

# EPA Planning and implementation Update

Western Regional Air Partnership

November 11, 2009

# Ongoing NAAQS Reviews: Current Schedule

MILESTONE	POLLUTANT						
	Lead	NO <sub>2</sub> Primary	SO <sub>2</sub> Primary	Ozone	NO <sub>2</sub> /SO <sub>2</sub> Secondary	CO	PM
NPR	New schedule being developed	<u>Jun 26, 2009</u>	<u>Nov 16, 2009</u>	Dec 21, 2009	<u>Feb 12, 2010</u>	<u>Oct 28, 2010</u>	July 2010
NFR	<u>Oct 15, 2008</u>	<u>Jan 22, 2010</u>	<u>Jun 2, 2010</u>	Aug 31, 2010	<u>Oct 19, 2010</u>	<u>May 13, 2011</u>	Oct 2011

NOTE:

Underlined dates indicate court-ordered or settlement agreement deadlines.

Currently negotiating 17 month extension of NO<sub>2</sub>/SO<sub>2</sub> secondary schedule.

# Anticipated NAAQS Implementation Milestones

Pollutant	NAAQS Promulgation Date	Designations Effective	110(a) SIPs due (3 yrs after NAAQS promulgation)	Attainment Demonstration Due	Attainment Date
PM <sub>2.5</sub> (2006)	Sept 2006	Nov 2009	Sept 2009	Nov 2012	Nov 2014/2019
Pb	Oct 2008	Nov 2010/2011 (extra time for new monitors)	Oct 2011	June 2012/2013	Nov 2015/2016
NO <sub>2</sub> (primary)	Jan 2010	Feb 2012	Jan 2013	Aug 2013	Feb 2017
SO <sub>2</sub> (primary)	June 2010	July 2012	June 2013	Jan 2014	July 2017
Ozone	Aug 2010	Aug 2011	Aug 2013	Dec 2013	Aug 2017 (Moderate)
CO	May 2011	June 2013	May 2014	Dec 2014	May 2018
PM <sub>2.5</sub> (2011)	Oct 2011	Nov 2013	Oct 2014	Nov 2016	Nov 2018/2023

# Key Milestones for Implementation

- PM2.5 (24-hour, 2006 standard)
  - Attainment Demonstrations due November 2012
- Regional Haze
  - FIPs due January 2011
  - Midcourse Progress Reviews – December 2012
  - Full Reasonable Progress SIP #2 - December 2017

# Key Milestones for Implementation

- NO<sub>2</sub> Primary (2010)
  - Attainment Demonstrations – August 2013
- Ozone NAAQS (2010)
  - Attainment Demonstrations – December 2013
- SO<sub>2</sub> Primary (2010)
  - Attainment Demonstrations – January 2014

# Implementation Issues

- Planning Guidance/Implementation Rules
- Exceptional Events (NO<sub>x</sub>, SO<sub>2</sub>)
  - WESTAR Letter
- Transport Region options
  - Clean Air Interstate Rule decision 2008
- Federal Rules
  - Consumer products
  - Control Technique Guidelines
  - Architectural Coatings

# Multipollutant Planning

- Benefits
  - Reduced costs and increased benefits
  - More effective use of State and Federal resources
  - Clear signals to industry on multiple pollutants
- Challenges
  - Not addressed in CAA
  - Timing and form of the individual NAAQS
  - Litigation

# Carper Bill – EPA Analysis

July 2009



# Analytical Scenarios

The analysis focuses on six different power sector cap & trade scenarios for SO<sub>2</sub> and NO<sub>x</sub>.

## Control Scenario 1: Annual Emissions Caps

	2012 - 2014	2015 - 2019	2020 and beyond
SO <sub>2</sub>	3.5 million tons	2.0 million tons	2.0 million tons
Eastern NO <sub>x</sub>	1.39 million tons	1.3 million tons	1.3 million tons
Western NO <sub>x</sub>	400,000 tons	320,000 tons	320,000 tons
Total NO <sub>x</sub>	1.79 million tons	1.62 million tons	1.62 million tons

Control Scenario 2: SO<sub>2</sub> cap same as #1 in 2012, then 1.5 million tons in 2015; NO<sub>x</sub> caps same as #1

Control Scenario 3: SO<sub>2</sub> same as #2; NO<sub>x</sub> caps same as #1 in 2012, then 1 million ton NO<sub>x</sub> cap for Eastern (CAIR) and 0.25 million ton NO<sub>x</sub> cap for Western (non-CAIR) region in 2015

Control Scenario 4: SO<sub>2</sub> cap same as #1 in 2012, then 1 million ton cap in 2015; NO<sub>x</sub> caps same as #1

Control Scenario 5: SO<sub>2</sub> caps same as #2; national NO<sub>x</sub> caps equal to sum of regional NO<sub>x</sub> caps in #1; no regional NO<sub>x</sub> caps

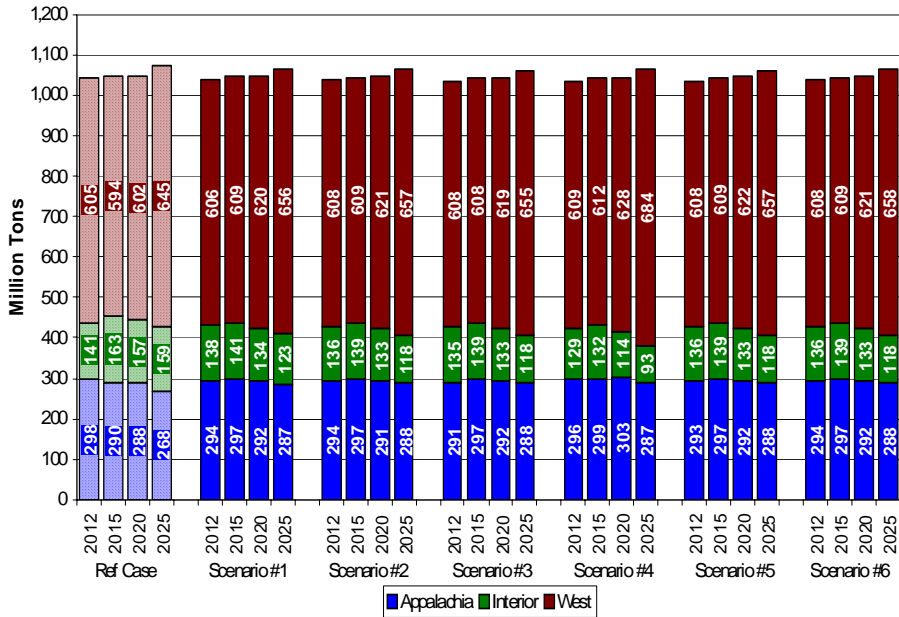
Control Scenario 6: SO<sub>2</sub> caps same as #2; existing NO<sub>x</sub> requirements until 2015 (no new 2012 caps), then same as #2 for 2015 and beyond

Eastern region for this analysis includes ME, VT and NH in addition to the original 28 CAIR states and DC.

