



Choosing Methods

This guidance provides information about [selecting a geospatial method](#). The following flow charts provide more detailed information about choosing a geospatial method. Follow the steps below to choose the geospatial methods that may be appropriate to conduct the geospatial analysis:

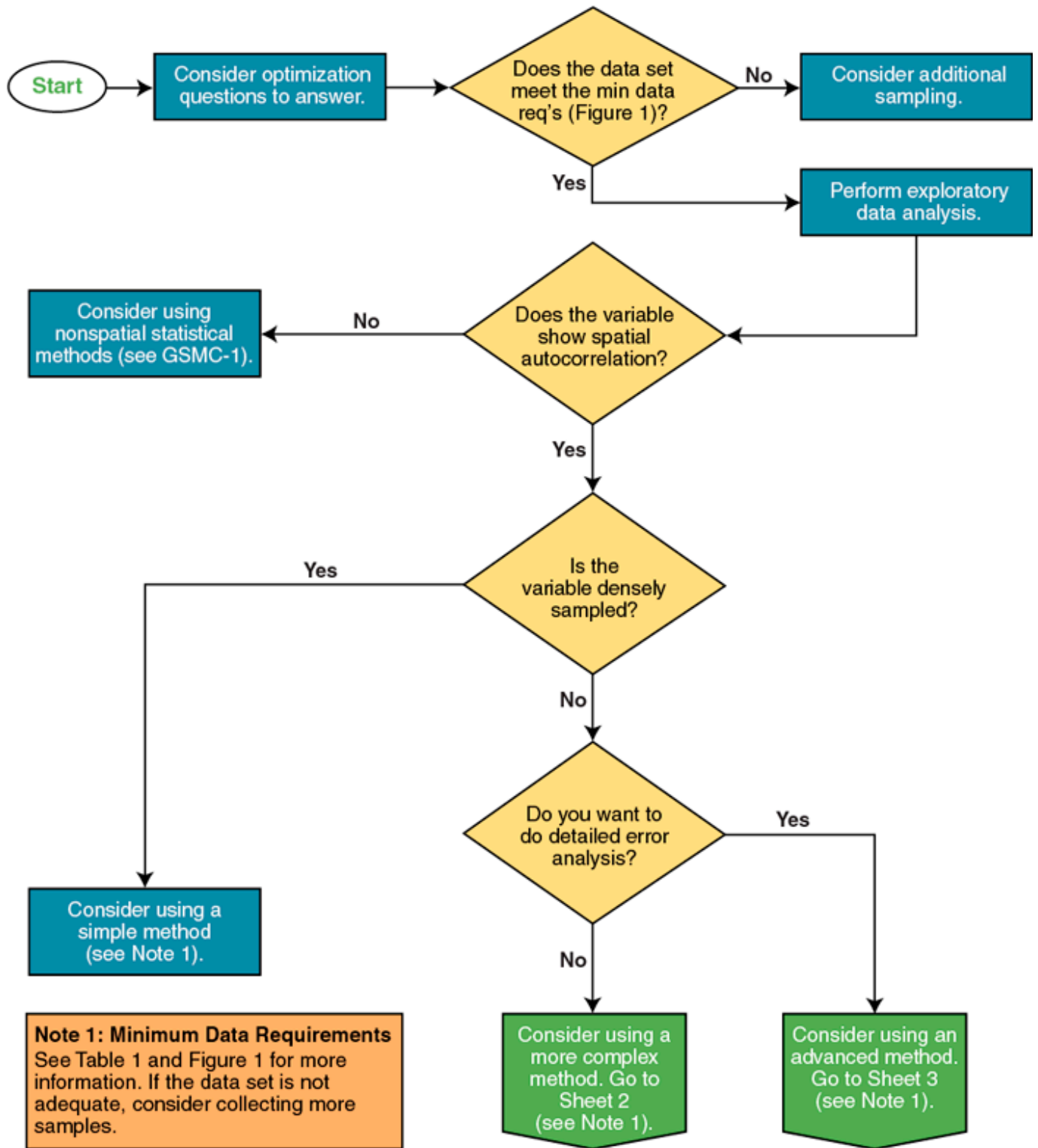
Step 1. What questions are you trying to answer for each phase in the project life cycle? See [Geospatial Methods for Optimization Questions in the Project Life Cycle Stages](#).

Step 2. Do you have the minimum data required in order to use geospatial methods? See [Table 1](#) and [Figure 1](#).

