Explanations of Auxiliary Material 8: ABS4 application software

Auxiliary Material 8: Please download the Dynamic content folder and unzip either by WINDOWS or MAC. The unzipped file should include

(1) Arc Basalt Simulator version 4 Excel spreadsheet calculation software package named "ARC_BASALT_SIMULATOR_ver.4.00.xlsm"

(2) A readme file for installation (this file).

ARC_BASALT_SIMULATOR_ver.4.00.xlsm is an Excel spreadsheet that contains all calculation sequence used in the ABS4 model (see the text).

The Excel file is originally saved by Excel 2010 format for WINDOWS and itself is available for Excel 2007 or later versions in WINDOWS or for the equivalents in Mac. ABS4 can be used by Excel 2003 when ARC_BASALT_SIMULATOR_ver.4.00.xlsm file is saved by .xls format by Excel 2007/2010. Excel 2003 equivalent in Mac can also run the converted Excel file.

Please note that macro function should be activated when the Excel alert asks you while you start up the program. Otherwise automated Monte Carlo simulation cannot be validated.

The best calculation performance of ARC_BASALT_SIMULATOR_ver.4.00.xls is achieved by Excel 2003 on WINDOWS XP platform. Alternative option is use of Excel 2003 installed on WINDOWS 7 XP mode emulation platform. We have tested XP mode and found no problems. The ARC_BASALT_SIMULATOR_ver.4.00.xlsm on Excel 2007 or later on WINDOWS7 runs properly but calculations are slow due to the major change in the Excel spreadsheet.

Currently we have not prepared any tutorials for ABS4. However operations are almost similar with that for ABS3 for which a tutorial is available at http://www.earthchem.org/library/search (Earth Chem Library). Go to the URL and type "Kimura" for search of ABS3 package including a tutorial.