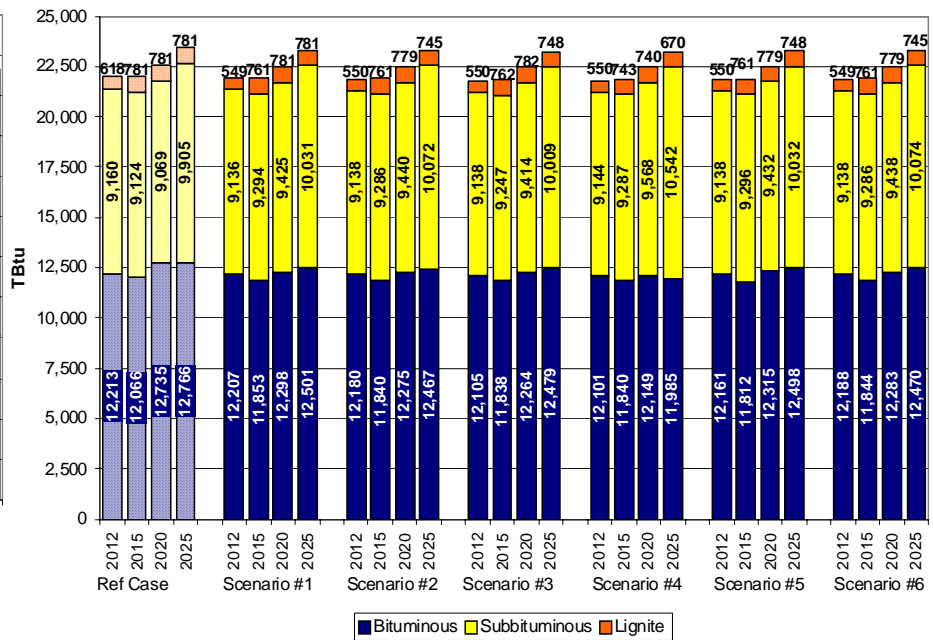
Currently, power sector NO<sub>x</sub> emissions are more than 3 million tons annually, of which 2.4 million tons are in the Eastern region and 0.67 million tons are in the Western region. Power sector SO<sub>2</sub> emissions are approximately 7.6 million tons nationally.

# Coal Production and Use in the Power Sector

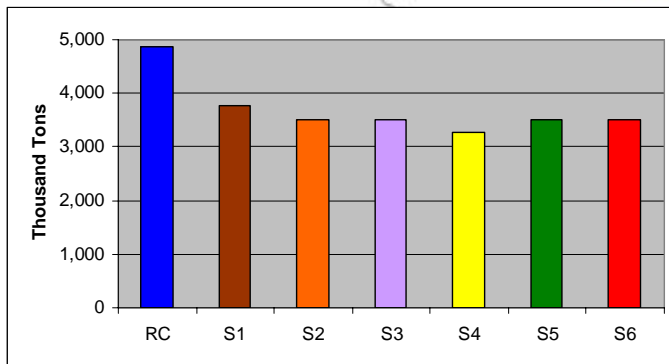
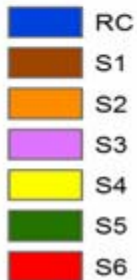
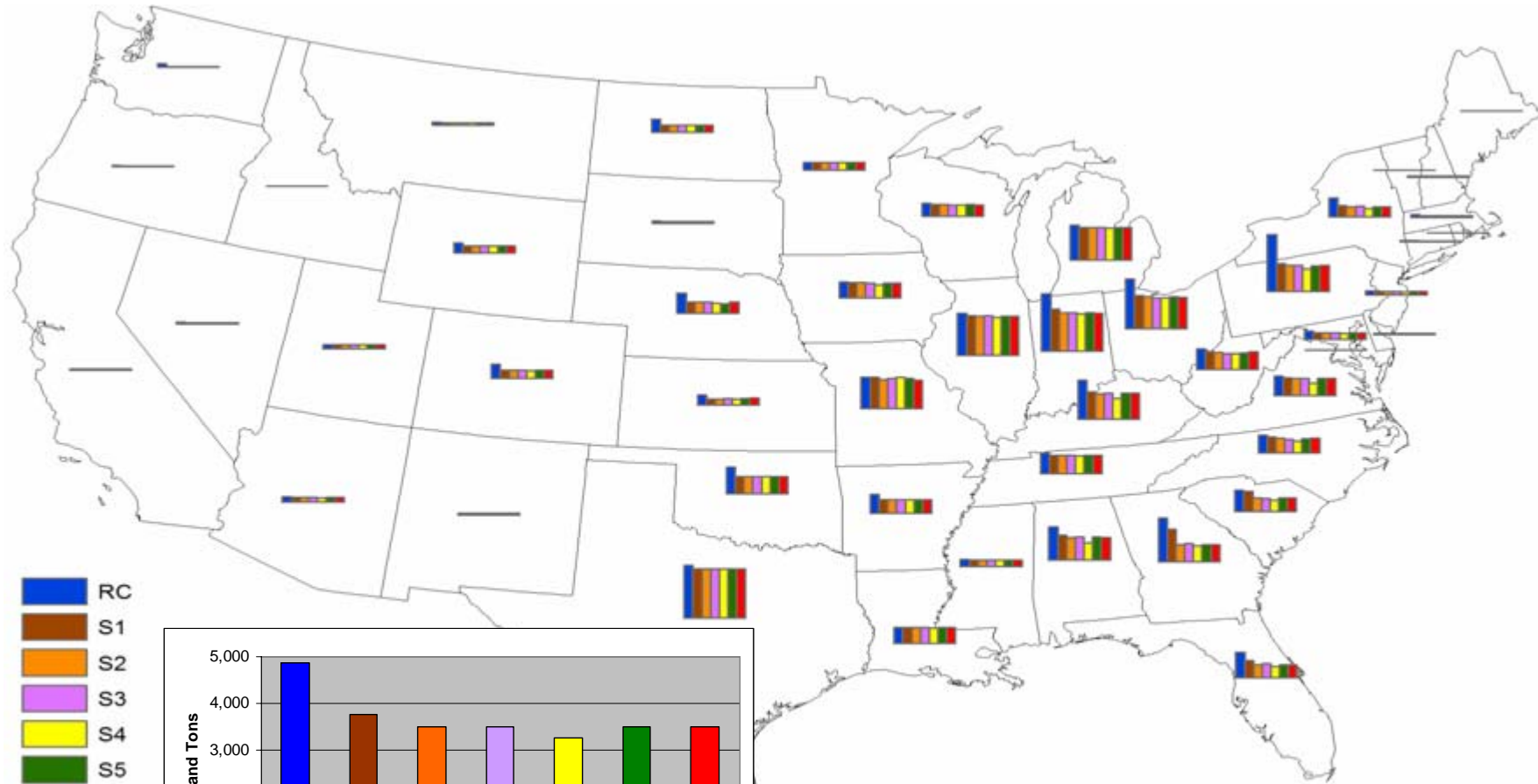
Coal Production by Region



