Computer lab setup instructions

- Please run through these on your lab machine
- If you have any questions, please stop and ask
- These may not work exactly as written on your own laptop. Please set up your lab machine first then try to adjust the steps for your own laptop.
- We are not going to give instructions that are this explicit again. We expect everyone has basic competence with ArcGIS and R. But we wanted to make sure everyone gets started in exactly the same way.

1. Click start button, type ArcCatalog, press Enter

Programs (1)	
ArcCatalog 10.3.1	
Documents (8) CNTRY04.shp.xml Ocean_background.shp.xml	ArcCatalog is us designs, and for
World Time Zones.shp.xml World Clime Zones.shp.xml	
WorldMap.jpg.xml	
SEWER_ManHoles.shp.xml	
₽ See more results	
arccatalog ×	Restart 🕨
📀 🤶 📋 🔽	

2. Right-click Folder Connections, click Connect To Folder

ArcCatalog - Folder Connections	the second second
File Edit View Go Geoprocessing Customize Windows Help	
👍 🖴 📾 🕐 💼 🗙 🎛 🇱 🧱 🎛 Q 📮 🥃 💽 🐎 🜉 🤍 🔍 🕸	🖱 🙆 🖛 🏓 🕕 🛯 🔡 💂
Folder Connections	▼ ,
	-
atalog Tree	
Folder Connection	Type
Connect To Folder	1,12
Database Connections Connect To Folder	
GIS Servers Connect to a folder or disk drive	Connect To Folder
My Hosted Services so you can work with its contents in the Catalog.	Choose the folder to which you want to connect:
	Desiten
	DEL Guest
3. Open computer and select	⊿ 🖳 Computer
	⊿ 🚰 Local Disk (C:)
Local Disk (C:). Click OK.	▶ 🁪 BASINS41
	Crystalreportviewers12
	J FVSbin
	▶ 🎍 FVSData
	Installs
	Eolder: C:\
	Make New Folder OK Cancel

4. Once again, right-click Folder Connections, click Connect To Folder

Make New Folder

OK

х

=

Cancel

ArcCatalog - Folder Connections	1 10000100		-		ALL DATE OF LESS OF LESS
File Edit View Go Geoproces	sing Customize	Windows	Help		
16 🖴 🛛 🔿 💣 🖻 🗙 🎛 🏥	🏢 🧕 📰	🗟 🔯	þ • ₌	0, 0,	. 🖑 🕥 🗢 🔶 🕜 🕾 💂
Folder Connections					-
Catalog Tree	Ψ×	Contents F	Preview	Descriptio	on
Folder Connectio	ct To Folder	Name			Туре
🗄 🚰 C. (🗄 🍒 Toolboxes 🖉 Refresh	E5	80			Folder Connection
🗄 🗊 Database Servers	Connect To Folde	r			
Database Connections GIS Servers My Hosted Services	Connect to a fol so you can work in the Catalon	der or disk d with its cont	rive tents	ſ	Connect To Folder
⊞	in the catalog.				Choose the folder to which you want to connect:
5. Now Docum My Doc	open Li ents, ar cuments	ibrari nd sel s. Clic	es, lect ck O	θK.	 Desktop Desktop Documents Documents My Documents Public Documents Music Pictures Pictures DEL Guest Computer
					Eolder: C:\Users\del-guest\Documents

6. Now click Customize, Extensions



7. Now click Customize, Extensions, turn on the Spatial Analyst, click Close

Extensions
Select the extensions you want to use.
3D Analyst ArcPad Data Manager Geostatistical Analyst Network Analyst Publisher Schematics ✓ Spatial Analyst Tracking Analyst
Description: 3D Analyst 10.3.1 Copyright ©1999-2015 Esri Inc. All Rights Reserved Provides tools for surface modeling and 3D visualization.
Close

8. Click the ArcToolbox button. The ArcToolbox window opens.



Spatial Analyst Tools

Spatial Statistics Tools

Tracking Analyst Tools

+

+

+

9. Right click the ArcToolbox node and select Add ArcToolbox...



10. Navigate to C:\Program Files\GeoEco\ArcToolbox. Select Marine Geospatial Ecology Tools.tbx. Click Open.

Add Toolbox	x
Look in: 🛅	ArcGISToolbox 🔹 🚖 🔛 🛫 🔁 🖾 🖄 🚳 🌍
Scripts	repatial Ecology Tools the
	Ispatial Ecology Tools.tbx
Name:	Marine Geospatial Ecology Tools.tbx Open
Show of type:	Toolboxes Cancel

The MGET toolbox appears in the ArcToolbox window.

