

JPL EXPORT ADMINISTRATION DOCUMENT REVIEW RECORD
---

Log #: 22755-22818

(Note: This form and process do not replace the procedures described in JPL Policy relating to review and approval of proposals and contractual documents. This process is intended to document the review and coordination of requests to ascertain the export control ramifications relating to specific documents. Export Administration signature does not convey authority to export or release the "Exporter of Record" from any export laws or regulations.)

**Program:** ISSM: Ice Sheet System Model

**Person Requesting or Initiating Export:** Dr. Eric Larour

**Date Received:** May-31-2018

**Document Title/Description:** ISSM changes from revision 22755 to revision 22818

**Release to:** <http://issm.ess.uci.edu/svn/issm/issm/trunk> on ISSM svn repository

**JPL Intranet:** [murdo.jpl.nasa.gov/proj/ice/larour/issm-uci/trunk-jpl](http://murdo.jpl.nasa.gov/proj/ice/larour/issm-uci/trunk-jpl)

**Disposition: 6** Does not contain export-controlled information. May be released/disclosed as requested subject to Company guidelines on protection of proprietary information (if applicable).

**Comments:** see table of changes below.

**Reviewed by ISSM Export Transfer Liaison:** Dr. Eric Larour      **Date:** May-31-2018



**Disposition:**

- 1: Public Domain Information (Ref ITAR Section 120.11)
  - 2: Qualifies for ITAR Exemption
  - 3: Covered by Department of State License/Agreement Number
  - 4: Covered by Department of Commerce validated license or exception
  - 5: New License Required
  - 6: Does not contain export-controlled information. May be released/disclosed as requested subject to Company guidelines on protection of proprietary information (if applicable).
  - 7: Other (specify)
- 

**Change #1** with diff file ISSM-22757-22758.diff:

Function name:

M /issm/trunk-jpl M /issm/trunk-jpl/externalpackages/mpich/install-3.0-linux64-static.sh M /issm/trunk-jpl/externalpackages/mpich/install-3.2-linux64-static.sh M /issm/trunk-jpl/externalpackages/petsc/install-3.6-linux64-static.sh M /issm/trunk-jpl/externalpackages/petsc/install-3.7-linux64-static.sh M /issm/trunk-jpl/externalpackages/petsc/install-3.7-macosx64-static.sh M /issm/trunk-jpl/jenkins/jenkins.sh M /issm/trunk-jpl/jenkins/macosx\_pine-island\_dakota\_static M /issm/trunk-jpl/jenkins/macosx\_pine-island\_static M /issm/trunk-jpl/packageagers/macosx/package.sh M /issm/trunk-jpl/packageagers/macosx-dakota/package.sh M /issm/trunk-jpl/packageagers/ubuntu/package.sh M /issm/trunk-jpl/src

Export determination: 6.

Rationale: merged trunk and trunk-jpl

**Change #2** with diff file ISSM-22759-22760.diff:

Function name:

M /issm/trunk-jpl M /issm/trunk-jpl/src M /issm/trunk-jpl/test

Export determination: 6.

Rationale: Block revision 22758 from being merged into trunk-jpl

**Change #3** with diff file ISSM-22760-22761.diff:

Function name:

M /issm/trunk-jpl/README M /issm/trunk-jpl/configure.ac M /issm/trunk-jpl/src/m/dev/issmversion.m M /issm/trunk-jpl/src/m/dev/issmversion.py

Export determination: 6.

Rationale: CHG: new version number

**Change #4** with diff file ISSM-22761-22762.diff:

Function name:

M /issm/trunk-jpl/jenkins/jenkins.sh

Export determination: 6.

Rationale: CHG: matlab options were overkill

**Change #5** with diff file ISSM-22762-22763.diff:

Function name:

M /issm/trunk-jpl/jenkins/macosx.pine-island\_static

Export determination: 6.

Rationale: CHG: now require to install math77 and gmsh

**Change #6** with diff file ISSM-22764-22765.diff:

Function name:

M /issm/trunk-jpl/src/c/classes/Elements/Tria.cpp M /issm/trunk-jpl/src/c/classes/ExternalResults/Generic

M /issm/trunk-jpl/src/c/cores/controladm1qn3\_core.cpp M /issm/trunk-jpl/src/c/modules/ModelProcessorx/

Export determination: 6.

