IMPROVE- Network, Data, and Trends

MARAMA Virtual Meeting, December 9th, 2020

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2020 Virtual Steering Committee Meeting, Oct 13 14

UC Davis Air Quality Research Center update:

- Laboratory personal were affected by shelter-at-home orders and no work was performed for one month. However, much of the network continued to operate.
- Over 20 sites will not meet RHR data completeness requirements for 2020. 18 of which are due to COVID-19, 2 sites due to COVID and late sample changes, and 2 sites due to fire related power outages.
- The laboratory is moving to a new off-campus location.

2020 Virtual Steering Committee Meeting, Oct 13 14

- Steering Committee unanimously endorsed writing the next carbon measurement RFP to allow new methods for measuring carbon to be considered for IMPROVE, provided they can be demonstrated to be comparable to the current TOR values.
  - Does not mean that the method for measuring carbon will change with upcoming contract, but that it might.
  - A report on IMPROVE carbon measurements detailing the motivation is in development.
  - Presentations and minutes from the meeting are posted on the IMPROVE website.

- With two major contracts being rebid, the budget outlook for network is very uncertain.

IMPROVE Network Operations

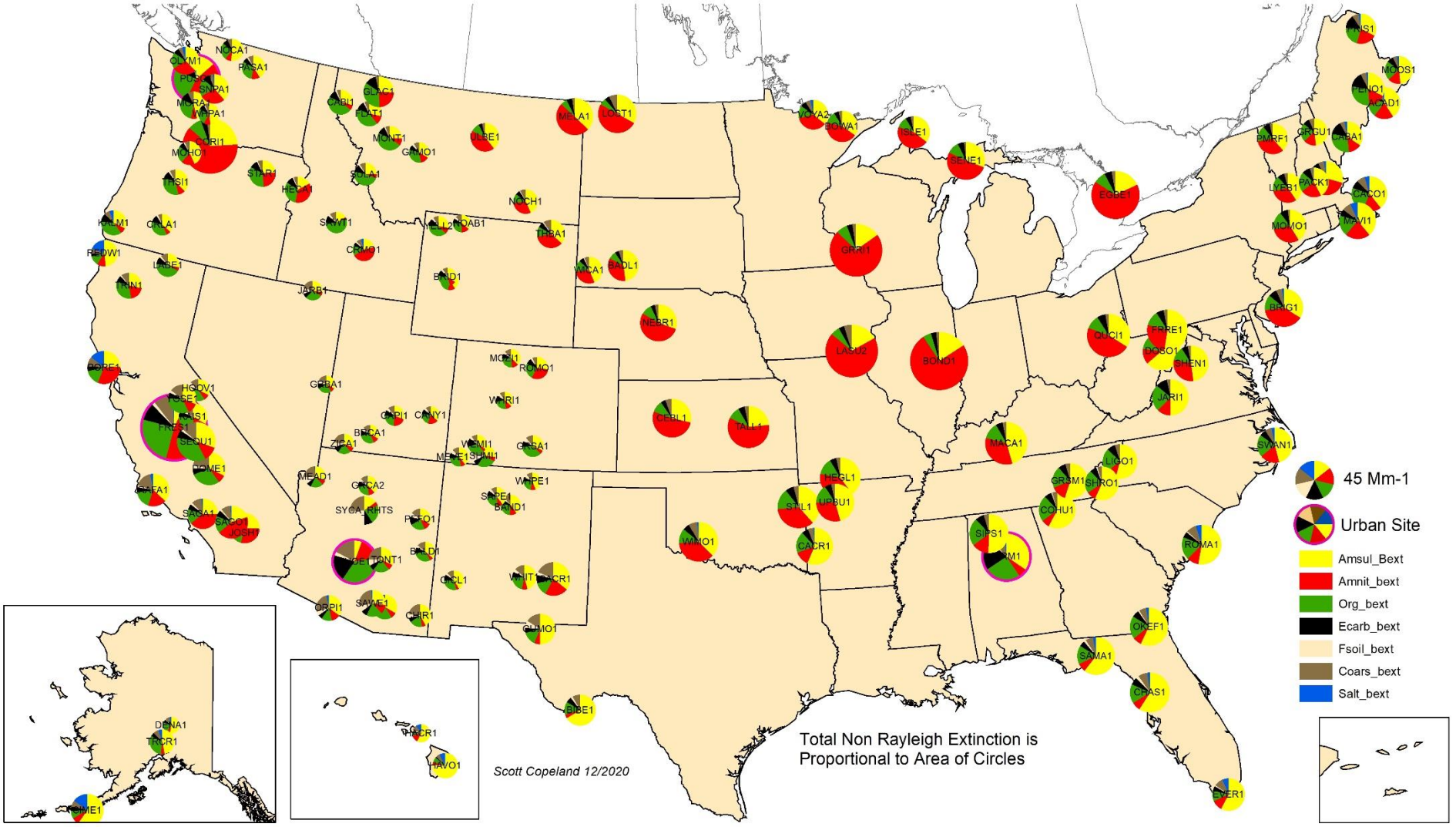
- All but 2 sites have resumed operation post COVID lockdown. (IKBA1, MONT1)
- 2019 Data delivered yesterday!

