Mapping bathymetry

Errata

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Page 11 (Summary), paragraph 6
Reads: The recorded raw data consists of beam angles at the transducer \( \alpha \) and corresponding two-way travel times \( t \).

Should read: The recorded raw data consists of beam angles at the transducer \( \alpha \) and corresponding two-way travel times \( \Delta t \).

Page 14 (Summary), paragraph 5
Reads: The raw multibeam data consists of beam angles and corresponding two-way travel times \( t \) of the detections from each ping, as well as additional information needed to convert angles and ranges into the \((x_S, y_S, z_S)\) sounding triplets. This includes a sound speed profile \( c(z) \) through the water column as well as position \((x_T, y_T, z_T)\) and orientation \((\phi_T, \theta_T, \psi_T)\) of the transducers at the time of each ping.

Should read: The raw multibeam data consists of beam angles \( \alpha \) and corresponding two-way travel times \( \Delta t \) of the detections from each ping, as well as additional information needed to convert angles and ranges into the \((x_S, y_S, z_S)\) sounding triplets. This includes a sound speed profile \( c(z) \) through the water column as well as position \((x_T, y_T, z_T)\) and orientation \((\phi_T, \theta_T, \psi_T)\) of the transducers at the time of each ping.

Page 64 (Paper 2), paragraph 4
Reads: The resolution thus follows \( 2^n - 1 \) \( r \) for \( n = 1, 2, \ldots, N \).

Should read: The resolution thus follows \( 2^{n-1} r \) for \( n = 1, 2, \ldots, N \).
Page 64 (Paper 2), paragraph 7
Reads: ... processed to 100 m × 100 m grids and a 1000 m × 1000 m grid ...
Should read: ... processed to 100 m × 100 m grids and a 1000 m × 1000 m grid ...

Page 66 (Paper 2), paragraph 1
Reads: The 100 m × 100 m multibeam grids cover 13 % of the total area while the 1000 m × 1000 m multibeam grid covers 61 %.
Should read: The 100 m × 100 m multibeam grids cover 13 % of the total area while the 1000 m × 1000 m multibeam grid covers 61 %.

Page 66 (Paper 2), paragraph 3
Reads: ... tension factor as used for the stacked splines method, T = 0.32.
Should read: ... tension factor as used for the stacked splines method, T = 0.32.

Page 67 (Paper 2), Fig. 2.2c
Grid labels missing
Should be as in Figs. 2.2c,d–f

Page 69 (Paper 2), paragraph 2
Reads: In a log-log plot of the spectral density this corresponds to a line with slope 1. Smith (1993) showed that the spectrum of a bicubic spline surface, however, is bound by a power law represented by 4. The spectrum of a surface interpolated with bicubic splines is a combination of the two, with 4 dominating at wavelengths shorter than the typical spacing of the source data. Adding tension to spline interpolation increases the short wavelength proportion of the solution, resulting in 1 < β < 4 at short wavelengths.
Should read: In a log-log plot of the spectral density this corresponds to a line with slope β = 1. Smith (1993) showed that the spectrum of a bicubic spline surface, however, is bound by a power law represented by β = 4. The spectrum of a surface interpolated with bicubic splines is a combination of the two, with β = 4 dominating at wavelengths shorter than the typical spacing of the source data. Adding tension to spline interpolation increases the short wavelength proportion of the solution, resulting in 1 < β < 4 at short wavelengths.

Page 69 (Paper 2), paragraph 3
Reads: ... intersection of the two lines for 1 and 4 ...
Should read: ... intersection of the two lines for β = 1 and β = 4 ...