

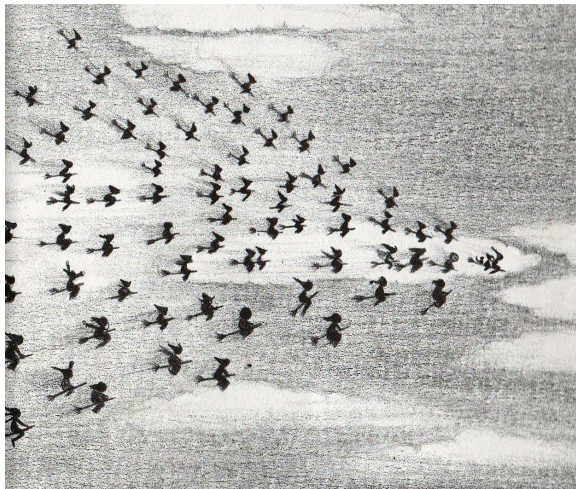
ADMB-IDE

current status & road ahead

Arni Magnusson

ADMB/TMB Developer Workshop

Seattle, 20 June 2016

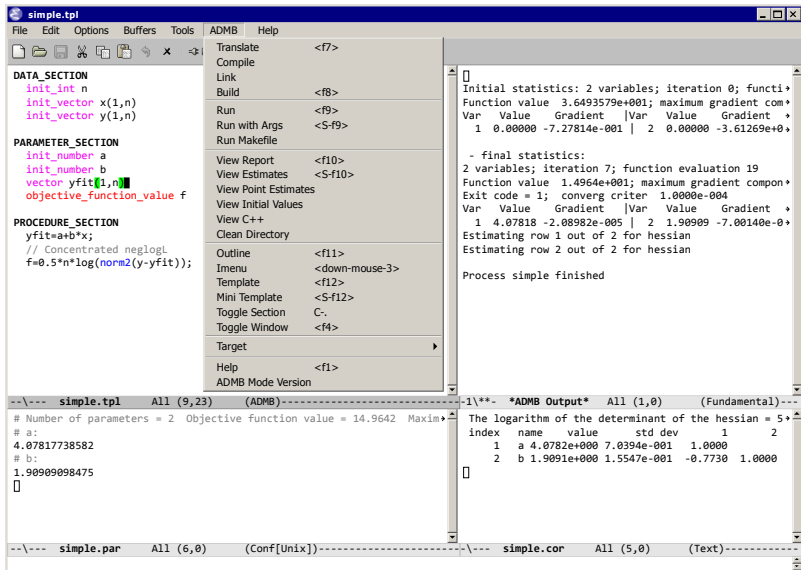


AD Model Builder IDE

Emacs `admb-mode` without the Emacs

Version 11.2 (2015-01-12)

Revised manual (2015-09-23)



ADMB-IDE

Background

overview, components, history

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Current status

release lag, issues

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Road ahead

value, teamwork

Overview

ADMB-IDE provides mainly two things:

- 1 Easy way to **install and configure** ADMB with GCC, GDB, and Emacs

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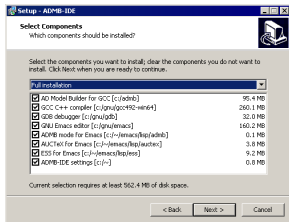
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- 2 Efficient and **full-featured environment**
to develop ADMB models

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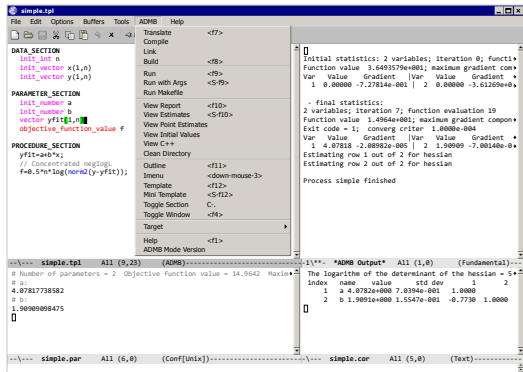
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to develop ADMB models
(also available as stand-alone ADMB Mode)

Overview



easy to install



efficient environment

Components

ADMB

autodif, tpl2cpp, etc.

