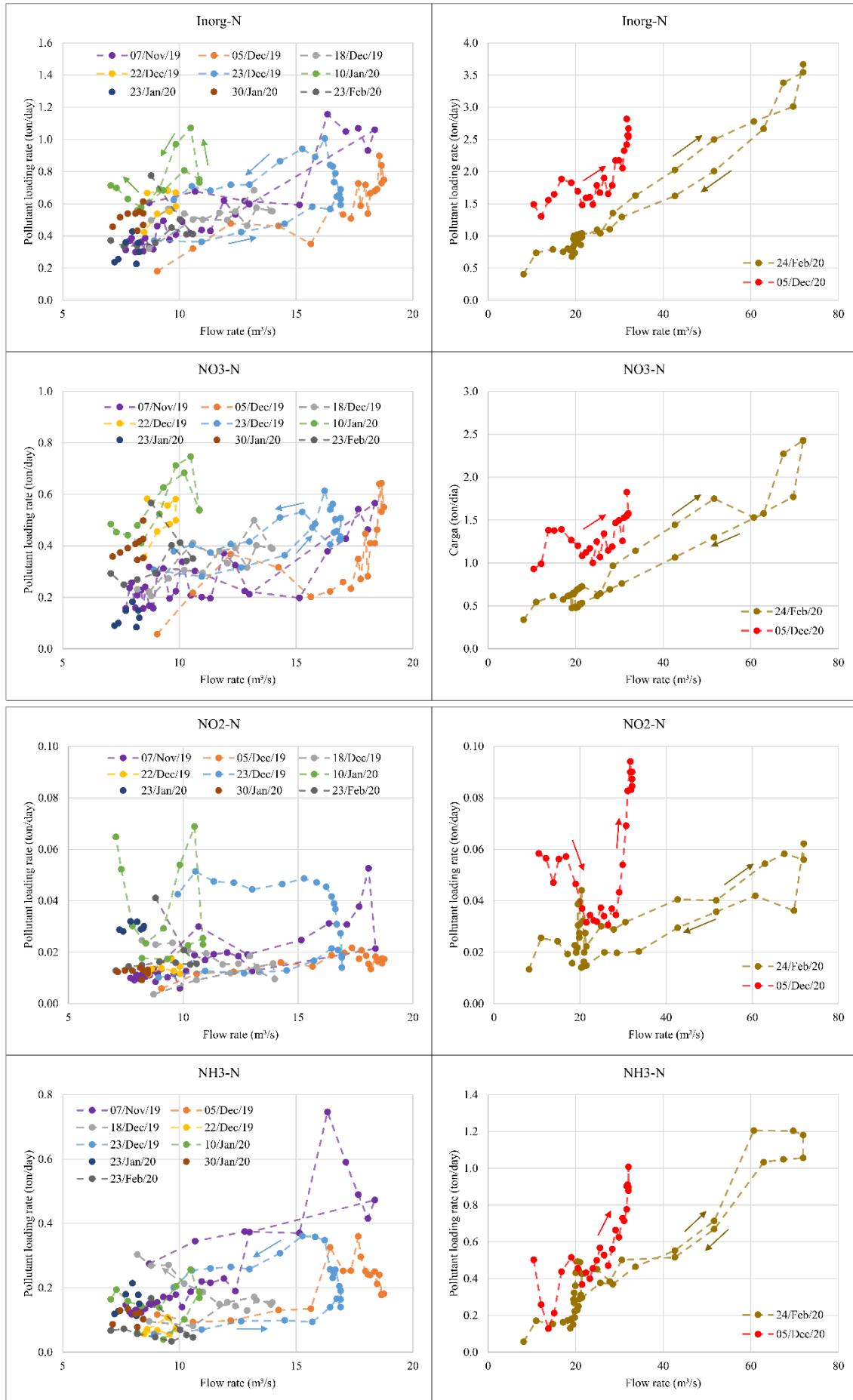
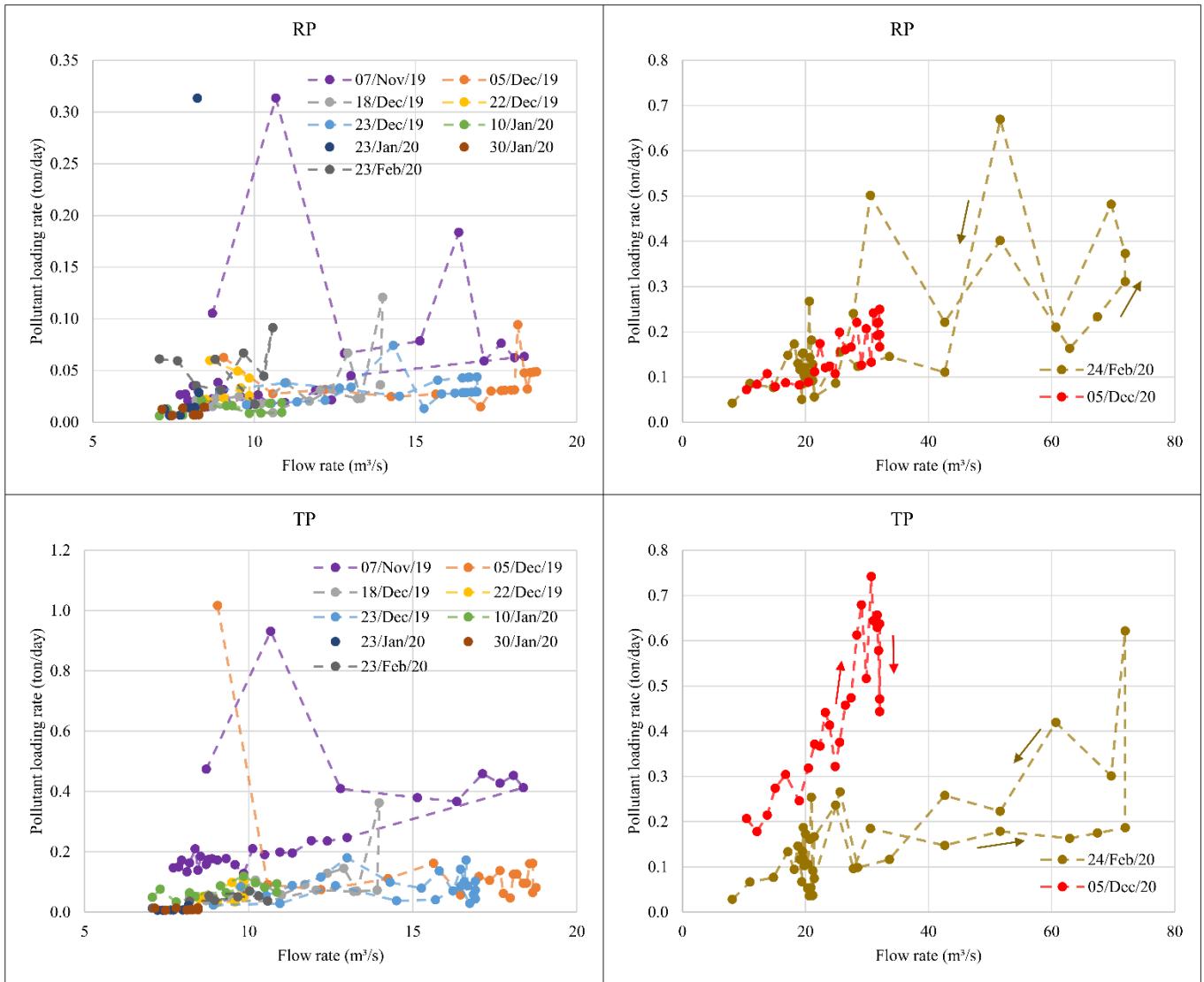


