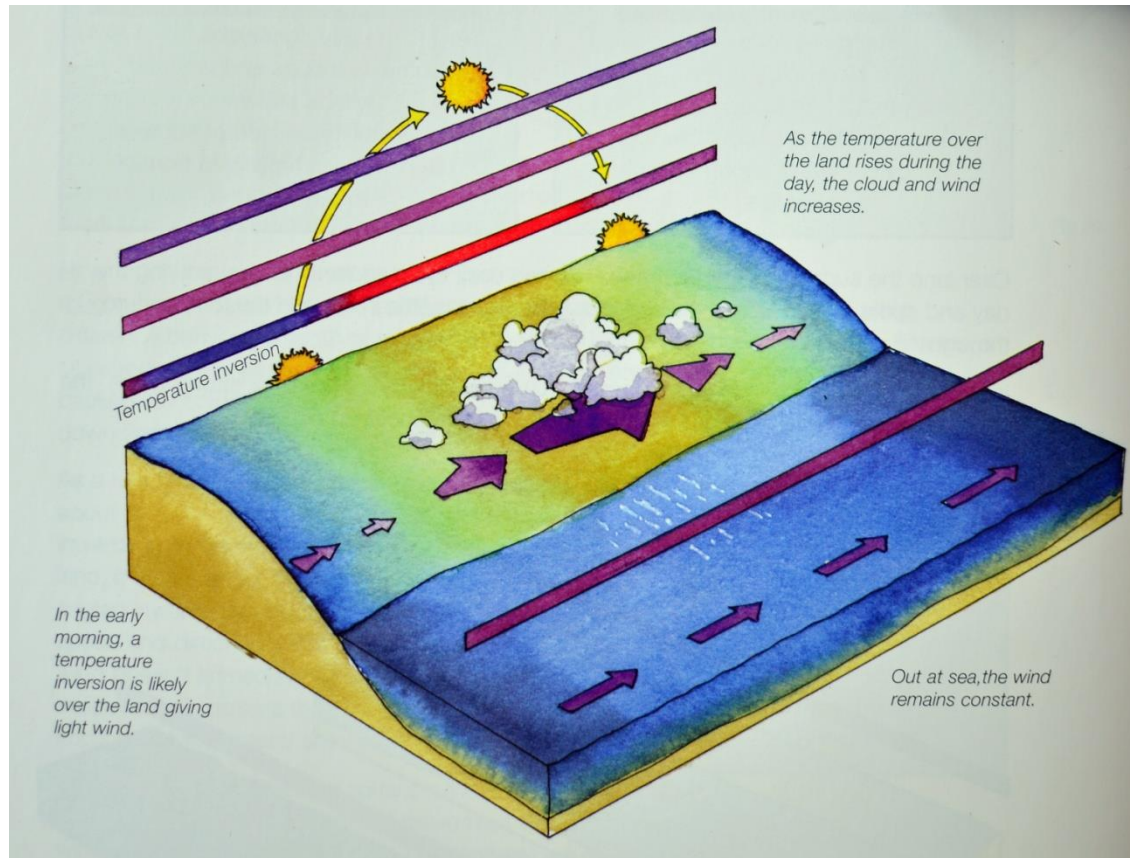


# Sea Breezes

# Thermal Effects



## Sea Breezes

Offshore Breezes

Types of Fog

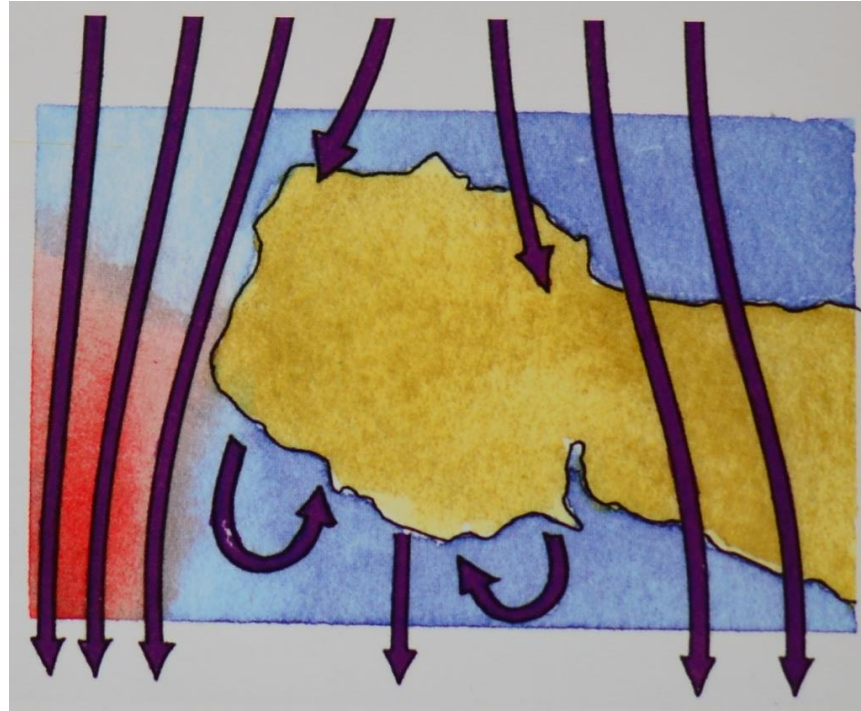
Katabatic & Anabatic Winds

# What is a Sea Breeze?

Any on-shore wind is termed a 'sea breeze' but some may be caused by synoptic weather patterns

Can form in spring and summer when there are negligible or light synoptic weather patterns

