

THE ART AND SCIENCE OF MAP-MAKING

DRAWING - THE ART OF MAP-MAKING

the science side is simply measurement - plotting the correct position and contour level, the art side is equally important but more subjective and involves more decision making regardless of how you map, at some stage you will have to engage eye, brain and hand in exactly the same way as if you were drawing a bowl of fruit or a nude model

1. OBSERVATION SKILLS - LOOK (EYES)
2. VISUALISATION - MENTAL PICTURE (BRAIN)
3. DRAW THAT PICTURE (HAND/EYE COORDINATION)
4. RUB OUT AND TRY AGAIN!

don't be put off by this - anyone can learn to draw, simply by practising

when mapping a feature, your first mark should always be faint - you will most likely change it at least once when mapping contour features, draw faint guide marks - a line on ridges / reentrants, dot on knoll tops, then drape contour lines / formlines at correct levels. Lidar gives exact contour levels - you should tweak these by up to 1m or so the pick out all the features and their shapes, as they would look to a runner.

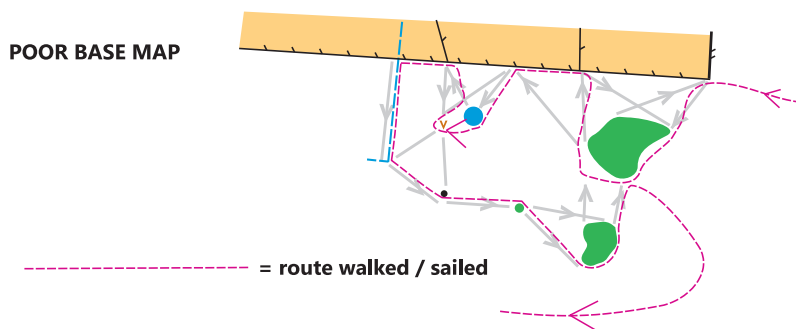
MEASURING - THE SCIENCE OF MAPPING

CAPTAIN COOK METHOD...

If you have a poor (blank!) base map and have to accurately map the coastline of New Zealand!

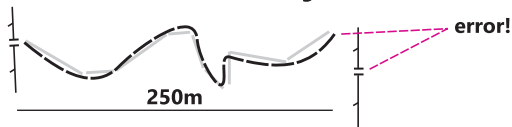
Triangulation - a series of cross-bearings forming small triangles to plot features and establish new fixed-points. Terrain permitting, pace-counting is also used. Try to avoid any bearing/ measurement of 50m+, as inaccuracies start to creep in.

Usually best to work around the edges of the area / block, then use these fixed points to work inwards (see below).



use base-plate or sighting compass with a pacing scale to suit the map scale
keep pacing / taking bearings - going by eye doesn't work - things will not fit and will take ages to sort out all very tedious!!! avoid poor base maps!!!

DONT!! set off compass and pacing along a long line feature - when you come to the end it just will not fit - rather, keep measuring / sighting back to known features in triangles



to take a bearing on the ground and plot it on the map is the exact reverse process of taking a bearing in competition.....

1. stand at a fixed point and carefully sight along the compass towards the new feature
2. keep compass in that position and rotate housing so housing lines match north arrow
3. place compass on base map so housing lines match N lines on map
4. draw faint line using side of compass as a ruler, starting at your position - the new feature will lie on this line

GOOD BASE MAP

for example, a good old o-map, PG plot on open land, lidar/airphoto combo

Little need to take measurements, as above. Simply carefully map-read around the area, correcting the base map. Features can often be added by eye, placed using the base map info.

You may need to remove as much as you add. Lidar - use 1m contours on the base map as they pick up most features and tell you exactly where you are and what level you are on. However do not be drawn into over-mapping, especially over-using formlines, which can spoil the impression of steepness. Remove lidar 'noise' - shaky lines. Lidar contours are great for mapping but look wrong to an orienteer - don't just copy them - try to improve them.