



Figure DR1. Example of box-counting method used to determine fractal dimensions of geologic patterns on a 10 km square grid. **(A)** Comparison of two 20 km grid squares (centered on 10 km grid points) from the Yilgarn GIS map (Knox-Robinson et al., 1996), with typical greenstone belt contacts at left and an arcuate granitoid-greenstone contact at right. **(B)** Results of box counting method. Examples of the different box sizes are shown in the right-hand square. The number in the “Box Count” column equals the number of boxes of a particular size, within which a line occurs. In (A), these are shown in grey with examples of each box size. **(C)** The fractal dimension is obtained from the slope of a line on a log-log plot of box count vs box size. The relatively simple granitoid-greenstone map pattern (right-hand side) has a fractal dimension of 1.24 and the fit of the line measured by $R^2=0.9990$. The more complex greenstone belt map pattern (left-hand side) has a higher fractal dimension of 1.83 and $R^2=0.9976$.