

# Satellite imagery — Part 2

DSIER [/dɪ'zɑɪər/] — Summer 2024

Julian Hinz

Bielefeld University

# Data models

vector data

raster data

à%öE%ö à AC%qo ç° TM/E%çç¥ç %doj ° ñl TM , Òi ç ° Òã ü¥TM Òã j %do%o  
à%öE%ö à AC%qo í ¥ãã%o TM/E%çç¥ç %doj ° ñl TM , Òi ç ° Òã ã%çí ¥ã j %do%o

ζ° — simple features

low level libraries for geocomputation

1# D, for reading, writing and manipulating a wide range of geographic data formats

\\_PA, a powerful library for coordinate system transformations

1' Pc, a planar geometry engine for operations such as calculating buffers and centroids on data with a projected CRS

c, a spherical geometry engine written in C++ developed by Google

ç° — simple features

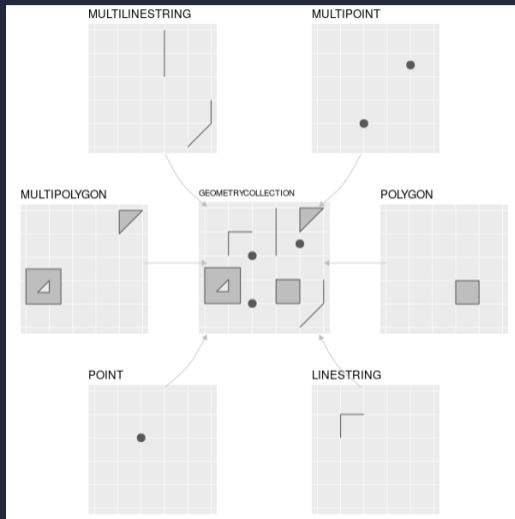
ç° objects can be treated as data frames in most operations

ç° function names are relatively consistent and intuitive (all begin with çí )

ç° functions can be combined using operator and works well with the

í , j ü¥ãç¥

# sf classes



í ¥ãã%o

í ¥ãã%o is a reboot of the ã%óí ¥ã package

very fast for what it's doing

lots of interfaces between í ¥ãã%o and ç°

alternative: çí %ãç

# Raster

## A. Cell IDs

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16

## B. Cell values

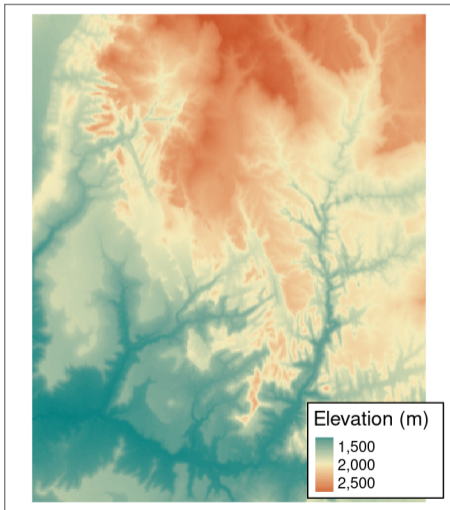
92	55	48	21
58	70	NA	37
NA	12	94	11
36	83	4	88

## C. Colored values



# Raster

## A. Continuous data



## B. Categorical data

