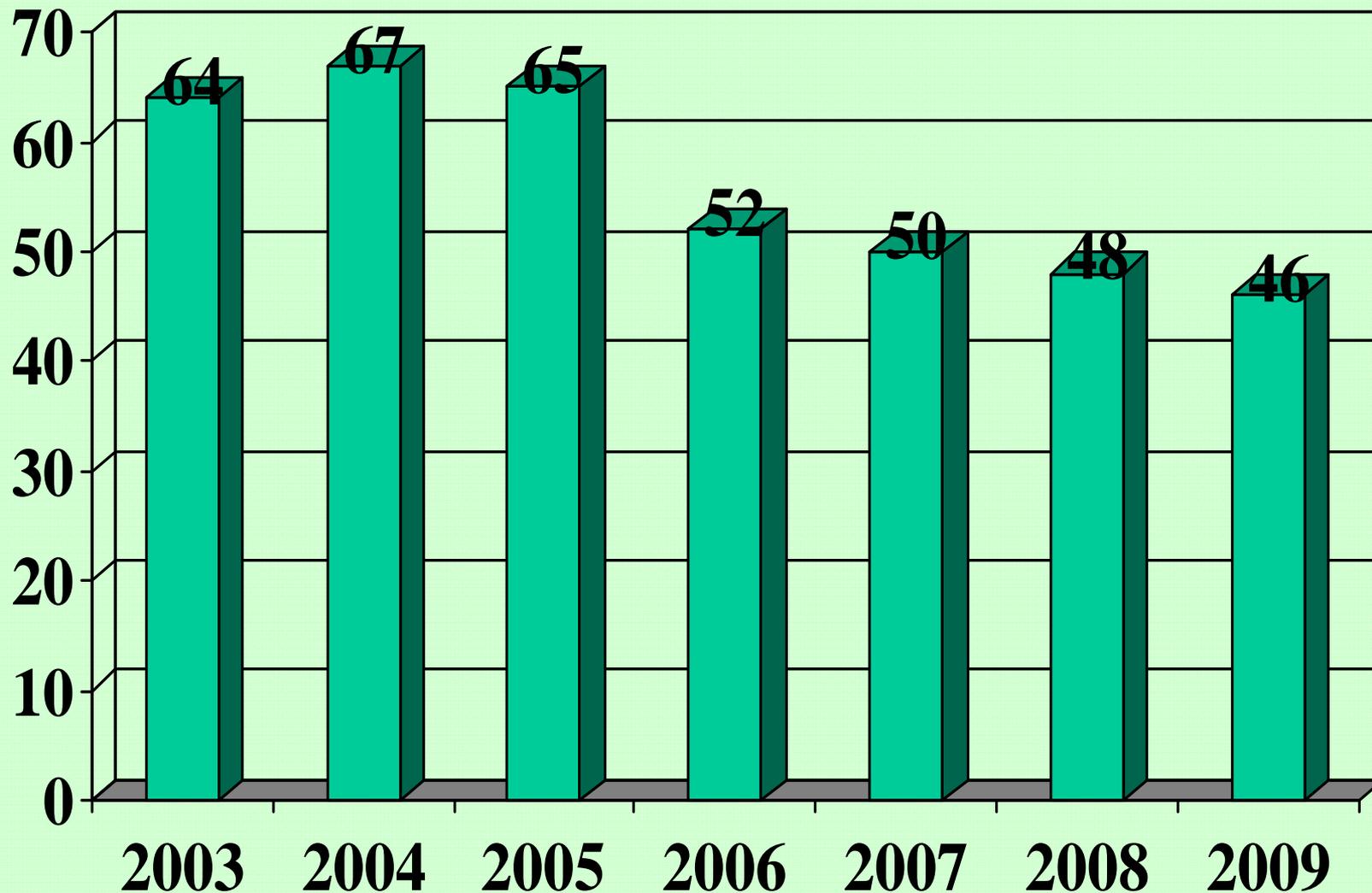
**Mark Tigges
Air Resource Specialists, Inc.**