# How can they affect us?



Generally up to 12 -15 knots but can attain 20-25 knots

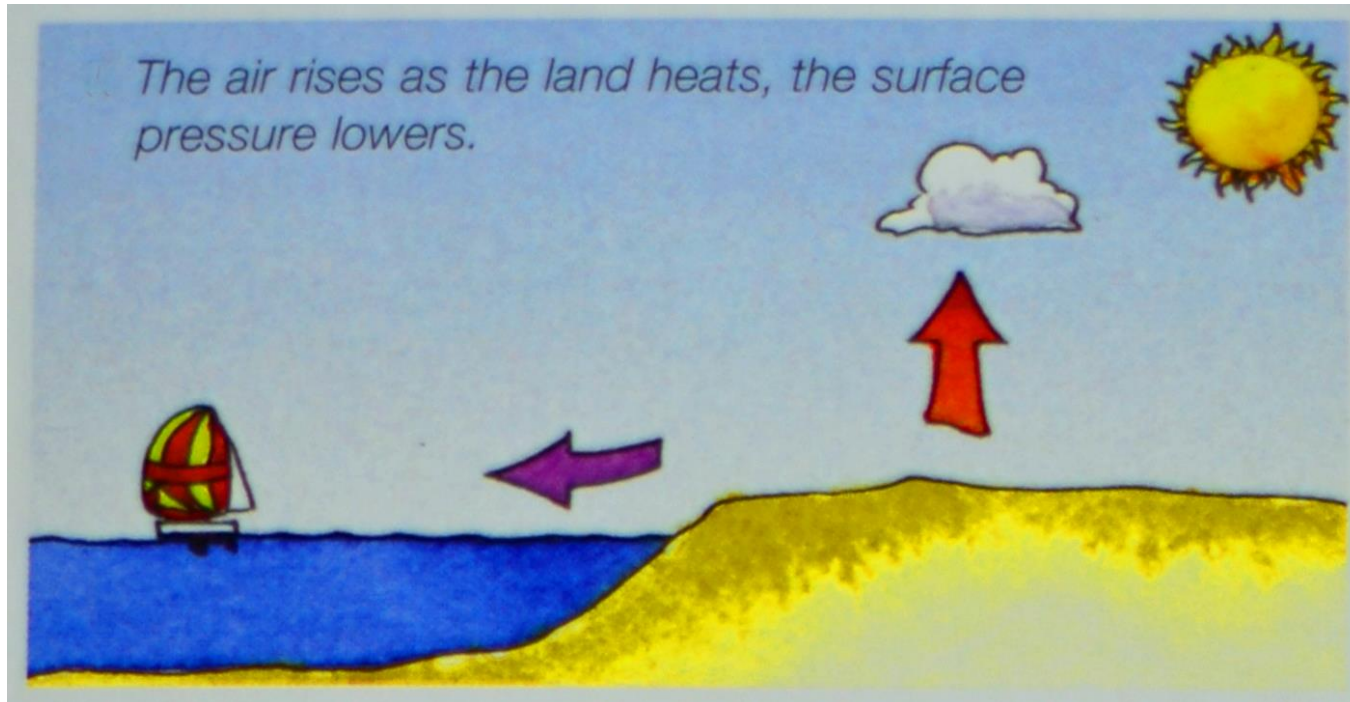
Spreads up to 20 miles off-shore

Pleasant afternoon anchorages can turn into anxious lee shores

Can funnel past headlands and through gaps

# **Formation Key Steps**

# Step 1

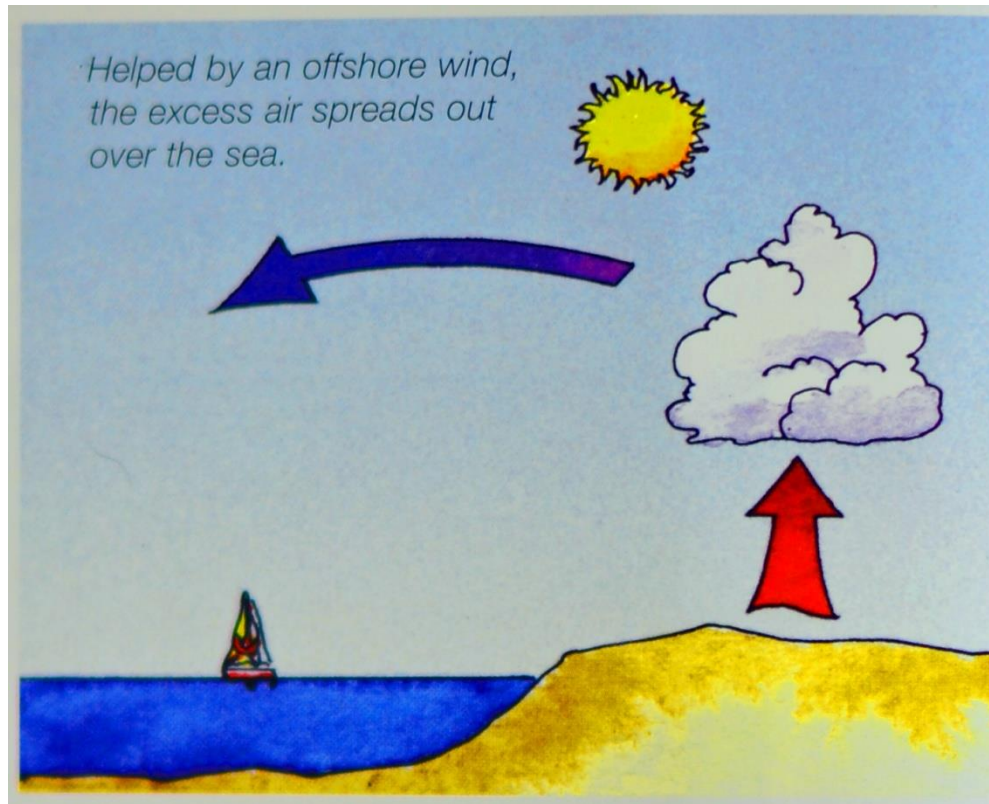


**Land becomes warmer than the sea**

**- air rises**

**- surface pressure lowers**

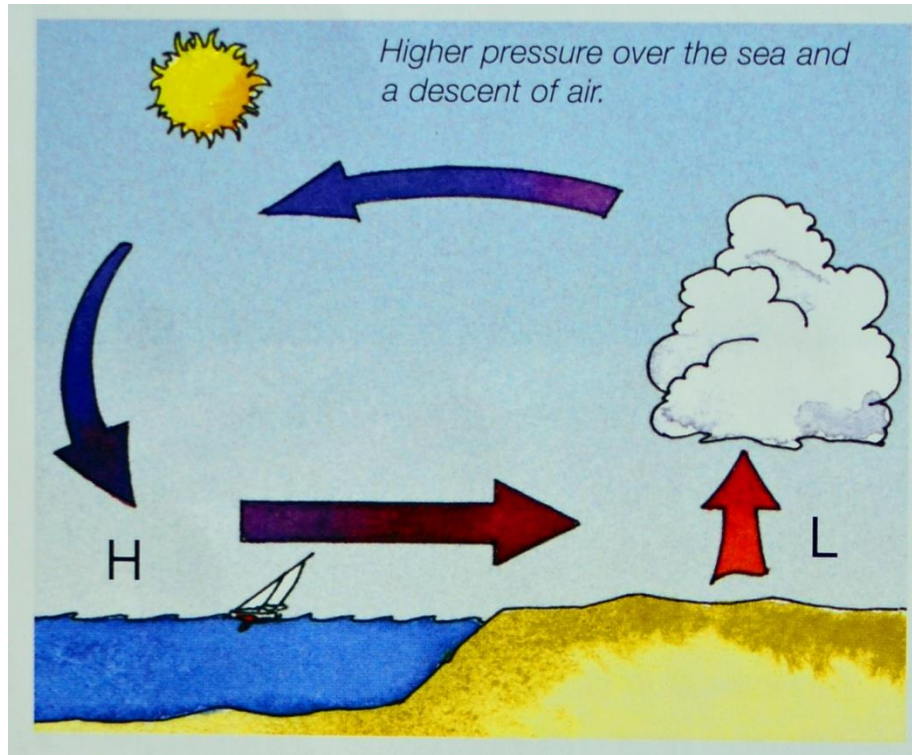
# Step 2



**Light offshore wind spreads air over the sea  
On land cumulus clouds form as convection current builds**