- Impairment metrics here: https://drive.google.com/drive/folders/0Bxfj1vyyXeDYWVpfeUo4NEYtTU0?usp=sharing
- Haziest Day metrics here: https://drive.google.com/drive/folders/0Bxfj1vyyXeDYTjNLelIwUUx0TTg?usp=sharing
- No revisions of note to previous years.
  - One new valid sample flag starting in 2019.

Changes to IMPROVE RHR Metric Data Processing since10_2019 v12_20.pptx

IMPROVE Data - 2019 Second IMPROVE Algorithm - Preliminary

Non Rayleigh Mean of 20% Most Impaired



IMPROVE Data - 2019 Second IMPROVE Algorithm

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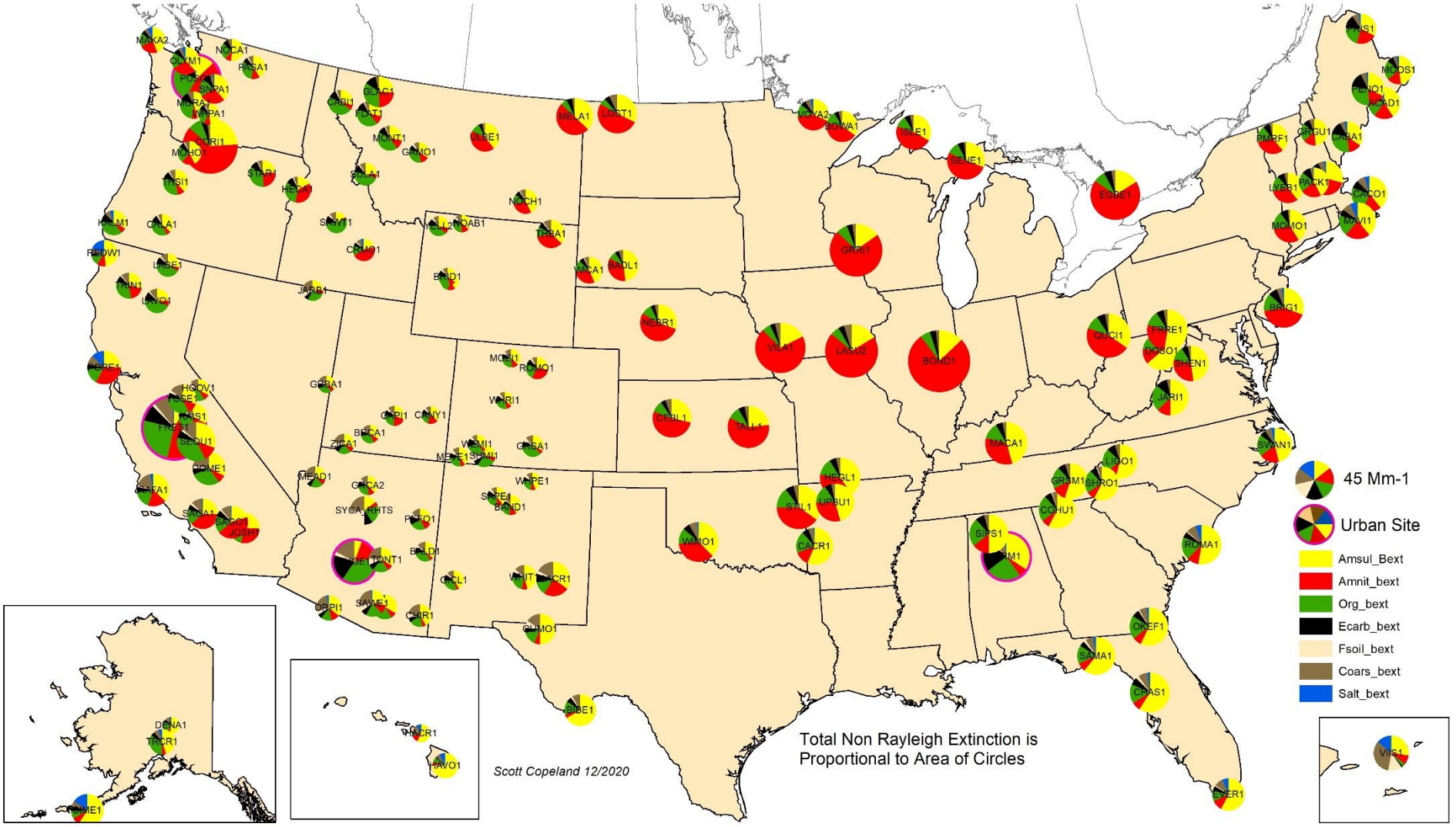