Rationale: CHG: clean up code and enable transpose of ExternalResults

**Change #7** with diff file ISSM-22769-22770.diff:

Function name:

M /issm/trunk-jpl/src/m/classes/clusters/generic.m M /issm/trunk-jpl/src/m/classes/clusters/pfe.m

M /issm/trunk-jpl/src/m/inversions/marshallcostfunctions.m M /issm/trunk-

jpl/src/m/inversions/supportedcontrols.m A /issm/trunk-jpl/src/m/mesh/labelconnectedregions.m

M /issm/trunk-jpl/src/m/mesh/planet/gmsh/gmshplanet.m M /issm/trunk-jpl/src/m/plot/subplotmodel.m

M /issm/trunk-jpl/src/m/solvers/mumpsoptions.m

Export determination: 6.

Rationale: CHG: fixing call to gmsh for workshop binaries

**Change #8** with diff file ISSM-22770-22771.diff:

Function name:

M /issm/trunk-jpl/src/m/classes/clusters/generic.m M /issm/trunk-jpl/src/m/classes/clusters/pfe.m  
M /issm/trunk-jpl/src/m/inversions/marshallcostfunctions.m M /issm/trunk-jpl/src/m/inversions/supportedcontrols.m M /issm/trunk-jpl/src/m/plot/subplotmodel.m  
M /issm/trunk-jpl/src/m/solvers/mumpsoptions.m  
Export determination: 6.  
Rationale: CHG: reverting changes

**Change #9** with diff file ISSM-22777-22778.diff:

Function name:

M /issm/trunk-jpl/src/m/classes/clusters/generic.m

Export determination: 6.

Rationale: NEW: added valind in coupled simulations

**Change #10** with diff file ISSM-22778-22779.diff:

Function name:

M /issm/trunk-jpl/src/c/classes/Vertex.cpp M /issm/trunk-jpl/src/c/classes/Vertex.h

M /issm/trunk-jpl/src/c/classes/Vertices.cpp M /issm/trunk-jpl/src/c/classes/Vertices.h

M /issm/trunk-jpl/src/c/cores/transient\_core.cpp M /issm/trunk-jpl/src/c/modules/ModelProcessorx/Create

Export determination: 6.

Rationale: NEW: starting to interpolate data between ice and ocean grids

**Change #11** with diff file ISSM-22779-22780.diff:

Function name:

M /issm/trunk-jpl/src/c/classes/Vertices.cpp

Export determination: 6.

Rationale: FIX: forgot to delete variables

**Change #12** with diff file ISSM-22780-22781.diff:

Function name:

M /issm/trunk-jpl/src/c/classes/Vertices.cpp

Export determination: 6.

Rationale: FIX: no need to print lat/long

**Change #13** with diff file ISSM-22782-22783.diff:

Function name:

M /issm/trunk-jpl/src/c/cores/transient\_core.cpp

Export determination: 6.

Rationale: FIX: fixed problem with lat/long

**Change #14** with diff file ISSM-22784-22785.diff:

Function name:

M /issm/trunk-jpl/src/c/cores/transient\_core.cpp

Export determination: 6.

Rationale: CHG: fixed AD

**Change #15** with diff file ISSM-22786-22787.diff:

Function name:

M /issm/trunk-jpl/src/c/classes/Vertex.cpp

Export determination: 6.

Rationale: FIX: lat/long only if they exist

**Change #16** with diff file ISSM-22787-22788.diff:

Function name:

M /issm/trunk-jpl/src/c/analyses/MasstransportAnalysis.cpp M /issm/trunk-jpl/src/c/shared/Enum/EnumDefinitions.h M /issm/trunk-jpl/src/c/shared/Enum/EnumToStringx.cpp M /issm/trunk-jpl/src/c/shared/Enum/StringToEnumx.cpp

Export determination: 6.

Rationale: CHG: no need to have lat/long enums

**Change #17** with diff file ISSM-22789-22790.diff:

Function name:

M /issm/trunk-jpl/src/c/classes/Vertex.cpp

Export determination: 6.

