There are also other implications when planning dives. Some divers may have to travel to and from dive sites overland, some may dive lakes at altitude and many travel by plane to dive sites around the world on diving holidays.

Travel upwards from sea level and the atmospheric pressure reduces (e.g. students may have heard the term 'thin air' used by mountaineers). Another reduction in atmospheric pressure is from the ever-changing weather patterns moving high and low pressure weather systems over the earth. (Low pressure generally indicates bad weather).

Any changes in local atmospheric pressure (either due to altitude or weather systems) affect the gas saturation of body tissues.

- It is this saturation that determines which Level set of BSAC Decompression Tables should be used
- Weather forecasts usually provide atmospheric pressure at sea level
- Using the Altitude/Atmospheric Pressure Chart give as an example
    - The sea level atmospheric pressure is around 1000 mbar, the planned dive is in a lake 750m above sea level. Trace the sea level atmospheric pressure vertically and known altitude level horizontally
    - Where the values meet it indicates the Level of table to use - in this example Level 2 Tables
    - If the value line's meet on a borderline, choose the more punitive option, the lower atmospheric pressure level

High Ground And Flights

To establish what the diver's current tissue code is when experiencing changes in atmospheric pressure, the Altitude/Atmospheric Pressure Chart and the Transfer Table are used.

As an example, travelling to a dive site over high ground:

- The atmospheric pressure is 995 mbar
- The highest point of the journey is 1000m
- The start CTC is A at Level 1 (A/1)
- The start of the journey is 0700 and will take 3 hours

Looking at the Altitude/Atmospheric Pressure Chart, the pressure of 995 mbar and the highest point of the journey being 1000m, the level reached will be Level 3

- On the Transfer Table, look at the 'Last Level Column'; this indicates the CTC, in this case it is A/1

- The code to transfer for the journey is indicated by moving along the dotted line across the table to the Level 3 column and code 'B' is indicated. So on transfer, A/1 CTC alters to B/3

- Travelling up and down will subject the diver to various pressure changes that cannot be clearly defined, so the whole journey over the high ground and back to sea level remains as a CTC of B/3

- Having completed the journey and back at sea level, the diver's body has experienced pressure changes and this needs to be taken into account by using the Transfer Table again. Using the Transfer Table, CTC is B/3, use the 'Last Level CTC column' - B/3, follow across the dotted line to Level 1 column (the atmospheric pressure at sea level has not changed) and B/3 transfers to B Level 1 - B/1

- For planning any dives following this journey the CTC is B/1 and it would need a surface interval of at least 10 hours to go back to A/1

As an example when flying:

- When flying, pressurised aircraft are assumed to maintain a cabin pressure equivalent to Level 4, which should be used to cover such flights. At this level, the appropriate Surface Interval Table should be used. (Using the Transfer Table and Surface Interval Table for Levels 2,3,4, work through with students).

- Starting from a CTC of A/1 on take-off, the Transfer Table shows that the ascent alters the CTC to C/4

- Because the pressure will remain relatively constant in flight, the level 4 Surface Interval Table can be used to determine the change in CTC as the flight progresses

- For flight durations of less than 90 minutes, the descent will commence with a CTC still remaining at C/4, resulting in a code of B/1 once back on the ground. Inspection of the Level 1 Surface interval Table shows that it will take a further 10 hours after flying for the CTC to return to A/1

- For flight durations of longer than 90 minutes, the CTC will reduce to B or even A at the start of the descent, resulting in a CTC of A/1 immediately on landing

Note:
Some travelling may involve short flights in unpressurised aircraft, i.e. island hopping planes or helicopters - the height and atmospheric pressure chart should be used. If the branch is involved in dives at altitude, the instructor can include examples typical to the type of diving undertaken at this point.

Diving – Travelling – Flying

Implications of travelling after diving need to be considered.
Work through following example with students

- Divers decide to grab a morning dive before flying home at the end of a holiday.
- The atmospheric pressure is 1010 mbar and the height of the hills they will travel over on the way to the airport is 1095metres.
- The flight leaves at 2000
- The divers surface at 1200 with a code of F/1
- They plan to be picked up and begin their three hour journey to the airport over the hills at 1315, leaving time to go to the duty free in the airport before the flight in a pressurised aircraft.

Students should:

- Note that the CTC after the dive is F and that 1010 mbar at sea level is Table 1
- Going over the hills is Level 3
- A surface interval of an hour and a quarter up to when the journey is planned to start, gives D/1
- On the Transfer Table, D/1 transfers to 'X' on Level 3 - the journey cannot be made

With the students, determine from the tables what code is acceptable for the journey and work back to give appropriate timings:

- From inspection of the Transfer Table, the maximum code at Level 1 that will allow an ascent to Level 3 is C. This will result in a CTC of F/3.
- In order to allow the CTC at the end of the dive of F/1 to reduce to C/1, the surface interval required is at least 90 minutes. The journey must therefore not be commenced before 1330 hours
- Their CTC changes from F/3 to D/1 when they arrive at the airport at sea level at 1630
- Remaining at sea level and shopping in the duty free until the flight leaves involves no change in atmospheric pressure so the Surface Interval Table can be used, resulting in a CTC of B/1 which transfers to D/4 for the flight.

The examples that have just been worked on are obviously extreme but not only do they allow students to understand how to use the Altitude and Atmospheric Pressure Chart and the Transfer Table, but also demonstrate that travelling before or after diving needs careful planning particularly if it involves journeys to heights above sea level or flying.