Coal Use By Type

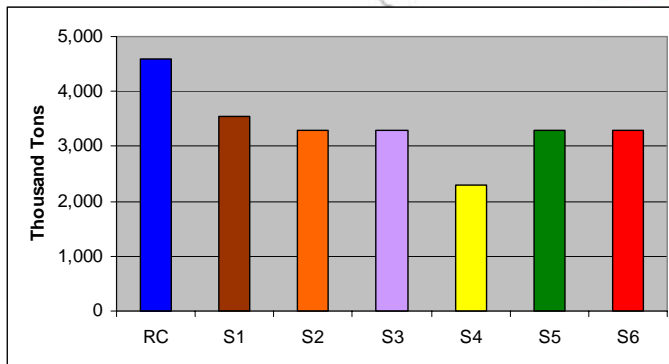
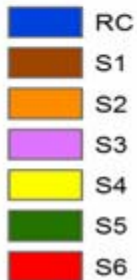


# State-by-State Annual SO<sub>2</sub> Emission Levels, 2012



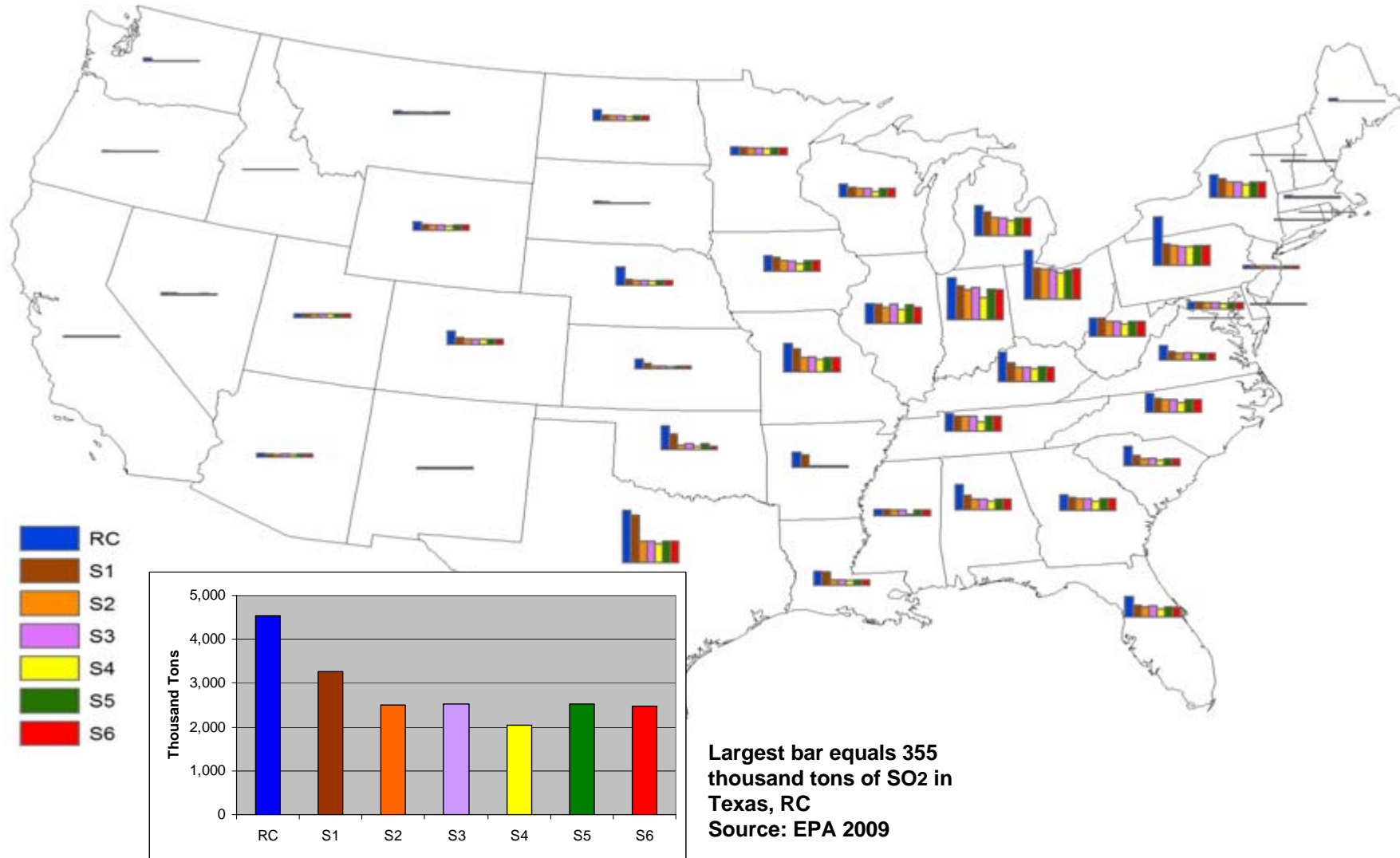
Largest bar equals 347 thousand tons of SO<sub>2</sub> in Indiana, RC  
 Source: EPA 2009

