

TABLE 3-1. REGIONAL MODEL PARAMETER VALUES FOR EASTERN NORTH AMERICA TRANSPORT SIMULATIONS

PARAMETER	RCM	ENAMAP - 1	ASTRAP	OME	AES
SO <sub>2</sub> transformation rate (%/hour)	2.4 x 10 <sup>5</sup> <sup>f</sup>	1.0	Diurnal Cycle Summer 1.1 Winter 0.55	1.0	1.0
SO <sub>2</sub> dry deposition velocity (cm/s)	0.83 <sup>h</sup> (1.7 x 10 <sup>5</sup> ) <sup>g</sup>	1.0	Summer 0.4 (avg.) Winter 0.25 (avg.)	0.5	0.5
SO <sub>4</sub> dry deposition velocity (cm/s)	0.63 <sup>h</sup>	0.2	Summer 0.4 (avg.) Winter 0.25 (avg.)	0.05	0.1
SO <sub>2</sub> wet removal rate (%/hour)	(1.2 x 10 <sup>5</sup> ) <sup>g</sup>	28P(t) <sup>a</sup>	100(h/4) <sup>1/2</sup> ; h ≤ 4 <sup>b</sup>	10.8 <sup>e</sup>	30,000 <sup>c</sup>
SO <sub>4</sub> wet removal rate (%/hour)	(1.6 x 10 <sup>5</sup> ) <sup>g</sup>	7P(t) <sup>a</sup>	100 ; h > 4 <sup>b</sup>	36 <sup>e</sup>	850,000 <sup>c</sup>
Mixing depth (m)	1000	Winter 1150 Spring 1300 Summer 1450	up to 2100 (10 levels)	1000	Climatological <sup>d</sup> by month (mean = 1200m)
Wind Data	resultant average vector wind field, $\bar{U} = 3.2\text{m/s}$ $\bar{\theta} = 265^\circ$ True	80 x 80 km grid; representative grid square average $\bar{U} = 0.75 U_{850\text{mb}}$ $\bar{\theta} = \theta_{850\text{mb}} - 15^\circ$	191 x 191 km grid, $I/R^2$ analyzed to grid points	long term wind statistics $\sigma_x = U_m \tau$ $\sigma_y = V_m \tau$ $U_m = 10\text{ m/s}$ $V_m = 6\text{ m/s}$	objectively analyzed at 4 levels on 381 x 381 km grid
		(1977)	(1975)		(1978)

<sup>a</sup> Precipitation rate, P(t) in mm/hr.

<sup>b</sup> Precipitation rate, h, in mm/6 hr.

<sup>c</sup> Scavenging ratio

<sup>d</sup> Based on Fortelli (1977) & Holzworth (1967)

<sup>e</sup> Function of average length of wet and dry periods (applies during wet period only)

<sup>f</sup> Chemical conversion time scale (seconds)

<sup>g</sup> Total wet and dry depletion time scale (seconds)

<sup>h</sup> Dry and wet combined