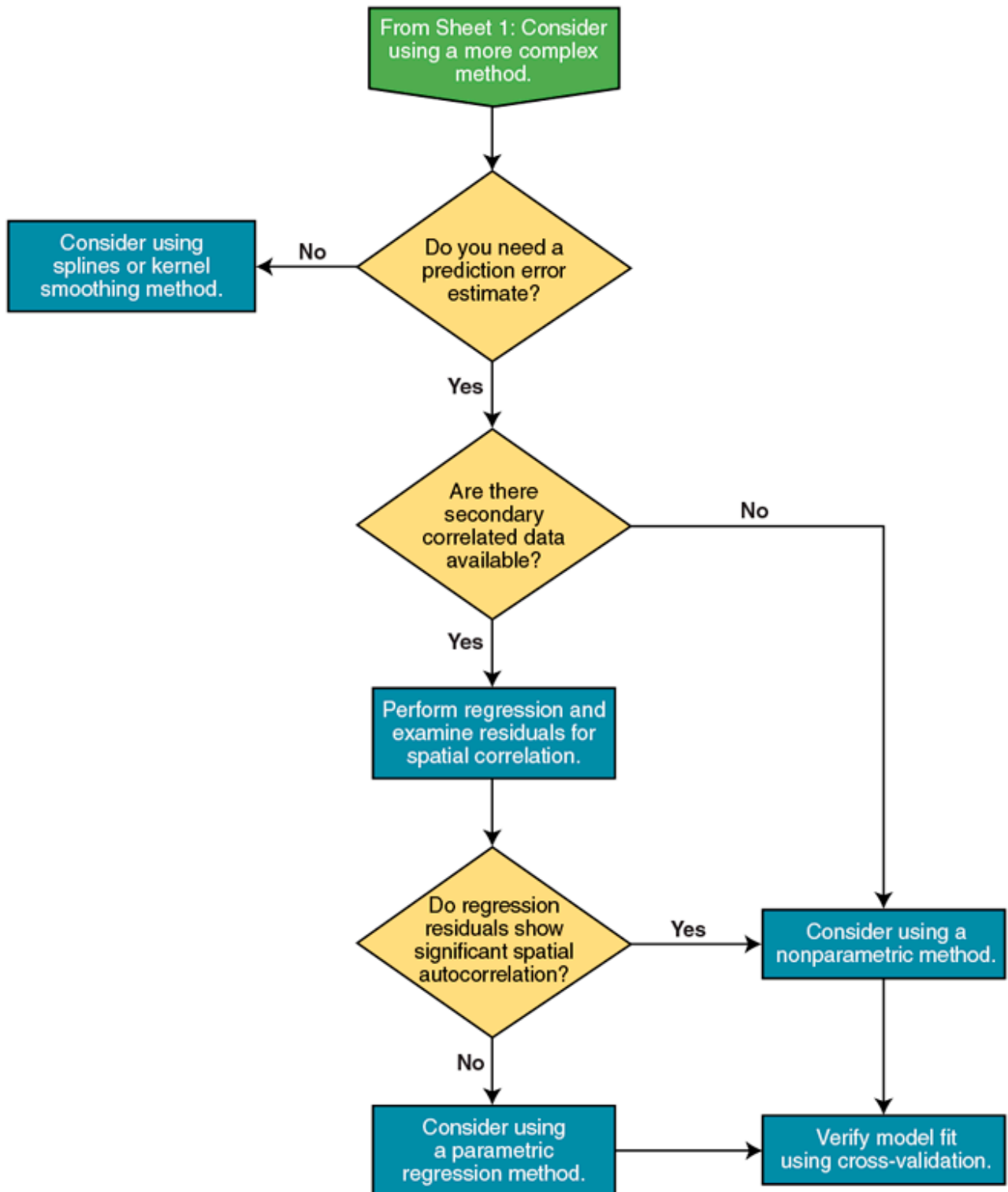
Step 3: [Perform exploratory data analysis](#).

Step 4. Use the flow charts below to determine if simple, more complex, or advanced methods are suitable for the geospatial analysis.

