

Week 13



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Meteorology 1

Terminology and Air Masses



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Food for Thought!

*“The weather affects our sport like nothing else does.
It can turn a pleasant trip into a battle or vice versa.”*

Chris Tibbs - Introduction to the RYA Weather Handbook



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Food for Thought!

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Some Basics

- The Sun heats the earth's surface be it land or sea.
- This then heats the air above it.
- Air can carry moisture - the amount depends on the temperature of the air.
- Weather only occurs in the lowest few kilometres of the Atmosphere.



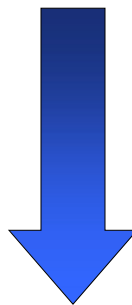
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Some Basics

Cold Air falls
to produce
HIGH
PRESSURE



Hot Air rises
to produce
LOW
PRESSURE

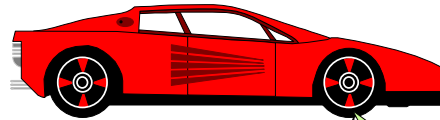


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Some Basics



Air will try to move from
HIGH to **LOW** pressure.



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Some Basics

CORIOLIS EFFECT

The spin of the Earth has an effect on the air close to its surface.

Air moving from the poles to the equator will be deflected to the WEST. Air moving from the equator to the poles will be deflected to the EAST.

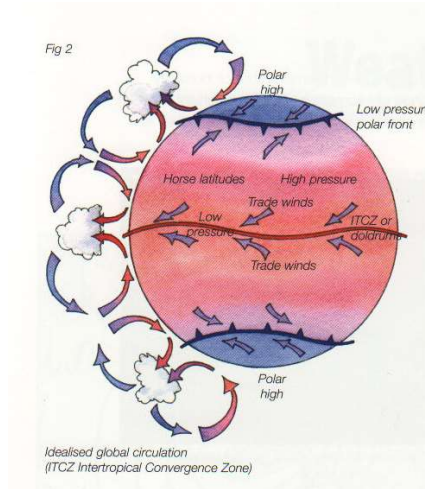


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Global Weather Patterns



(Diagram taken from Tibbs C: "The RYA Weather Handbook")

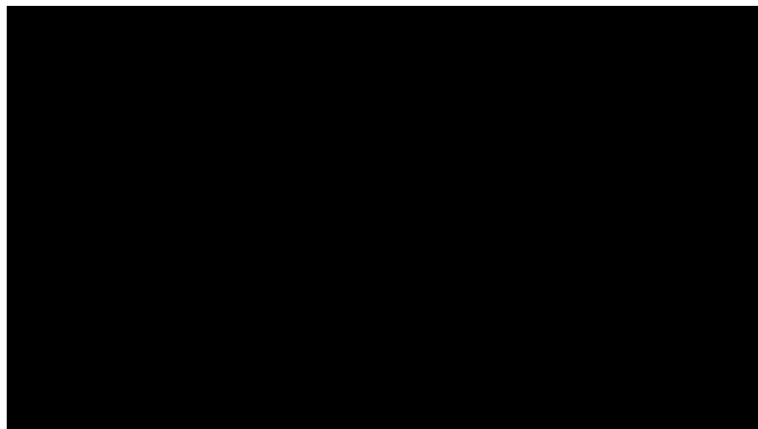


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The Jetstream

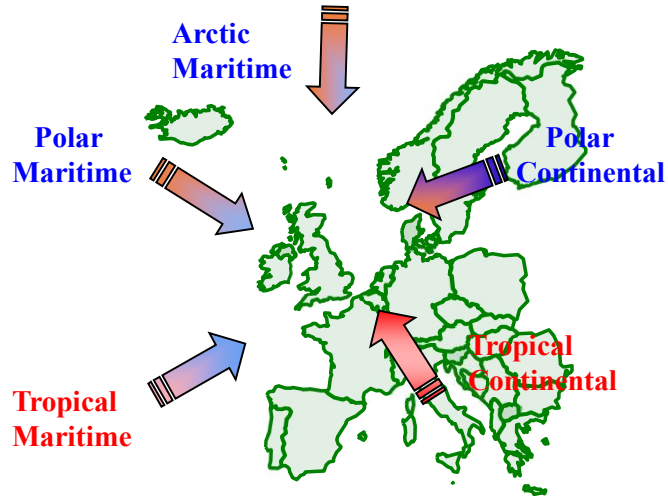


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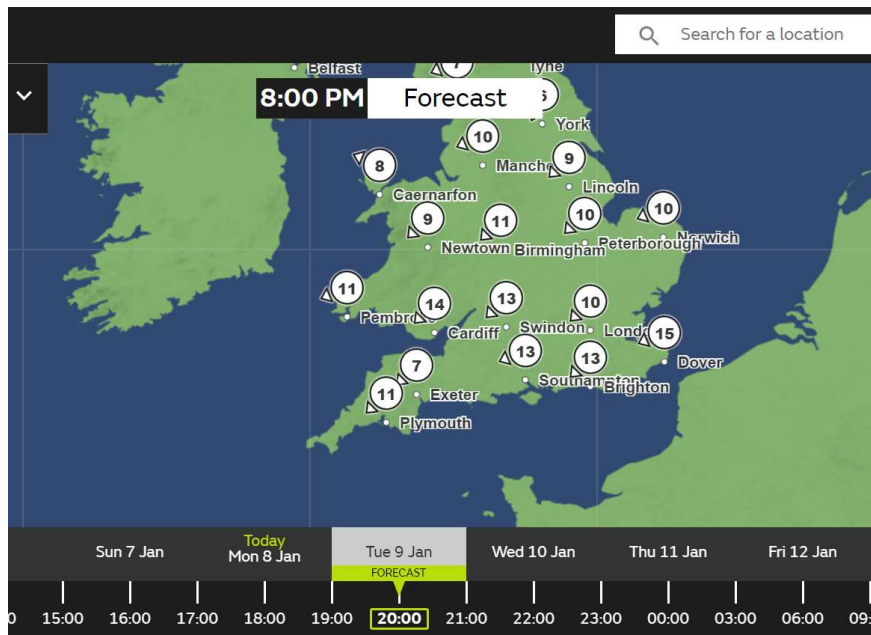
Air Masses



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Stability

- **Unstable Air**
 - Big vertical movement in the atmosphere giving heaped clouds and gusty conditions.
 - Typical of cold air moving over a warm surface.
- **Stable Air flow**
 - There is little vertical movement in the atmosphere, giving flat layers of cloud.
 - Typical of warm air moving over a cold surface.



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Terms used in Forecasts

RYA Yachtmaster Shorebased Notes

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Treat this as essential learning!



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