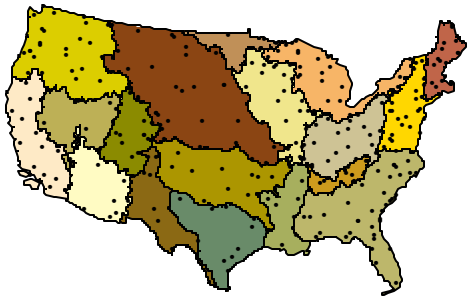
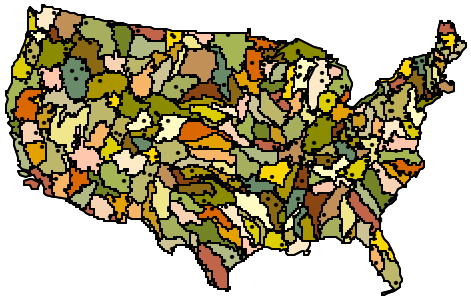
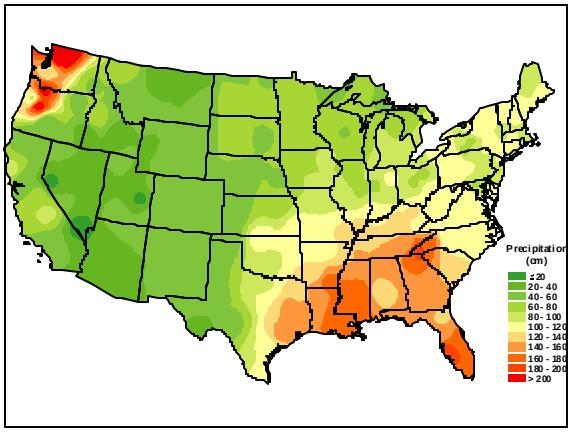
Attachment 1, NADP DMAS minutes, Fall 2003