Rationale: CHG: added some asserts

**Change #18** with diff file ISSM-22791-22792.diff:

Function name:

A /issm/trunk-jpl/examples/EsaGRACE A /issm/trunk-jpl/examples/EsaGRACE/Models  
A /issm/trunk-jpl/examples/EsaWahr A /issm/trunk-jpl/examples/EsaWahr/Models  
A /issm/trunk-jpl/examples/EsaWahr/runme.m A /issm/trunk-jpl/examples/SlrFarrell  
A /issm/trunk-jpl/examples/SlrFarrell/Models A /issm/trunk-jpl/examples/SlrGRACE  
A /issm/trunk-jpl/examples/SlrGRACE/Models

Export determination: 6.

Rationale: NEW: four tutorials for Hawaii workshop

**Change #19** with diff file ISSM-22793-22794.diff:

Function name:

A /issm/trunk-jpl/examples/EsaWahr/RoundDomain.exp M /issm/trunk-jpl/examples/EsaWahr/runme.m  
A /issm/trunk-jpl/examples/EsaWahr/wahr.m

Export determination: 6.

Rationale: CHG: tutorial 1 completed

**Change #20** with diff file ISSM-22794-22795.diff:

Function name:

M /issm/trunk-jpl/src/c/classes/Elements/Element.cpp M /issm/trunk-jpl/src/c/classes/Inputs/ControlInput  
M /issm/trunk-jpl/src/c/cores/controladm1qn3.core.cpp M /issm/trunk-jpl/src/c/shared/io/Marshalling/IOC

Export determination: 6.

Rationale: CHG: added basal melt to IoCodeConversions, added better names  
to transient inputs for transient controls, fixed bug in controladm1qn3

**Change #21** with diff file ISSM-22795-22796.diff:

Function name:

M /issm/trunk-jpl/src/m/classes/geometry.js

Export determination: 6.

Rationale: CHG (JS): Fixing Matlab-JS semantic translation error.

**Change #22** with diff file ISSM-22796-22797.diff:

Function name:

A /issm/trunk-jpl/examples/EsaGRACE/grace.m A /issm/trunk-jpl/examples/EsaGRACE/runme.m

Export determination: 6.

Rationale: CHG: esa tutorial for GRACE loads

**Change #23** with diff file ISSM-22797-22798.diff:

Function name:

M /issm/trunk-jpl/test/MITgcm/code/cpl\_issm.F

Export determination: 6.

Rationale: MITgcm sends shelficeFreshWaterFlux instead of shelficeHeatFlux to ISSM

**Change #24** with diff file ISSM-22798-22799.diff:

Function name:

M /issm/trunk-jpl/src/c/cores/transient\_core.cpp M /issm/trunk-jpl/src/c/modules/ModelProcessorx/CreateModelProcessorx.cpp

M /issm/trunk-jpl/src/c/shared/Enum/EnumDefinitions.h M /issm/trunk-jpl/src/c/shared/Enum/EnumToStEnum.cpp

M /issm/trunk-jpl/src/c/shared/Enum/StringToEnumx.cpp

Export determination: 6.

Rationale: CHG: fixed ocean heat flux used in ISSM for ocean coupling

**Change #25** with diff file ISSM-22799-22800.diff:

Function name:

M /issm/trunk-jpl/src/c/cores/transient\_core.cpp

Export determination: 6.

Rationale: CHG: send the right base to the ocean model

**Change #26** with diff file ISSM-22800-22801.diff:

Function name:

M /issm/trunk-jpl/src/c/cores/transient\_core.cpp

Export determination: 6.

Rationale: BUG: fixed leaks in coupling

**Change #27** with diff file ISSM-22801-22802.diff:

Function name:

M /issm/trunk-jpl/src/c/classes/Elements/Element.cpp M /issm/trunk-jpl/src/c/cores/controladm1qn3\_core.cpp

M /issm/trunk-jpl/src/c/shared/io/Marshalling/IoCodeConversions.cpp

Export determination: 6.



Rationale: CHG: fixing non transient adolc controls and adding MaterialsRheologyBbar to IoCodeConversions

**Change #28** with diff file ISSM-22802-22803.diff:

Function name:

M /issm/trunk-jpl/src/c/modules/ModelProcessox/CreateParameters.cpp

Export determination: 6.

