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## SETTING UP A SYNTHETIC MODEL WITH APPROPRIATE DIMENSIONS/ DISTANCES



## Example: Hubertville Pumping Impact Problem.

1. Go to Synthetic Case Area:



2. Lock and then Unlock geometry to alter domain rectangle geometry; click once inside the domain rectangle and answer yes to 'prompts' to show distances while editing.

+ Conceptual	
Model Tools	
+ Simulation	
+ Analysis Tools	
<ul> <li>Other</li> <li>Tools</li> </ul>	
SaveModel	
LoadModel	
HideOverlay	Q
ResetModel	
Utilities	×
Help	This site says
	Show distance when editing, 'OK' to continue.
HSA Inc	
	Don't let this page create more messages
	OK Cancel
	J

3. Make the domain polygon a little larger than what is needed, as you need to include the swamp feature and river feature *inside* the model domain.



4. Add the swamp as a zone feature in the bottom ~600m of the model domain (the same distance that we extended the model domain beyond 10,000m). First add the zone and 'SaveShape':

<del>ں</del>	Current vertex #2 Lat and Lng: 7.956523, -168.031328distance: d01= 10609.89 m (34809.35ft), d03= 4509.33 m (14794.39ft),	d21= 4508.27 m (14790.91ft),d23= 10609.89 m (34809.35ft)
Search	7.962081-167.990822 Man Tyme TERRAIN Zoom Level 13 Geol aver Name: Laver1 Geoladex	1
	Property Property Head Dependent Prescribed This Zone This Zone	
<ul> <li>Conceptual Model Tools</li> </ul>	Flow properties	
DrawDomain	Hydraulic Conductivity	
DomainAttr	Conductivity Random	
Wells	Constant: 22.86 m/day      Scattered Points     LabmdaX: 20 m	
Lines	O Borehole Simulation LabmdaY 20 m V	
Zones	Kxx/Kyy: 1	
Layer		
SaveShape	Storage	
+ Simulation Tools	Specific Yield     Constant: 0.1     Scattered Points     Constant: 0.00001 1/m	
+ Analysis		
	Porosity	
<ul> <li>Other Tools</li> <li>SaveModel</li> </ul>	Effective Porosity     Constant 0.3     Scattered Points	
LoadModel	Zone Types 💦	
HideOverlay	Zone Type: O Inactive  Active PolygonOnly Zone Name: GMPolygon 0	
ResetModel	Zone Budget Submodel Domain Zone Boundary Included	
Utilities	Save	
Help ]	Carto Canton	
HSA Inc		

Then use 'Zones' > 'ZoneAtt' to edit the zone; answer yes to 'prompts' to show distances while editing:

<b>9</b>	Current vertex #1 Lat and Lng: 7.962421, -168.030905distance: d01= 605.60 m (1986.88ft),d03= 4437.92 m (14560.10ft),d21=	4437.98 m (14560.30ft),d23= 605.60 m (1986.88ft)
Search	7.962081-167.990822 Man Tyme TERRAIN Zoom Level 13 Geol aver Name: Laver1 Geolndey	1
	Flow Elevation Iransport Biochemical Sources and Sinks Sources and Sinks Copy Delete X Property Property Head Dependent Prescribed This Zone This Zone	
<ul> <li>Conceptual Model Tools</li> </ul>	Prescribed Sources and Sinks	
DrawDomain	Recharge-Quantity & Quality	
DomainAttr	Constant 0 inch/year      Transient	
Vells	Conc: 0 ppm V Transient	
Z	Prescribed Head	
ZonePoly	Constant: 1000 m      Transient     TopE - 0 m	
Zone from	a File O Scattered Points	
+ Sin Zone from	a shapefile Source Concentration	
Zone=DM	Transient	
+ An Paste		
Hide Zones	O Scattered Points	
- Othe	mber of zones= 1	
SaveModel Cli	ck inside or at a node of an 1 Points	
LoadModel from	bute zone or select a zone	
HideOverlay C1	ick 'AcceptEdit' to close this	vtx#0 vtx#3 d01= 605.60 m (1986.88ft) d03= 4437.92 m (14560.10ft)
ResetMode	dow.	d21= 4437.98 m (14560.30ft) d23= 605.60 m (1986.88ft)
Utilities	ie: #0  GMPolygon_0 V	
Help		
HSA Inc		