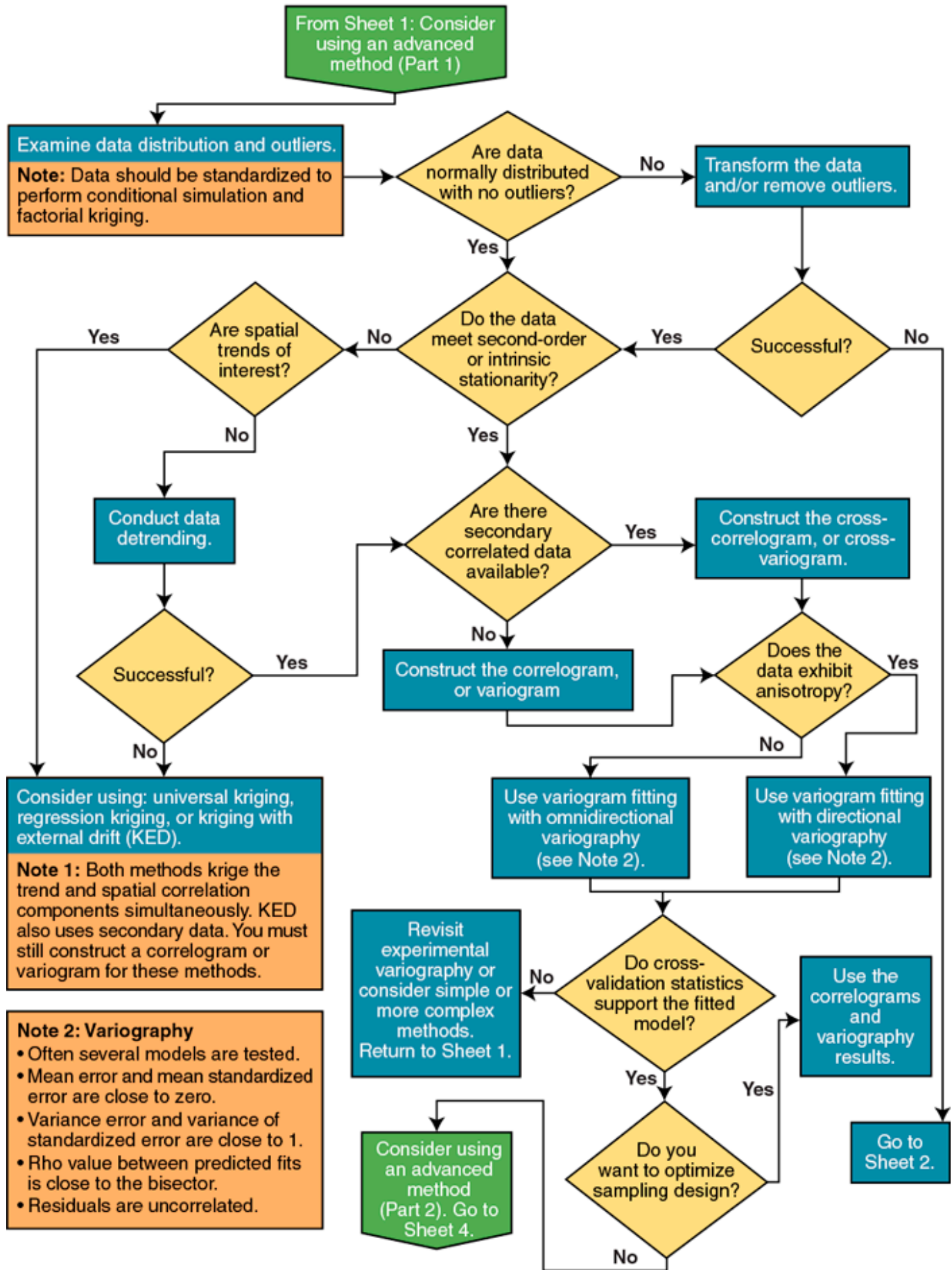
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Sheet 3 of 4 — Selecting a Geospatial Method



Examine data distribution and outliers.
Note: Data should be standardized to perform conditional simulation and factorial kriging.

Consider using: universal kriging, regression kriging, or kriging with external drift (KED).
Note 1: Both methods kriging the trend and spatial correlation components simultaneously. KED also uses secondary data. You must still construct a correlogram or variogram for these methods.

Note 2: Variography

- Often several models are tested.
- Mean error and mean standardized error are close to zero.
- Variance error and variance of standardized error are close to 1.
- Rho value between predicted fits is close to the bisector.
- Residuals are uncorrelated.

