



SEAWATER

A Library of MATLAB Computational Routines for the Properties of Seawater.

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- Introduction
 - DESCRIPTION
SEAWATER is a toolkit of MATLAB routines for calculating the properties of sea water. They are a self contained library and are extremely easy to use and will run on all computers that support MATLAB. I should also mention that SEAWATER is FREE.
 - MATLAB
For information on MATLAB contact info@mathworks.com
 - DISCLAIMER
This software is provided "as is" without warranty of any kind. See the file `sw_copy.m` for conditions of use and licence.
 - INSTALLATION
I suggest you place all the SEAWATER routines in a directory called `seawater` and set your matlab path to that directory. See the matlab command "help path" for more details.

- Software Available
 - Release 3.0 – 12 Dec 2003
 - [seawater ver3 0.zip](#)
 - [seawater ver3 0.tar](#)

 - Release 2.0.2 – 25 Jun 1999
 - [seawater ver2 0 2.zip](#)
 - [seawater ver2 0 2.tar](#)

- Release 2.0.1 - 22 Apr 1998 (BETA TEST VERSION)
 - [seawater_ver2_0_1.zip](#)
 - [seawater_ver2_0_1.tar](#)

- Release 1.2e - 21 Apr 1998
 - [seawater_ver1_2e.zip](#)
 - [seawater_ver1_2e.tar](#)

- Release 1.2d - 15 Nov 1994
 - [seawater_ver1_2d.zip](#)
 - [seawater_ver1_2d.tar](#)

- Revision History

- **Release 3.0** – 12 Dec 2003 (For matlab 5.x)
Converted code so that temperature is now ITS-90 throughout.

- **Release 2.0.2** - 25 Jun 1999 (For matlab 5.x)
Coding changes to enable functions to return the same shape vector as the input arguments. In previous releases, some functions returned column vectors for row vector input. Also some other tidying up.

- **Release 2.0.1** - 22 Apr 1998 (For matlab 5.x)
BETA test version. Following modifications were implemented in this version
 - sw_satAr.m - New routine. Solubility of Ar in seawater.
 - sw_satN2.m - New routine. Solubility of N2 in seawater.
 - sw_satO2.m - New routine. Solubility of O2 in seawater.
 - sw_test.m - Added regression tests for above routines.

- **Release 1.2e** - 21 Apr 1998 (For matlab 4.x)
The following modifications were implemented in this version
 - sw_alpha.m

Fixed bug where temp used in calculations regardless of whether 'temp' or 'pmp' was passed as keyword.

sw_info.m

Shorter version. Refer users to web pages <http://www.marine.csiro.au>

sw_ver.m

New routine. Returns version number of SEAWATER

sw_test.m

New Routine. Run a test on the SEAWATER routines and compare results with literature values

- **Release 1.2d** - 15 Nov 1994

The following modifications were implemented in this version

sw_bfrq.m

Now also returns potential vorticity. Thanks to Greg Johnson (gjohnson@pmel.noaa.gov)

sw_gvel.m

OMEGA=7.29e-5 changed to OMEGA=7.292e-5 to be consistent with sw_f.m

sw_alpha.m sw_alpha.m sw_alpha.m

All these routines expect (S,T,P) to be passed instead of (S,PTMP,P) as in previous release. Fast execution can still be obtained by passing ptmp with a string flag 'ptmp' see help.

- **Release 1.2c** - 19 Oct 1994

sw_new.m

New routine. Information on new release of library.

sw_bfrq.m

Fixed bug where LAT = [] was needed as argument when no latitude values are being passed. Now pass PRESSURE instead of DEPTH. This is more consistent though only a negligible change in results.

sw_info.m

Updated to include a registration section. Noted that software is FREE. Noted best email address is seawater@ml.csiro.au Requests for Report also via email to library@ml.csiro.au

- **Release 1.2b** - 12 Oct 1994

First official release and announcement on the internet.