APPENDIX A – INPUT ALBEDO MAPS FOR TWOD EBM

Input CERES albedo maps for all twelve months, including the four that were provided within the main body of this thesis.







CERES EBAF Clear Sky Surface Albedo for March 2000-2014



0.8 0.7 0.6 Latitude 0.5 . 0.3 0.2 Longitude

CERES EBAF Clear Sky Surface Albedo for May 2000-2014



CERES EBAF Clear Sky Surface Albedo for July 2000-2014 180 0.9 160 0.8 140 0.7 120 0.6 100 Latitude 0.5 80 0.4 60 0.3 40 0.2 20 0.1 50 100 150 200 250 300 350 Longitude



CERES EBAF Clear Sky Surface Albedo for September 2000-2014 0.9 0.8 0.7 Latitude 0.2 Longitude



CERES EBAF Clear Sky Surface Albedo for November 2000-2014 0.9 0.8 Latitude Longitude



APPENDIX B – OUTPUT TEMPERATURE AND ALBEDO MAPS FOR TWOD EBM

Output albedo and temperature maps for all twelve months including those provided in the main thesis text are provided within the context of the default parameters using the TwoD_CERES model, i.e.: present-day insolation, orbital parameters, TCritLand = 0°C, TCritOcean = -13°C, Aice = 0.62, CALB = 0.5, A = 204, B = 2.17, C = 3.81, S_x = 1. The graphs provided for one line of longitude are taken from longitude zero.

Present_Day_0ka Temperature Map for January, Global Temp = 6.589 80 60 40 20 Latitude 0 -20 -40 -60 -80 -100 100 150 -150 -50 0 50 Longitude

January





February:



Latitude -20 -40 -60 C -80 Longitude -150 -100 -50

Present_Day_0ka Albedo Map for February











Present_Day_0ka March at Longitude 0





Present_Day_0ka Albedo Map for April











June:













ut/Out ut Te Input/Output Alt 40 Input Output 30 20 8.0 Degrees Celsius 10 0 Percent 9.0 0.4 -10 0.2 Mp -20 Input Output -30 0 0 Latitude -80 -60 60 0 Latitude -80 -60 -40 -20 20 40 80 -40 -20 20 40 60 80 Cloudiness, Cloud albedo= 0.500 Shortwave/Longwave Radiation 0.65 500 0.6 400 Percent Cloudiness 300 W/m² 200 0.45 100 Longwav Initial S 0.4 0 -80 -60 -40 -20 0 Latitude 20 40 60 80 -60 0 Latitude 60 80 -80 -40 -20 20 40

Present_Day_0ka July at Longitude 0

August:



Present_Day_0ka Albedo Map for August Latitude -20 -40 -60 -80 Longitude -150 -100 -50



September:





Input/Output Temperature Input/Output Albedo 30 Input Output 20 0.8 Degrees Celsius 0 0 Percent 0.4 0.2 -20 Input Output -30 0 0 Latitude -60 -20 60 80 -80 -40 0 Latitude -60 40 -80 -40 -20 20 20 40 60 80 Cloudiness, Cloud albedo= 0.500 Shortwave/Longwave Radiation 0.65 450 400 0.6 350 Percent Cloudiness 300 250 m/m 200 150 100 0.45 50 nitial S 0.4 0 -80 -60 -40 0 Latitude 20 40 80 0 Latitude 60 80 -20 60 -80 -60 -40 -20 20 40

Present_Day_0ka September at Longitude 0

October:







November:





Input/Output Temperatu Input/Output Albedo 30 Output 20 0.8 10 0 Degrees Celsius 0-0 Percent 9.0 0.4 -20 0.2 -30 - Input Output -40 0 0 Latitude 60 80 -80 -60 0 Latitude -80 -60 -40 20 40 -40 -20 20 40 60 80 -20 Cloudiness, Cloud albedo= 0.500 Shortwave/Longwave Radiation 0.65 500 0.6 400 Percent Cloudiness 0.5 300 W/m^2 200 0.45 100 Shortwave Longwave Initial S 0.4 0 0 Latitude 0 Latitude -80 -60 -40 -20 20 40 60 80 -80 -60 -40 -20 20 40 60 80

Present_Day_0ka November at Longitude 0

December:





Present_Day_0ka Albedo Map for December



GUI Inputs:



APPENDIX C – EBM SCRIPT VERSIONS

Appendix C is designed to explain the contents of the accompanying zipped folder containing all versions of the EBM, and the necessary tools to run them.

Within the super-folder: "All Energy Balance Models" each subsequent EBM is divided into its own subfolder that contains the .m file of the script itself, which shares its name with the folder; the .fig file which is necessary in order to open and run the associated GUI; functions that are called within the main .m file, such as nadeau_v3.m, that must simply remain inside the folder or path of the EBM; and finally any required .mat files containing the workspace variables used within the scripts. They are loaded and called within the script where required and do not need to be opened or augmented when attempting to run the EBM. The image provided below contains all nine EBM's contained within the .zip file, as well as an example from TwoD_CERES of the files contained within.

