# Fisheries Economic Productivity Index Metadata 2020-02-21

## Code Author

Writiten by Emily Markowitz, emilyhmarkowitz@gmail.com/emily.markowitz@noaa.gov

## Date Code Ran:

2020-02-21 13:40:42

## System Info:

Windows x86\_64-w64-mingw32

## R Version

R version 3.6.2 (2019-12-12): Dark and Stormy Night

## R Packages Loaded

stats

graphics

grDevices

utils

datasets

methods

base

### knitr

1.26

A General-Purpose Package for Dynamic Report Generation in R

Provides a general-purpose tool for dynamic report generation in R
using Literate Programming techniques.

Package vignettes based on R Markdown v2 or
reStructuredText require Pandoc (http://pandoc.org). The
function rst2pdf() require rst2pdf
(https://github.com/rst2pdf/rst2pdf).

c(
person("Yihui", "Xie", role = c("aut", "cre"), email = "xie@yihui.name", comment = c(ORCID = "0000-0003-0645-5666")),
person("Adam", "Vogt", role = "ctb"),
person("Alastair", "Andrew", role = "ctb"),
person("Alex", "Zvoleff", role = "ctb"),
person("Andre", "Simon", role = "ctb", comment = "the CSS files under inst/themes/ were derived from the Highlight package http://www.andre-simon.de"),
person("Aron", "Atkins", role = "ctb"),
person("Aaron", "Wolen", role = "ctb"),
person("Ashley", "Manton", role = "ctb"),
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person("Christophe", "Dervieux", role = "ctb"),
person("David", "Hugh-Jones", role = "ctb"),
person("David", "Robinson", role = "ctb"),
person("Doug", "Hemken", role = "ctb"),
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person("Gregoire", "Detrez", role = "ctb"),
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person("Heewon", "Jeon", role = "ctb"),
person("Henrik", "Bengtsson", role = "ctb"),
person("Hiroaki", "Yutani", role = "ctb"),
person("Ian", "Lyttle", role = "ctb"),
person("Hodges", "Daniel", role = "ctb"),
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person("James", "Manton", role = "ctb"),
person("Jared", "Lander", role = "ctb"),
person("Jason", "Punyon", role = "ctb"),
person("Javier", "Luraschi", role = "ctb"),
person("Jeff", "Arnold", role = "ctb"),
person("Jenny", "Bryan", role = "ctb"),
person("Jeremy", "Ashkenas", role = c("ctb", "cph"), comment = "the CSS file at inst/misc/docco-classic.css"),
person("Jeremy", "Stephens", role = "ctb"),
person("Jim", "Hester", role = "ctb"),
person("Joe", "Cheng", role = "ctb"),
person("Johannes", "Ranke", role = "ctb"),
person("John", "Honaker", role = "ctb"),
person("John", "Muschelli", role = "ctb"),
person("Jonathan", "Keane", role = "ctb"),
person("JJ", "Allaire", role = "ctb"),
person("Johan", "Toloe", role = "ctb"),
person("Jonathan", "Sidi", role = "ctb"),
person("Joseph", "Larmarange", role = "ctb"),
person("Julien", "Barnier", role = "ctb"),
person("Kaiyin", "Zhong", role = "ctb"),
person("Kamil", "Slowikowski", role = "ctb"),
person("Karl", "Forner", role = "ctb"),
person(c("Kevin", "K."), "Smith", role = "ctb"),
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person("Kohske", "Takahashi", role = "ctb"),
person("Lorenz", "Walthert", role = "ctb"),
person("Lucas", "Gallindo", role = "ctb"),
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person("Martin", "Modrák", role = "ctb"),
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person("Michel", "Kuhlmann", role = "ctb"),
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person("Nacho", "Caballero", role = "ctb"),
person("Nick", "Salkowski", role = "ctb"),
person("Niels Richard", "Hansen", role = "ctb"),
person("Noam", "Ross", role = "ctb"),
person("Obada", "Mahdi", role = "ctb"),
person("Qiang", "Li", role = "ctb"),
person("Ramnath", "Vaidyanathan", role = "ctb"),
person("Richard", "Cotton", role = "ctb"),
person("Robert", "Krzyzanowski", role = "ctb"),
person("Romain", "Francois", role = "ctb"),
person("Ruaridh", "Williamson", role = "ctb"),
person("Scott", "Kostyshak", role = "ctb"),
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person("Sietse", "Brouwer", role = "ctb"),
person(c("Simon", "de"), "Bernard", role = "ctb"),
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person("Taiyun", "Wei", role = "ctb"),
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person("Thomas", "Leeper", role = "ctb"),
person("Tim", "Mastny", role = "ctb"),
person("Tom", "Torsney-Weir", role = "ctb"),
person("Trevor", "Davis", role = "ctb"),
person("Viktoras", "Veitas", role = "ctb"),
person("Weicheng", "Zhu", role = "ctb"),
person("Wush", "Wu", role = "ctb"),
person("Zachary", "Foster", role = "ctb")
)

https://yihui.name/knitr/

### gridExtra

2.3

Miscellaneous Functions for "Grid" Graphics

Provides a number of user-level functions to work with "grid"
graphics, notably to arrange multiple grid-based plots on a page, and draw
tables.