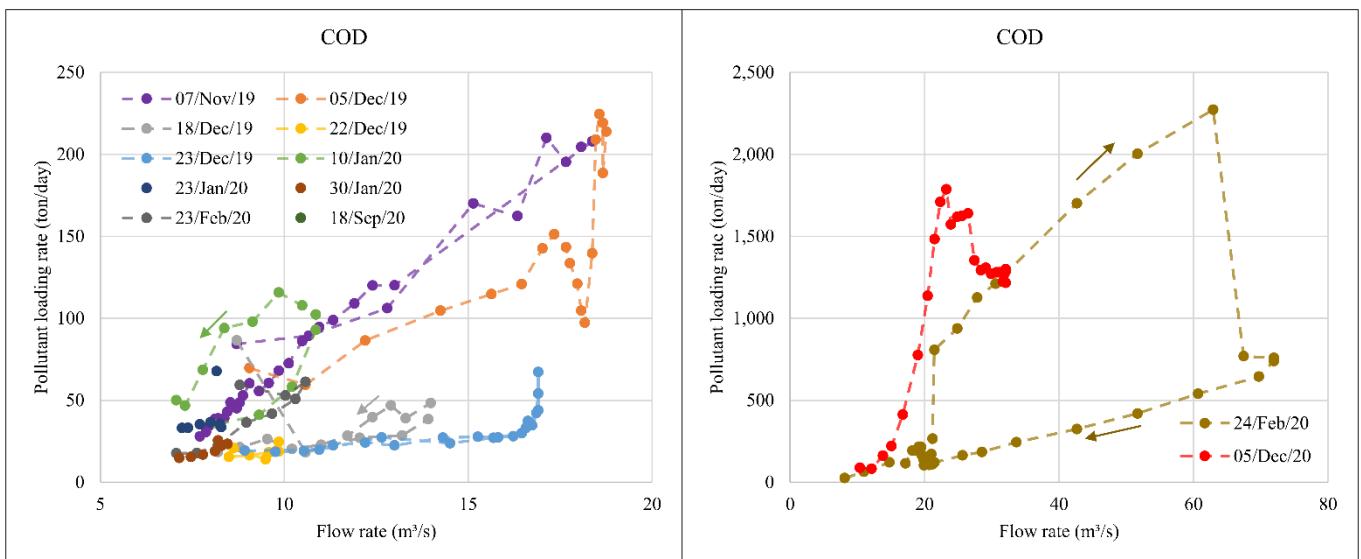
**Figure S1.** Solid loadings observed in the Riacho Fundo stream.



