

# Connecting R to SAC

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SAC (Seismic Analysis Code) is a program designed for the study of seismic signals, especially time series data. Seismologists use this program to examine, analyze, and plot data for studying seismic events. However, to run more complicated time series analysis tools such as AR or MA, researchers should save the SAC data in ASCII form, and read the data in other programs. This is problematic because regular seismic data are recorded in real time(at least every second), so that the data streams into the system. Analyzing this data in a real-time basis is an impossible dream for seismologists. For this purpose, R has a nice feature - "Connections" which is a set of functions replacing the traditional concept of input/output with a flexible interface to file-like objects as described in Chambers (1998). In this paper, we would like to propose how to read and process SAC data directly in its internal binary form through Connections since for a large amounts of seismic data, binary files can provide more efficient communication mechanism than ASCII files.