Dartmoor Weather

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Good team management will involve a sound understanding of the weather and will begin with observations in the days leading up to a visit. River levels are affected by current and recent conditions but the speed with which flow rates increase will also be affected by the preceding days' rainfall. The ability of the moor to absorb rain rather than it becoming run off greatly affects the rises in rivers.

It is vital that a Team Manager plans to be adaptable to conditions and these plans need to take into account Yellow, Amber and Red Weather Warnings from the Met Office, these will cover both road conditions and the moorland environment. Ignore these at your peril.

A sensible checklist for a Team Manager prior to leaving the establishment would be:

1: Do I have an up to date weather forecast?

2: Have I adapted plans according to recent weather warnings?

3: Are the walking groups capable of making informed decisions if weather conditions change?

4: Can we safely get to Dartmoor given the road conditions?

5: Do I have plans to evacuate groups in the case of drastic weather changes?

6: Are weather conditions and warnings art of my risk assessment?

The Weather on Dartmoor:

Westerly and South-Westerly winds predominate over Dartmoor. These winds, bringing Atlantic air masses, release their rain on the first high ground they encounter; Dartmoor and Bodmin Moor. As a result, Dartmoor has a climate which is ***wetter, cloudier, foggier, colder and windier*** than the surrounding lowlands. The North Moor, with its higher tracts of land, is generally the hardest hit.

If we take Princetown (altitude 420m) as an example, the average temperature is ***around 3 degrees Celsius colder*** than on the fringes of the moor, with ***over twice the annual rainfall***. Wind-speeds above an altitude of 400m average twice that at sea-level during the summer months, rising to 3 times during November to March. The combination of colder air and stronger winds, as well as increasing the wind-chill factor, makes snowfall more common; sleet at 2^{o}C with a 10 mph wind on the edge of the moor, can be a minus 2^{o}C blizzard with 30 mph gusts on the high North Moor.

As a general rule, ***temperatures fall by one degree Celsius for every 100m of height***; combined with the heavier rain and stronger winds likely to be encountered on higher ground, quality waterproofs, hats and gloves, and warm spare clothes are essential. Clothing is dealt with fully in other parts of this Guidance Booklet. Similarly, good quality tents, insulating mats and sleeping bags are essential for overnight trips in all seasons; camp sites should offer some shelter, and should be at least 4m above any streams or watercourses. ***Dartmoor's rivers rise spectacularly and dangerously***, both during and following periods of heavy rain, and route-planning must take this into account. Mist or fog can seriously hamper navigation, and teams should be competent in compass use, timing and pacing as well as having straightforward escape routes; heading downhill towards a road is often the simplest contingency plan!

As well as choosing appropriate equipment, teams and team managers can prepare themselves for the weather in a number of ways. ***Hourly weather-watching*** is a key skill; look out for winds 'backing' (shifting anti-clockwise) and gaining in strength, accompanied by thickening cloud; this is a sign of the onset of worsening weather. If the wind 'veers' (shifts clockwise) and dies down, this signals the passage of a front and usually an improvement in the weather. Watch the clouds for level and thickness, particularly to the West and South West where impending changes may be seen first. Similarly, watch for the towering black 'anvil' clouds, especially in warm or close weather, which may precede violent thunderstorms. If you have a watch with a barometric pressure sensor, which will need to be re-set at known heights, ***rapidly falling pressure inevitably means a change for the worse*** in the weather.

Dry weather can also be a cause for concern as, combined with strong winds, fire risk can be significant. Indeed, there have been a number of extensive moorland fires in March and April in recent years.

A team cut off by a wildfire can be at significant risk. They may be unable to make expected progress or may have escape routes cut off. Wind direction will be critical in considering a group's safety in such a situation. Teams will also be very worried in such situations; communications will be very important.

A critical part of a Team Manager's preparation for a weekend includes

considering how the weather will affect driving conditions. Narrow lanes can funnel rainwater causing very localised standing water which may hide deep potholes. A punctured tyre or buckled minibus wheel can cause significant trouble and result in a blocked road for other road users. Approach puddles with great caution.

In the colder months (when much of our training takes place) ice is also a concern. Minor roads are unlikely to be treated and afternoon rain run-off can cause overnight black ice. Clapper bridges are particularly vulnerable to icing in the early morning and a fall can have significant consequences. Brief your teams to be very cautious of crossing them in cold weather, even if the surrounding ground is frost free the bridge may well be coated in black ice.

Weather forecasts are crucial, and should be checked immediately before setting out: do not be afraid to change your routes or your day-plan if the weather makes it potentially beyond your team's capacity. Comparing reliable forecasts helps a Team Manager make an informed decision.

I recommend the following links:

www.metoffice.gov.uk and search/save Two Bridges, Rough Tor, Yelverton, Bellever or Dartmeet, for which there are specific forecasts.

Weather warnings guide - Met Office gives a good overview of how actions and decisions should be amended in light of expected conditions.

www.yr.no/en is a Norwegian site offering information for High Willhays, Postbridge and Princetown.

www.bbc.co.uk/weather/2636174 for a Tavistock forecast:

www.bbc.co.uk/weather/2639885 for a Princetown forecast.

For those interested in more detailed meteorological forecasting and records – or maybe as a project for your team members during the training phase, perhaps in conjunction with a school's Geography or Science departments - the following sites are both of value and interest:

Google www.lyneside.co.uk (no longer a direct weblink) and you can see a site at 310m on Haytor which gives actual weather readings at 30 minute intervals including temperature, rainfall, humidity, wind speed and direction, and barometric pressure as well as graphs showing recent patterns.

www.dartcom.co.uk/weather

This site gives the same information as above, but recorded from an altitude of 369m at Postbridge.