

Figure S1a.Turbidity map of Ramganga River in March 62014.


Figure S1b.Turbidity map of Ramganga River in March 62014.


Figure S1c.Turbidity map of Ramganga River in March 62014.


Figure S2a.Turbidity map of Ramganga River in November 112014.


Figure S2b.Turbidity map of Ramganga River in November 112014.


Figure S2c.Turbidity map of Ramganga River in November 112014.

Table S1. Models' summary and regression analysis statistics among turbidity concentrations and surface reflectance values for March and November 2014 (dependent variable).

|  | Mod <br> el |  |  |  |  |  | Change Statistics |  |  |  | $\begin{gathered} \text { Durbi } \\ \text { n- } \\ \text { Watso } \\ \text { n } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | R | $\mathbf{R}^{\mathbf{2}}$ | Adjuste <br> d R ${ }^{2}$ | Std. <br> Error of the Estimate |  |  |  |  |  |  |
|  |  |  |  |  |  | R ${ }^{2}$ <br> Chan <br> ge | F <br> Chan <br> ge | df 1 | $\begin{gathered} \mathrm{df} \\ 2 \end{gathered}$ | Sig. F <br> Chan <br> ge |  |
| March, 2014 | 1 | .748a | 0.56 | 0.5 | 0.2 | -0.08 | 1.33 | 1 | 7 | 0.02 | 1.357 |
| November | 1 | $\begin{gathered} 0.854 \\ \mathrm{~b} \end{gathered}$ | 0.729 | 0.638 | 0.217 | 0.729 | 8.061 | 2 | 6 | 0.02 |  |
|  | 2 | 0.852 ${ }^{\text {c }}$ | 0.726 | 0.687 | 0.202 | -0.002 | 0.052 | 1 | 6 | 0.828 | 1.972 |

Table S2. Variables entered/removed from turbidity predictive models relying upon the regression method utilized for March and November 2014.

|  | Model | Variable <br> Entered | Variables <br> Removed | Method |
| :---: | :---: | :---: | :---: | :---: |
| March, 2014 | 1 | $\mathrm{~b} 2 / \mathrm{b} 4$ | Enter |  |
|  | 1 | $\mathrm{~b} 2 / \mathrm{b} 4, \mathrm{~b} 2 / \mathrm{b} 3$ |  | Enter |
| November, 2014 | 2 |  | Backward (criterion: <br> Probability of F-to-remove $\geq$ <br> $0.100)$ |  |

Table S3. Comparison of satellites retrieved and in-situ observed turbidities values at 9 sampling sites of Ramganga River in March and November 2014 with statistical analysis for squared residual, root mean square (RMSE).

| Stations | Observed Turbidity | Predicted Turbidity | Square Residual | RMSE |
| :--- | :---: | :---: | :---: | :---: |
|  | March (November) | March (November) | March (November) | March (November) |
| RG6 | $1.391(1.152)$ | $2.329(1.33)$ | $0.879(0.032)$ |  |
| RG7 | $1.721(0.949)$ | $2.731(0.876)$ | $1.02(0.005)$ |  |
| RG8 | $1.314(1.124)$ | $2.454(0.883)$ | $1.3(0.058)$ |  |
| RG9 | $1.88(1.88)$ | $2.917(0.939)$ | $1.075(0.062)$ | $1.013(0.178)$ |
| RG10 | $2.049(0.398)$ | $2.684(0.647)$ | $0.403(0.062)$ |  |
| RG11 | $2(0.362)$ | $2.82(0.406)$ | $0.672(0.002)$ |  |
| RG12 | $2.025(0.462)$ | $3.023(0.555)$ | $0.994(0.009)$ |  |
| RG13 | $1.461(0.505)$ | $2.76(0.337)$ | $1.687(0.028)$ |  |
| RG14 | $1.62(0.431)$ | $2.716(0.603)$ | $1.201(0.029)$ |  |