c(person("Baptiste", "Auguie",
email = "baptiste.auguie@gmail.com",
role = c("aut", "cre")), person("Anton", "Antonov",
email = "tonytonov@gmail.com",
role = c("ctb")))

### plyr

1.8.5

Tools for Splitting, Applying and Combining Data

A set of tools that solves a common set of
problems: you need to break a big problem down into manageable pieces,
operate on each piece and then put all the pieces back together. For
example, you might want to fit a model to each spatial location or
time point in your study, summarise data by panels or collapse
high-dimensional arrays to simpler summary statistics. The development
of 'plyr' has been generously supported by 'Becton Dickinson'.

person(given = "Hadley",
family = "Wickham",
role = c("aut", "cre"),
email = "hadley@rstudio.com")

http://had.co.nz/plyr, https://github.com/hadley/plyr

### sas7bdat

0.5

SAS Database Reader (experimental)

Read SAS files in the sas7bdat data format.

### data.table

1.12.8

Extension of `data.frame`

Fast aggregation of large data (e.g. 100GB in RAM), fast ordered joins, fast add/modify/delete of columns by group using no copies at all, list columns, friendly and fast character-separated-value read/write. Offers a natural and flexible syntax, for faster development.

zlib

c(
person("Matt","Dowle", role=c("aut","cre"), email="mattjdowle@gmail.com"),
person("Arun","Srinivasan", role="aut", email="arunkumar.sriniv@gmail.com"),
person("Jan","Gorecki", role="ctb"),
person("Michael","Chirico", role="ctb"),
person("Pasha","Stetsenko", role="ctb"),
person("Tom","Short", role="ctb"),
person("Steve","Lianoglou", role="ctb"),
person("Eduard","Antonyan", role="ctb"),
person("Markus","Bonsch", role="ctb"),
person("Hugh","Parsonage", role="ctb"),
person("Scott","Ritchie", role="ctb"),
person("Kun","Ren", role="ctb"),
person("Xianying","Tan", role="ctb"),
person("Rick","Saporta", role="ctb"),
person("Otto","Seiskari", role="ctb"),
person("Xianghui","Dong", role="ctb"),
person("Michel","Lang", role="ctb"),
person("Watal","Iwasaki", role="ctb"),
person("Seth","Wenchel", role="ctb"),
person("Karl","Broman", role="ctb"),
person("Tobias","Schmidt", role="ctb"),
person("David","Arenburg", role="ctb"),
person("Ethan","Smith", role="ctb"),
person("Francois","Cocquemas", role="ctb"),
person("Matthieu","Gomez", role="ctb"),
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person("Declan","Groves", role="ctb"),
person("Daniel","Possenriede", role="ctb"),
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person("Denes","Toth", role="ctb"),
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person("Ayappan","Perumal", role="ctb"),
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person("Martin","Morgan", role="ctb"),
person("Michael","Quinn", role="ctb"),
person("@javrucebo","", role="ctb"),
person("@marc-outins","", role="ctb"),
person("Roy","Storey", role="ctb"),
person("Manish","Saraswat", role="ctb"),
person("Morgan","Jacob", role="ctb"),
person("Michael","Schubmehl", role="ctb"),
person("Davis","Vaughan", role="ctb"))

http://r-datatable.com, https://Rdatatable.gitlab.io/data.table,
https://github.com/Rdatatable/data.table

### officer

0.3.6

Manipulation of Microsoft Word and PowerPoint Documents

Access and manipulate 'Microsoft Word' and 'Microsoft PowerPoint' documents from R.
The package focuses on tabular and graphical reporting from R; it also provides two functions
that let users get document content into data objects. A set of functions
lets add and remove images, tables and paragraphs of text in new or existing documents.
When working with 'PowerPoint' presentations, slides can be added or removed; shapes inside
slides can also be added or removed. When working with 'Word' documents, a cursor can be
used to help insert or delete content at a specific location in the document. The package
does not require any installation of Microsoft products to be able to write Microsoft files.

