Interactive Reporting Examples for NPS Terrestrial Vegetation Monitoring

github.com/ecoquants/nps-veg

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2018-04-26

Contents

Background

Protocol Report

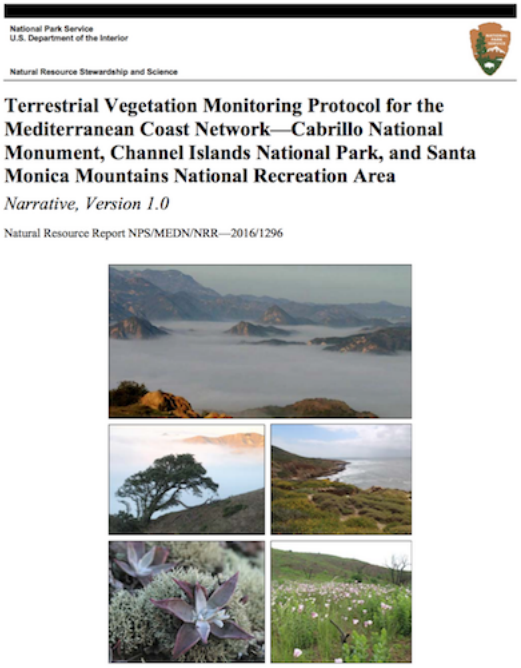

Table 15. Data and summary statistics for annual report

Timeframe	Format	Metric	Species aggregation	Site aggregation[1]	Descriptors
For current year only	Table	Species Richness (# species)	All species combined Growth form[2] Nativity Nativity × growth form	All sites Major veg. types[3]	Mean SD[4] Range
	Table	Absolute Cover (%)	All species combined, Growth form Nativity Growth form × nativity Soil surface features Each target species	All sites Major veg. types	Mean SD Range
	Table	Shrub & Tree Density (# / ha)	All species combined Life stage[5] Nativity Each target species	All sites Major veg. types	Mean SD Range
	Bar chart	Absolute Cover (%)	All species combined, Growth form Nativity Growth form × nativity	All sites Major veg. types	Mean SD
	Stacked bar chart	Relative Cover (%)	Growth form Nativity Growth form × nativity	All sites Major veg. types	Relative Cover of each group
For current year and previous 5 years	X-Y plot	Absolute Cover (%)	All species combined Growth form Nativity Growth form × nativity	All sites Major veg. types	Mean SD
	X-Y plot	Shrub & Tree Density (# / ha)	Growth form Nativity	All sites Major veg. types	Mean SD