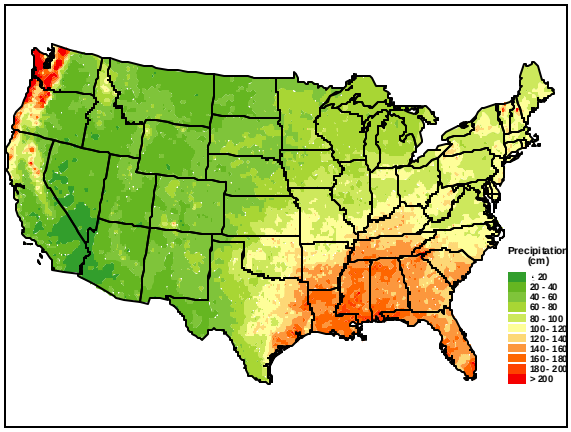
HUC 2 Watersheds

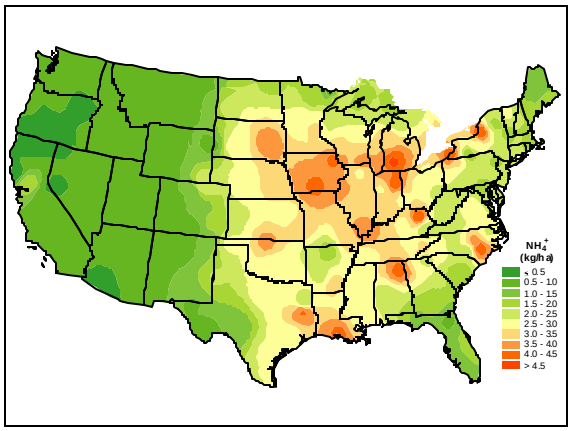


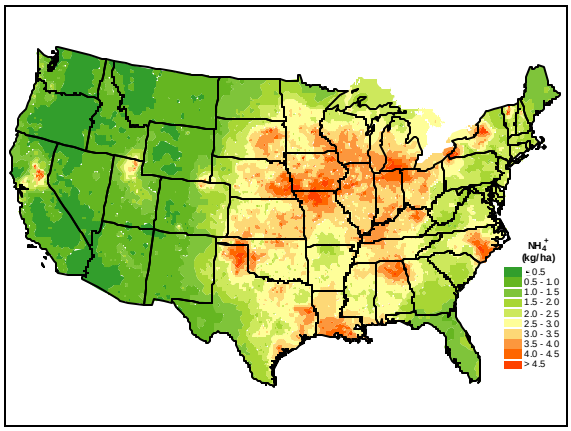
HUC 4 Watersheds



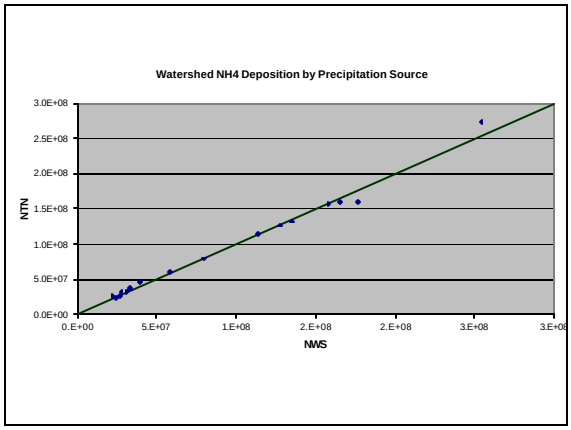


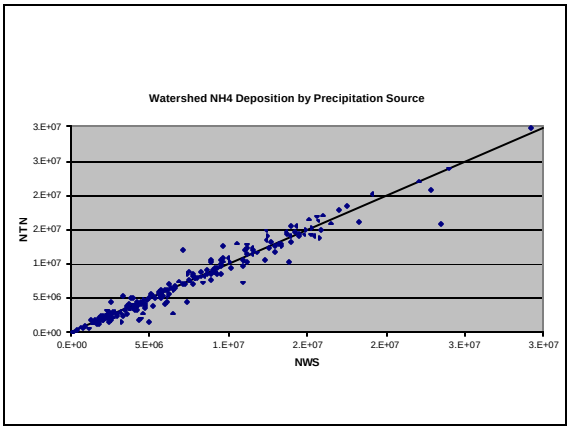




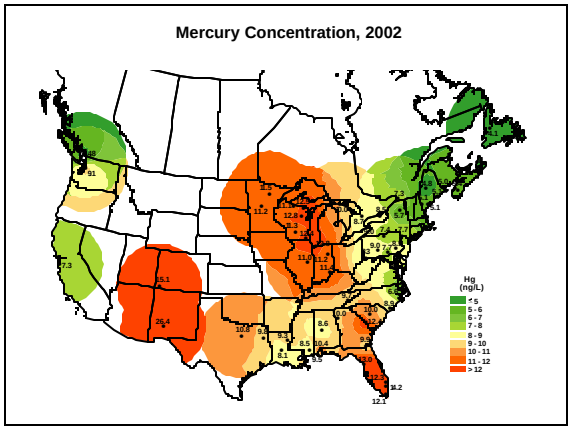


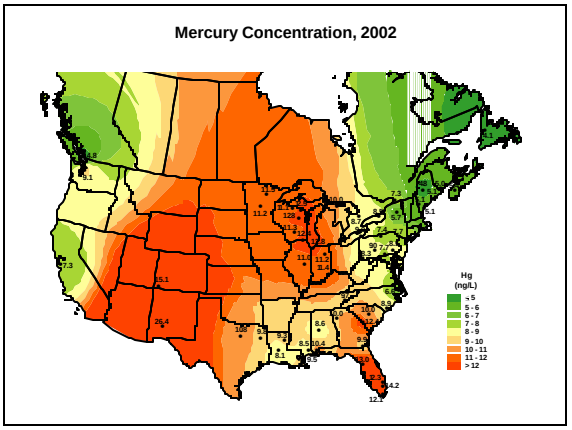
Attachment 1, NADP DMAS minutes, Fall 2003

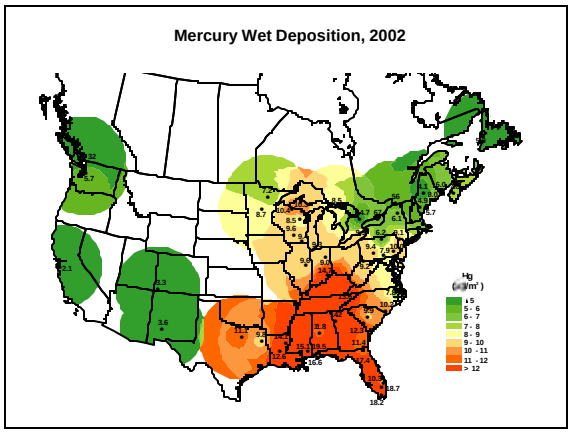




Attachment 2, NADP DMAS minutes, Fall 2003







CA95
Death Valley National Park – Cow Creek

Sample Validity for Annual Period 2002

Number of samples -	52
Valid samples without precipitation -	43
Trace precipitation events (Raingage) -	5
Number of events with full chemistry -	3
Invalid samples -	1
Total precipitation for 2002 -	0.7cm (0.28")

