



Bay Area Modeling Advisory Committee Meeting

Status of District's Modeling Work

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MAC Meeting Overview

- New MM5 simulations for July-August 2000 and July 1999 episodes
- CAMx simulations for July 1999 episode
- CAMx model performance evaluation
 - ◆ VOC evaluation
 - ◆ Process analysis
- Meteorological model performance evaluation
- Alternative emission speciation



Status of Bay Area Modeling

Ozone Episodes:

- July 30-August 2, 2000 (CCOS)
- July 8-12, 1999



Days over federal standard

Day	7/31/2000									8/1/2000								
	12	13	14	15	16	17	18	19	12	13	14	15	16	17	18	19		
SF Bay Area																		
Livermore - Old 1st	68	88	116	123	126	73	53	34	73	86	92	81	68	65	52	37		
Sacramento																		
Sloughhouse		100	92	87	78	74	66	80	88	112	133	126	119	112	95	82		
San Joaquin																		
Edison	115	110	106	94	81	74	38	19	113	109	93	102	102	96	83	73		
Turlock	75	91	104	105	96	88	64	52	100	101	97	104	86	85	73	61		
Modesto - 14th	74	87	94	90	84	81	60	41	80	84	99	87	94	91	70	53		

Day	8/2/2000								
Hr	12	13	14	15	16	17	18	19	
SF Bay Area									
Livermore - Old 1st	88	93	98	84	69	57	49	46	
Sacramento									
Sloughhouse	98	102	101	103	98	66	77	69	
San Joaquin									
Edison	129	151	139	121	76	51	45	39	
Turlock	98	95	114	117	116	131	106	79	
Modesto - 14th	90	94	95	113	131	128	85	64	



Days over federal standard

Day	7/11/1999									7/12/1999								
	12	13	14	15	16	17	18	19	12	13	14	15	16	17	18	19		
SF Bay Area																		
Concord	113	115	126	120	126	99	102	81	134	156	149	129	104	93	99	91		
Livermore	88	94	96	138	145	146	128	93	117	144	133	128	111	94	86	73		
Fremont	79	111	133	117	101	66	43	14	93	98	90	88	80	73	59	53		
San Martin	112	121	124	125	97	62	56	45	115	96	90	74	65	55	46	37		
Sacramento																		
Folsom	125	132	133	137	125	107	98	90	109	108	100	89	89	92	107	79		
Vacaville	96	97	99	122	118	101	82	62	108	127	140	115	95	74	65	59		
Auburn	85	90	91	93	111	133	118	112	89	93	90	89	99	95	82	71		
Sloughhouse	125	131	116	109	105	103	100	83	108	106	110	103	96	105	91	72		
Roseville	108	120	128	128	119	108	100	81	96	90	82	78	78	81	108	74		
Rocklin	99	115	128	123	119	111	105	92	99	96	85	79	80	82	104	87		
San Joaquin																		
Clovis	124	140	142	125	105	110	81	58	112	124	108	102	98	96	90	66		
Fresno - 1st St	128	130	132	135	124	114	99	63	114	115	108	95	88	87	75	60		
Tracy	84	94	91	97	97	97	95	94	102	106	117	118	132	121	113	99		
Stockton - Hazelton	107	122	130	122	108	113	91	62	100	96	95	90	86	102	95	75		
Merced	111	115	118	116	112	110	110	100	121	125	117	115	102	108	118	116		



MM5 Simulations

MM5 Simulations for the July-August 2000 Episode

Simulation Description			Status	CAMx Simulation
1	ETA	5-layer slab model	Temperature underestimated	Yes
2	ETA	5-layer slab model with 50% reduced soil moisture	Temperature improved, winds overestimated	Yes
3	ETA	NOAH LSM	Temperature improved, winds overestimated	Yes
4	MRF	NOAH LSM	Winds underestimated in layers 1 and 2	Yes
5	MRF-Atmet	NOAH LSM	Winds overestimated	Yes
6	MRF-NCAR	NOAH LSM	Winds overestimated	No
7	MRF-YSU	NOAH LSM	Winds overestimated	No



MM5 Simulations

MM5 Simulations for the July 1999 Episode

Simulation Description			Status	CAMx Simulation
1	MRF	NOAH LSM	Evaluation in progress	No
2	MRF-YSU	NOAH LSM	"	No
3	ETA	5-layer slab model	"	No
4	MRF	5-layer slab model	"	Yes
5	MRF	5-layer slab model	MM5's output obtained from ARB	Repeating ARB's simulations



Work Underway

- Examine and understand ARB CAMx simulations
- Understand the difference between Chem-param files
- Investigate the effects of longer spin-up
- Perform QA/QC to 1999 data



Work Underway

- Conduct statistical model evaluation
- Conduct analysis nudging to enhance inversion layer
- Conduct observational nudging
- Improve surface roughness, terrain barrier and mountain drag