c(
person("David", "Gohel", role = c("aut", "cre"),
email = "david.gohel@ardata.fr"),
person("Frank", "Hangler", role = "ctb", email = "frank@plotandscatter.com", comment = "function body\_replace\_all\_text"),
person("Liz", "Sander", role = "ctb", email = 'lsander@civisanalytics.com', comment = "several documentation fixes"),
person("Anton", "Victorson", role = "ctb", email = 'anton@victorson.se',comment = "fixes xml structures"),
person("Jon", "Calder", role = "ctb", email = 'jonmcalder@gmail.com', comment = "update vignettes"),
person("John", "Harrold", role = "ctb", email = 'john.m.harrold@gmail.com', comment = "fuction annotate\_base"),
person("John", "Muschelli", role = "ctb", email = 'muschellij2@gmail.com', comment = "google doc compatibility")
)

https://davidgohel.github.io/officer

### rmarkdown

2.0

Dynamic Documents for R

Convert R Markdown documents into a variety of formats.

pandoc (>= 1.12.3) - http://pandoc.org

c(
person("JJ", "Allaire", role = "aut", email = "jj@rstudio.com"),
person("Yihui", "Xie", role = c("aut", "cre"), email = "xie@yihui.name", comment = c(ORCID = "0000-0003-0645-5666")),
person("Jonathan", "McPherson", role = "aut", email = "jonathan@rstudio.com"),
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person("Aron", "Atkins", role = "aut", email = "aron@rstudio.com"),
person("Hadley", "Wickham", role = "aut", email = "hadley@rstudio.com"),
person("Joe", "Cheng", role = "aut", email = "joe@rstudio.com"),
person("Winston", "Chang", role = "aut", email = "winston@rstudio.com"),
person("Richard", "Iannone", role = "aut", email = "rich@rstudio.com", comment = c(ORCID = "0000-0003-3925-190X")),
#
# Contributors, ordered alphabetically by first name
person("Andrew", "Dunning", role = "ctb"),
person("Atsushi", "Yasumoto", role = "ctb", comment = c(ORCID = "0000-0002-8335-495X")),
person("Barret", "Schloerke", role = "ctb"),
person("Christophe", "Dervieux", role = "ctb"),
person("Frederik", "Aust", role = "ctb", email = "frederik.aust@uni-koeln.de", comment = c(ORCID = "0000-0003-4900-788X")),
person("Jeff", "Allen", role = "ctb", email = "jeff@rstudio.com"),
person("Malcolm", "Barrett", role = "ctb"),
person("Rob", "Hyndman", role = "ctb", email = "Rob.Hyndman@monash.edu"),
person("Romain", "Lesur", role = "ctb"),
person("Roy", "Storey", role = "ctb"),
person("Ruben", "Arslan", role = "ctb", email = "ruben.arslan@uni-goettingen.de"),
person("Sergio", "Oller", role = "ctb"),
#
# Copyright holders
person(family = "RStudio, Inc.", role = "cph"),
person(family = "jQuery Foundation", role = "cph",
comment = "jQuery library"),
person(family = "jQuery contributors", role = c("ctb", "cph"),
comment = "jQuery library; authors listed in inst/rmd/h/jquery-AUTHORS.txt"),
person(family = "jQuery UI contributors", role = c("ctb", "cph"),
comment = "jQuery UI library; authors listed in inst/rmd/h/jqueryui-AUTHORS.txt"),
person("Mark", "Otto", role = "ctb",
comment = "Bootstrap library"),
person("Jacob", "Thornton", role = "ctb",
comment = "Bootstrap library"),
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comment = "Bootstrap library"),
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comment = "Bootstrap library"),
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comment = "html5shiv library"),
person("Scott", "Jehl", role = c("ctb", "cph"),
comment = "Respond.js library"),
person("Ivan", "Sagalaev", role = c("ctb", "cph"),
comment = "highlight.js library"),
person("Greg", "Franko", role = c("ctb", "cph"),
comment = "tocify library"),
person("John", "MacFarlane", role = c("ctb", "cph"),
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person("Dave", "Raggett", role = "ctb",
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comment = "slidy library"),
person("Dave", "Gandy", role = c("ctb", "cph"),
comment = "Font-Awesome"),
person("Ben", "Sperry", role = "ctb",
comment = "Ionicons"),
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comment = "Ionicons"),
person("Aidan", "Lister", role = c("ctb", "cph"),
comment = "jQuery StickyTabs"),
person("Benct Philip", "Jonsson", role = c("ctb", "cph"),
comment = "pagebreak lua filter"),
person("Albert", "Krewinkel", role = c("ctb", "cph"),
comment = "pagebreak lua filter")
)

https://github.com/rstudio/rmarkdown

### filesstrings

3.1.5

Handy File and String Manipulation

This started out as a package for file and string manipulation.
Since then, the 'fs' and 'strex' packages emerged, offering functionality
previously given by this package (but it's done better in these new ones).
Those packages have hence almost pushed 'filesstrings' into extinction.
However, it still has a small number of unique, handy file manipulation
functions which can be seen in the vignette.
One example is a function to remove spaces from all file names in a
directory.