# State-by-State Annual SO<sub>2</sub> Emission Levels, 2015

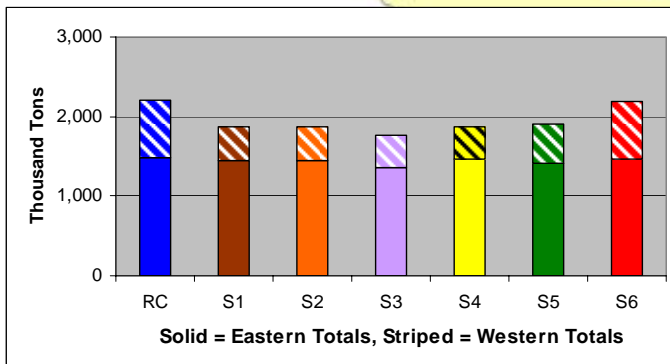
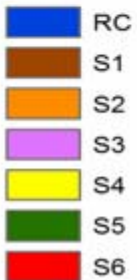
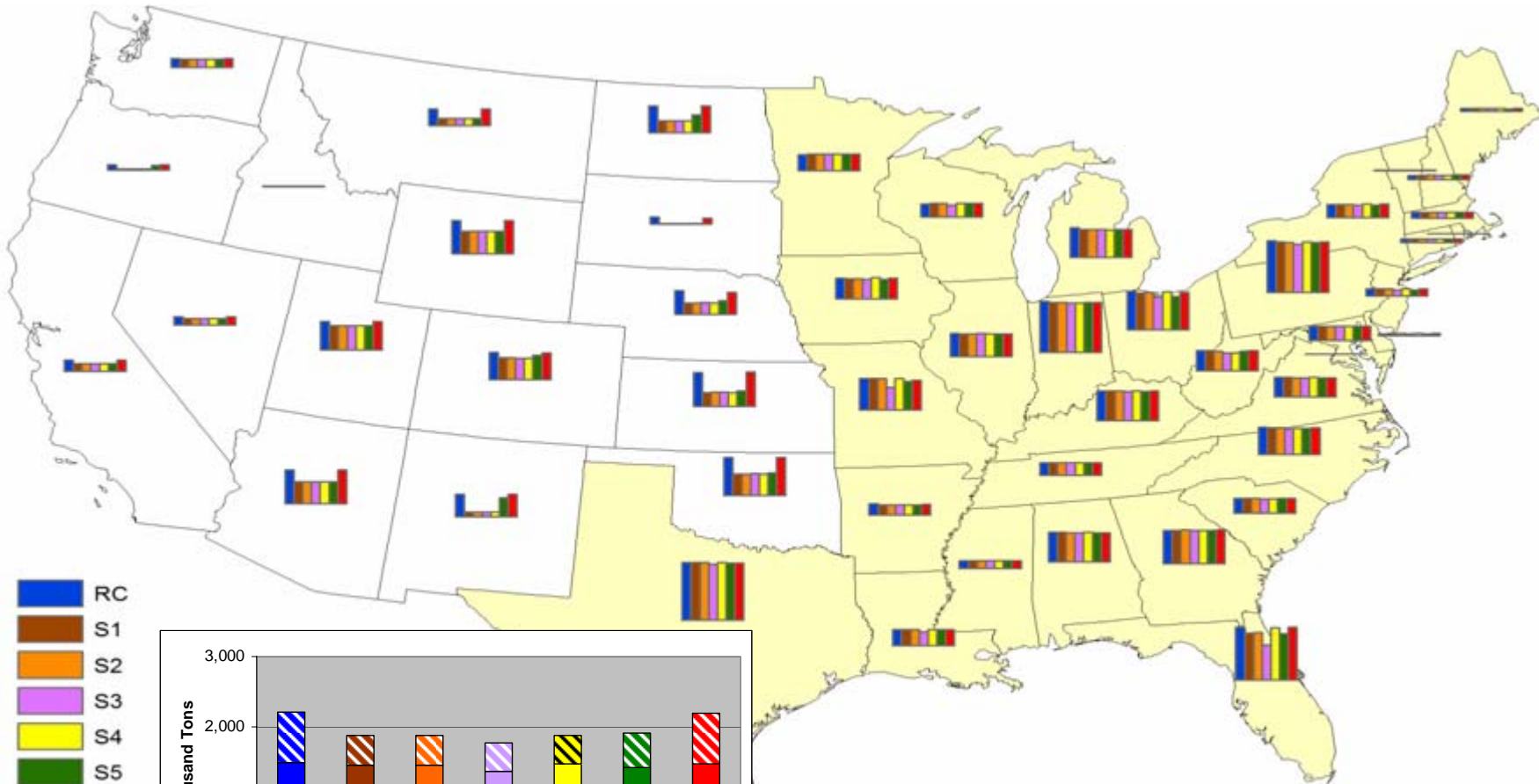


Largest bar equals 354 thousand tons of SO<sub>2</sub> in Texas, RC  
Source: EPA 2009

