CORRECTION

Correction to: Downscaling Images with Trends Using Multiple-Point Statistics Simulation: An Application to Digital Elevation Models

Luiz Gustavo Rasera[1] · **Mathieu Gravey**[1] ·
Stuart N. Lane[1] · **Gregoire Mariethoz**[1]

Correction to: Math Geosci
https://doi.org/10.1007/s11004-019-09818-4

The original version of this article unfortunately contained mistakes in Eqs. 9, 10, 12 and 13.

The correct versions are

$$D(d_V(\mathbf{u}_i), d_V^{(t)}(\mathbf{u})) = \left(\sum_{j=0}^{n_V} \lambda(\mathbf{h}_j) \left[r_V(\mathbf{u}_i + \mathbf{h}_j) - r_V^{(t)}(\mathbf{u} + \mathbf{h}_j) \right]^2 \right)^{1/2}, \qquad (9)$$

$$D(d_v(\mathbf{u}_i), d_v^{(t)}(\mathbf{u})) = \left(\sum_{j=1}^{n_v(\mathbf{u}_i)} \lambda(\mathbf{h}_j) \left[r_v^{(s)}(\mathbf{u}_i + \mathbf{h}_j) - r_v^{(t)}(\mathbf{u} + \mathbf{h}_j) \right]^2 \right)^{1/2}, \qquad (10)$$

$$\Pr\{\mathbf{R}_v(\mathbf{u}_i) = \mathbf{r}_v | \Omega_{i-1}\} \approx \Pr\{\mathbf{R}_v(\mathbf{u}_i) = \mathbf{r}_v^{(t)}(\mathbf{u}_k) | d_V(\mathbf{u}_i), d_v(\mathbf{u}_i)\}$$
$$\propto \Pr\{\mathbf{R}_v(\mathbf{u}_i) = \mathbf{r}_v^{(t)}(\mathbf{u}_k) | d_V(\mathbf{u}_i)\}^{1-\alpha_i} \cdot \Pr\{\mathbf{R}_v(\mathbf{u}_i) = \mathbf{r}_v^{(t)}(\mathbf{u}_k) | d_v(\mathbf{u}_i)\}^{\alpha_i}, \qquad (12)$$

$$\lambda(\mathbf{h}_j) = \frac{1}{2\pi\sigma^2\beta} \exp\left(-\frac{\|\mathbf{h}_j - \mathbf{h}_0\|_2^2}{2\sigma^2} \right). \qquad (13)$$

Please note that the correct versions of the equations were used in the computations, therefore, the results remain unchanged.

✉ Luiz Gustavo Rasera
luizgustavo.rasera@unil.ch

1 Institute of Earth Surface Dynamics, Faculty of Geosciences and Environment, University of Lausanne, 1015 Lausanne, Switzerland