c(person("Rory", "Nolan", email = "rorynoolan@gmail.com",
role = c("aut", "cre", "cph"),
comment = c(ORCID = "0000-0002-5239-4043")),
person("Sergi", "Padilla-Parra", email = "spadilla@well.ox.ac.uk",
role = "ths", comment = c(ORCID = "0000-0002-8010-9481")))

https://www.github.com/rorynolan/filesstrings

### forcats

0.4.0

Tools for Working with Categorical Variables (Factors)

Helpers for reordering factor levels (including
moving specified levels to front, ordering by first appearance,
reversing, and randomly shuffling), and tools for modifying factor
levels (including collapsing rare levels into other, 'anonymising',
and manually 'recoding').

c(person(given = "Hadley",
family = "Wickham",
role = c("aut", "cre"),
email = "hadley@rstudio.com"),
person(given = "RStudio",
role = c("cph", "fnd")))

http://forcats.tidyverse.org, https://github.com/tidyverse/forcats

### stringr

1.4.0

Simple, Consistent Wrappers for Common String Operations

A consistent, simple and easy to use set of
wrappers around the fantastic 'stringi' package. All function and
argument names (and positions) are consistent, all functions deal with
"NA"'s and zero length vectors in the same way, and the output from
one function is easy to feed into the input of another.

c(person(given = "Hadley",
family = "Wickham",
role = c("aut", "cre", "cph"),
email = "hadley@rstudio.com"),
person(given = "RStudio",
role = c("cph", "fnd")))

http://stringr.tidyverse.org, https://github.com/tidyverse/stringr

### dplyr

0.8.3

A Grammar of Data Manipulation

A fast, consistent tool for working with data frame like objects,
both in memory and out of memory.

c(
person("Hadley", "Wickham", , "hadley@rstudio.com", c("aut", "cre"), comment = c(ORCID = "0000-0003-4757-117X")),
person("Romain", "Fran\u00e7ois", role = "aut", comment = c(ORCID = "0000-0002-2444-4226")),
person("Lionel", "Henry", role = "aut"),
person("Kirill", "M\u00fcller", role = "aut", comment = c(ORCID = "0000-0002-1416-3412")),
person("RStudio", role = c("cph", "fnd"))
)

http://dplyr.tidyverse.org, https://github.com/tidyverse/dplyr

### purrr

0.3.3

Functional Programming Tools

A complete and consistent functional programming toolkit for R.

c(
person("Lionel", "Henry", , "lionel@rstudio.com", c("aut", "cre")),
person("Hadley", "Wickham", , "hadley@rstudio.com", "aut"),
person("RStudio", role = c("cph", "fnd"))
)

http://purrr.tidyverse.org, https://github.com/tidyverse/purrr

### readr

1.3.1

Read Rectangular Text Data

The goal of 'readr' is to provide a fast and friendly way to read
rectangular data (like 'csv', 'tsv', and 'fwf'). It is designed to flexibly
parse many types of data found in the wild, while still cleanly failing when
data unexpectedly changes.

GNU make

c(
person("Hadley", "Wickham", , "hadley@rstudio.com", "aut"),
person("Jim", "Hester", , "james.hester@rstudio.com", c("aut", "cre")),
person("Romain", "Francois", role = "aut"),
person("R Core Team", role = "ctb", comment = "Date time code adapted from R"),
person("RStudio", role = c("cph", "fnd")),
person("Jukka", "Jylänki", role = c("ctb", "cph"), comment = "grisu3 implementation"),
person("Mikkel", "Jørgensen", role = c("ctb", "cph"), comment = "grisu3 implementation"))

http://readr.tidyverse.org, https://github.com/tidyverse/readr

### tidyr

1.0.0

Tidy Messy Data

Tools to help to create tidy data, where each column is a
variable, each row is an observation, and each cell contains a single value.
'tidyr' contains tools for changing the shape (pivoting) and hierarchy
(nesting and 'unnesting') of a dataset, turning deeply nested lists
into rectangular data frames ('rectangling'), and extracting values out
of string columns. It also includes tools for working with missing values
(both implicit and explicit).

