CAPOD Funding Report

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Event /Course Title	MATLAB Recipes in Earth Sciences
Date of event	19th – 23rd February 2018

1. **Brief description of Event (*50-100 words*):**

The course consisted of five days teaching with a mixture of lecture material and practicals to walk through the code needed for each statistical technique discussed. The course covered topics such as an introduction to the software, time series analysis, univariate and multivariate statistics, digital elevation model analysis and image processing and analysis. As part of the course I received a hard copy of the accompanying textbook and access to lecture materials and supplementary data.

2. **What were the benefits of attending and what did you gain from the experience in terms of transferable skills and knowledge**.

Before attending the course I only had a basic working knowledge of the software. After attending the course I understand more fully the capabilities of the software and the types of analysis that I can undertake with it. Getting to grips with the style of MATLAB coding is a very useful transferable skill, as I hope to be able to use the building blocks that I learned to apply within MATLAB in the future. It was also beneficial to have the course taught by the author of the accompanying textbook (Dr. Martin Trauth), as he is an expert in the field.

3. **What actions will you be taking as a result of attending or by making new networking contacts.**

Having now completed the course, I will try and put aspects of what I have learned into action. Instead of immediately defaulting to Excel to plot graphs, I will try to code and produce these figures in MATLAB instead, as with code you can have much more control over the output. Also, by doing this I can save the code I have created which can then be used for future analysis, speeding up the process of data analysis in the long term.

4. **Can you share any additional resources produced in connection with the event (e.g. feedback from participants, training resources, website links, and additional materials.**

Dr. Martin Trauth also has a website through which he posts blogs about MATLAB, including code that can be used to undertake specific analysis, or to troubleshoot problems (http://mres.uni-potsdam.de/).

5. **Tips/experience learned from the event**

At first, MATLAB coding can seem very daunting, but through the course I have learned that there is plenty of support out there, including an active MATLAB community where coding knowledge is

shared and problems can be solved. This community can be accessed directly from the Mathworks website (https://uk.mathworks.com/matlabcentral/?s_tid=gn_mlc).

Specific to this course, I would suggest that you have some prior experience of at least some of the statistical techniques which are discussed. There is not enough time to teach both the statistical theory and the MATLAB coding in detail during the week, and a certain level of understanding is assumed.

6. Any additional comments or information regarding the event

I think the course was very insightful and would be useful for anyone in the Earth Sciences who is considering using MATLAB as a statistical tool.