Appendix E: Template for Annual Terrestrial Vegetation Monitoring Report

Figures

Tables

Examples

Figure E1. Map of locations

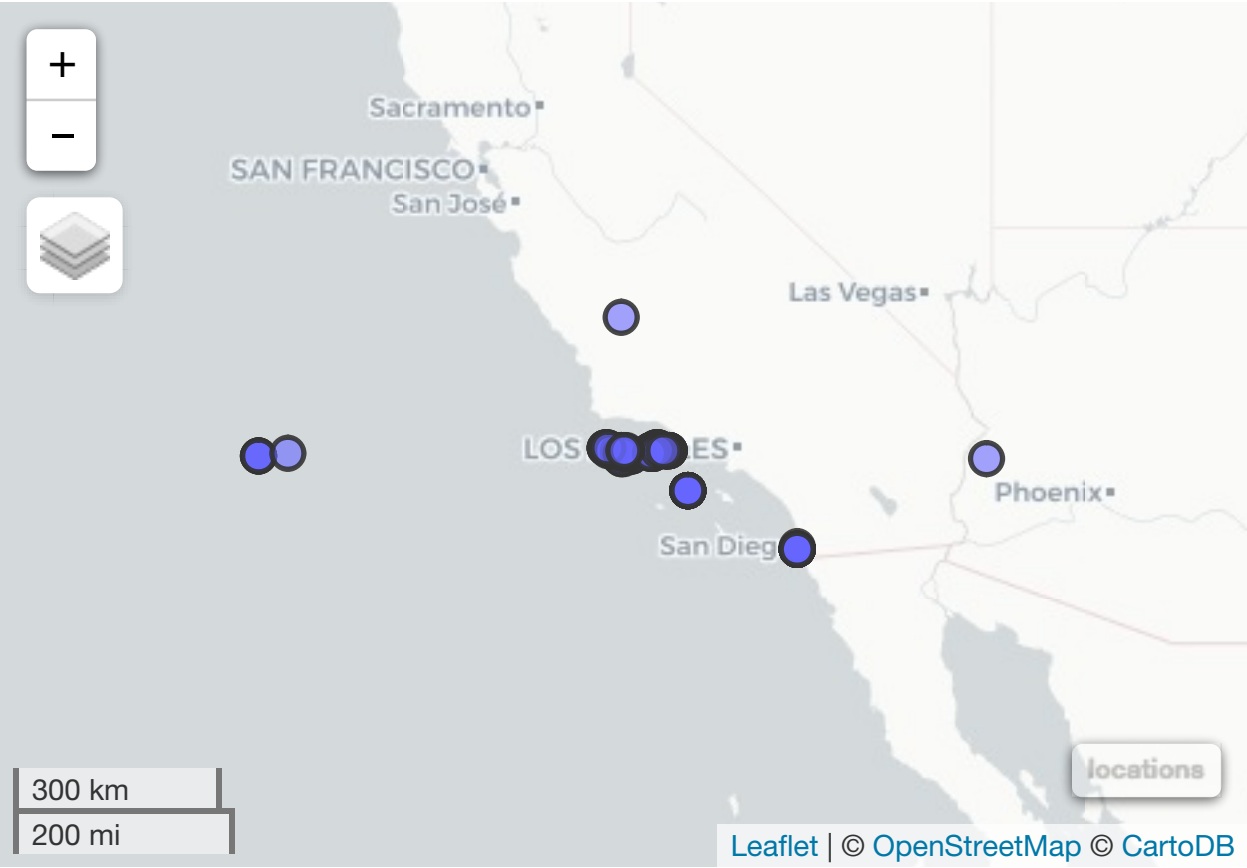

Figure E1. Map of locations - clustered

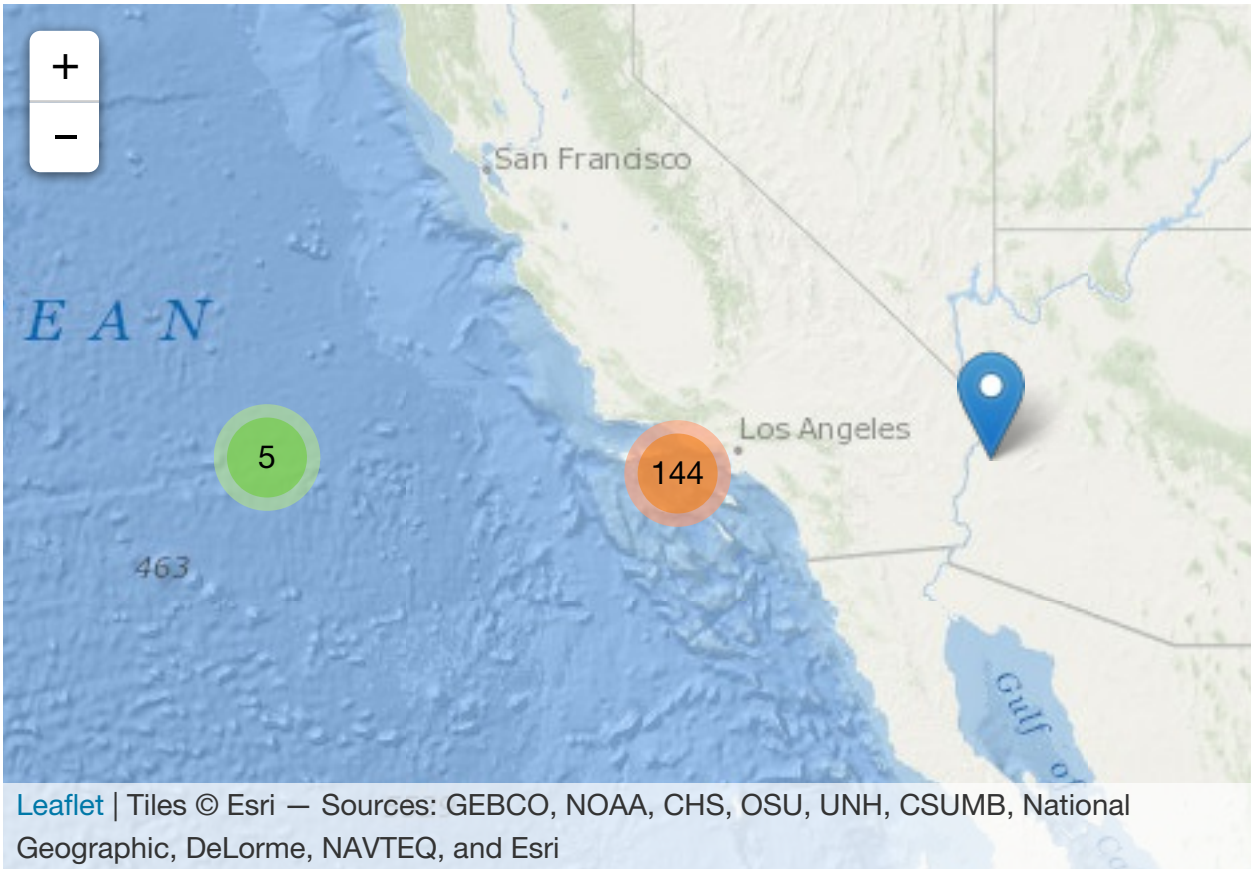

Figure E2. Absolute foliar cover (%) - Static

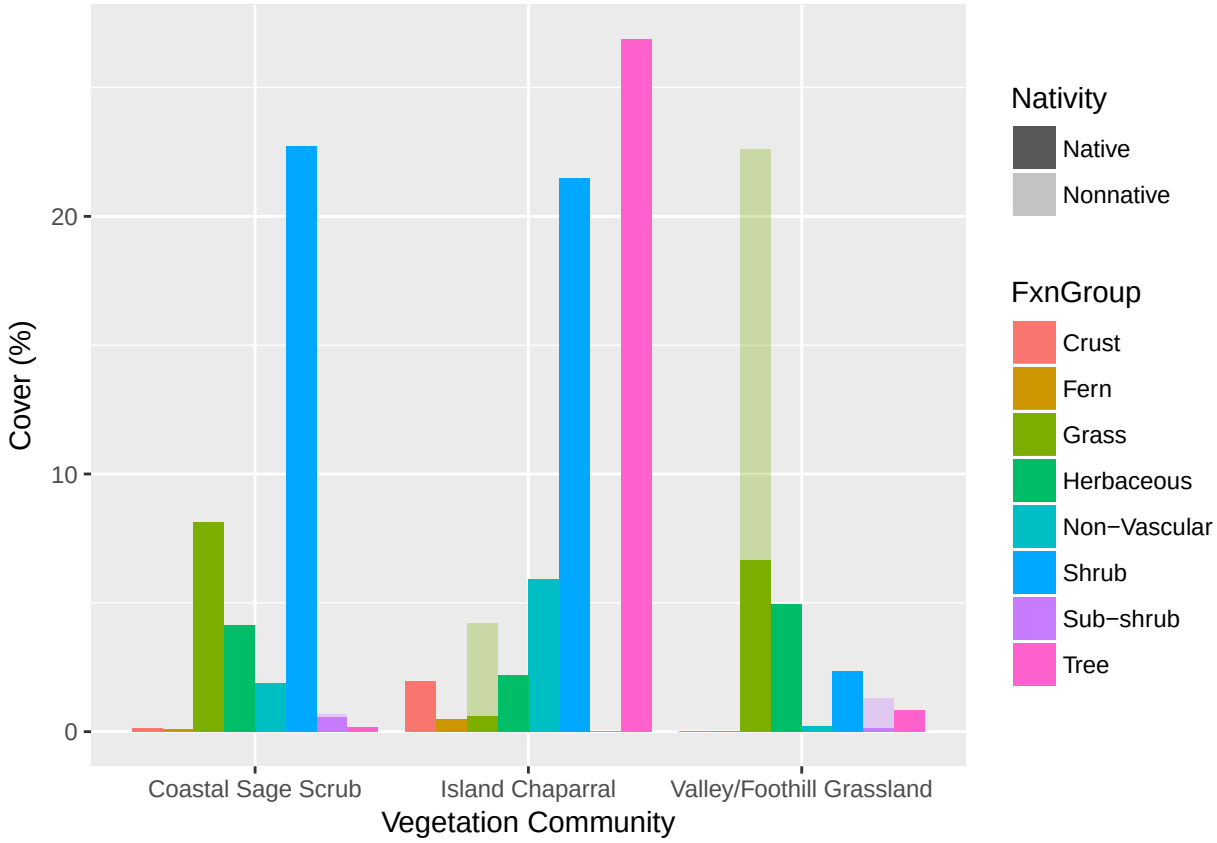

Figure E2. Absolute foliar cover (%) - Dynamic

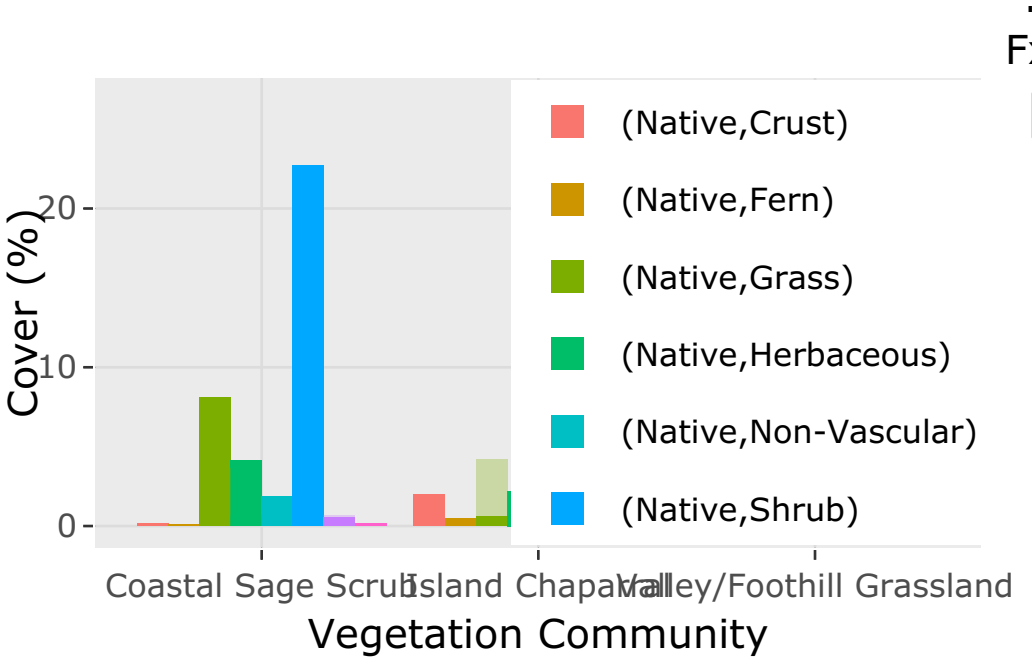

Table E6. Species by site

Show 10 entries Search:

	Site_Desc	Species_Code	n
1	Anacapa Island	ARCA	39
2	Anacapa Island	ATSE	4
3	Anacapa Island	AVBF	4
4	Anacapa Island	BRDI	11
5	Anacapa Island	BRMD	3
6	Anacapa Island	CACI	1
7	Anacapa Island	CHMU	1
8	Anacapa Island	COGI	10
9	Anacapa Island	CRLI	1
10	Anacapa Island	DICA	4