# State-by-State Annual SO<sub>2</sub> Emission Levels, 2020



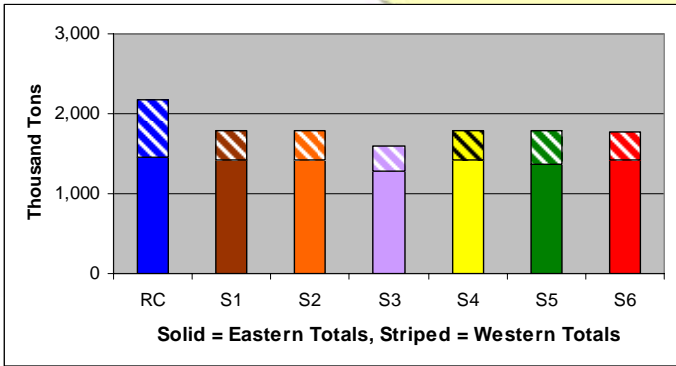
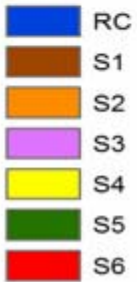
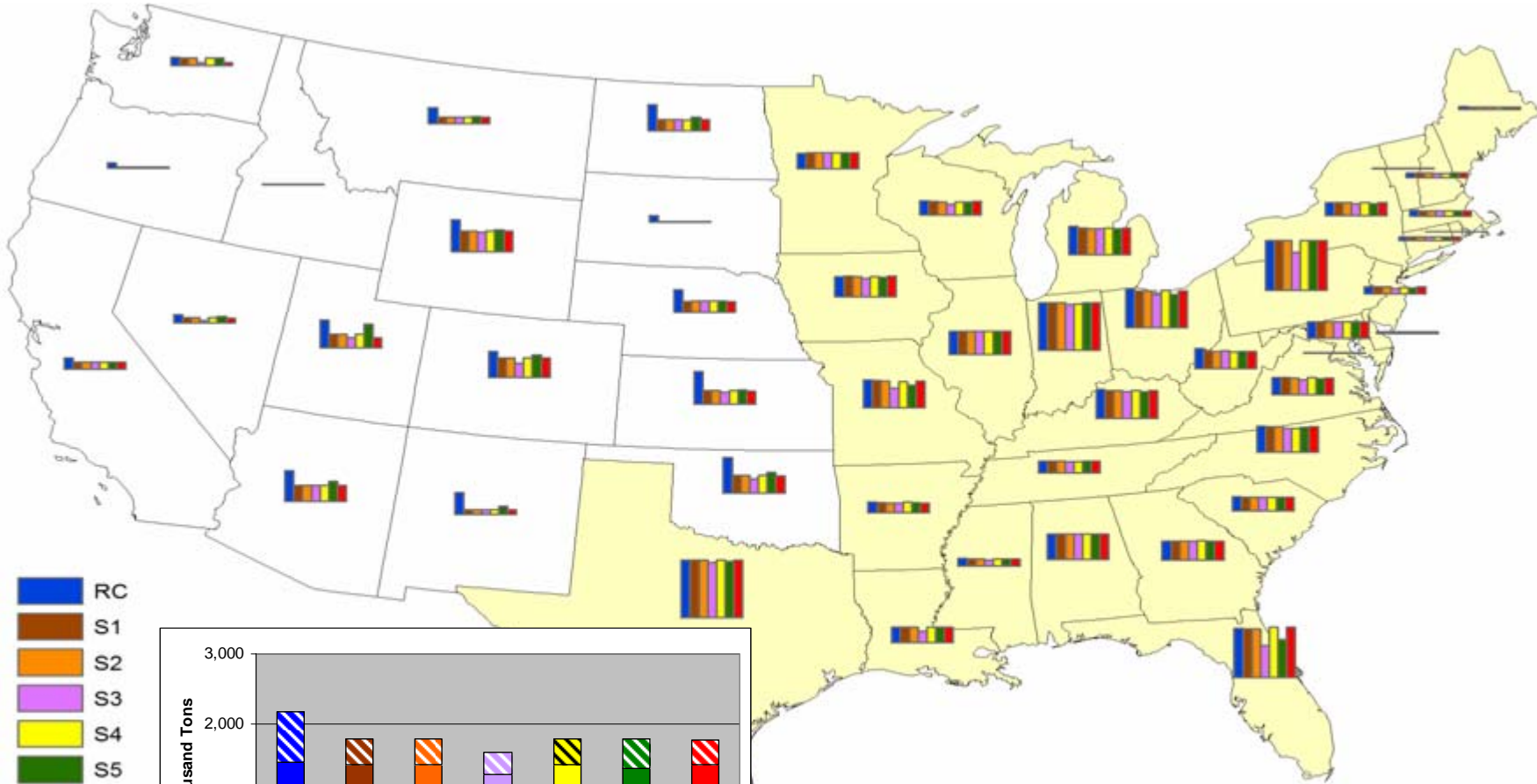
# State-by-State Annual NO<sub>x</sub> Emission Levels, 2012



Largest bar equals 129 thousand tons of NO<sub>x</sub> in Texas, S1, S2, S4  
 Source: EPA 2009