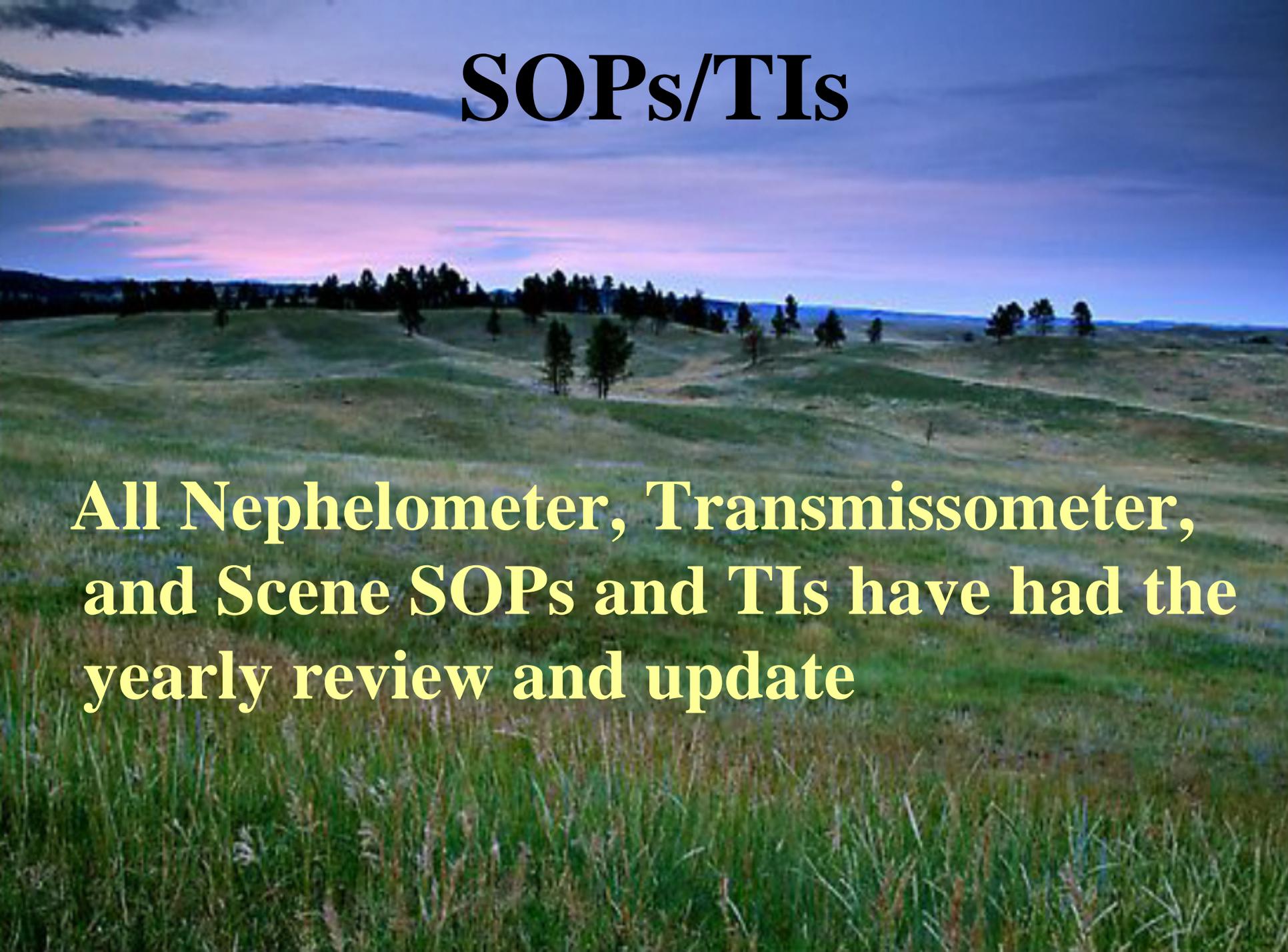
Optical & Webcam Networks: 9/22/2009

Network	Transmissometers		Nephelometers		Webcams and Exhibits
	Remote	Urban	Remote	Urban	
Arizona (18)	-	3	9	6	5
NPS (13)	1	-	11	1	19
Wyoming (5)	2	-	3	-	13
Colorado (4)	-	2	-	2	2
USFS (2)	2	-	-	-	17
Nevada (2) (Clark County)	-	2	-	-	2
CENRAP (1)	-	-	1	-	-
VISTAS (1)	-	-	1	-	-
Midwest Hazecam (0)	-	-	-	-	9
CAMNET (0)	-	-	-	-	10
Totals (46)	5	7	25	9	77