IMPROVE Data - 2018 Second IMPROVE Algorithm

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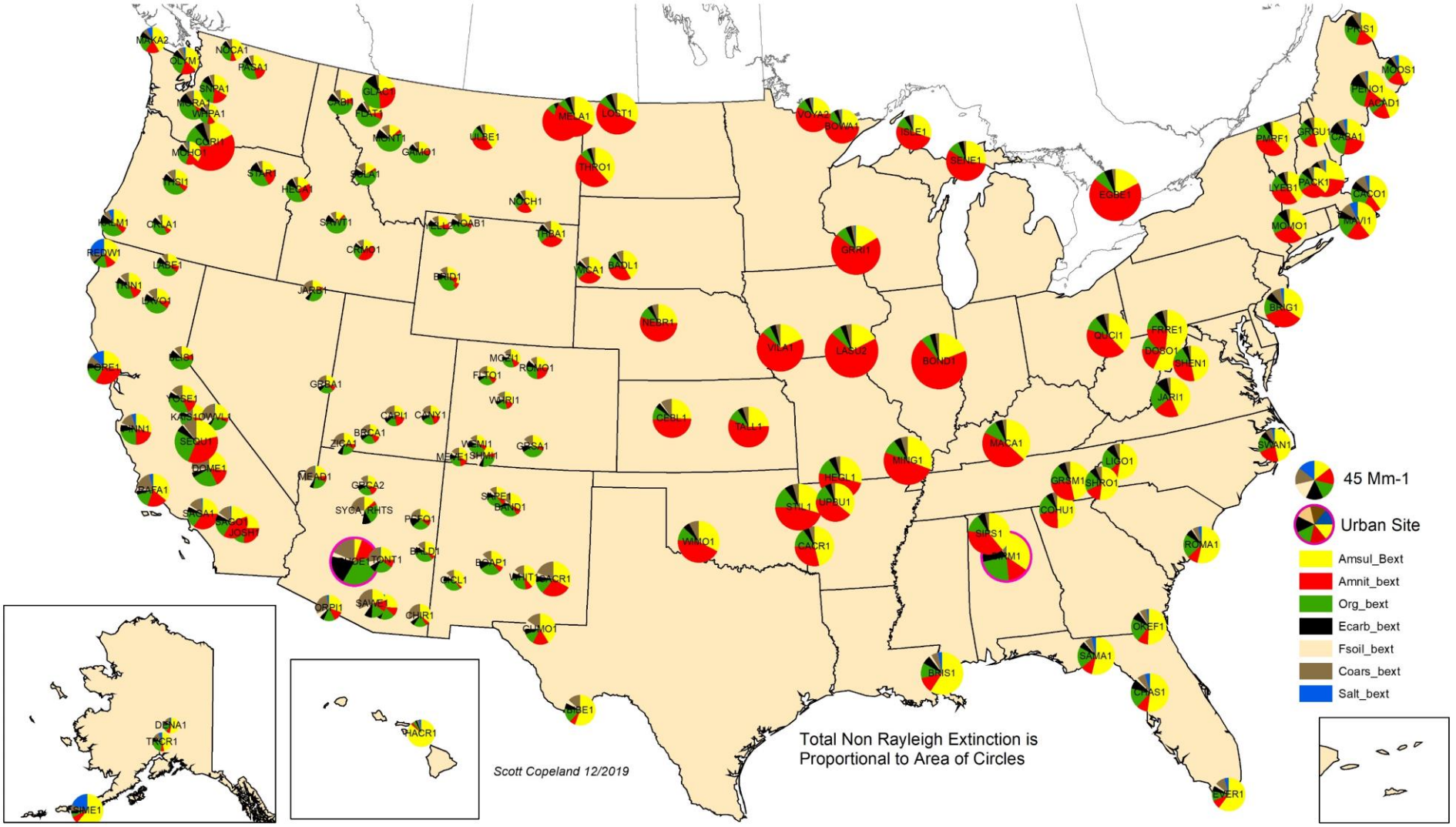
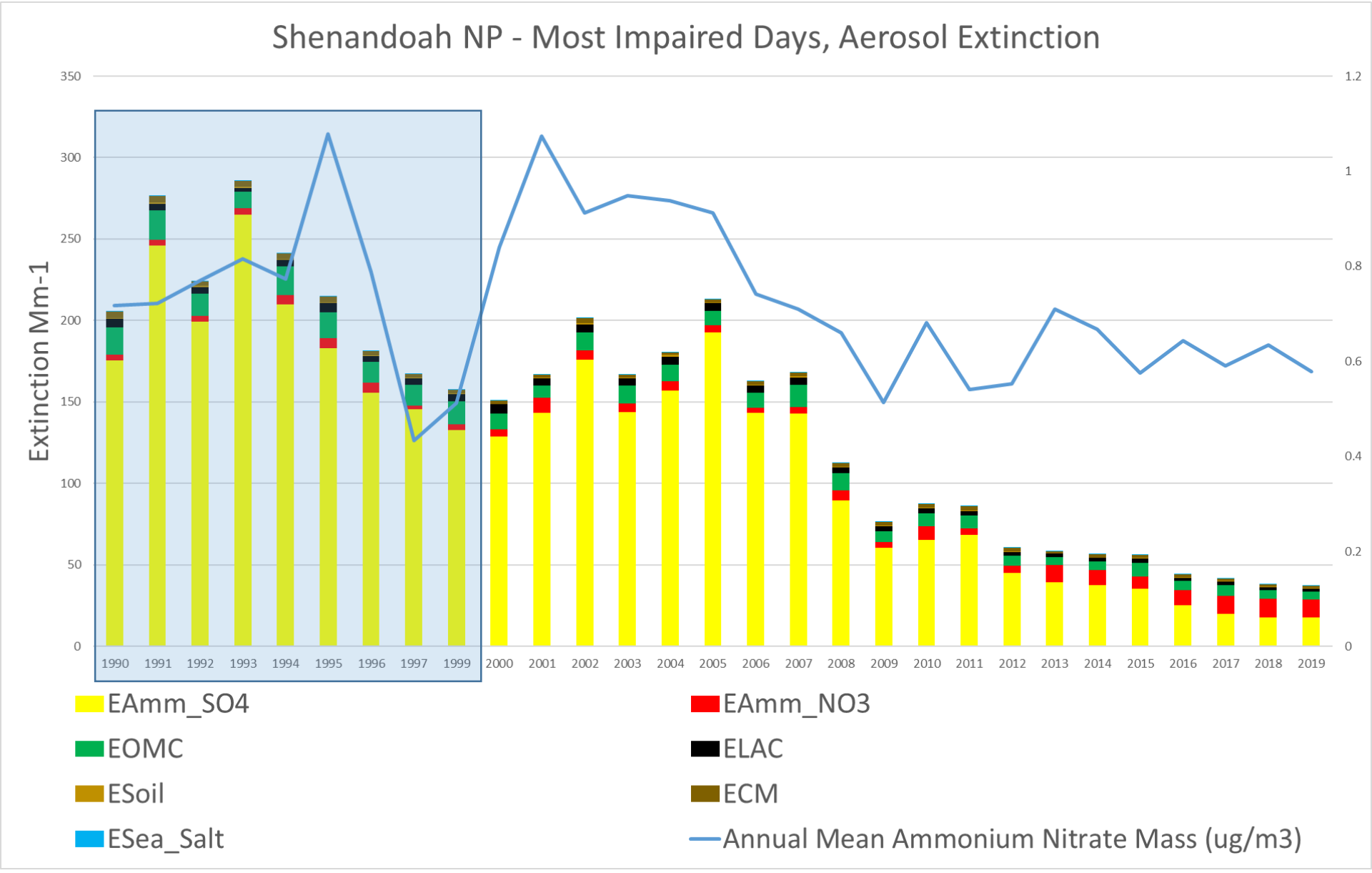