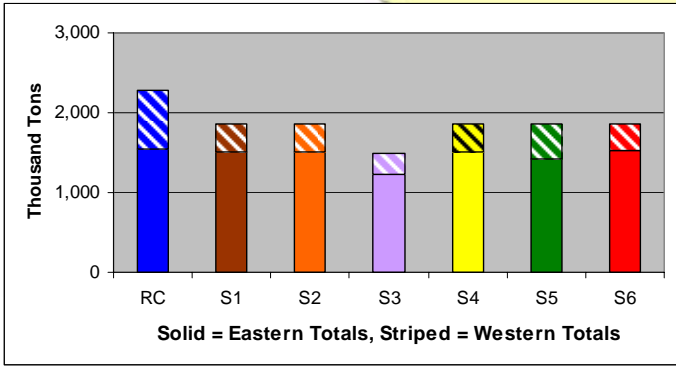
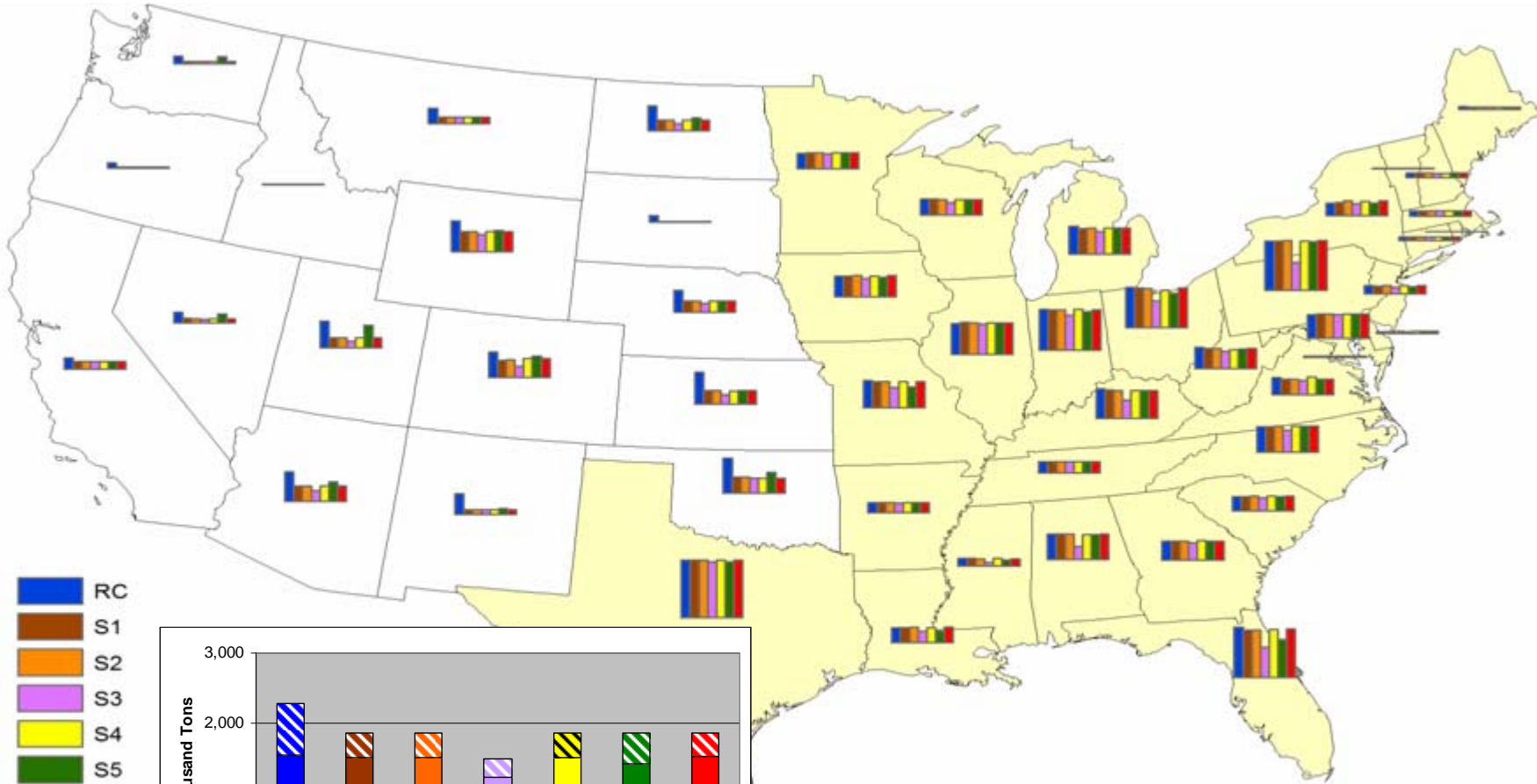


# State-by-State Annual NO<sub>x</sub> Emission Levels, 2015



Largest bar equals 134 thousand tons of NO<sub>x</sub> in Texas, S4, S6  
 Source: EPA 2009

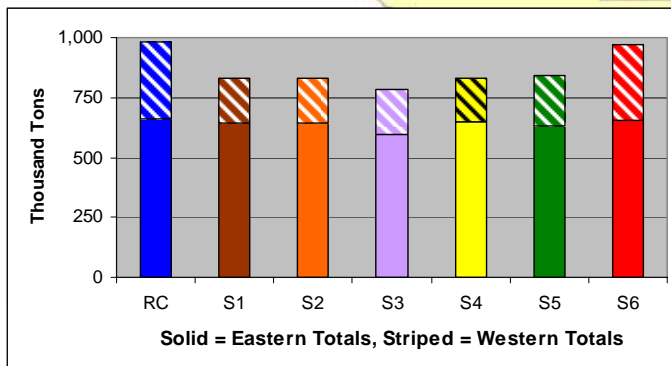
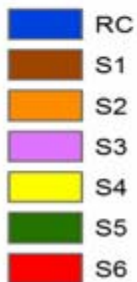
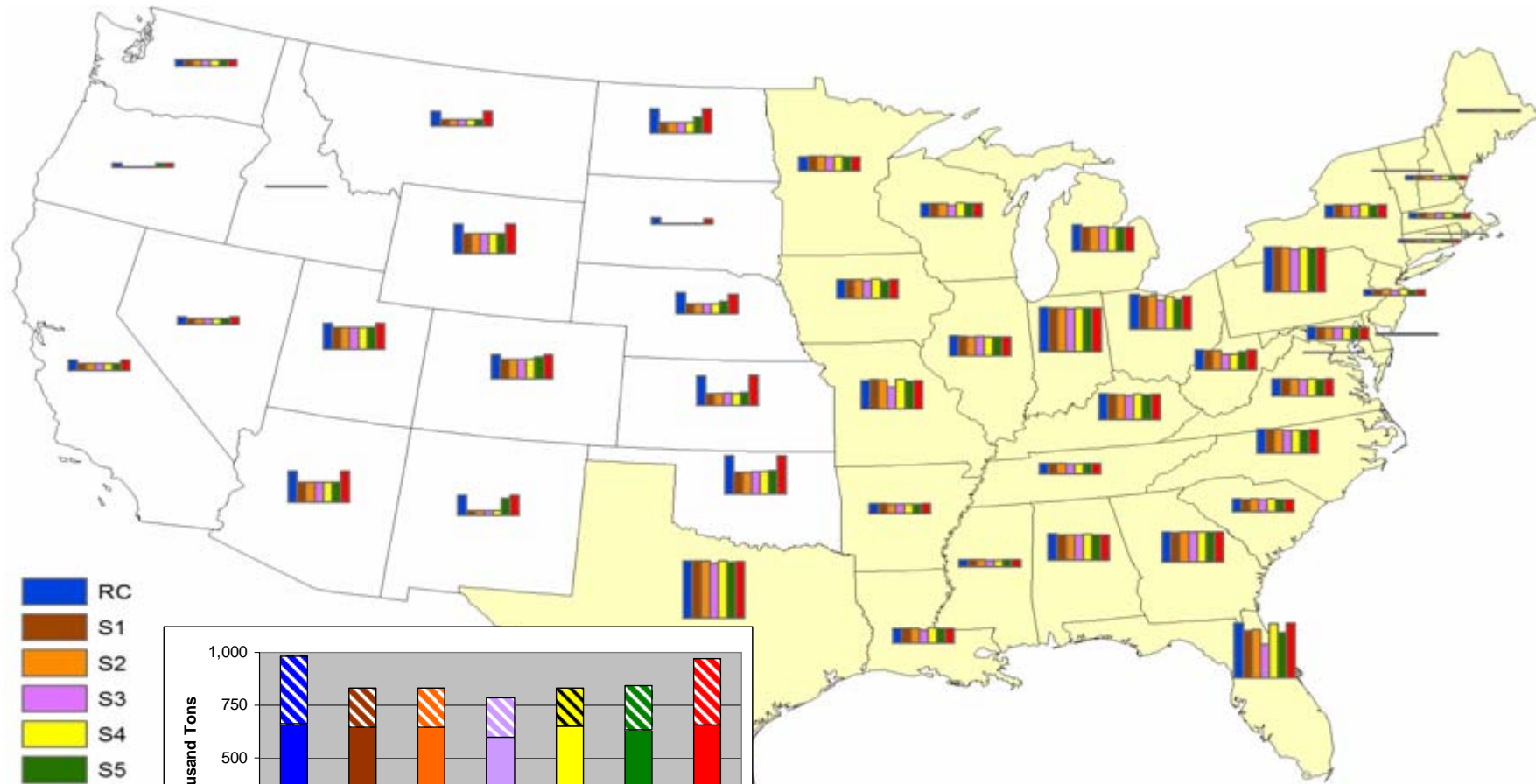
# State-by-State Annual NO<sub>x</sub> Emission Levels, 2020



