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	Sommario/riassunto	This open access book provides insights into the novel Locally Refined B-spline (LR B-spline) surface format, which is suited for representing terrain and seabed data in a compact way. It provides an alternative to the well know raster and triangulated surface representations. An LR B-spline surface has an overall smooth behavior and allows the modeling of local details with only a limited growth in data volume. In regions where many data points belong to the same smooth area, LR B-splines allow a very lean representation of the shape by locally adapting the resolution of the spline space to the size and local shape variations of the region. The iterative method can be modified to improve the accuracy in particular domains of a point cloud. The use of statistical information criterion can help determining the optimal threshold, the number of iterations to perform as well as some parameters of the underlying mathematical functions (degree of the splines, parameter representation). The resulting surfaces are well suited for analysis and computing secondary information such as contour curves and minimum and maximum points. Also deformation analysis are potential