Number of Optical Monitors



SOPs/TIs



**All Nephelometer, Transmissometer,
and Scene SOPs and TIs have had the
yearly review and update**

Optical Data

- **Nephelometer data through 06/30/2009 will be delivered to NPS/CIRA on 9/30/2009**
- **Transmissometer data (2 USFS sites - Bridger & San Geronio) through 12/31/2008 delivered to NPS/CIRA on 7/31/2009**

NPS – Olympus USA Partnership



September 2008

Partnership agreement signed by NPS and Olympus

November 2008

Olympus funding of NPS camera network operations begins.

Olympus funding of NPS camera network operations includes two major components:

Network Operations

- Technical support, backup equipment, communications, archive
- One year, then renewable for two additional years. Second year renewal begins October 1, 2009

System Upgrades

- New digital SLRs (E420) and backups supplied by Olympus
- Hardware upgrades, computers and replacements (site dependent)
- Several sites per year, prioritized according to need and dependent on Olympus funding
- Big Bend, Olympic, Mount Rainier completed as of April 2009
- Grand Canyon, Mammoth Cave, National Capital, Great Smoky Mts (2) to be completed as of September 2009
- Sequoia/Kings Canyon, Denali, Point Reyes, Joshua Tree next on the list for 2010 if funding is approved



Mammoth Cave National Park

View of Green River Valley Looking North-Northwest •
updated 09/21/2009 11:30 PM CDT •
Visual range is approximately 8 miles



Photo captured by Olympus camera

Current Ozone Conditions as of 09/21/2009 • 11:00 PM CDT

Ozone [More Data](#) [10-day Charts](#) [Details](#)

Current 1-hour average concentration **15 ppb**

Current 8-hour average concentration **21 ppb**

Good	Moderate	Unhealthy for Sensitive Groups	Unhealthy	Very Unhealthy
0	60	76	96	116 ppb

Current Particulate Conditions as of 09/21/2009 • 11:00 PM CDT

Particulate Matter [More Data](#) [10-day Charts](#) [Details](#)

Current 1-hour average PM2.5 concentration **3.0 ug/m3**

Current 24-hour average PM2.5 concentration **3.1 ug/m3**

Good	Moderate	Unhealthy for Sensitive Groups	Unhealthy	Very Unhealthy
0	15	40	65	150 ug/m3

Current Meteorological Conditions as of 09/22/2009 • 12:00 AM CDT

Weather [More Data](#) [10-day Charts](#)