Largest bar equals 139 thousand tons of NO<sub>x</sub> in Texas, S2, S4, S6  
 Source: EPA 2009

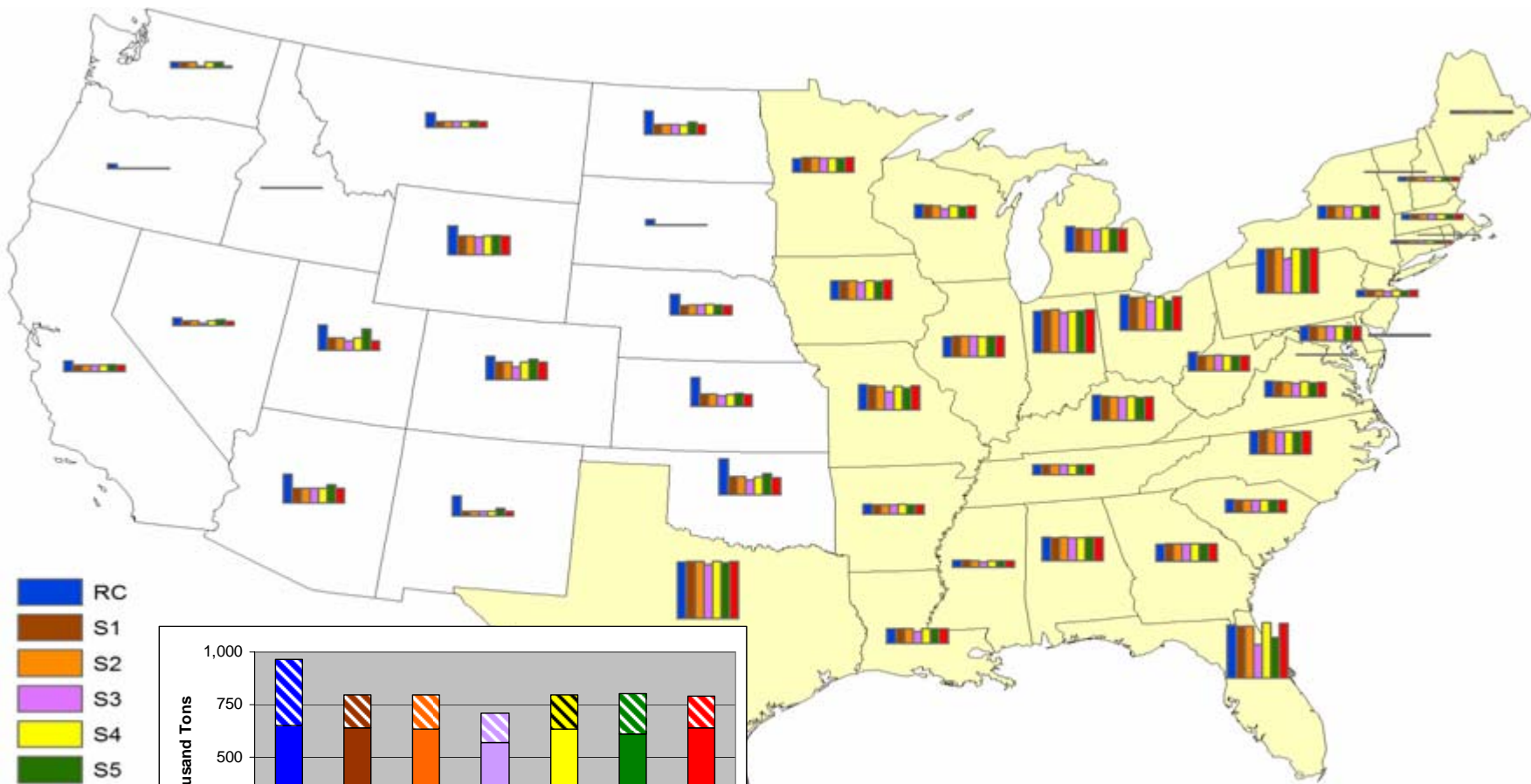


# State-by-State Ozone Season NO<sub>x</sub> Emission Levels, 2012

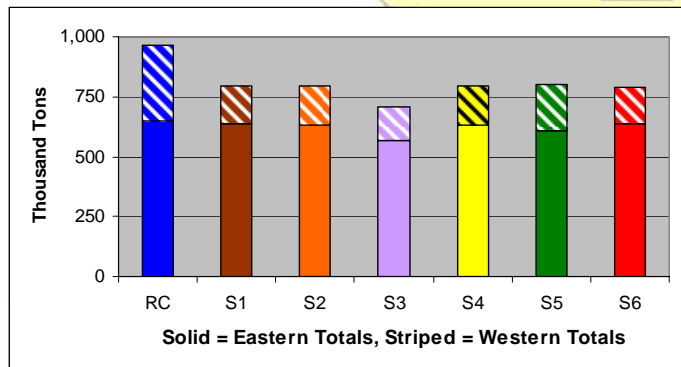


Largest bar equals 63 thousand tons of NO<sub>x</sub> in Texas, S1, S2, S4  
 Source: EPA 2009

