

A neural network based system, method, and process for the automated delineation of spatially dependent objects is disclosed. The method is applicable to objects such as hydrocarbon accumulations, aeromagnetic profiles, astronomical clusters, weather clusters, objects from radar, sonar, seismic and infrared returns, etc. One of the novelties in the present invention is that the method can be utilized whether or not known data is available to provide traditional training sets. The output consists of a classification of the input data into clearly delineated accumulations, clusters, objects, etc. that have various types and properties. A preferred but non-exclusive application of the present invention is the automated delineation of hydrocarbon accumulations and sub-regions within the accumulations with various properties, in an oil and gas field, prior to the commencement of drilling operations.