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GCC

compiler

GDB

debugger

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Emacs

editor framework

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ADMB Mode

syntax colors

commands

- build
- run
- view
- navigate
- template

Download

ADMB-IDE

<http://admb-project.org/tools/admb-ide>

ADMB Mode

<http://admb-project.org/tools/editors/emacs>

Release history

admb-ide	admb	gcc	gdb	emacs	mode	notes
2009 May	9.0	3.4	6.8	22.3	3.1	initial release
2010 Mar	9.1	4.4	7.0	23.1	4.0	
2011 Feb	10.0	4.5	7.2	23.2	6.2	
2012 Mar	10.1	4.5	7.2	23.4	6.8	win32/64
2015 Jan	11.2	4.9	7.8	24.4	11.2	safe, contrib

Lag between ADMB and IDE release

version	admb	ide	lag	notes
9.0	2008 Dec	2009 May	na	initial release
9.1	2009 Dec	2010 Mar	3	
10.0	2011 Jan	2011 Feb	1	
10.1	2011 Apr	2012 Mar	11	
11.0	2012 Jul	–	–	irregular scripts
11.1	2013 May	–	–	irregular scripts
11.2	2014 Dec	2015 Jan	1	18 since admb 11.0
11.3	2015 May	–	–	
11.4	2015 May	–	–	
11.5	2015 Dec	–	?	≥ 13 since admb 11.3

Current issues

Challenges

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Development notes

- Next release does not have to include 32-bit Windows; these users can run ADMB-IDE 11.2
- Next release should be based on GCC from Rtools
- This will make it easier to build ADMB and TMB models on the same Windows machine

Release procedure

Mix ingredients

- Find newest versions of all components:
ADMB, GCC, GDB, Emacs + packages (AUCT_EX, ESS)

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- Build installer

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Stir and bake

- Update manual: version numbers, new features
- Zip everything, including source code for manual and installer
- Build installer
- Upload and send announcement

Value

- ADMB-IDE is used by a large proportion of ADMB users who appreciate the easy and efficient working environment

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- Its continued maintenance is of value for the sustainability of the ADMB Project
- It would be a setback if 11.2 is the final release of ADMB-IDE

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ADMB

admb-project

Automatic Differentiation Model Builder (ADMB) open source project

Project Home Downloads

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Filename	Summary	Labels	Uploaded	ReleaseDate	Size	DownloadCount
admb-ide-101-win64.exe	ADMB-IDE installer (Windows 64-bit)	Featured	Mar 2012	Mar 2012	83.9 MB	971
admb-ide-101-win64.zip	ADMB-IDE zip (Windows 64-bit)	Featured	Mar 2012	Mar 2012	107 MB	189
admb-ide-101-win32.exe	ADMB-IDE installer (Windows 32-bit)	Featured	Mar 2012	Mar 2012	73.7 MB	814
admb-ide-101-win32.zip	ADMB-IDE zip (Windows 32-bit, Linux, Mac OS)	Featured	Mar 2012	Mar 2012	91.9 MB	305
admb-ide-450-1.exe	ADMB-IDE installer (Windows)	Deprecated	Feb 2011	Feb 2011	70.9 MB	428
admb-ide-450-1.zip	ADMB-IDE zip (Windows, Linux, Mac OS)	Deprecated	Feb 2011	Feb 2011	88.4 MB	165
admb-ide-440-2.exe	ADMB-IDE installer (Windows)	Deprecated	Mar 2010		66.7 MB	696
admb-ide-440-2.zip	ADMB-IDE zip (Windows, Linux, Mac OS)	Deprecated	Mar 2010		84.8 MB	193
admb-ide-440-1.exe	ADMB-IDE installer (Windows)	Deprecated	Mar 2010		66.2 MB	22
admb-ide-440-1.zip	ADMB-IDE zip (Windows, Linux, Mac OS)	Deprecated	Mar 2010		84.4 MB	20
admb-ide-345-8.exe	ADMB-IDE installer (Windows)	Deprecated	Sep 2009		57.2 MB	362
admb-ide-345-8.zip	ADMB-IDE zip (Windows, Linux, Mac OS)	Deprecated	Sep 2009		71.6 MB	112
admb-ide-345-7.exe	ADMB-IDE installer (Windows)	Deprecated	Sep 2009		60.6 MB	15
admb-ide-345-7.zip	ADMB-IDE zip (Windows, Linux, Mac OS)	Deprecated	Sep 2009		76.5 MB	9
admb-ide-345-6.exe	ADMB-IDE installer (Windows)	Deprecated	Jul 2009		52.4 MB	66
admb-ide-345-6.zip	ADMB-IDE zip (Windows, Linux, Mac OS)	Deprecated	Jul 2009		66.3 MB	23
admb-ide-345-5.zip	ADMB-IDE zip (Windows, Linux, Mac)	Deprecated	Jun 2009		65.4 MB	26
admb-ide-345-5.exe	ADMB-IDE installer (Windows)	Deprecated	Jun 2009		51.6 MB	36
admb-ide-345-4.zip	ADMB-IDE zip (Windows, Linux, Mac OS)	Deprecated	May 2009		65.4 MB	17
admb-ide-345-4.exe	ADMB-IDE installer (Windows)	Deprecated	May 2009		51.6 MB	14

