

## Guide to the CD accompanying Matt Patrick's Master's thesis

Hope this helps. If you want to use the program and have any problems (and I expect you will with the program in its current state) feel free to email me at:

mrp8@cornell.edu

...this is my lifetime email address, linked to whatever my current account is, so it should always work.

### 1. Organization of the CD:

Accessory Files: These are the actual files of data and methods used for the thesis project. Important items:

*wholeta folder:* contains the 100x100 pixel AVHRR data used for the comparison, which are meant to be ingested into the Matlab analysis programs that I wrote (in 'MatlabCode/comparison' folder).

*Band4only:* important file showing the band 4 pixel integrated results and comparison.

*threecomp:* three component data and comparison

Fieldwork: This folder contains all the data collected during my August 2001 visit to Okmok caldera.

*FieldPhotos:* all my photos taken around the flow. The photo number (e.g. 6\_11) refers to the roll\_photo. The photo locations are shown in the 'gpspoints.xls' file found in GPSpoints folder. Use WinZip to unzip.

*Flir:* this is data collected by the forward looking infrared radiometer over the distal portion of the 1997 flow during a helicopter overflight. Have yet to process this data into a mosaic.

*GPSpoints:* spreadsheets of all the measurement point and photo locations, as well as a track file showing my entire trip in the caldera

*Slopes:* measurements of ground slope on the west side of the second lobe.

MatlabCode: contains all the Matlab code for the numerical model (named 'threeway' for radiation, convection, conduction), as well as all the accessory programs to analyze the data and such.

Thesis: all the text, figures and appendices. Figures and such are in CorelDraw 9 and 10 format. Also contains my defense presentation in powerpoint.

### 2. Making the Numerical model code work:

To make the code work, one must open Matlab and go under File -> Set Path, then select each directory in the 'MatlabCode' folder and add these directories to the Matlab path listing. Oh, you'll probably want to just copy the whole 'MatlabCode' folder to your local disk so you can set the path permanently on your local computer.

The main numerical model is named 'threeway7', in the 'threeway7\_d' directory. This version uses a yearly average for weather. 'Threeway8\_okmoknew' is the version which considers daily weather data over Okmok. If you want to adapt it to another region, you have to look at how it reads in the Okmok data, then suit your weather data to the same format. Remember, this is currently a work in progress and not at the point at which I would have liked to distribute it because of its current user-unfriendliness. But I have to graduate now, and this CD is part of my thesis. Go to my website (you'll have to do a Google search for it, as I do not know what future addresses will be) to find updated and more friendly versions of the code.