**Figure S2.** Nitrogen loadings observed in the Riacho Fundo stream.



**Figure S3.** Phosphorus loadings observed in the Riacho Fundo stream.



**Figure S4.** COD loadings observed in the Riacho Fundo stream.

**Table S1.** Correlation between rainfall and flood characteristics and event mean concentrations (EMCs) in the Riacho Fundo watershed.

|                | EMC                |       |       |                    |                    |                    |         |          |         |       | Flow rate |        | Flood duration | Mean rainfall |       |      | Mean ADD |
|----------------|--------------------|-------|-------|--------------------|--------------------|--------------------|---------|----------|---------|-------|-----------|--------|----------------|---------------|-------|------|----------|
|                | COD                | TS    | TSS   | NO <sub>2</sub> -N | NO <sub>3</sub> -N | NH <sub>3</sub> -N | Inorg-N | React. P | Total P | Mean  | Max       | Volume | Duration       | Intensity     |       |      |          |
| EMC            | COD                | 1.00  |       |                    |                    |                    |         |          |         |       |           |        |                |               |       |      |          |
|                | TS                 | 0.88  | 1.00  |                    |                    |                    |         |          |         |       |           |        |                |               |       |      |          |
|                | TSS                | 0.90  | 0.99  | 1.00               |                    |                    |         |          |         |       |           |        |                |               |       |      |          |
|                | NO <sub>2</sub> -N | 0.03  | -0.10 | -0.05              | 1.00               |                    |         |          |         |       |           |        |                |               |       |      |          |
|                | NO <sub>3</sub> -N | 0.28  | 0.20  | 0.25               | 0.19               | 1.00               |         |          |         |       |           |        |                |               |       |      |          |
|                | NH <sub>3</sub> -N | 0.57  | 0.45  | 0.51               | 0.31               | -0.19              | 1.00    |          |         |       |           |        |                |               |       |      |          |
|                | Inorg-N            | 0.47  | 0.35  | 0.42               | 0.35               | 0.93               | 0.17    | 1.00     |         |       |           |        |                |               |       |      |          |
|                | Reactive P         | 0.40  | 0.18  | 0.17               | 0.11               | -0.27              | 0.18    | -0.20    | 1.00    |       |           |        |                |               |       |      |          |
|                | Total P            | 0.52  | 0.50  | 0.52               | -0.13              | 0.04               | 0.63    | 0.25     | 0.10    | 1.00  |           |        |                |               |       |      |          |
| Flow rate      | Mean               | 0.71  | 0.68  | 0.69               | -0.34              | -0.03              | 0.37    | 0.07     | 0.38    | 0.35  | 1.00      |        |                |               |       |      |          |
|                | Maximum            | 0.44  | 0.41  | 0.43               | -0.40              | -0.14              | 0.19    | -0.10    | 0.38    | 0.15  | 0.93      | 1.00   |                |               |       |      |          |
| Flood duration |                    | 0.16  | 0.25  | 0.22               | -0.35              | -0.67              | 0.28    | -0.59    | 0.23    | 0.12  | 0.53      | 0.58   | 1.00           |               |       |      |          |
| Mean* rainfall | Volume             | 0.43  | 0.43  | 0.43               | -0.32              | -0.40              | 0.46    | -0.26    | 0.32    | 0.43  | 0.83      | 0.83   | 0.84           | 1.00          |       |      |          |
|                | Duration           | -0.06 | -0.03 | -0.07              | -0.12              | -0.73              | 0.08    | -0.71    | 0.25    | -0.29 | 0.21      | 0.30   | 0.86           | 0.53          | 1.00  |      |          |
|                | Intensity          | 0.52  | 0.46  | 0.53               | 0.49               | 0.72               | 0.40    | 0.87     | -0.20   | 0.45  | 0.17      | -0.02  | -0.36          | -0.01         | -0.53 | 1.00 |          |
| Mean* ADD      |                    | 0.88  | 0.86  | 0.87               | -0.02              | 0.36               | 0.41    | 0.49     | 0.29    | 0.45  | 0.45      | 0.15   | -0.12          | 0.06          | -0.29 | 0.43 | 1.00     |

\* Among rainages.

Color legend:

|       |                                |
|-------|--------------------------------|
| 1.00  | strongest positive correlation |
| 0.00  | weakest correlation            |
| -1.00 | strongest negative correlation |