# Modelling and data analysis 'Winter School'

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National Modelling Hub

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TE PŪ AO

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# 1 | Welcome & Introduction

**Day 1**

| | | | |
|---|---|---|---|
| 10:00 | Arrival & welcome | | Nick |
| 10:15 | Introduction to programming | | Nick |
| | Navigating the command line environment, scripting vs programming, pros & cons of various languages | | |
| 11:30 | Introduction to models | | Liz & Dan |
| | Climate model basics: components, types of models, internal variability. CMIP overview, climate sensitivity | | |
| 13:00 | Lunch | | |
| 14:00 | Time-series data – lecture | | Mario |
| | Principal component / empirical orthogonal function analysis, calculation of correlations, anomalies, detrending | | |
| 15:30 | Afternoon tea | | |
| 15:45 | Time-series data – tutorial | | Mario |
| 17:00 | Wrap-up | | |

**Day 2**

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|---|---|---|---|
| 09:00 | Spatial data – lecture | | Alex & Alena |
| | Understanding gridded data, map projections, data analysis and manipulations, masking, extracting vertical / horizontal sections | | |
| 10:30 | Coffee | | |
| 10:45 | Spatial data – tutorial | | Alex & Alena |
| 12:15 | Lunch | | |
| 13:15 | Document preparation in LaTeX | | Angela |
| | Learn the basics, write equations, insert figures, create your own tables, insert references | | |
| 14:45 | Afternoon tea | | |
| 15:00 | Work Structure & Version control | | Stefan |
| | Defining a workflow, handling 'big data', version control for scripts/documents, best practice guidelines | | |