Current temperature **71 F**

Current relative humidity **99 %**

Current wind **SE - 3 mph**

Precipitation in last hour **0.00 inches**

Additional Information

VIEW LARGER IMAGE	LAND MARKS	ARCHIVE VIEWS	PARK WEBSITE
NPS AIR WEB	EPA MAPS & FORECASTS	GREEN RIVER DATA	



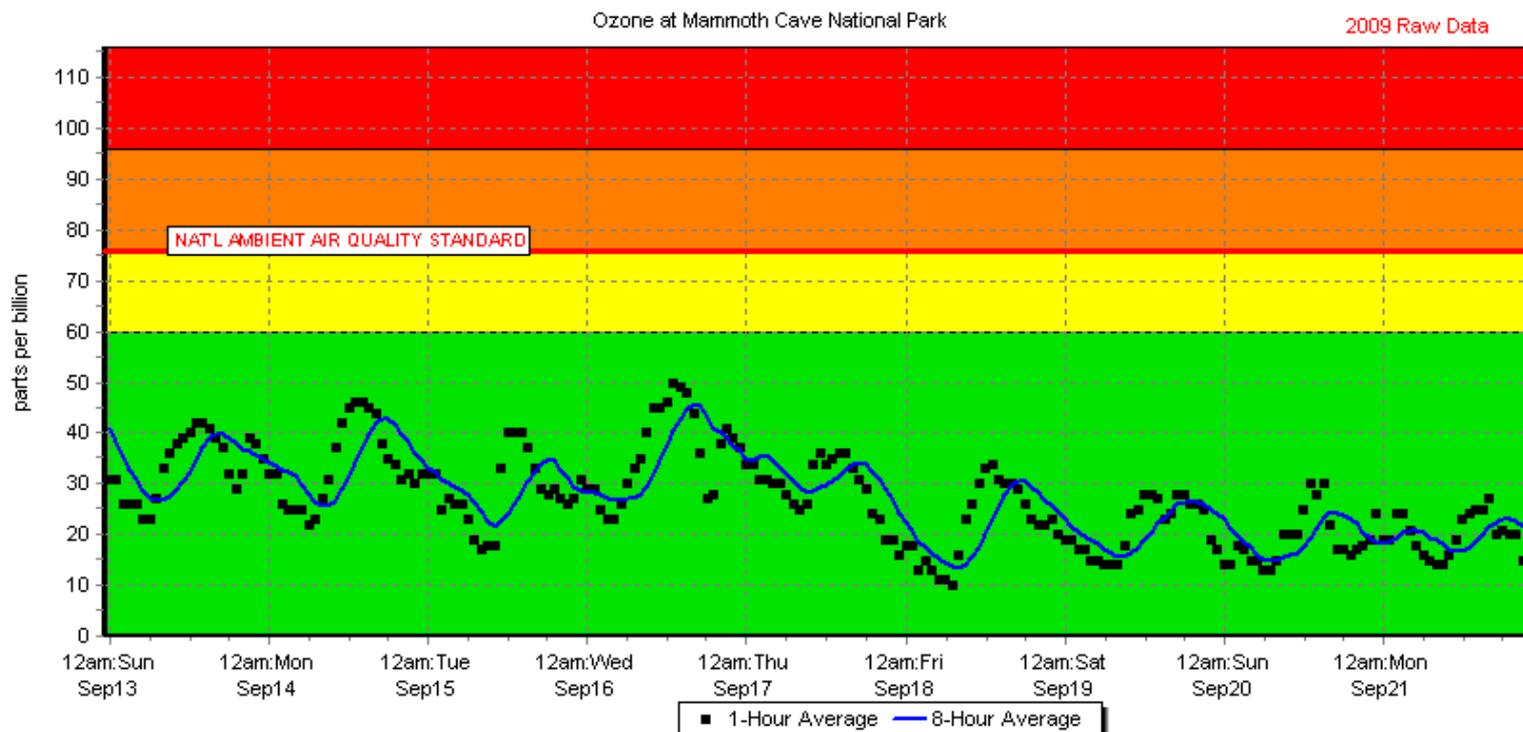
EXPLORE AIR

NPS » Nature & Science » Air » Web Cameras » Mammoth Cave NP Web Camera » Data Timelines

Mammoth Cave National Park Data Timelines
Ozone, Particulate Matter (PM2.5), Visibility, Sulfur Dioxide (SO₂), and Mercury Data
Collected at the Houchin Meadow Monitoring Site

Ozone -- 1-hour and 8-hour average concentrations

Highlights
Ozone
PM2.5
Visibility
SO ₂
Mercury
Additional Parameters
Wind Direction
Wind Speed
Peak Wind Speed
Temperature
Relative Humidity
Precipitation
Solar Radiation



These data are raw and have not yet been validated using the standard procedures to guarantee their quality prior to their release for scientific and regulatory purposes. These data may be revised at a later time.

The background of the chart is color coded and relates to the EPA National Ambient Air Quality Standard for ozone, which is designed to protect human health. The chart plots both the 1-hour and running 8-hour average ozone concentration, but only the 8-hour average should be used to compare with the standard. The standard is exceeded when the 8-hour concentrations reach or go above 85 parts per billion, as denoted by the line with the label NAT'L AMBIENT AIR QUALITY STANDARD. Compare the background color behind the data concentration values with the colors in

