**Ocean Science
Discussions**

Interactive comment on "Numerical implementation and oceanographic application of the Gibbs thermodynamic potential of seawater" *by* R. Feistel

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Received and published: 14 December 2004

The paper by Feistel has raised questions concerning how supplementary material is best published. At the moment Ocean Science can only publish one supplement file with each paper, so we have to ask what is the best way to combine more than one file into a single file. Related concerns are whether the files should be compressed and, when files are copied to and obtained from other servers, how file integrity can be checked.

The aim of this note is to publish initial recommendations and also to encourage some feedback.

Directory Structure

Full Screen / Esc

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I assume that all the files, and possibly directories, are placed in a single top directory so that expansion produces the same directory structure. It is helpful if all non-essential administrative files are removed and a top level ascii text file is created, with the name README or READ.ME, which contains a list of all the files and a summary of their contents.

Combining Files

As Ocean Science is an Open Access journal, and in the spirit of Open Access, I recommend use of the 'tar' utility to combine the files. This is usually used to produce a file with the extension '.tar' (or '.tgz' if compression is used). The gnu version is available in source form and compiled for various computers. The latter includes the MSDOS operating system available as part of Microsoft Windows.

I appreciate that many people using Microsoft Windows will prefer to produce Zip files, with extension '.zip'. These are produced by the popular WinZip and PKZIP pro-grammes. However the software is not open source and involves patents. The latter should not cause any problems in future but may do.

Compression

Most files will be faster to download if compressed. However if the supplements are primarily movie or sound files this may not be worthwhile as such data is often highly compressed.

Zip files are already compressed. Tar files should either be compressed when created, using the '-z' option, or compressed later using the gzip utility (also from gnu). If size really is a problem, then better compression is obtained with the bzip2 compression utility. This is also Open Source but takes longer to compress and uncompress files.

File Integrity

The license under which Ocean Science and Ocean Science Discussions are pub-lished allows paper and supplementary material to be copied to other computers and

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to mirror sites. However if you use such a copy, maybe in fifty years time, how do you know it is unchanged from the original.

If you think that this could be important, then I suggest that both the authors and users run the Open Source program 'md5sum' on the supplement file. This produces a 32 character checksum which can be published as a footnote in the main paper. Repeating the check at a later time will show up accidental changes. For the moment it is practically impossible to deliberately introduce changes without changing the checksum, but in 50 years time this may not be true. Comparisons between files from a number of sources will then be necessary.

Interactive comment on Ocean Science Discussions, 1, 1, 2004.