ITRC Technical Session

Geostatistics for Remediation Optimization

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Challenges in Using Geostatistical Approaches

- When is it advantageous to use geostatistical methods to understand site data?
- How will the results of the geostatistical methods help the user to make optimization decisions?
- What are the purposes and limitations of geostatistical methods?
- How does the user check the results and what should the user check for?
- How does the user judge data adequacy and convey confidence in the data?
- How does the user present data in graphics effectively and fairly?
- How can the geostatistical methods and results be explained to stakeholders?

Purpose of the Session

- Understand the technical focus of the current GRO project
- Interact and provide feedback on challenges and solutions being explored by the GRO Team
- Identify Implementation opportunities early

GRO Overview

PROBLEM

- Educational barrier for project managers who have not had experience with geostatistical methods for optimization
- Geostatistical methods can be used to address needs and questions for optimization during the life cycle of cleanup projects
- Optimization has challenges that geostatistical data evaluations can help solve

APPLICABLE REGULATORY PROGRAMS

- Any regulatory program that uses optimization techniques to improve performance of cleanup project life cycle stages
- Application soil, groundwater and sediment cleanup projects for different sizes and types of sites

DRAFT TEAM SOLUTIONS

- Provide information and education for the use of geostatistical methods and tools
- Reference and use existing optimization documents and GSMC-1 (Groundwater Statistics)
- User-friendly and easily accessible format
- Provide information in levels of detail
- Identify key methods and software tools that will be useful to practitioners

OPEN ISSUES

- Methods to include
- Level of technical detail
- Best techniques to explain how to use the results

Problem Statement

- Educational barrier for project managers who have not had experience with geostatistical methods for optimization
- Geostatistical approaches can be used to address needs and questions for optimization during the life cycle of cleanup projects
- Optimization has challenges that geostatistical data evaluations can help solve

Applicable Regulatory Programs

- Any regulatory program that uses optimization techniques to improve performance of cleanup project life cycle stages
- Application to soil, groundwater and sediment cleanup projects for different sizes and types of sites

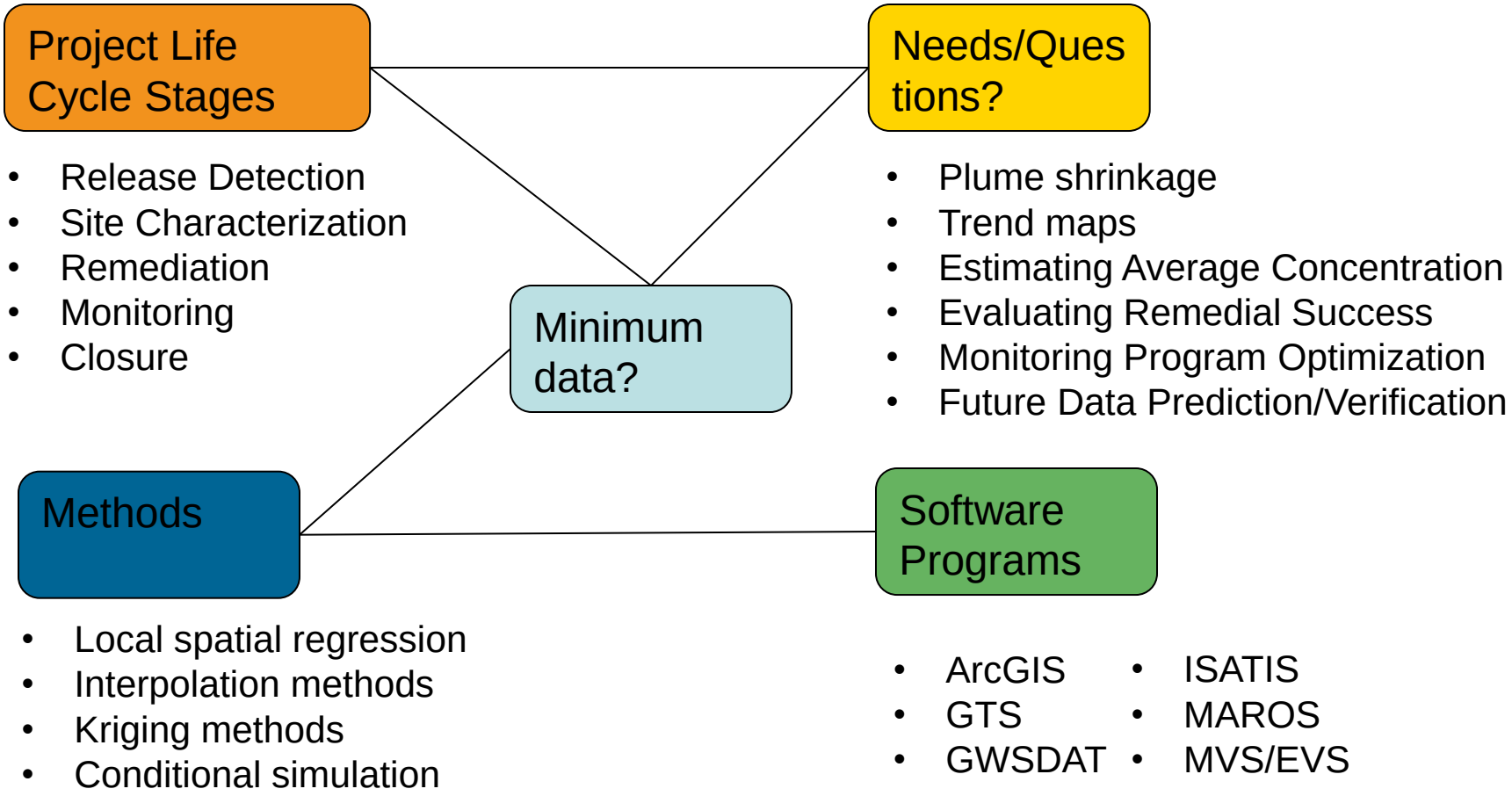
Project Description/Solution

- Web-based guidance document
  - Provide information and education for the use of geostatistical methods and tools
  - Reference and use existing optimization documents and GSMC-1 (Groundwater Statistics)
  - Geostatistical methods provide a way of looking at the data that are already collected at sites (as well as supplemental data)
- User-friendly and easily accessible format
- Provide information in levels of detail
- Identify key methods and software tools that will be useful to practitioners

Document Organization

- Fact sheet level information
  - Can geostatistics help me to make better decisions?
  - Fact Sheet #1 – What can geostatistics do during optimization?
  - Fact Sheet #2 – Do the site conditions warrant the use of geostatistics?
  - Fact sheet # 3 – What are the typical geostatistical approaches?
  - Fact Sheet #4 – What are the typical software tools?

Document Connections with Example Items



Open Issues / Questions for Group

- Do you have examples of use of geostatistical approaches for optimization?
- Do you have questions about potential misapplications?
- What information would be useful in a review checklist?
- What kinds of details would you like to see in the method write-ups?
- Do you have sites that you think would benefit from using geostatistical approaches for optimization?