MADRaT Cheat Sheet

library(madrat)



MADRAT Workflow INPUT DATA

downloadSource("SourceX")

Metadata documentation

readSource("SourceX", convert=TRUE)

FALSE "onlycorrect"

convertSource("SourceX")
correctSource("SourceX")

Magpie Object

CALCULATIONS

calcOutput("calcY", aggregate=TRUE)
FALSE



fullMAgPIE(revision=12,
mainfolder="pathtowhereallfilesarestored")

MODEL INPUT

Magclass: Magpie Objects

Array with 3 Dimensions

1: Spatial 2:Temporal 3: Data **Defaults Defaults** Subdimensions Cellular Years concatenated 59199 cells 1965-2150 with "." or Coordinates Country **249 ISO3** Call with: Avoid using "." char "y1965" in naming int 1965 Region 12 Magpie Regions

MADRaT Config

See config settings library(madrat) getConfig()

Turn Cache on setConfig(forcecahe=TRUE)

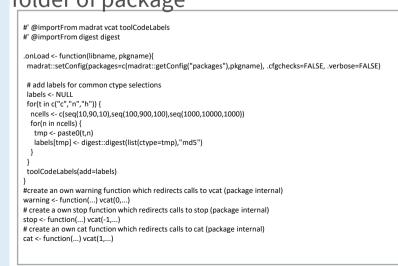
NOTE: Running a function with cache on and an existing cache file means further developments will not appear in results

Get Mappings folder getConfig("mappingfolder")

Change region mapping

setConfig(regionmapping="new_mapping.csv")

Link a Package to MADRaT Save the code below as madrat.R in R folder of package



Magclass Basics

Further documentation in ?magclass::function()

	0.01.11.11.10
as.magpie()	Converts (tidy) dataframe to magclass
fulldim()	List of all dimension names
getRegions()	Vector of object regions
getYears()	Vector of years as char or int class
getNames()	Vector of names of data

Useful magclass Functions

	Spatial		
	toolCountryFill()	Fills in/matches incomplete country dimension with NA / given value	
	toolAggregate()	Weighted aggregation, mapping file needed	
	toolCountry2isocode	Converts country names to ISO3 code	
		Temporal	
	time_interpolate()	Linearly interpolates values between years	
	toolHoldConstant()	Hold values constant for given years	
	toolHoldConstantBe yondEnd()	Extend magpie object to 2150, holding missing years constant	
	Data Analysis		
	mbind()	bind 2 magpie objects along a dim, like abind	
	add_columns()	Add new column to a given dimension "dim"	
	add_dimension()	Add new dimension, with name of first column in new dim	
	calibrate_it()	Calibrate one dataset to another over time, using set functions	
	dimOrder()	Re-order dimensions	
	dimSums	Very useful! Sum over dims and sub-dimensions	
	magpply()	Like apply family of functions, to replace loops	
	read.magpie()	Read magpie .mz files	
	write.magpie()	write a magpie object ot file, various file formats incl. ncdf4	
-1			

