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Supplement of

A JavaScript API for the Ice Sheet System Model (ISSM) 4.11: towards an online interactive model for the cryosphere community

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1 Supplement

JavaScript compilation using ISSM is only supported on a subset of platforms. The port has been achieved on MacOSX platforms using the Emscripten suite of compilers, available at <http://kripken.github.io/emscripten-site>. Here, we present the specific set of instructions regarding installation of ISSM with JavaScript support. They build on the instructions for installation of the regular ISSM package, which can be found at <http://issm.jpl.nasa.gov/download/>

The main difference when dealing with compiling ISSM with JavaScript support turned on lies in the specific configuration that uses the Emscripten compiler. This configuration can be turned on by using the following configure arguments during the ISSM configuration phase:

```
10 #/bin/bash
    export CC=emcc
    export CXX=em++

    ./configure --prefix="$ISSM_DIR/build-js" \
15 --srcdir="$ISSM_DIR" \
    --with-javascript \
    --disable-shared \
    --with-triangle-dir="$HOME/externalpackages/triangle/install-javascript" \
    --with-gsl-dir="$HOME/externalpackages/gsl/install-javascript" \
20 --without-kml\
    --without-kriging\
    --with-cxxoptflags="-O2 "
```

Once ISSM is configured correctly, the compilation can be triggered using the `make install` command. One can then test the ISSM JavaScript capabilities using the ISSM nightly run suite found in the `test/NightlyRuns` sub-directory of the ISSM trunk. All tests that end up with a JavaScript extension (`.js`) have been used for validation of the ISSM JavaScript capabilities. They provide a good starting point for users to build on.