Accessing Data from Sensor Observation Services: the `sos4R` Package

Daniel Nüst*
daniel.nuest@uni-muenster.de

Sep 2010

Contents

*Institute for Geoinformatics, University of Münster, Germany.

1 Introduction

The `sos4R` package provides classes and methods for dealing with

Package `sos4R` is loaded by

1.1 OGC and Specifications

TODO: Shortly mention and link to O and M, OWS Common, Sampling, Filtering, SensorML ...

TODO: Round-up of SOS specification

TODO: Copy terms example from annex B of O and M to the vignette for explanation

2 Creation Methods

explain concept, reference to Genolini

3 SOS Requests

3.1 GetCapabilities

3.2 DescribeSensor

3.3 GetObservation

3.4 GetObservationById

4 Creating a SOS connection

5 Requesting Data

5.1 Using Metadata

How can one extract the metadata from a SOS connection and reuse it for queries?

accessor functions, elements of the capabilities, ...

5.2 Making the Request

5.3 Data Format

explain why the returned data.frame is how it looks like

how to extract metadata

5.4 Using the Data

show/explain conversion to zoo, sp etc.
    exporting
    show example

6 Changing Handling Functions

TODO: explain approach, mention available non-exchangeable functions in the subsections

6.1 Parsing/Decoding

6.2 Encoding

7 Exception Handling

TODO: Explain what part of the exception report means what, link to OWS Common

8 Developing sos4R

explain 52 North
    svn code repository
    shortly describe the class structure, .R file naming scheme, ...
    link to wiki developer page
    link to developer blog

References

Chambers, J.M., 2008, Software for Data Analysis, Programming with R. Springer, New York.

specs!

...