

		7/21/14 Day 1	7/22/14 Day 2	7/23/14 Day 3	7/24/14 Day 4	7/25/14 Day 5
		<i>Techniques for Collaborative Synthesis and Intro Unix</i>	<i>Communicating Science and Distilling complexity, More on Unix</i>	<i>Data Management, Metadata, and Data Repositories</i>	<i>Open Science, R, Version Control</i>	<i>R, Wrangling Messy Data from Different Formats</i>
Eastern Time	Pacific Time					
8:15-8:30		Feedback@RENCI	Feedback@RENCI	Feedback@RENCI	Feedback@RENCI	Feedback@RENCI
8:30-8:45		RENCI does not start until 11:30 on first day				Group Projects@RENCI: Setting up and using Git and GitHub in Projects
8:45-11:00						
11:00-11:15			Group Projects@RENCI: Establish group projects	Group Projects@RENCI	Group Projects@RENCI	
11:15-11:30	8:15-8:30		Break@RENCI, Feedback@NCEAS	Break@RENCI, Feedback@NCEAS	Break@RENCI, Feedback@NCEAS	Break@RENCI, Feedback@NCEAS
11:30-11:45	8:30-8:45	Welcome and course structure, guidelines and expectations (Matt, Steph, Frank, Stan)		Facilitating group discussions (Hampton)	Lecture/Demo: R and ROpenSci (Ram)	Ticket tracking (Github and Redmine) (Jones)
11:45-Noon	8:45-9:00		Message box (Baron)			
Noon-12:15	9:00-9:15	Participant intros; brief bio, project interests, goals for course				Demo/Lab: knitr (Ram)
12:15-12:30	9:15-9:30		Group work on message box	Bash shell scripts (Jones)		
12:30-12:45	9:30-9:45	Break@NCEAS Lunch@RENCI	Break@NCEAS Lunch@RENCI	Break@NCEAS Lunch@RENCI	Break@NCEAS Lunch@RENCI	Break@NCEAS Lunch@RENCI
12:45-1:00	9:45-10:00					
1:00-1:15	10:00-10:15	Thinking preferences activity (Nancy leads)	Group exchange work on message box	Overview of Data Management (Lenhardt)	Activity: Version control and Git (Wilson)	Wrangling heterogeneous data formats, structures in R (e.g., plyr), Messy text, character encoding (Ram, Jones)
1:15-1:30	10:15-10:30		group refines message box based on feedback			
1:30-1:45	10:30-10:45		message box report back (8 reports)			
1:45-2:00	10:45-11:00			Scientific data repositories: Data discovery, metadata, and data publication (Jones or Walker?)		
2:00-2:15	11:00-11:15	Large group report-out round-the-room- RENCi	Sociology of collaboration (Parker)			
2:15-2:30	11:15-11:30	Social aspects of collaboration, high-performing groups, data policies (Steph leads)				
2:30-2:55	11:30-11:55	Participants put color on name tags				
2:55-3:00	11:55-Noon					
3:00-3:15	Noon-12:15					
3:15-3:30	12:15-12:30	Lunch@NCEAS Break@RENCI	Lunch@NCEAS Break@RENCI	Lunch@NCEAS Break@RENCI	Lunch@NCEAS Break@RENCI	Lunch@NCEAS Break@RENCI
3:30-3:45	12:30-12:45	Intro to the servers, networks, and the *nix command line (Jones)	Regular expressions (Jones)	DataONE R client (Jones)	Activity: Git and GitHub Collaboration (Wilson)	Data summarization, visualization, QA/QC, cleaning (Ram)
3:45-4:00	12:45-1:00					
4:00-4:15	1:00-1:15					
4:15-4:30	1:15-1:30		Advanced unix tools (awk, sed, iconv, etc.) (Jones)	Documenting data with the EML R package (Jones)		
4:30-4:45	1:30-1:45	Pre-Assessment				
4:45-5:00	1:45-2:00					
5:00-5:15	2:00-2:15	Break@NCEAS, Adjourn@RENCI	Break@NCEAS, Adjourn@RENCI	Break@NCEAS, Adjourn@RENCI	Break@NCEAS, Adjourn@RENCI	Break@NCEAS, Adjourn@RENCI
	2:15-2:30	Group Projects @NCEAS: Establish Group projects	Group Projects @NCEAS	Group Projects @NCEAS	Group Projects @NCEAS: Setting up and using Git and GitHub in Projects	Group Projects @NCEAS
