Errata: Multivariable Spatial Prediction

Jay M. Ver Hoef and Noel Cressie

As a result of the authors not receiving page proofs, the following corrections should be noted (Ver Hoef and Cressie, 1993).

The current address for Jay M. Ver Hoef is: Alaska Department of Fish and Game, 1300 College Road, Fairbanks, Alaska 99701, and the current address for Noel Cressie is: Department of Statistics, Iowa State University, Ames, Iowa 50011.

p. 220, 2nd paragraph—the formula for $2\nu_{ij}(\mathbf{h})$ should read:

$$\begin{aligned} \dots (2) \text{Cov}[z_i(\mathbf{s} + \mathbf{h}) - z_i(\mathbf{s}), z_j(\mathbf{s} + \mathbf{h}) - z_j(\mathbf{s})] \\ \equiv 2\nu_{ij}(\mathbf{h}) \dots \end{aligned}$$

p. 223, just above Eq. (5), should read:

... subject to $\mathbf{b}'\mathbf{X} = \mathbf{w}'_i$, is ...

p. 224, just above Eq. (11), should read:

... $\mathbf{b}'_1\mathbf{1} = 1$ and $\mathbf{b}'_2\mathbf{1} = 0$...

p. 225, Eq. (13) should read:

$$\begin{pmatrix} \Gamma_{11} & \Gamma_{12} & \mathbf{X}_1 & \mathbf{0} \\ \Gamma_{21} & \Gamma_{22} & \mathbf{0} & \mathbf{X}_2 \\ \mathbf{X}'_1 & \mathbf{0}' & \mathbf{0} & \mathbf{0} \\ \mathbf{0}' & \mathbf{X}'_2 & \mathbf{0} & \mathbf{0} \end{pmatrix} \begin{pmatrix} \mathbf{a}_1 \\ \mathbf{a}_2 \\ \lambda_1 \\ \lambda_2 \end{pmatrix} = \begin{pmatrix} \gamma_{11} \\ \gamma_{21} \\ \mathbf{x}_1(\mathbf{s}_0) \\ \mathbf{0} \end{pmatrix};$$

or

$$\begin{pmatrix} \Gamma & \mathbf{X} \\ \mathbf{X}' & \mathbf{0} \end{pmatrix} \begin{pmatrix} \mathbf{a} \\ \lambda \end{pmatrix} = \begin{pmatrix} \gamma_1 \\ \mathbf{w}_1 \end{pmatrix} \quad (13)$$

p. 225, the last paragraph, should read:

... where $\mathbf{z}(\mathbf{s}_0) = [z_i(\mathbf{s}_0), \dots, z_j(\mathbf{s}_0)]'$ is an $r \times 1$ vector, ...

p. 226, Eq. (18) should read:

$$\mathbf{M}_A = \Sigma_0 - \mathbf{C}'\Sigma^{-1}\mathbf{C} + [\mathbf{X}(\mathbf{s}_0) - \mathbf{C}'\Sigma^{-1}\mathbf{X}](\mathbf{X}'\Sigma^{-1}\mathbf{X})^{-1}[\mathbf{X}(\mathbf{s}_0) - \mathbf{C}'\Sigma^{-1}\mathbf{X}]' \quad (18)$$

p. 228, the first paragraph, should read:

Let $\mathbf{F}_{ij}$ denote the $n \times n$ matrix with the k, l th element $f_{ij}(\mathbf{s}_k, \mathbf{s}_l)$; $k = 1, \dots, n$; $l = 1, \dots, n$; and let $\mathbf{f}_{ij}$ denote ...

p. 228, just below Eq. (23), should read:

$$\mathbf{F}_{00} \equiv \begin{pmatrix} f_{11}(\mathbf{s}_0, \mathbf{s}_0) & f_{12}(\mathbf{s}_0, \mathbf{s}_0) \\ f_{21}(\mathbf{s}_0, \mathbf{s}_0) & f_{22}(\mathbf{s}_0, \mathbf{s}_0) \end{pmatrix}$$

p. 231, in the second paragraph, it should read:

$\Pr[\hat{z}_i(\mathbf{s}_0) \in R_i; i = 1, \dots, m] \geq 1 - (\alpha_1 + \alpha_2 + \dots + \alpha_m)$,

p. 234, in the second paragraph, it should read:

$$C_{ij}^{(y)}(s_k, s_l) = C_{ij}^{(z)}(s_k - s_l) + \min(s_k, s_l),$$

p. 236, towards the end of **Result A1**, it should read:

... and,

$$\begin{aligned} \mathbf{M}_p - \mathbf{M}_q &= E\{(\mathbf{p} - E[\mathbf{z}_0|\mathbf{z}])(\mathbf{p} - E[\mathbf{z}_0|\mathbf{z}])'\} \\ &\quad - E\{(\mathbf{q} - E[\mathbf{z}_0|\mathbf{z}])(\mathbf{q} - E[\mathbf{z}_0|\mathbf{z}])'\}, \end{aligned}$$

p. 238, at the beginning of **Result A3**, it should read:

... where Σ , $\mathbf{C}$, $\mathbf{X}$, and $\mathbf{X}_0$ are defined below Eqs. (2) and (3). . .

p. 238, the second paragraph of **Result A3** should begin as:

(ii) Likewise, in terms of cross-variograms, $\mathbf{M}_B = -\mathbf{B}'\mathbf{T}\mathbf{B} + \mathbf{B}'\mathbf{G} + \mathbf{G}'\mathbf{B} - \mathbf{G}_0$, ...

p. 239, the matrix $\mathbf{U}$ should be defined as:

$\mathbf{U} \equiv$

$$\begin{pmatrix} \text{var}[z_1(\mathbf{s}_1)] & \dots & \text{var}[z_1(\mathbf{s}_n)] & \dots & \text{var}[z_m(\mathbf{s}_1)] & \dots & \text{var}[z_m(\mathbf{s}_n)] \\ \text{var}[z_1(\mathbf{s}_1)] & \dots & \text{var}[z_1(\mathbf{s}_n)] & \dots & \text{var}[z_m(\mathbf{s}_1)] & \dots & \text{var}[z_m(\mathbf{s}_n)] \\ \vdots & \ddots & \vdots & \ddots & \vdots & \ddots & \vdots \\ \text{var}[z_1(\mathbf{s}_1)] & \dots & \text{var}[z_1(\mathbf{s}_n)] & \dots & \text{var}[z_m(\mathbf{s}_1)] & \dots & \text{var}[z_m(\mathbf{s}_n)] \end{pmatrix}$$

Finally, note that these corrections do not change the main results or conclusions of this article.

REFERENCES

Ver Hoef, J. M., and Cressie, N., 1993, Multivariable Spatial Prediction: Math. Geol., v. 25, p. 219–240.

Jay M. Ver Hoef
Alaska Department of Fish and Game
1300 College Road
Fairbanks, AK 99701

Noel Cressie
Department of Statistics
Iowa State University
Ames, IA 50011