

# Introduction to PBSmapping

Jon Schnute, Nick Boers, Rowan Haigh, and Alex Couture-Beil

January 12, 2015

## 1 What is PBSmapping?

**PBSmapping** contains software designed to facilitate the compilation and analysis of fishery data, particularly data referenced by spatial coordinates. Our research stems from experiences with information on Canada's Pacific ground-fish fisheries compiled at the Pacific Biological Station (PBS). Despite its origins in fishery data analysis, our software has broad applicability. The package **PBSmapping** extends the R language to include two-dimensional plotting features similar to those commonly available in a Geographic Information System (GIS). Embedded C code speeds algorithms from computational geometry, such as finding polygons that contain specified point events or converting between longitude-latitude and Universal Transverse Mercator (UTM) coordinates. Recent versions of **PBSmapping** take advantage of features in other R packages, such as **maptools** and **deldir**.

## 2 What is PBS?

The initials **PBS** refer to the Pacific Biological Station, a major fisheries laboratory operated by Fisheries and Oceans Canada on the Pacific coast in Nanaimo, British Columbia, Canada. For more information, see:

<http://www.pac.dfo-mpo.gc.ca/science/facilities-installations/pbs-sbp/index-eng.html>.

## 3 Where is the User's Guide?

The R directory `.../library/PBSmapping/doc` includes a complete User's Guide **PBSmapping-UG.pdf**. To use this package effectively, please consult the Guide.

## 4 Demos

**PBSmapping** includes ten demos that appear as figures in the User's Guide. To see them, run the function `.PBSfigs()`. More generally, a user can view all demos available from locally installed packages with the function `runDemos()` in our related (and recommended) package **PBSmodelling**.

## Reference

Schnute, J.T., Boers, N.M., Haigh, R., and Couture-Beil, A. 2013. **PBSmapping** 2.66: User's Guide. Revised from *Canadian Technical Report of Fisheries and Aquatic Sciences* **2549**: vi + 115 p. Last updated May 3, 2013.