c(person(given = "Hadley",
family = "Wickham",
role = c("aut", "cre"),
email = "hadley@rstudio.com"),
person(given = "Lionel",
family = "Henry",
role = "aut",
email = "lionel@rstudio.com"),
person(given = "RStudio",
role = "cph"))

https://tidyr.tidyverse.org, https://github.com/tidyverse/tidyr

### tibble

2.1.3

Simple Data Frames

Provides a 'tbl\_df' class (the 'tibble') that provides
stricter checking and better formatting than the traditional data frame.

c(
person("Kirill", "Müller", , "krlmlr+r@mailbox.org", c("aut", "cre")),
person("Hadley", "Wickham", , "hadley@rstudio.com", "aut"),
person("Romain", "Francois", , "romain@r-enthusiasts.com", "ctb"),
person("Jennifer", "Bryan", , "jenny@rstudio.com", "ctb"),
person("RStudio", role = "cph")
)

http://tibble.tidyverse.org/, https://github.com/tidyverse/tibble

### ggplot2

3.2.1

Create Elegant Data Visualisations Using the Grammar of Graphics

A system for 'declaratively' creating graphics,
based on "The Grammar of Graphics". You provide the data, tell 'ggplot2'
how to map variables to aesthetics, what graphical primitives to use,
and it takes care of the details.

c(
person("Hadley", "Wickham", , "hadley@rstudio.com", c("aut", "cre")),
person("Winston", "Chang", , role = "aut"),
person("Lionel", "Henry", , role = "aut"),
person("Thomas Lin", "Pedersen", role = "aut"),
person("Kohske", "Takahashi", role = "aut"),
person("Claus", "Wilke", role = "aut"),
person("Kara", "Woo", role = "aut"),
person("Hiroaki", "Yutani", role = "aut"),
person("RStudio", role = c("cph"))
)

http://ggplot2.tidyverse.org, https://github.com/tidyverse/ggplot2

### tidyverse

1.3.0

Easily Install and Load the 'Tidyverse'

The 'tidyverse' is a set of packages that work in
harmony because they share common data representations and 'API'
design. This package is designed to make it easy to install and load
multiple 'tidyverse' packages in a single step. Learn more about the
'tidyverse' at <https://tidyverse.org>.

c(person(given = "Hadley",
family = "Wickham",
role = c("aut", "cre"),
email = "hadley@rstudio.com"),
person(given = "RStudio",
role = c("cph", "fnd")))

http://tidyverse.tidyverse.org,
https://github.com/tidyverse/tidyverse

### reshape2

1.4.3

Flexibly Reshape Data: A Reboot of the Reshape Package

Flexibly restructure and aggregate data using just two
functions: melt and 'dcast' (or 'acast').

https://github.com/hadley/reshape

### taxize

0.9.91

Taxonomic Information from Around the Web

Interacts with a suite of web 'APIs' for taxonomic tasks,
such as getting database specific taxonomic identifiers, verifying
species names, getting taxonomic hierarchies, fetching downstream and
upstream taxonomic names, getting taxonomic synonyms, converting
scientific to common names and vice versa, and more.

c(person(given = "Scott",
family = "Chamberlain",
role = c("aut", "cre"),
email = "myrmecocystus@gmail.com",
comment = c(ORCID = "0000-0003-1444-9135")),
person(given = "Eduard",
family = "Szoecs",
role = "aut"),
person(given = "Zachary",
family = "Foster",
role = "aut"),
person(given = "Zebulun",
family = "Arendsee",
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person(given = "Carl",
family = "Boettiger",
role = "ctb"),
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role = "ctb"),
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family = "Baumgartner",
role = "ctb"),
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family = "Tzovaras",
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family = "Salmon",
role = "ctb"),
person(given = "Gaopeng",
family = "Li",
role = "ctb"),
person(given = "Matthias",
family = "Grenié",
role = "ctb"),
person(given = "rOpenSci",
role = "fnd",
comment = "https://ropensci.org/"))

https://docs.ropensci.org/taxize (website),
https://github.com/ropensci/taxize (devel), https://taxize.dev
(user manual)

### xlsx

0.6.1

Read, Write, Format Excel 2007 and Excel 97/2000/XP/2003 Files

Provide R functions to read/write/format Excel 2007 and Excel 97/2000/XP/2003 file formats.

java (>= 1.6)

https://github.com/dragua/rexcel,
http://groups.google.com/group/R-package-xlsx