Showing 1 to 10 of 343 entries Previous 1 2 3 4 5 … 35 Next

Table E6. Species richness by site - static

Site_Desc	n_species
Anacapa Island	28
San Miguel Island	42
Santa Barbara Island	30
Santa Cruz Island	77
Santa Rosa Island	166

Database & Apps

MS Access DB on Windows

- Fixed VBA errors with 32-bit `Declare Function` to 64-bit `Private Declare PtrSafe Function` using MS Access 2013

Windows only connection option:

```
library(RODBC)

accdb <- "Z:/bbest On My Mac/Google Drive/projects/nps-ecoquants/data/CHISLandVegetationMonitoringDataba

odbcDataSources()
db <- odbcConnectAccess2007(accdb)

sqlTables(db)
sqlQuery("SELECT * FROM tbl_Locations")
```

MS Access DB & Postgres

Connect Access Front-End to Postgres Backend:

- Connect Microsoft Access to PostgreSQL - iShare Help - Confluence
- Using MS Access with PostgreSQL - Postgres OnLine Journal

Assistant applications to handle conversion / synchronization:

- Access To PostgreSQL $49
- Access To PostgreSQL: DBConvert $149, DBSync $149

Create New Front-End App

For example, with Shiny:

- Creating Interactive Web Applications with R & Shiny

Working with databases & Shiny:

- Databases using R
- Shiny - Database basics - dplyr and DBI
- Shiny - Persistent data storage in Shiny apps
- Enterprise-ready dashboards with Shiny and databases · R Views
- Create an R Shiny Database CRUD app

Rmarkdown

Rmarkdown formats

From the same Rmarkdown document:

- index.Rmd

You can generate these (and more):

- ioslides_presentation
- html_document
- pdf_document
- word_document