

Table 7.2 Summary of Regional Model Attributes (continued)

ATTRIBUTE	AES	ASTRAP	CAPITA	ENAMAP-1
f. Treatment of Emissions	emissions added to box every 3 h and dependent on location of box	puffs released at appropriate level at 6-h intervals	3-h SO ₂ emissions released in mixed layer in day, 450-750 m layer at night; 1% of S is SO ₄ ²⁻	puffs containing 12-h emissions released from each source cell at 12-h increments
g. Analysis of Transport Wind (performed by a preprocessor)	objective analysis of 6-h horizontal wind components on 381 x 381 km grid at 1000, 850, 700, and 500 mb levels; vertical wind component computed at each level from temperature profile and interpolated to trajectory level	mean winds in the lowest 1.4 km (summer) and 1.0 km (winter) at upper-air sites are objectively analyzed using an inverse-distance-squared weighting scheme	surface winds, adjusted by a seasonal factor (1.7 to 2.2) and a 10° veering (day), are objectively analyzed for 3-h periods using inverse-distance-squared weighting scheme and the 127-km grid; upper winds in 4-layers (night)	mixed layer averages at rawinsonde sites are objectively analyzed using an inverse-distance-squared weighting scheme
h. Analysis of Precipitation (performed by a preprocessor)	objective analysis of daily precipitation amounts on a 127 x 127 km grid	hourly data are summed to produce 6-h totals across a grid of about a 76-km spacing*	no actual precipitation rates used; time averages of precipitation probabilities used for each 127 km grid square	hourly U.S. and 6-h Canadian data are summed to produce 3-h totals across 70-km grid squares*
i. Mixed Layer (m)	monthly climatological heights on a 127 x 127 km grid	diurnal pattern including nocturnal surface-based inversion; maximum: 1000 (w) and 1800 (s)	day: 800 (winter) 1200 (spring/fall) 1350 (summer) night: 300	1150 (winter) 1300 (spring/fall) 1450 (summer)
j. Horizontal Dispersion	emissions evenly distributed across 127 x 127 km grid cells	computed from the distribution of plume centerlines at 6-h intervals downstream for a grid of virtual sources	2000 m ² s ⁻¹ (day) 100 m ² s ⁻¹ (night), but delineated by overnight shear and veer of the 4-layered winds	puff radius = $(r_0^2 + Kt)^{1/2}$, where r ₀ is the initial puff radius (km), K is 36 km ² h ⁻¹ , and t is time (h)

*If no precipitation monitoring sites exist in a grid cell, the value at the nearest site is adopted.