From Sheet 1: Consider using an advanced method (Part 1)

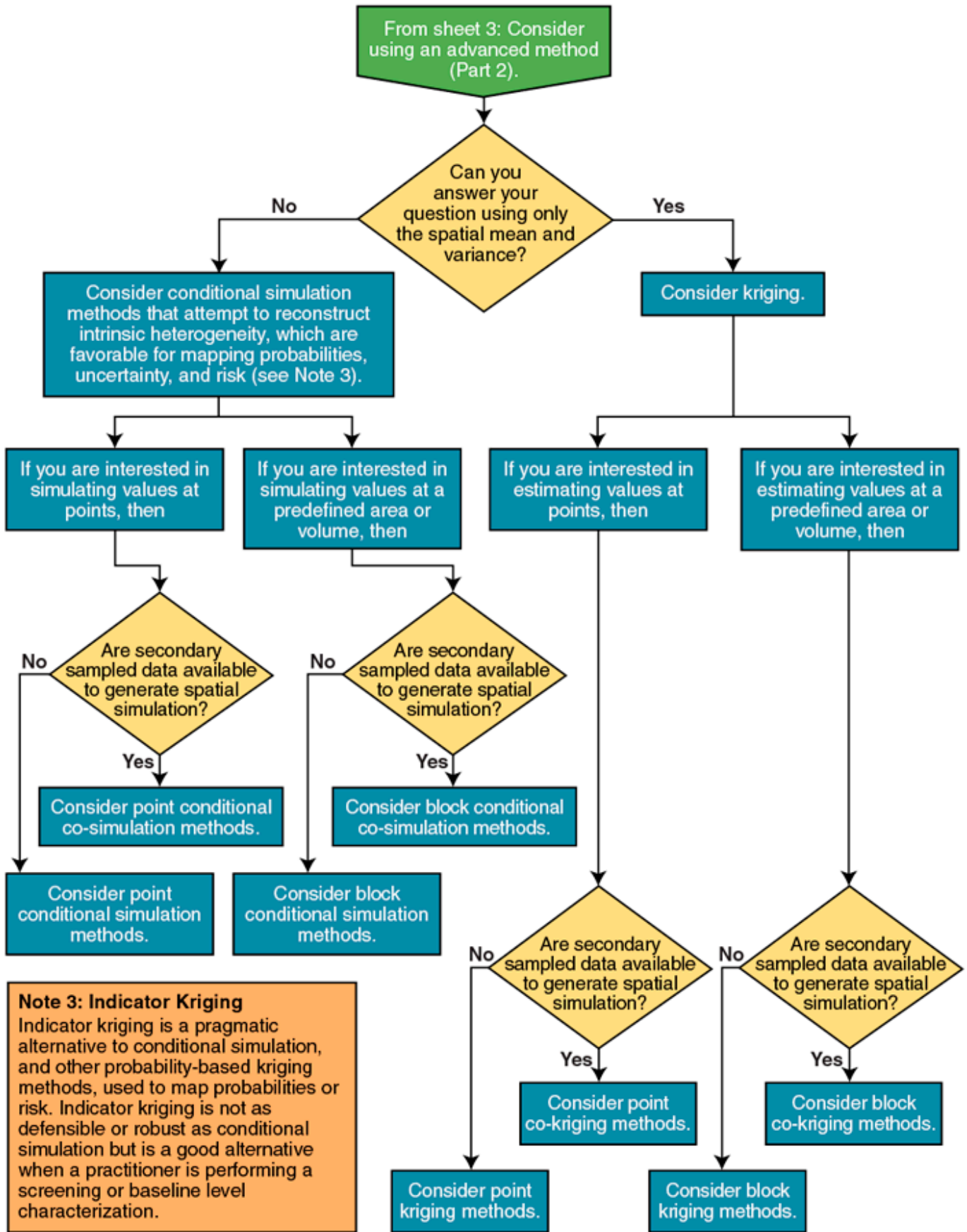
Revisit experimental variography or consider simple or more complex methods. Return to Sheet 1.

Consider using an advanced method (Part 2). Go to Sheet 4.

Use the correlograms and variography results.

Go to Sheet 2.

Sheet 4 of 4 — Selecting a Geospatial Method



Note 3: Indicator Kriging
Indicator kriging is a pragmatic alternative to conditional simulation, and other probability-based kriging methods, used to map probabilities or risk. Indicator kriging is not as defensible or robust as conditional simulation but is a good alternative when a practitioner is performing a screening or baseline level characterization.