|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Parameter | PC1 | | PC2 | | PC3 | | PC4 | | RC1 | | RC2 | | RC3 | | RC4 | |
|  | Summer | Winter | Summer | Winter | Summer | Winter | Summer | Winter | Summer | Winter | Summer | Winter | Summer | Winter | Summer | Winter |
| Temperature | **0.89** | **0.71** | -0.07 | 0.03 | -0.02 | -0.28 | -0.4 | 0.53 | **0.87** | **0.74** | 0.20 | 0.08 | -0.04 | -0.20 | 0.12 | -0.16 |
| pH | **-0.93** | **-0.90** | 0.24 | 0.25 | -0.04 | -0.09 | 0.26 | -0.31 | **-0.96** | **-0.86** | -0.05 | 0.39 | 0.06 | 0.05 | -0.01 | -0.11 |
| EC | 0.29 | 0.01 | **0.82** | **0.78** | -0.44 | -0.56 | -0.15 | 0.002 | 0.009 | 0.15 | **0.97** | **0.95** | 0.01 | -0.006 | 0.01 | -0.02 |
| TSS | **0.91** | **0.76** | 0.11 | 0.13 | 0.09 | 0.14 | -0.08 | -0.33 | **0.86** | **0.75** | 0.31 | -0.09 | 0.14 | 0.20 | -0.06 | 0.7 |
| Turbidity | **0.87** | 0.48 | 0.11 | 0.25 | -0.17 | -0.43 | 0.17 | **0.62** | **0.79** | **0.55** | 0.41 | 0.38 | -0.08 | -0.20 | -0.37 | -0.19 |
| Salinity | 0.41 | -0.27 | **0.80** | **0.62** | -0.15 | -0.42 | -0.15 | -0.27 | 0.17 | -0.16 | **0.86** | **0.78** | 0.26 | 0.004 | 0.25 | -0.04 |
| TDS | **0.55** | **0.72** | 0.36 | 0.09 | 0.49 | 0.11 | -0.06 | -0.54 | 0.50 | 0.71 | 0.23 | -0.10 | **0.61** | 0.15 | 0.51 | **0.86** |
| DO | **-0.90** | **-0.81** | 0.25 | -0.14 | 0.18 | 0.30 | 0.31 | -0.19 | **-0.90** | **-0.84** | -0.13 | -0.16 | 0.26 | 0.15 | 0.09 | -0.1 |
| COD | **0.93** | **0.97** | -0.15 | 0.22 | -0.15 | -0.05 | -0.05 | 0.03 | **0.91** | **0.99** | 0.21 | 0.06 | -0.19 | 0.11 | -0.21 | 0.38 |
| NH4. | **0.95** | **0.92** | -0.11 | 0.16 | -0.16 | -0.26 | -0.12 | 0.07 | **0.92** | **0.96** | 0.25 | 0.14 | -0.18 | -0.10 | -0.11 | 0.29 |
| NO3 | **0.56** | **0.88** | -0.28 | 0.0005 | 0.24 | -0.37 | -0.49 | 0.04 | **0.64** | **0.90** | -0.19 | 0.08 | 0.08 | -0.29 | 0.22 | 0.19 |
| Phosphate | **0.65** | 0.08 | 0.45 | **0.88** | -0.52 | -0.33 | 0.02 | -0.18 | 0.44 | 0.21 | **0.80** | **0.89** | -0.23 | 0.23 | -0.25 | 0.25 |
| Sulfates | 0.29 | 0.10 | -0.23 | **0.84** | **-0.55** | -0.09 | 0.44 | -0.38 | 0.27 | 0.21 | 0.14 | **0.72** | -0.59 | 0.40 | **-0.84** | 0.34 |
| K | -0.43 | -0.41 | **0.54** | **0.73** | -0.20 | 0.37 | 0.01 | 0.32 | **-0.58** | -0.36 | 0.43 | 0.45 | 0.08 | **0.71** | -0.1 | -0.21 |