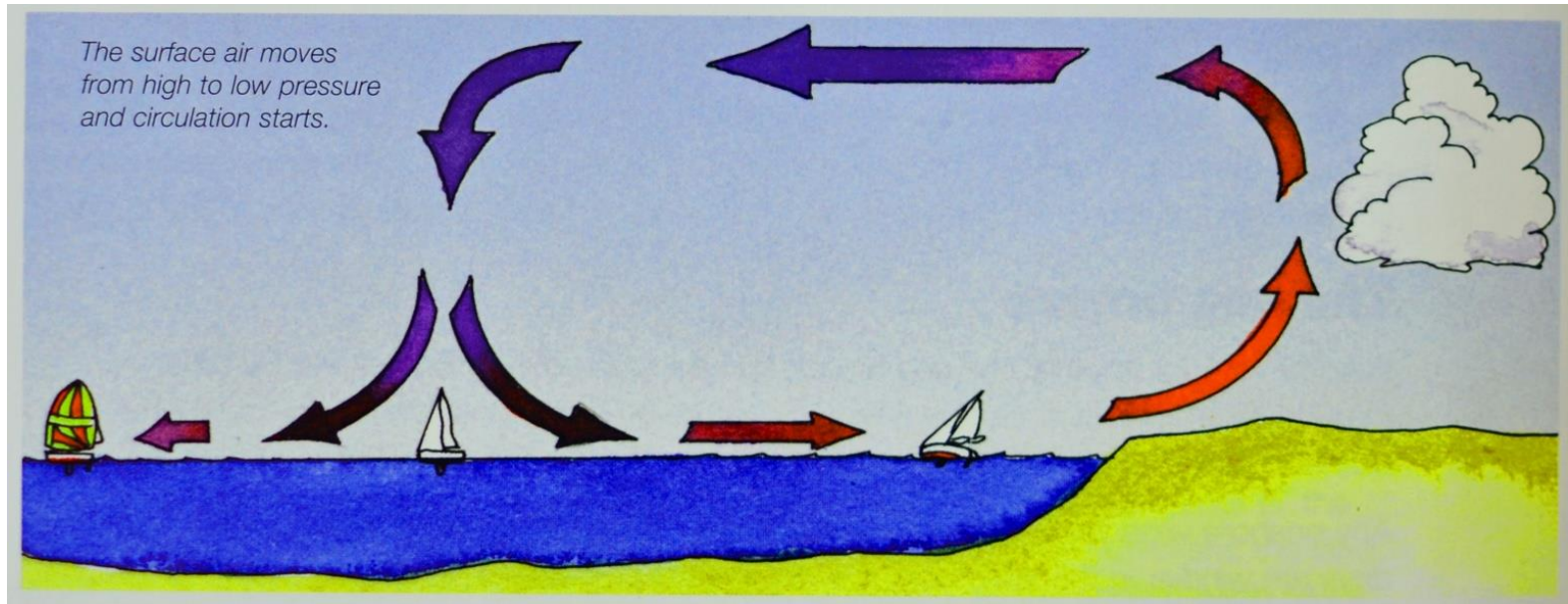
# Step 3



**Air pressure over sea increases as air descends  
Air moves from high to low pressure creating a sea breeze**



# Key Steps - Summary



- 1 – Land heats up, air rises causing fall in air pressure
- 2 – Sea air pressures increases as excess rising air drifts over it
- 3 - Air moves from high to low pressure creating sea breeze

# A Typical Sea Breeze Day



**Clouds over land not over sea**



# A Typical Sea Breeze Day



# Day in the life of a Sea Breeze?

Light offshore breeze early in morning

Period of calm mid-morning

Onshore wind develops

Band of onshore wind rolls seaward as day progresses

Wind veers clockwise as afternoon progresses

Wind speed increases & peaks mid to late afternoon

Wind drops as dusk approaches

# Sea Breezes - Summary

Land warmer than sea

Light offshore wind

No major weather patterns

Slack pressure gradient

Cumulus clouds forming on land



Sea Breeze

Light offshore wind early morning

Calm period mid morning

Light onshore wind starts late morning

**Builds and veers in afternoon**

**Maximum strength late afternoon**