

quickmapr: Simplified mapping and basic interactivity for sp and raster objects.

by Jeffrey W. Hollister

Abstract There are many packages that already exist or are in active development that support the visualization of spatial data in R. However, there seems to be a gap for those that need to quickly view, compare, and interactively explore the results of a given spatial analysis without first having to convert a different coordinate reference system. Functionality for the current release (v0.2.0) is for easy mapping of multiple layers, simple zooming, panning, labelling, and identifying. These tools are intended for use within an active spatial analysis workflow and not for production quality maps. Additionally, quickmapr does not make any assumptions about coordinate reference systems and leaves managing of projections to the analyst. This paper introduces the package and shows examples of its typical use.

Introduction

Spatial data analysis capabilities in R have been steadily growing over the last several years. We are now to the point where nearly all Geographic Information Systems (GIS) functionality can be accomplished without leaving R. The one area that had lagged behind was spatial data visualization and interactivity. This too is changing rapidly. Initially, spatial data visualization had been handled via base plotting methods (e.g from `sp` or `raster`) or via additional plotting packages such as `ggplot2`. While these methods provide the ability to make high quality maps, they do not provide interactivity, a hallmark of GIS.

To address this, most solutions (e.g. `ggmap`, `leaflet`, etc.) have relied on javascript libraries or other web APIs. These provide a modern interface, with a rich set of basemaps, but all assume and unprojected or Web Mercator coordinate reference system. In the case of typical spatial data analysis workflow it is often desirable to quickly map the resultant spatial datasets in the projection chosen for the analysis. Currently, this is not possible with the most used javascript libraires. I developed quickmapr to fill this gap and provide spatial data analysts with a tool to quickly map multiple layers and interact with the resultant map without having to utilize various APIs or external libraries and without having to re-project data.

This paper describes the basic usage of quickmapr and shows examples...

Basic usage of quickmapr.

The `qmap` function and object

Zooming and panning

Identification and selection

Basemaps from the USGS National Map

Summary

This file is only a basic article template. For full details of *The R Journal* style and information on how to prepare your article for submission, see the [Instructions for Authors](#).

Jeffrey W. Hollister
U.S. Environmental Protection Agency
Office of Research and Development
National Health and Environmental Effects Research Laboratory
Atlantic Ecology Division
27 Tarzwell Drive
Narragansett, RI 02882
hollister.jeff@epa.gov