5. Use another zone feature to measure out the correct distance/location of the pumping well. First add a zone, stretching from the bottom right corner to the approximate location of the pumping well. Click 'SaveShape' to finalize the initial shape of the new zone:

ŋ	Current vertex #1 Lat and Lng: 7.962421, -168.030905distance: d01= 605.60 m (1986.88ft),d03= 4437.92 m (14560.10ft),d2	1= 4437.98 m (14560.30ft),d23= 605.60 m (1986.88ft)
Search 8.	038306 - 168 01 1621 Man Tune   TERRAIN V Zoom I evel 13 V GeoI aver Name:   aver 1 V GeoIndex	1
	Flow Elevation Transport Biochemical Sources and Sinks Sources and Sinks Copy Delete Property Property Head Dependent Prescribed This Zone This Zone	
<ul> <li>Conceptual</li> <li>Model Tools</li> </ul>	Flow properties	
	riow properties	
DrawDomain	Hydraulic Conductivity	
DomainAttr	Conductivity Random	
Wells	Constant: 22.86 m/day ✓ Seed: 318303	
Lines	O Scattered Points LabmdaX: 20 m ✓ O Borehole Simulation LabmdaY: 20 m ✓	
2	Kxx/Kyy: 1 Variance: 0.1 m2 V	
ZoneRect	Kxx/Kzz: 10	
ZonePoly	Storage	
Zone from a Fi	le	
+ Sin Zone from a sh	apefile Specific Yield O Scattered Points	
Zone=DM	● Constant: 0.00001 1/m ✓	
+ An Paste	Specific Storage O Scattered Points	
Hide Zones	Porosity ?	
- Othe	Constant: 0.3	
Tot Help	Effective Porosity O Scattered Points	
LoadModel	Zone Types ?	
HideOverlay		
ResetModel	Zone Budget Submodel Domain Zone Boundary Included	
Utilities		
Holp	Save Cancel	
HSA Inc		

Then use 'Zones' > 'ZoneAtt' to edit the newly created zone; answer yes to 'prompts' to show distances while editing:

Ourrent vertex #3 Lat and Lng: 8.038646, -168.011106distance: d01= 8496.54 m (27875.79ft),d03= 2251.66 m (7387.34ft),d	21= 2252.08 m (7388.71ft),d23= 8496.54 m (27875.79ft)
Search 8038306-158011621 Man Tyre TERRAIN Zoom Level 13 Ceol aver Name Lever 1 Ceoloder Flow Elevation Transport Biochemical Sources and Sinks Sources and Sinks Cogy Delete X	1
Conceptual Model Tools     Froperty Property Head Dependent Prescribed This Zone This Zone     This Zone This Zone     This Zone This Zone     This Zone This Zone	
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DomainAttr Conductivity Random	d01= 8496.54 m (27875b03≑ 2251.66 m (7387.34ft)
Weils         © Constant: 22.86         m/day ∨         Seed: [318303]           Libres         O Scattered Points         LabmdaX [20         m ∨	
Z ZoneRect Kxx: Kxy: 1 Variance: 0.1 m2 V	
ZonePoly Sew Storage ?	
Zone from a Fue     Sec from a shapefile     Specific Yield     Specific Yield     Specific Storage     Specific Storage     Specific Storage     Specific Storage	
To Hide Zones Porosity ?	
Accep × isty Constant 0.3 Southered Points	
LoadMode from the list Zone Types	
HideOverlag Cick 'AcceptEdit' to close this active   Active  PolygonOnly  Zone Name: GMPolygon_1  Cick 'AcceptEdit' to close this window:  Construction  Construction	d21= 2252.08 m (7388.122= 8496.54 m (27875.79ft)
Utilities Cancel	
Help	
HSA Inc	

- 6. Add a pumping well at the top-left corner of the newly updated rectangle. Remove this zone after the well is added if you wish by selecting 'Delete This Zone'
- 7. Then add the river as a line feature just inside the top (northern) model boundary.