

Package ‘sara4r’

February 9, 2022

Type Package

Title An R-GUI for Spatial Analysis of Surface Runoff using the NRCS-CN Method

Version 0.0.9

Depends R (>= 4.1.0), tcltk, tcltk2

Imports raster, sp, rgdal

Maintainer Rafael Hernandez-Guzman <rhernandez.g@gmail.com>

Description A Graphical user interface to calculate the rainfall-runoff relation using the Natural Resources Conservation Service - Curve Number method (NRCS-CN method) but include modifications by Hawkins et al., (2002) about the Initial Abstraction. This GUI follows the programming logic of a previously published software (Hernandez-Guzman et al., 2011)<[doi:10.1016/j.envsoft.2011.07.006](https://doi.org/10.1016/j.envsoft.2011.07.006)>. It is a raster-based GIS tool that outputs runoff estimates from Land use/land cover and hydrologic soil group maps. This package has already been published in Journal of Hydroinformatics (Hernandez-Guzman et al., 2021)<[doi:10.2166/hydro.2020.087](https://doi.org/10.2166/hydro.2020.087)> but it is under constant development at the Institute about Natural Resources Research (INIRENA) from the Universidad Michoacana de San Nicolas de Hidalgo and represents a collaborative effort between the Hydro-Geomatic Lab (INIRENA) with the Environmental Management Lab (CIAD, A.C.).

License GPL (>= 3)

Encoding UTF-8

URL <http://hydro-geomatic-lab.com/>,
<http://hydro-geomatic-lab.com/sara4r.html>

VignetteBuilder knitr

Suggests knitr, rmarkdown

RoxygenNote 7.1.2

NeedsCompilation no

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Repository CRAN

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sara4r *An R-GUI for Spatial Analysis of Surface Runoff using the NRCS-CN Method*

Description

a raster-based GIS tool that outputs runoff estimates from Land use/land cover and hydrologic soil group maps.

Usage

sara4r()

Details

Package: sara4r
 Type: Package
 Version: 0.0.9
 Date: 2022-01-31
 Depends: R(>= 4.1.2), tcltk, tcltk2
 Imports: raster,sp,rgdal
 License: GPL (>= 3)
 LazyLoad: yes

Note

<http://hydro-geomatic-lab.com/sara4r.html>

Author(s)

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References

[CN-Idris, Hernández-Guzmán et al., 2011 - CN-Idris: An Idrisi tool for generating curve number maps and estimating direct runoff. *Environmental Modelling & Software*, 26(12), 1764-1766](<https://doi.org/10.1016/j.envsoft.2011.09.001>)
 [SARA, Hernández-Guzmán and Ruiz-Luna, 2013. SARA – An enhanced curve number-based tool for estimating direct runoff. *Journal of Hydroinformatics*, 15(3), 881-887](<https://doi.org/10.2166/hydro.2013.145>)

[SARA4R, Hernández-Guzmán et al., 2021. Sara4r – an R graphical user interface (GUI) to estimate watershed surface runoff applying the NRCS – curve number method. Journal of Hydroinformatics, 23(1), 76-87](<https://doi.org/10.2166/hydro.2020.087>)

Examples

```
sara4r()
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