Supplementary Table S3: Different corrosivity indices determined in the present study

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| S. No. | Sample Location | pHs | Langelier Index | Ryznar Index | Aggressive index | Puckorious Index | Larson skold index | CSMR |
| 1 | Raya 2, Raya Block | 7.32 | 0.18 | 7.14 | 10.45 | 5.80 | 0.99 | 2.56 |
| 2 | Naurangia Jagatiya | 7.13 | -0.43 | 7.56 | 9.39 | 5.96 | 8.18 | 80.84 |
| 3 | Usfar 2 , Mathura Block | 7.82 | -0.22 | 8.05 | 10.03 | 7.64 | 4.03 | 182.88 |
| 4 | Nagla Jharela, Nandgaon Block | 7.24 | -0.34 | 7.57 | 9.67 | 5.95 | 6.04 | 17.38 |
| 5 | Khuma, Raya Block | 7.71 | -0.01 | 7.73 | 10.50 | 6.81 | 0.60 | 0.74 |
| 6 | Goverdhan 2 , Goverdhan Block | 8.55 | -1.45 | 10.01 | 9.06 | 9.91 | 23.32 | 2.85 |
| 7 | Farah B.D.O, Farah Block | 7.34 | -0.34 | 7.68 | 9.84 | 6.02 | 2.39 | 8.62 |
| 8 | Beri, Farah Block | 7.63 | -0.43 | 8.06 | 9.74 | 7.09 | 3.68 | 9.28 |
| 9 | Falain,Chhatta Block | 7.53 | 0.37 | 7.15 | 10.64 | 6.53 | 0.99 | 2.53 |
| 10 | Simana, Raya Block | 6.79 | 0.01 | 6.78 | 9.78 | 4.77 | 4.62 | 5.95 |
| 11 | Mathura Refinery,Mathura | 7.46 | -0.06 | 7.51 | 10.13 | 6.43 | 1.85 | 0.82 |
| 12 |  Palson, Goverdhan Block | 8.04 | -1.04 | 9.08 | 9.24 | 9.21 | 24.89 | 19.27 |
| 13 | Aajai Khurd, Chaumauhan Block | 8.04 | 0.26 | 7.77 | 10.94 | 7.68 | 1.11 | 1.68 |
| 14 | Akbarpur,Chaumauhan Block | 7.69 | -0.09 | 7.79 | 10.41 | 6.75 | 0.98 | 5.03 |
| 15 | Haripur, Nandgaon Block | 7.55 | -0.05 | 7.61 | 10.21 | 6.64 | 3.83 | 0.25 |
| 16 | Sersha, Farah Block | 7.58 | -0.18 | 7.76 | 10.23 | 6.49 | 1.52 | 11.87 |
| 17 | Jamalpur, Farah Block | 7.68 | -0.28 | 7.95 | 10.26 | 6.63 | 1.98 | 6.32 |
| 18 | Surir Kalan, Matt Block | 7.63 | -0.93 | 8.57 | 9.50 | 6.64 | 1.13 | 3.19 |
| 19 | Mukundpur , Mathura Block | 7.87 | 0.43 | 7.43 | 11.12 | 7.07 | 0.82 | 0.60 |
| 20 | Neemgaon, Goverdhan Block | 6.44 | 0.16 | 6.27 | 9.67 | 4.73 | 14.08 | 23.66 |
| 21 | Pirsua, Raya Block | 7.89 | 0.41 | 7.48 | 11.22 | 6.97 | 0.34 | 1.53 |
| 22 | Behrana, Raya Block | 8.29 | -0.09 | 8.38 | 10.96 | 8.00 | 2.78 | 0.15 |
| 23 | Neemgaon, Matt Block | 6.96 | -0.06 | 7.02 | 9.75 | 5.31 | 2.31 | 4.05 |
| 24 | Bazzna, Naujhil Block | 7.53 | -0.03 | 7.55 | 10.21 | 6.58 | 0.70 | 2.53 |
| 25 | Nagla Sajna, Baldeo Block | 6.61 | -0.01 | 6.62 | 9.51 | 4.86 | 10.34 | 14.89 |
| 26 | Paintha, Goverdhan Block | 6.85 | -0.15 | 6.99 | 9.60 | 5.99 | 25.74 | 27.15 |
| 27 | Raheempur, Farah Block | 7.44 | -0.14 | 7.57 | 10.25 | 6.03 | 1.22 | 6.67 |
| 28 | Yamuna River, Mathura City | 7.04 | 1.56 | 5.49 | 11.30 | 5.69 | 1.63 | 1.56 |
| 29 | Jabra, Matt Block | 7.55 | -0.65 | 8.19 | 9.76 | 6.38 | 0.97 | 2.01 |
| 30 | Daulatpur, Baldeo Block | 7.76 | -0.26 | 8.01 | 10.01 | 7.38 | 4.53 | 8.80 |
| 31 | Jait, Mathura Block | 7.56 | -0.26 | 7.81 | 10.20 | 6.34 | 1.60 | 1.75 |
