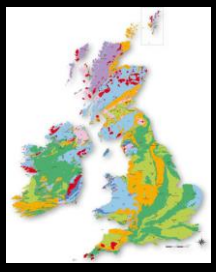
An Introduction To Geological Maps



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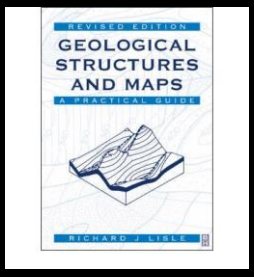
Recommended text



Geological Structures and Maps (Lisle)
(or Bennison et al. / Barnes & Lisle)

Course structure

1. Introduction
2. Uniformly dipping strata
3. Folded strata
4. Faults
5. Unconformities
6. Igneous Rocks
7. Metamorphic cleavage
8. Maps in 4D

Introduction

Maps & Geology

Why map geology and how?

How to read geological maps?

Introduction

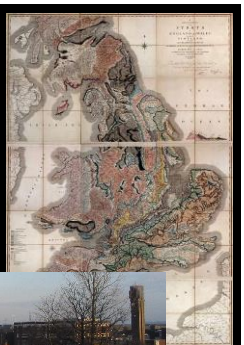
Scarborough sheet:

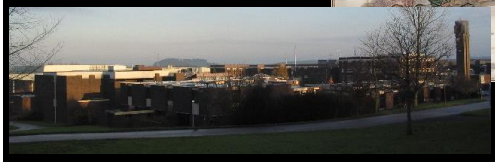
First impressions?

Why map?

Ordnance Survey:
military

Geological Survey:
economic
scientific





What is a geological map?

How does it differ from a 'normal' map?

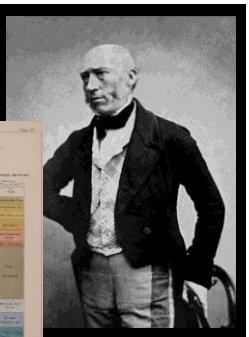
Interpretive, not just descriptive

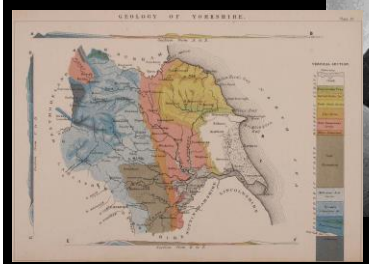
= Predictive science

Origins

William 'Strata' Smith

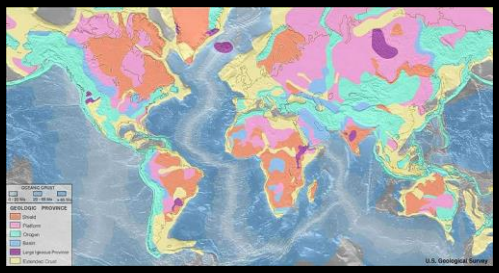
Smith & Nephew





The Mapping of Yorkshire

What to map?



Depends on scale and subject – what are you trying to show?

What to map?

What units are mappable?

1:1000 scale

1 mm on map = 1 m wide

1:250,000 scale

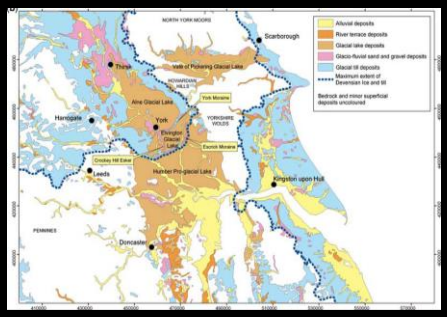
1 mm on map = 250 m wide

Observed vs inferred features

Topography

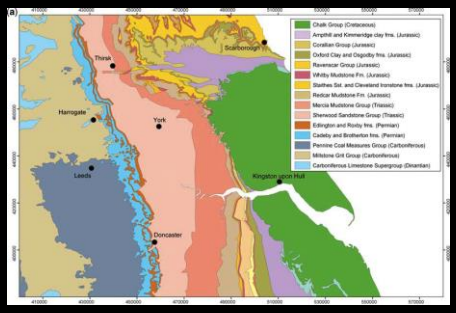
Learn to read the landscape

What to map?



Superficial: also known as 'Drift' mapping

What to map?



Bedrock or 'Solid' Geology

Next week:

Uniformly dipping strata

Next week:

Uniformly dipping strata

Useful tools:

Protractor, ruler, pencils, paper

Resources (www.fossilhub.org)

Geology of Britain Viewer:

http://www.bgs.ac.uk/discoveringGeology/geologyOfBritain/viewer.html

iGeology:

http://www.bgs.ac.uk/igeology/

Vale of York bedrock/superficial maps:

Link to paper

Maps Before Maps:

http://www.retronaut.com/2012/10/maps-before-maps/