CA95
Death Valley National Park – Cow Creek

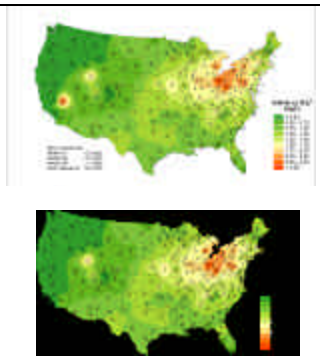
Concentrations of Valid Samples for 2002

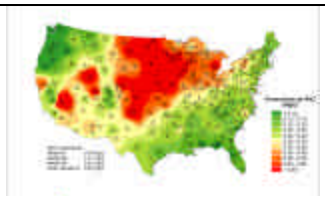
Sample Date Off	SO_4 (mg/L)	NO_3 (mg/L)	NH_4 (mg/L)	Ca (mg/L)	Precip (cm)
3/20/2002	5.23 (3)	2.03	1.03	8.68 (1)	0.127
10/1/2002	5.50 (2)	17.37 (2)	2.66 (2)	4.89 (2)	0.051
12/24/2002	0.64	3.18 (3)	0.88	0.38	0.330

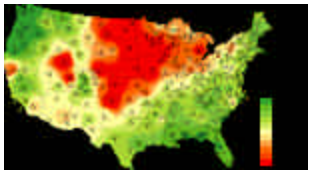
CA95
Death Valley National Park – Cow Creek

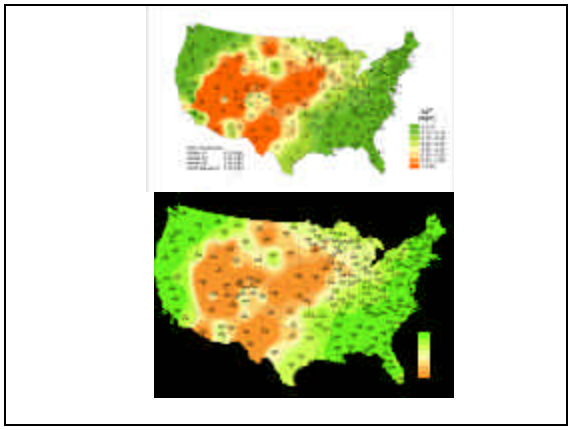
Extremes of All Valid Samples (2000-2002)
(147 valid samples, 18 wet)

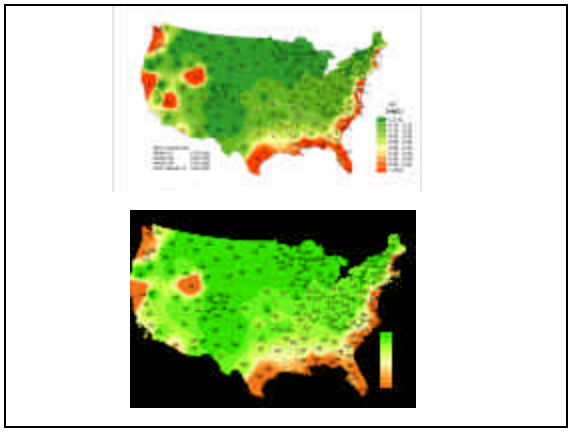
Statistic	SO_4 (mg/L)	NO_3 (mg/L)	NH_4 (mg/L)	Ca (mg/L)	Precip (cm)
Minimum	0.21	0.50	0.18	0.02	0.013
Maximum	10.24	19.97	8.00	8.68	20.070
Mean	1.18	2.57	0.87	1.22	3.707