| 32 | Sonkh, Goverdhan Block | 7.80 | -0.50 | 8.29 | 10.16 | 6.87 | 4.24 | 5.34 |
| 33 | Habeebpur, Baldeo Block | 7.80 | -0.60 | 8.39 | 9.74 | 7.40 | 7.60 | 0.92 |
| 34 | Baldeo B.D.O, Baldeo Block | 8.20 | -0.30 | 8.50 | 10.64 | 7.85 | 0.93 | 0.64 |
| 35 | Hasanpur, Naujhil Block | 7.65 | 0.15 | 7.50 | 10.57 | 6.72 | 0.43 | 0.86 |
| 36 | Usfar(HP) , Mathura Block | 6.88 | -0.38 | 7.27 | 9.27 | 5.60 | 10.68 | 31.51 |
| 37 | Lalpur, Goverdhan Block | 7.47 | 0.03 | 7.44 | 10.28 | 6.38 | 4.82 | 1.72 |
| 38 | Gidoh, Nandgaon Block | 7.69 | -0.19 | 7.88 | 10.00 | 7.28 | 4.02 | 13.60 |
| 39 | Makdoompur,Naujhil Block | 6.97 | 0.43 | 6.54 | 10.13 | 5.96 | 9.93 | 9.60 |
| 40 | Shergarh 1,Chhatta Block | 7.50 | 0.30 | 7.19 | 10.33 | 6.91 | 5.94 | 4.78 |
| 41 | Nandgaon, Nandgaon Block | 7.52 | -0.12 | 7.64 | 10.12 | 6.57 | 5.16 | 16.68 |
| 42 | Son, Goverdhan Block | 7.96 | -0.66 | 8.62 | 9.85 | 7.68 | 1.78 | 3.12 |
| 43 | Matt 1,Matt Block | 7.96 | -0.86 | 8.82 | 9.79 | 7.45 | 2.02 | 7.15 |
| 44 | Charmarpur, Baldeo Block | 7.69 | -0.59 | 8.27 | 9.72 | 7.03 | 1.71 | 5.77 |
| 45 | Mathura B.D.O, Mathura Block | 7.46 | -0.26 | 7.71 | 9.75 | 6.77 | 3.34 | 0.81 |
| 46 | Narisemri,Chaumauhan Block | 7.10 | 0.00 | 7.10 | 9.74 | 6.22 | 7.55 | 2.13 |
| 47 | Nunera, Raya Block | 7.33 | -0.43 | 7.75 | 9.50 | 6.49 | 12.23 | 0.63 |
| 48 | Koshi, Nandgaon Block | 7.84 | -0.64 | 8.47 | 9.92 | 7.17 | 4.11 | 1.14 |
| 49 | Shahpur, Raya Block | 7.63 | 0.07 | 7.57 | 10.38 | 6.83 | 2.65 | 0.13 |
| 50 | Bijauli, Matt Block | 7.85 | -0.45 | 8.29 | 9.97 | 7.42 | 2.25 | 0.27 |
| 51 | Gohari, Chhatta Block | 8.00 | -0.20 | 8.20 | 10.53 | 7.49 | 1.84 | 1.37 |
| 52 | Chhatta, Chhatta Block | 7.77 | -0.27 | 8.04 | 10.36 | 6.82 | 1.77 | 1.35 |
| 53 | Hothoda, Baldeo Block | 7.21 | -0.11 | 7.33 | 9.70 | 6.35 | 4.94 | 1.56 |
| 54 | Paigaon, Chhatta Block | 7.85 | -0.15 | 8.00 | 10.56 | 6.98 | 1.39 | 0.56 |
| 55 | Chaumauhan B.D.O,Chaumauhan Block | 6.62 | 0.28 | 6.34 | 9.86 | 4.56 | 3.36 | 1.66 |
| 56 | Nagla Bharau, Raya Block | 7.88 | -0.28 | 8.17 | 10.42 | 7.11 | 1.22 | 0.56 |
| 57 | Chhinpari, Naujhil Block | 7.68 | -0.38 | 8.06 | 10.01 | 6.87 | 1.82 | 0.31 |
| 58 | SABJI MANDI ,Mathura Block  | 7.37 | -0.27 | 7.65 | 9.66 | 6.67 | 6.25 | 2.06 |
| 59 | Andua, Matt Block | 7.53 | -0.83 | 8.37 | 9.38 | 6.65 | 4.51 | 2.57 |
| 60 | Barsana,Nandgaon Block | 7.84 | -0.64 | 8.47 | 9.61 | 7.70 | 4.14 | 0.72 |
| 61 | Tarauli Janvi,Chaumauhan Block | 6.84 | 0.06 | 6.79 | 9.95 | 4.73 | 2.79 | 2.22 |
| 62 |  Palikhera , Mathura Block | 7.68 | -0.48 | 8.16 | 9.83 | 7.03 | 4.03 | 2.73 |
| 63 | Hussainee,Chhatta Block | 7.62 | -0.02 | 7.64 | 10.36 | 6.69 | 1.41 | 0.38 |
| 64 | Shehi, Goverdhan Block | 7.85 | -0.35 | 8.20 | 10.21 | 7.22 | 2.47 | 0.43 |
| 65 | Satoha, Mathura Block | 7.79 | -0.29 | 8.09 | 10.15 | 7.19 | 4.24 | 0.88 |