Rationale: BUG: fixed problem with materials in solid earth tests

**Change #29** with diff file ISSM-22803-22804.diff:

Function name:

M /issm/trunk-jpl/examples/EsaGRACE/runme.m

Export determination: 6.

Rationale: CHG: added plotting scripts

**Change #30** with diff file ISSM-22804-22805.diff:

Function name:

A /issm/trunk-jpl/examples/SlrGRACE/runme.m

Export determination: 6.

Rationale: NEW: last tutorial on GRACE sea-level fingerprint

**Change #31** with diff file ISSM-22805-22806.diff:

Function name:

A /issm/trunk-jpl/examples/SlrFarrell/runme.m

Export determination: 6.

Rationale: CHG: third tutorial place holder

**Change #32** with diff file ISSM-22806-22807.diff:

Function name:

M /issm/trunk-jpl/src/m/mesh/planet/gmsh/gmshplanet.m M /issm/trunk-jpl/src/m/mesh/planet/gmsh/gmshplanet.m

Export determination: 6.

Rationale: CHG: ruled surface is changed to surface

**Change #33** with diff file ISSM-22807-22808.diff:

Function name:

M /issm/trunk-jpl/src/m/mesh/planet/gmsh/gmshplanet.m

Export determination: 6.

Rationale: minor

**Change #34** with diff file ISSM-22808-22809.diff:

Function name:

M /issm/trunk-jpl/src/m/classes/slr.js M /issm/trunk-jpl/src/m/classes/slr.m

M /issm/trunk-jpl/src/m/classes/slr.py

Export determination: 6.

Rationale: minor

**Change #35** with diff file ISSM-22809-22810.diff:

Function name:

M /issm/trunk-jpl/examples/EsaGRACE/runme.m A /issm/trunk-jpl/examples/Functions

A /issm/trunk-jpl/examples/Functions/grace.m A /issm/trunk-jpl/examples/Functions/wahr.m

M /issm/trunk-jpl/examples/SlrGRACE/runme.m

Export determination: 6.

Rationale: CHG: functions are located in a seperate directory etc

**Change #36** with diff file ISSM-22810-22811.diff:

Function name:

D /issm/trunk-jpl/examples/EsaGRACE/grace.m D /issm/trunk-jpl/examples/EsaWahr/wahr.m

Export determination: 6.

Rationale: CHG: duplicate functions removed from svn

**Change #37** with diff file ISSM-22811-22812.diff:

Function name:

M /issm/trunk-jpl/examples/EsaWahr/runme.m

Export determination: 6.

Rationale: minor

**Change #38** with diff file ISSM-22812-22813.diff:

Function name:

M /issm/trunk-jpl/examples/SlrGRACE/runme.m

Export determination: 6.

Rationale: CHG: minor

**Change #39** with diff file ISSM-22813-22814.diff:

Function name:

M /issm/trunk-jpl/examples/SlrFarrell/runme.m

Export determination: 6.

Rationale: CHG: Farrell solutions recovered

**Change #40** with diff file ISSM-22814-22815.diff:

Function name:

A /issm/trunk-jpl/examples/SlrFarrell/Farrell\_1976\_Fig1.pdf

Export determination: 6.

Rationale: NEW: Farrell solutions for benchmarking

**Change #41** with diff file ISSM-22815-22816.diff:

Function name:

M /issm/trunk-jpl/examples/EsaGRACE/runme.m M /issm/trunk-jpl/examples/EsaWahr/runme.m

M /issm/trunk-jpl/examples/SlrFarrell/runme.m

Export determination: 6.

Rationale: CHG: final minor changes to all tutorials

**Change #42** with diff file ISSM-22816-22817.diff:

Function name:

M /issm/trunk-jpl/src/c/cores/transient\_core.cpp

Export determination: 6.

Rationale: CHG: esa added in transient core

**Change #43** with diff file ISSM-22817-22818.diff:

Function name:

M /issm/trunk-jpl/src/c/cores/sealevelrise\_core.cpp

Export determination: 6.

Rationale: CHG: minor adjustment to let intial slr relax according to SAL