

# Accessing Data from Sensor Observation Services: the **sos4R** Package

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# 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!

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