If you like, close or dock this window so it is not in the way.

ArcToolbox	□ ×
🚳 ArcToolbox	
🕀 🚳 3D Analyst Tools	
🕀 🚳 Analysis Tools	
🗄 🚳 Cartography Tools	
🗄 🌍 Conversion Tools	
🗄 🌍 Data Interoperability Tools	
🗄 🚳 Data Management Tools	
🕀 🚳 Editing Tools	
🕀 😂 Geocoding Tools	
🗄 🚳 Geostatistical Analyst Tools	
🕀 🚳 Linear Referencing Tools	
🕀 🚳 Marine Geospatial Ecology Tools 0.8a60	
🗄 🚳 Multidimension Tools	
🗄 🚳 Network Analyst Tools	
🗄 🚳 Parcel Fabric Tools	
🗄 🚳 Schematics Tools	
🗄 🚳 Server Tools	
🗄 🌍 Space Time Pattern Mining Tools	
🗉 🜍 Spatial Analyst Tools	
🕀 😋 Spatial Statistics Tools	
🗄 🖏 Tracking Analyst Tools	

11. Close ArcCatalog

12. Click start button, type RStudio, press Enter



13. RStudio comes up



We need to fix this problem \rightarrow

14. Click Tools, Global Options...



15. If the R version ends with R-3.1.0, click Change



16. Select Choose a specific version of R. Select [64-bit] C:\Program Files\R\R-3.2.1. Click OK.

Choose R Installation						
RStudio requires an existing installation of R in order to work. Please select the version of R to use.						
O Use your machine's default version of R64 (64-bit)						
Use your machine's default version of R (32-bit)						
Ohoose a specific version of R:						
[64-bit] C:\Program Files\R\R-3.2.1						
[32-bit] C:\Program Files\R\R-3.2.1						
[64-bit] C:\Program Files\R\R-3.1.0						
[32-bit] C:\Program Files\R\R-3.1.0						
[04-bit] C:\PROGRA~1\R\R-31~1.0						
Browse						
OK Cancel						

17. You should get this:



If you DO, click OK twice. Close RStudio.

If you DO NOT, look for it as a hidden pop under window on the Windows Task Bar next to RStudio and carry on as above.

If you still don't find it, ask for help!

18. Start up your web browser. Go to:

http://duke.box.com/DSMWorkshop

19. Click download for Exercise.zip



20. The download may take a long time. When it is done, move the file to the My Documents folder.

21. Do steps 19-20 for the files Exercise_completed.zip and Exercise_solutions.zip. The My Documents folder should look like:

22. The My Documents folder should look similar to this:

Coo V I > DEL Gues	t 🕨 My Documents 🕨		
<u>File Edit View T</u> ools	<u>H</u> elp		
Organize 🔻 Include in	library 🔻 Share with 👻 Burn	New folder	
📃 Desktop 🔺	Name	Date modified	Туре
🚺 Downloads 🗐 Recent Places	ArcGIS Custom Office Templates	10/26/2015 12:57 10/26/2015 6:00 PM	File folder File folder
 ▲ □ Libraries ▲ □ Documents ▶ □ My Documents ▶ □ Public Docume ▶ □ Music = 	 Rhistory APToolsLog.txt Exercise.zip Exercise_completed.zip Exercise_solutions.zip 	10/26/2015 6:31 PM 10/26/2015 5:47 PM 10/26/2015 6:54 PM 10/26/2015 6:54 PM 10/26/2015 6:54 PM	RHISTORY File Text Document Compressed (zipp Compressed (zipp
Pictures Videos			