| Ca | -0.17 | -0.15 | **0.80** | **0.86** | 0.20 | 0.32 | -0.09 | 0.26 | -0.35 | -0.09 | 0.53 | 0.55 | **0.56** | **0.75** | 0.28 | -0.13 |
| Mg | -0.44 | -0.04 | **0.68** | **0.85** | 0.28 | 0.35 | 0.2 | 0.21 | **-0.56** | 0.02 | 0.31 | 0.50 | 0.56 | **0.78** | 0.14 | -0.04 |
| Cl | 0.54 | -0.01 | 0.40 | **0.93** | **-0.68** | -0.13 | -0.14 | 0.18 | 0.33 | 0.11 | **0.81** | **0.83** | -0.40 | 0.43 | -0.28 | 0 |
| Br | -0.52 | -0.43 | **-0.73** | -0.22 | 0.23 | -0.005 | -0.22 | **0.77** | -0.28 | -0.45 | **-0.86** | -0.11 | -0.16 | -0.14 | 0.19 | **-0.94** |
| Cd | 0.43 | **0.62** | -0.51 | -0.42 | **0.54** | 0.47 | 0.24 | 0.001 | **0.61** | 0.52 | -0.56 | **-0.70** | 0.24 | 0.15 | -0.05 | 0.01 |
| Cr | **0.83** | **0.94** | -0.18 | -0.22 | 0.40 | 0.15 | 0.28 | 0.07 | **0.90** | **0.89** | -0.10 | -0.40 | 0.28 | 0.02 | -0.08 | 0.22 |
| Ni | -0.08 | **0.67** | **0.83** | -0.02 | 0.38 | 0.61 | 0.19 | -0.11 | -0.24 | **0.60** | 0.50 | -0.46 | **0.73** | 0.50 | 0.4 | 0.21 |
| Cu | -0.12 | 0.05 | 0.31 | 0.64 | 0.58 | **0.71** | **-0.65** | 0.06 | -0.12 | 0.05 | -0.04 | 0.11 | 0.65 | **0.95** | **0.85** | 0.13 |
| Zn | -0.02 | -0.03 | 0.20 | 0.40 | **0.69** | **0.76** | -0.52 | 0.03 | 0.01 | -0.06 | -0.16 | -0.10 | 0.70 | **0.85** | **0.87** | 0.07 |
| Mn | 0.40 | **0.75** | 0.09 | 0.07 | **0.80** | 0.58 | 0.42 | -0.08 | 0.46 | **0.69** | -0.18 | -0.38 | **0.75** | 0.53 | 0.17 | 0.38 |
| Hg | **0.85** | **0.90** | -0.02 | 0.32 | 0.002 | 0.011 | 0.4 | 0.07 | **0.83** | **0.92** | 0.22 | 0.12 | 0.003 | 0.21 | -0.3 | 0.26 |
| As | 0.37 | -0.33 | 0.36 | -0.10 | **0.46** | 0.23 | 0.17 | **0.79** | 0.32 | -0.36 | 0.20 | -0.17 | **0.58** | 0.13 | 0.15 | **-0.81** |
| Pb | **0.74** | **0.93** | 0.20 | -0.09 | 0.50 | -0.09 | 0.39 | 0.15 | **0.72** | **0.92** | 0.15 | -0.16 | 0.54 | -0.11 | 0.04 | 0.27 |
| Initial eigen value | 10.60 | 10.38 | 5.33 | 6.57 | 4.37 | 3.68 | 2.35 | 2.98 | 7.35 | 8.47 | 5.34 | 4.29 | 5.07 | 4.97 | 3.39 | 3.76 |
| Percent variance of initial value | 39 | 38 | 20 | 24 | 16 | 14 | 9 | 11 | 27 | 31 | 20 | 16 | 19 | 18 | 13 | 14 |
| Cumulative percent of initial eigevalue | 39 | 38 | 59 | 63 | 75 | 76 | 84 | 87 | 27 | 31 | 47 | 47 | 66 | 65 | 79 | 80 |