	2:30-5:00					
	5:00-5:15	Adjourn@NCEAS	Adjourn@NCEAS	Adjourn@NCEAS	Adjourn@NCEAS	Adjourn@NCEAS

		7/28/14 Day 8	7/29/14 Day 9	7/30/14 Day 10	7/31/14 Day 11	8/1/14 Day 12
Eastern Time	Pacific Time	Tabular Data	Intro to OO Programming and Workflows	Intro to Sci Computing in Python	Geospatial Data and Open Tools	Group project updates (analysis, publications, message box, policy docs) (FIESTA at SB)
8:15-8:30		Feedback@RENCI	Feedback@RENCI	Feedback@RENCI	Feedback@RENCI	Feedback@RENCI
8:30-8:45		Group Projects@RENCI	Group Projects@RENCI	Group Projects@RENCI	Group Projects@RENCI	Group Projects@RENCI
8:45-11:00						
11:00-11:15						
11:15-11:30	8:15-8:30	Break@RENCI, Feedback@NCEAS	Break@RENCI, Feedback@NCEAS	Break@RENCI, Feedback@NCEAS	Break@RENCI, Feedback@NCEAS	Break@RENCI, Feedback@NCEAS
11:30-11:45	8:30-8:45	Overview of Data models, esp the relational model (Schildhauer)	Lecture/Lab: Functions and modular code, intro to OO programming with a design pattern or two (Coposky, Jones, Ram?)	Lecture/Lab: Intro to Python - the basics (Stealey, Jones)	Intro to GIS - geospatial data concepts (Heard)	Group project status updates (4 x 15 mins at each organization) (Schildhauer/Idaszak moderate)
11:45-Noon	8:45-9:00	Data Modeling Exercise with Group projects (Jones)	Activity: basic python functions		Go from an Excel-like set of data to QGIS (Heard)	
Noon-12:15	9:00-9:15					
12:15-12:30	9:15-9:30					
12:30-12:45	9:30-9:45	Break@NCEAS Lunch@RENCI	Break@NCEAS Lunch@RENCI	Break@NCEAS Lunch@RENCI	Break@NCEAS Lunch@RENCI	Break@NCEAS Lunch@RENCI
12:45-1:00	9:45-10:00					
1:00-1:15	10:00-10:15	SQL, PostgreSQL (via psql), and sqlite, Interfacing R and PostgreSQL (Jones)	R functions, and creating R packages for you and others (Jones, Ram?)	Lecture/lab: More on Python - paralleling Python's possibilities with that of R (strengths/weaknesses), when to use R or Python for what (Stealey, Jones)	Basic spatial data analysis using Excel and Python (iPython Notebook) (Heard)	
1:15-1:30	10:15-10:30					
1:30-1:45	10:30-10:45					
1:45-2:00	10:45-11:00					
2:00-2:15	11:00-11:15					
2:15-2:30	11:15-11:30	Data semantics and annotation (Schildhauer)	Workflows and workflow systems (Jones)			
2:30-2:55	11:30-11:55					
2:55-3:00	11:55-Noon				Publishing your map to the web (Heard)	
3:00-3:15	Noon-12:15					
3:15-3:30	12:15-12:30	Lunch@NCEAS Break@RENCI	Lunch@NCEAS Break@RENCI	Lunch@NCEAS Break@RENCI	Lunch@NCEAS Break@RENCI	FIESTA!
3:30-3:45	12:30-12:45	Emulating SQL with core R functions (filt, join, agg), tables in R (sqldf, reshape, dplyr, tidyr data.table) (Ram)	Workflow design activity (Group projects) (Jones)	Lecture/lab: Scientific libraries (e.g., numpy, scipy, pandas, statsmodels) (Stealey, Jones)	Demo: Open Geospatial data (where, how, e.g., US Census) (Heard)	
3:45-4:00	12:45-1:00				Capstone demo: TileMill (census variable displayed) (Heard)	
4:00-4:15	1:00-1:15					
4:15-4:30	1:15-1:30		Testing and Continuous Integration for science (Coposky, Russell)	Mid-Assessment		
4:30-4:45	1:30-1:45					
4:45-5:00	1:45-2:00					
5:00-5:15	2:00-2:15	Break@NCEAS, Adjourn@RENCI	Break@NCEAS, Adjourn@RENCI	Break@NCEAS, Adjourn@RENCI	Break@NCEAS, Adjourn@RENCI	
	2:15-2:30	Group Projects @NCEAS	Group Projects @NCEAS	Group Projects @NCEAS	Group Projects @NCEAS	
	2:30-5:00					