# State-by-State Ozone Season NO<sub>x</sub> Emission Levels, 2015

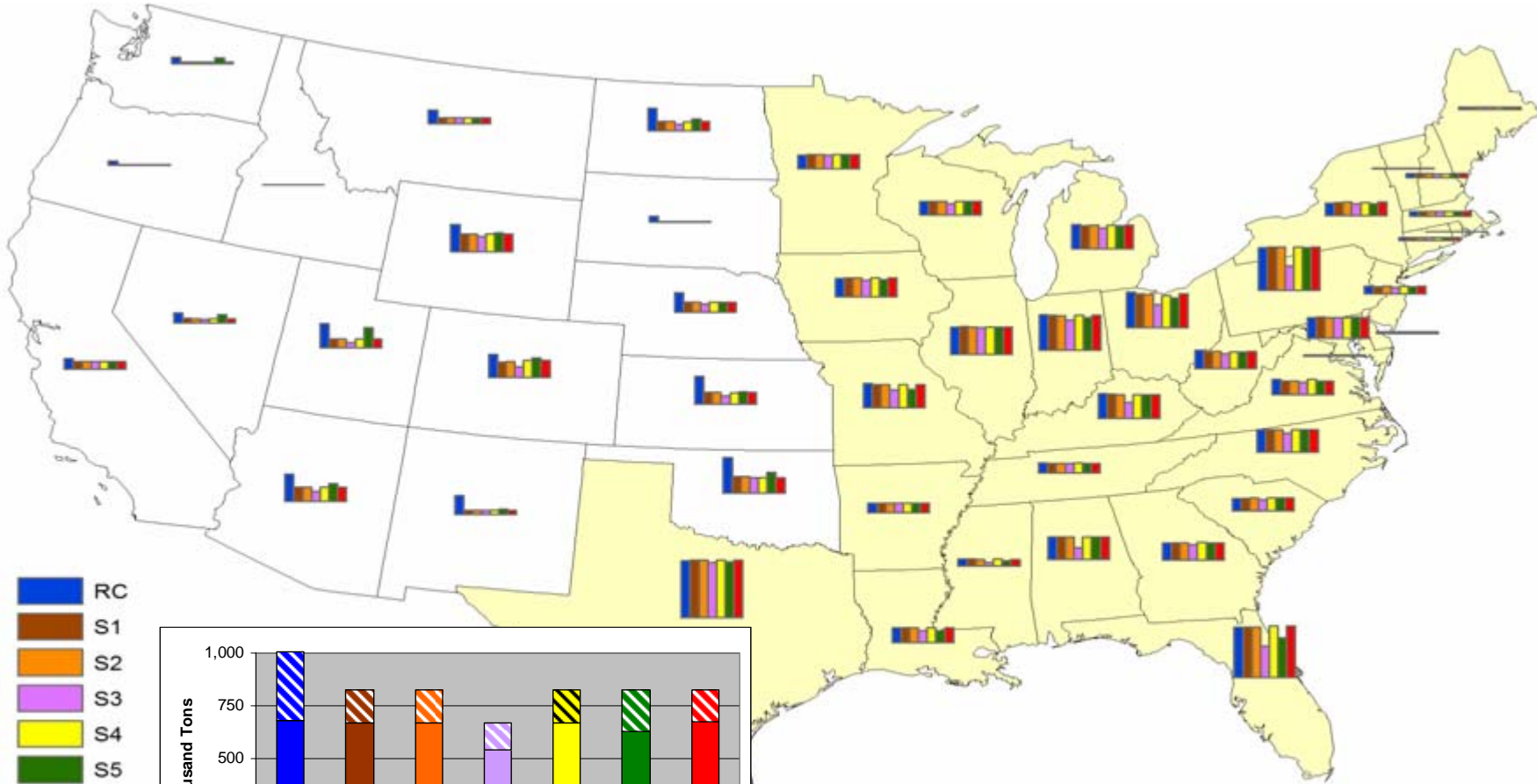


- RC
- S1
- S2
- S3
- S4
- S5
- S6

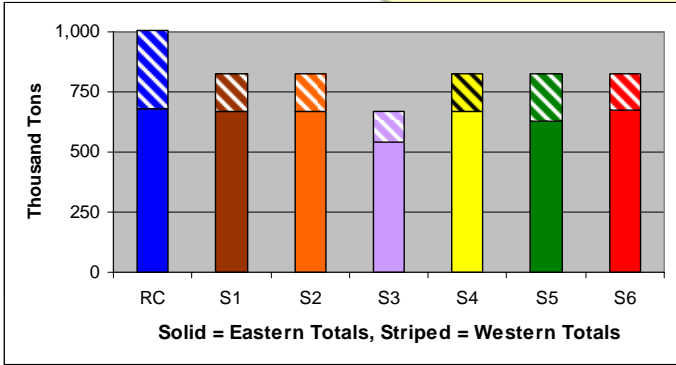


Largest bar equals 64 thousand tons of NO<sub>x</sub> in Texas, S1, S2, S4, S6  
 Source: EPA 2009

# State-by-State Ozone Season NO<sub>x</sub> Emission Levels, 2020



- RC
- S1
- S2
- S3
- S4
- S5
- S6



Largest bar equals 68 thousand tons of NO<sub>x</sub> in Texas, S1, S2, S4, S6  
 Source: EPA 2009