Tutorial Set 2: Data interpolation

Exercise Site20_2-2 Interpolating crop yield data

Learning objective:Generating yield variability maps: corn, soybean, and wheatTechniques:Geostatistical Analyst – Inverse Distance WeightingData Source:Dataset2

Part 1: Generating crop yield maps using the Geostatistical Method – Inverse Distance Weight

- 1. Open previously saved project.
- 2. In **Geostatistical Wizard**, select **Inverse Distance Weighting** from Deterministic methods.
- 3. Source Dataset: *Field20_Corn_2006.*
- 4. Data Field: YieldMAS.
- 5. Click Next.
- 6. In Handling Coincidental Samples, choose Use Mean, click OK.

Geostatistical wizard - step 1 o	f1	
Methods	Input Data	
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○ <u>R</u> emove all		an interpolated surface. However, there is no
🔘 Use Mi <u>n</u> imum		
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O Include all		Next > Finish Cancel
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session.	and a second second	
	OK Cancel	

- 7. In **Geostatistical Wizard Inverse Distance Weighting –** Step 2 of 3, set **Neighbourhood** type to "**Smooth**".
- 8. Click on **Finish**. A temporal interpolated 2006 Corn Yield map is added to **Table of Contents** in ArcMap.



- 9. Permanently save this Yield map by right clicking on the Inverse Distance Weighting layer
 > Data > Export to Raster.
- 10. Store this map as "**Corn06**" in the folder Dataset2.
- 11. Once done, right click on **Inverse Distance Weighting** (Predicted Map) layer and then remove it from **Table of Contents**.
- 12. Repeat steps 1 to 11 to generate other yield maps using datasets *Field20_Corn_2009*, *Field20_Soybean_2007*, *Field20_Soybean_2010*, and *Field20_Wheat_2008*.
- 13. Browse through Dataset2 folder in ArcCatalog. There should be five new rasters: *Corn06*, *Corn09*, *Soybean07*, *Soybean10*, and *Wheat08*. Drag and drop them to **Table of Contents** under the group "Yield Interpolation" in ArcMap.



14. Results of the five interpolated crop yield maps (unit: ton/ha)

Corn Yield 2009



Corn Yield 2006



Wheat 2008

15. Save the project.



Soybean Yield 2007



Soybean Yield 2010