	5:00-5:15	Adjourn@NCEAS	Adjourn@NCEAS	Adjourn@NCEAS	Adjourn@NCEAS	Adjourn@NCEAS

	8/4/14 Day 15		8/5/14 Day 16	8/6/14 Day 17	8/7/14 Day 18	8/8/14 Day 19
Eastern Time	Pacific Time	<i>Statistical Paradigms and Approaches</i>	<i>Multi-level modeling, systematic reviews, geospatial analysis</i>	<i>Algorithmic Approaches</i>	<i>Text markup and building FOSS community</i>	<i>Group projects! Publications. Group reports</i>
8:15-8:30		Feedback@RENCI	Feedback@RENCI	Feedback@RENCI	Feedback@RENCI	Feedback@RENCI
8:30-8:45		Group Projects@RENCI	Group Projects@RENCI	Group Projects@RENCI	Group Projects@RENCI	Group Projects@RENCI
8:45-11:00						Develop workplan and timeline
11:00-11:15						Prepare presentations
11:15-11:30	8:15-8:30	Break@RENCI, Feedback@NCEAS	Break@RENCI, Feedback@NCEAS	Break@RENCI, Feedback@NCEAS	Break@RENCI, Feedback@NCEAS	Break@RENCI, Feedback@NCEAS
11:30-11:45	8:30-8:45	LECTURE: Goals of analysis; statistical/analytical cultures; model assessment (bigpicture.{rmd,pdf}) (Bolker)	LECTURE: synthesis (systematic reviews/meta- analysis) (Lortie)	LAB: geospatial analysis (spatial_lab.{rmd,pdf}) (Bolker)	Open Source isn't just for software (Idaszak)	Participant choice?
11:45-Noon	8:45-9:00				Lecture/Discussion: How open source communities work (Russell)	Or project consulting on stats and design?
Noon-12:15	9:00-9:15					
12:15-12:30	9:15-9:30					
12:30-12:45	9:30-9:45	Break@NCEAS Lunch@RENCI	Break@NCEAS Lunch@RENCI	Break@NCEAS Lunch@RENCI	Break@NCEAS Lunch@RENCI	Break@NCEAS Lunch@RENCI
12:45-1:00	9:45-10:00					
1:00-1:15	10:00-10:15	DISCUSSION: deciding on an approach to analysis (Message Box) (Bolker)	LAB: Systematic reviews and meta-analysis (Lortie)	Geospatial analysis lab continued. (Bolker)	Open source communities continued (possible guest lecture) (Russell)	Project presentations
1:15-1:30	10:15-10:30				Open community engagement process (Ahalt)	
1:30-1:45	10:30-10:45					
1:45-2:00	10:45-11:00					
2:00-2:15	11:00-11:15	LECTURE: Linear models and extensions (see linmodel.{rmd,pdf}) (Bolker)		LECTURE: algorithmic approaches/CART (e.g. see CART_NCEAS.pdf) (Bolker)		
2:15-2:30	11:15-11:30					
2:30-2:55	11:30-11:55					
2:55-3:00	11:55-Noon				Lecture/Lab: Text Markup (Russell)	
3:00-3:15	Noon-12:15					
3:15-3:30	12:15-12:30	Lunch@NCEAS Break@RENCI	Lunch@NCEAS Break@RENCI	Lunch@NCEAS Break@RENCI	Lunch@NCEAS Break@RENCI	Lunch@NCEAS Break@RENCI
3:30-3:45	12:30-12:45	LAB: linear models and extensions (not written) (Bolker)	LAB: Systematic reviews and meta-analysis (con't)	LAB: algorithmic approaches (see cart_ex.{rmd,pdf}) (Bolker)	Science in the open: Provenance and Reproducibility (Jones) (GCIS and the Living Paper)	Post-Assessment
3:45-4:00	12:45-1:00		LECTURE: geospatial analysis (see spatial.{rmd,pdf}) (Bolker)		iRODS and Provenance (Russell)	Discussion: open science for synthesis and course Feedback
4:00-4:15	1:00-1:15					
4:15-4:30	1:15-1:30					
4:30-4:45	1:30-1:45					
4:45-5:00	1:45-2:00					
5:00-5:15	2:00-2:15	Break@NCEAS, Adjourn@RENCI	Break@NCEAS, Adjourn@RENCI	Break@NCEAS, Adjourn@RENCI	Break@NCEAS, Adjourn@RENCI	Thanks for all the fish!
	2:15-2:30	Group Projects @NCEAS	Group Projects @NCEAS	Group Projects @NCEAS	Group Projects @NCEAS	
	2:30-5:00				Develop workplan and timeline Prepare presentations	
	5:00-5:15	Adjourn@NCEAS	Adjourn@NCEAS	Adjourn@NCEAS	Adjourn@NCEAS	Adjourn@NCEAS