23. On each of the three ZIP files, right click, select 7-Zip, and Extract Here:

	→ - DEL Guest ► N	My Documents			-	▼ to Search	My Documents	• • × •
File	Edit View Tools Help	1						
Org	ganize 🔻 🛛 😭 Open 🔻	Share with 🔻 E-mail Burn	New folder				8== 👻	
	💶 Desktop 🔷 Na	ime	Date modified	Туре	Size			
	🐌 Downloads 👘 👔	ArcGIS	10/26/2015 12:57	File folder				
1	🖳 Recent Places	Custom Office Templates	10/26/2015 6:00 PM	File folder				
		.Rhistory	10/26/2015 6:31 PM	RHISTORY File	0 KB			
	Documents	APToolsLog.txt	10/26/2015 5:47 PM	Text Document	1 KB			
		Exercise.zip	10/26/2015 6:54 PM	Compressed (zipp	589,235 KB			
Open		Exercise_completed.zip	10/26/2015 6:54 PM	Compressed (zipp	589,235 KB			
Open in r	new window	Exercise_solutions.zip	10/26/2015 6:54 PM	Compressed (zipp	589,235 KB			
Extract Al	All							
Scan for V	Viruses							
Open archive 7-Zip	•							
Extract files 📔 Edit with	n Notepad++							
Extract Here Open with	ith							
Extract to "Exercise\" Share with	ith 🕨							
Test archive Restore p	previous versions							
Add to archive Send to	•							
Compress and email								
Add to Exercise./z Cut								
Compress to Exercise.72 and emain Copy								
Create sh	hortcut							
Delete								
Rename		Date modified: 10/26/2015 6:54 PM	Date created: 10/2	/2015 10·39 AM				
Properties	es d)	Folder Size: 575 MB	Date created, 10/20	, 2013 10:33 AM				

24. Start RStudio. Click on the blue word Exercise.



25. RStudio changes into the Exercises directory. Click More, select Set As Working Directory.



26. RStudio executes setwd("~/Exercise"). Click File, New Project...

🗷 RS	itudio	-		
<u>F</u> ile	<u>E</u> dit <u>C</u> ode <u>V</u> iew <u>P</u> lots	Session Build	<u>D</u> ebug <u>T</u> ools <u>H</u> elp	
	New <u>F</u> ile	+		🙁 Project: (None) 👻
	New <u>P</u> roject		<u>،</u>	Environment History
	Open File	Ctrl+0		😅 🕞 📰 Import Dataset - 🎸 🥝 📃 List -
	<u>R</u> ecent Files	•	rld-Famous Astronaut" for Statistical Computing	Global Environment → Q
	Open Project		4-bit)	
	Open Project in New <u>W</u> indow Recent Projects	•	BSOLUTELY NO WARRANTY. under certain conditions. distribution details.	Environment is empty
	<u>S</u> ave Save <u>A</u> s	Ctrl+S	any contributors. rmation and	
	Sa <u>v</u> e All	Ctrl+Alt+S	packages in publications.	
	Pr <u>i</u> nt		interface to help.	
	<u>C</u> lose	Ctrl+W		Files Plots Packages Help Viewer
	C <u>I</u> ose All	Ctrl+Shift+W		💁 New Folder 🝳 Delete 🙀 Rename 🙀 More 🗸 🎯
	Close Projec <u>t</u>			The second secon
	Quit RStudio	Ctrl+Q		Name Size Modified
			_	analysis.adb
				Cache
				🔲 🧰 Covariates
				Covariates_for_EEZ
				Covariates_for_Study_Area
				🔲 🧰 Study_Area
				🔲 🧰 Survey_Data
_				

27. Click Existing Directory



28. Click Create Project



29. Start your web browser. Go to:

http://distancesampling.org/workshops/duke-spatial-2015/

30. Scroll to the bottom. Highlight the install.packages code and copy it:

R

The course will use R, RStudio and various R packages installable from CRAN. The following steps should setup your computer for the workshop:

- 1. Install R from the R website
- 2. Install RStudio from the RStudio website
- 3. Install R packages from within R using the following command:

install.packages(c("mrds", "Distance", "dsm", "ggplot2", "rgdal", "knitr",
"plyr", "raster", "reshape2", "viridis", "htmltools",
"caTools", "bitops", "rmarkdown", "tweedie"))

31. Paste into RStudio. Press Enter



32. Paste into RStudio. Press Enter



RStudio will say this → and then appear to hang

33. Click Yes, you want to use a personal library instead!



34. Click Yes again



35. Lots of packages install. You are done!

