Interpolation for Fishery Habitat

- The goal is interpolation is to generate the most accurate surface using sample point data as input and to characterize the error and variability of the predicted surface.
- The options include deterministic methods (inverse weighted distance, global polynomial, local polynomial, and radial bias functions.
- Kriging has both deterministic and statistical functionality.
- Unlike the deterministic methods, geostatistics assumes that all values are a result of a random process with dependence.
- It is important before any interpolation to explore your data to gain a better understanding of the data, to look for obvious errors in the input sample that may drastically affect the output prediction surface, to examine how the data is distributed, and to look for global trends.
- After an interpolation is done, it is important to perform cross validation. The purpose is to help you make an informed decision about which model provides the most accurate predictions. An accurate model will have:
    - An accurate model will have:
    - Mean error should be close to 0
    - The root mean square error and average standard error should be as small as possible
    - The root mean squared standardized error should be close to 1

Student Notes:

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