

TABLE 17. ESTIMATES OF THE MASSES OF VARIOUS CONSTITUENTS THAT WERE INJECTED INTO THE STRATOSPHERE OVER A 9 HR PERIOD DUE TO THE VOLCANIC ERUPTIONS OF MT. ST. HELENS ON 18 MAY 1980. ESTIMATES ARE GIVEN FOR THE *TOTAL* MASSES INJECTED (INCLUDING TROPOSPHERIC AIR ENTRAINED INTO THE PLUME) AND THE MASSES THAT DERIVED FROM THE VOLCANO ITSELF.

CONSTITUENT	FLUXES (KG S ⁻¹)		MASS INJECTED INTO STRATOSPHERE (KG)	
	TOTAL *	VOLCANIC **	TOTAL *	VOLCANIC **
H ₂ O	1x10 ⁷	5x10 ⁵	3x10 ⁹ ***	1.5x10 ⁸
PARTICLES <2 μm IN DIAMETER				
AITKEN NUCLEI				
SO ₂	2x10 ²	9x10 ¹	6x10 ⁴	3x10 ⁴
H ₂ S	1x10 ²	1x10 ²	3x10 ⁴ ****	3x10 ⁴
CO ₂	1.4x10 ⁷	4x10 ⁶	4x10 ⁹	1x10 ⁹
CO	1x10 ⁵	1x10 ⁵	3x10 ⁷	3x10 ⁷

* INCLUDES MATERIAL FROM THE VOLCANO PLUS THAT ENTRAINED INTO THE PLUME FROM THE TROPOSPHERE.

** INCLUDES ONLY THE MATERIAL EJECTED FROM THE VOLCANO ITSELF (FROM TABLE 5).

*** DIRECT MEASUREMENT (MURCRAY *et al.*, 1981).

**** THE RAPID CONVERSION OF H₂S TO SO₂ IN THE STRATOSPHERE MAY ACCOUNT FOR THE FACT THAT H₂S WAS NOT DETECTED IN THE STRATOSPHERE ON THE 19 MAY 1980 BY INN *et al.* (1981).