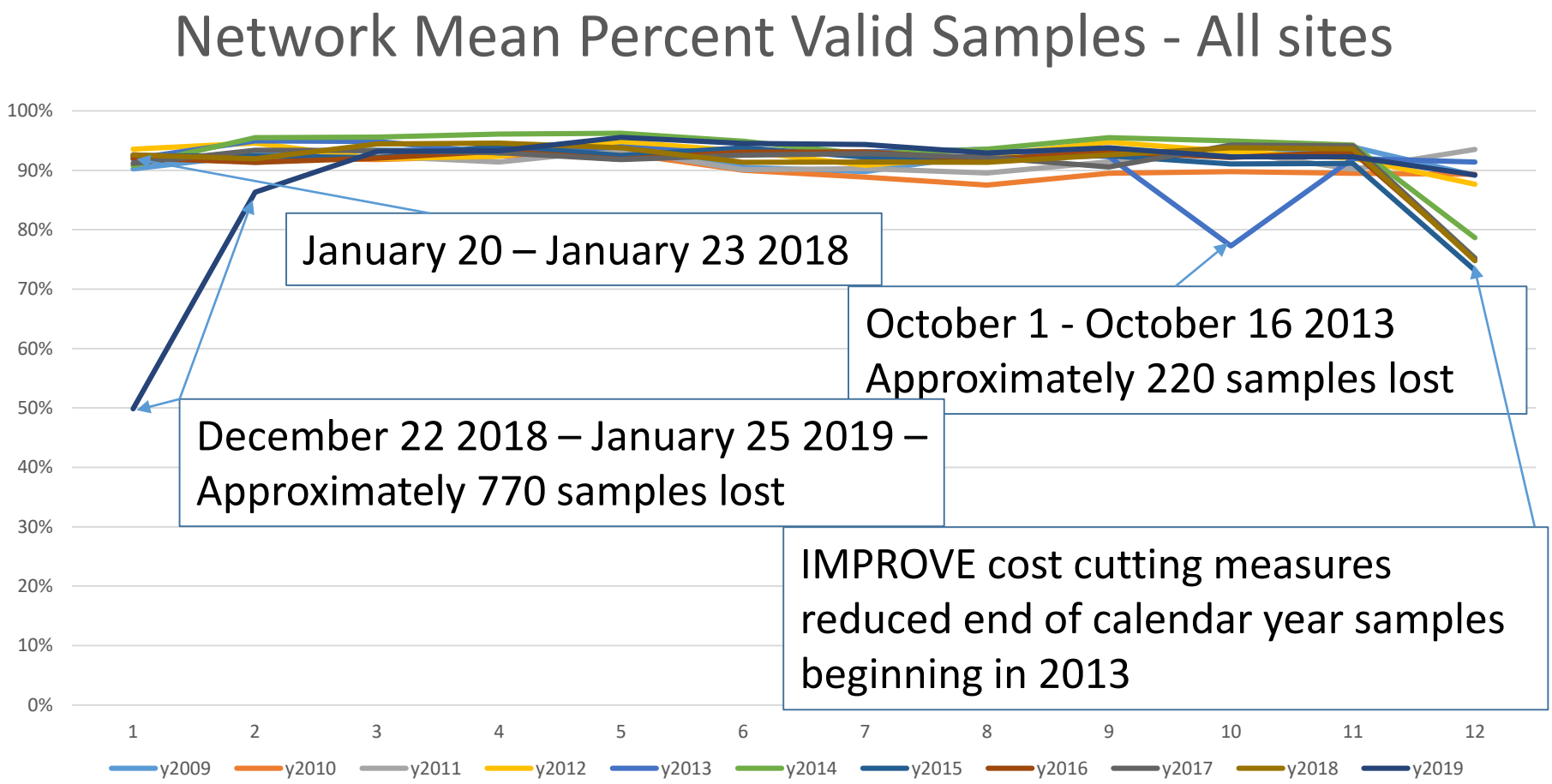



Shenandoah NP - Most Impaired Days, Aerosol Extinction
Extinction Mm-1
350
300
250
200
150
100
50
0
1.2
1
0.8
0.6
0.4
0.2
0
1990 1991 1992 1993 1994 1995 1996 1997 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019
EAmm_SO4
EAmm_NO3
EOMC
ELAC
ESoil
ECM
ESea_Salt
Annual Mean Ammonium Nitrate Mass (ug/m3)

Remember the Government Shutdown(s)?



Questions?