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simple.tpl

File Edit Options Buffers Tools

Translate

<f7>

Compile

Link

Build

<f8>

Run

<f9>

Run with Args

<S-f9>

Run Makefile

View Report

<f10>

View Estimates

<S-f10>

View Point Estimates

View Initial Values

View C++

Clean Directory

Outline

<f11>

Imenu

<down-mouse-3>

Template

<f12>

Mini Template

<S-f12>

Toggle Section

C-

Toggle Window

<f4>

Target

Help

<f1>

ADMB Mode Version

DATA_SECTION

init_int n

init_vector x(1,n)

init_vector y(1,n)

PARAMETER_SECTION

init_number a

init_number b

vector yfit(1,n)

objective_function_value f

PROCEDURE_SECTION

yfit=a+b*x;

// Concentrated neglogL

f=0.5*n*log(norm2(y-yfit));

Initial statistics: 2 variables; iteration 0; functi

Function value 3.493579e+001; maximum gradient com

Var Value Gradient |Var Value Gradient +

1 0.00000 -7.27814e-001 | 2 0.00000 -3.61269e+0

- final statistics:

2 variables; iteration 7; function evaluation 19

Function value 1.4964e+001; maximum gradient compon

Exit code = 1; converg criter 1.0000e-004

Var Value Gradient |Var Value Gradient +

1 4.07818 -2.08982e-005 | 2 1.90909 -7.00140e-0

Estimating row 1 out of 2 for hessian

Estimating row 2 out of 2 for hessian

Process simple finished

--\--- simple.tpl All (9,23) (ADMB)-----

Number of parameters = 2 Objective function value = 14.9642 Maxim

a:

4.07817738582

b:

1.90909098475

--\--- *ADMB Output* All (1,0) (Fundamental)---

The logarithm of the determinant of the hessian = 5 +

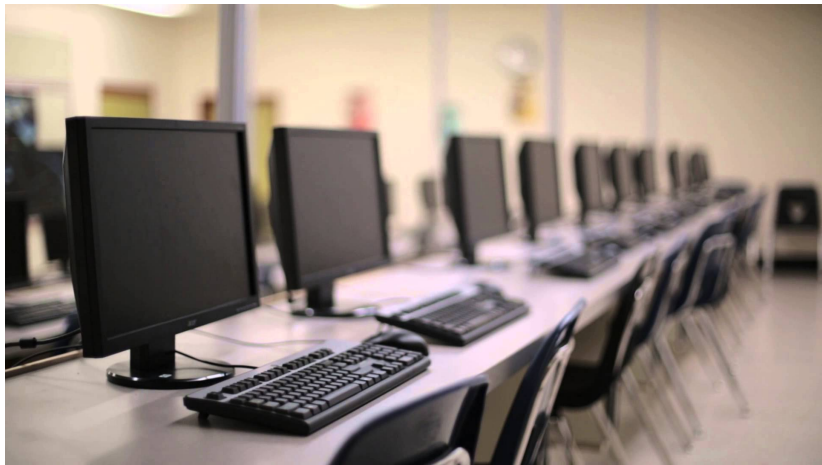
index name value std dev 1 2

1 a 4.0782e+000 7.0394e-001 1.0000

2 b 1.9091e+000 1.5547e-001 -0.7730 1.0000

--\--- simple.par All (6,0) (Conf[Unix])-----

--\--- simple.cor All (5,0) (Text)-----



Teamwork

- It would be very helpful if the maintenance of ADMB-IDE could be shared by more than one developer
- Does anyone here use Emacs in Windows, and is familiar with setting environment variables, etc?