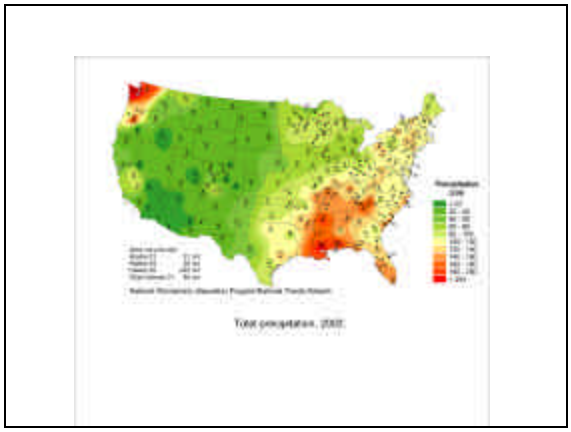












Sites/years meeting completion criteria with few wet samples (n = 3323)

# Wet Samples	Site	Year
3	CA95	2002
7	NV00	1989
7	CA67	2002
8	AZ06	1999
9	AZ06	2002
9	CA98	1995
10	AZ06	1989
10	CA88	2002
10	CA95	2001

NTN & AIRMoN Data Minimum Reporting Levels

Chris Lehmann

NADP Data Management and Analysis Subcommittee
October 2003

Data Minimum Reporting Levels

The Minimum Reporting Level (MRL) defines the smallest measured concentration of a particular compound that can be reliably reported over time using a given analytical method

NTN/AIRMoN Minimum Reporting Levels (MRLs)

- The NADP has traditionally set MRLs at approximately the Minimum Detection Limit (MDL) values
  - If MDL values did not vary significantly from year-to-year, MRLs were not changed.

NTN/AIRMoN Minimum Reporting Levels (MRLs)

- It has been proposed to set the MRL at ~2 x LT-MDL
  - LT-MDL determined from internal blind analyses of unfiltered low concentration standard (FR10) used to determine MDLs
  - Samples analyzed blindly over a longer period than used to establish MDLs (>1 year)
  - Statistically balances chance of false positives and false negatives

SWS2 (FR10) Internal Blind Samples (unfiltered)

LT-MDL	Cl	NO3	SO4	NH4	Ca	Mg	Na	K
2000	0.005	0.010	0.010	0.015	0.010	0.002	0.004	0.004
2001	0.004	0.011	0.019	0.015	0.025	0.004	0.006	0.005
2002	0.011	0.012	0.015	0.016	0.015	0.002	0.007	0.005
2003	0.008	0.013	0.021	0.006	0.018	0.002	0.006	0.004
ALL	**0.008**	**0.013**	**0.022**	**0.018**	**0.020**	**0.003**	**0.006**	**0.005**
Official	0.005	0.010	0.010	0.020	0.009	0.003	0.003	0.003
Max	**0.011**	**0.013**	**0.021**	**0.016**	**0.025**	**0.004**	**0.007**	**0.005**
Min	**0.004**	**0.010**	**0.010**	**0.006**	**0.010**	**0.002**	**0.004**	**0.004**
2xMDL	**Cl**	**NO3**	**SO4**	**NH4**	**Ca**	**Mg**	**Na**	**K**
2000	0.010	0.020	0.020	0.030	0.019	0.003	0.008	0.009
2001	0.009	0.022	0.038	0.029	0.050	0.009	0.013	0.010
2002	0.022	0.024	0.031	0.032	0.031	0.004	0.014	0.010
2003	0.016	0.026	0.041	0.013	0.036	0.004	0.012	0.008
ALL	**0.014**	**0.023**	**0.038**	**0.031**	**0.036**	**0.005**	**0.011**	**0.009**
Max	**0.022**	**0.026**	**0.041**	**0.032**	**0.050**	**0.009**	**0.014**	**0.010**
Min	**0.009**	**0.020**	**0.020**	**0.013**	**0.019**	**0.003**	**0.008**	**0.008**
Max/LT-MDL	**2.71**	**2.03**	**1.92**	**1.84**	**2.49**	**2.94**	**2.22**	**2.04**
Min/LT-MDL	**1.10**	**1.55**	**0.93**	**0.72**	**0.95**	**1.13**	**1.31**	**1.60**

Discussion: How to Handle Changing MDL/MRL

- CAL MDL may change during year
- Protocols for changing MRL (ranges/schedule?)
- Reporting MRL to data users
- Data censoring (currently <MRL)
- Summary calculations
  - Monthly, Seasonal & Annual averages
  - For data <MRL, currently use 0.5 x MRL
- Historical Data Issues