

Weather On The Spot

Making Your Own Forecast

Question:

Can we go out on the boat today?

Objectives for today

By the end of this session, you'll be able to answer that question by learning to:

- **Interpret basic weather information**
- **Make useful current weather observations**
- **Make an accurate short-term weather forecast**

All weather is local!

Weather events

Wind

Sun

Rain

Fog

Four Steps of Forecasting

- 1 Gather and interpret information from outside sources.**

Tests for outside sources:

- **Timely?**
 - **Accurate?**
 - **Reliable?**

Outside sources

- **Newspaper – fails all three tests**
- **TV – Timely. Weak reliability & accuracy**
- **Internet – Timely, more accurate, more reliable**
Weather sites – real time, local info
NOAA – real time, local info

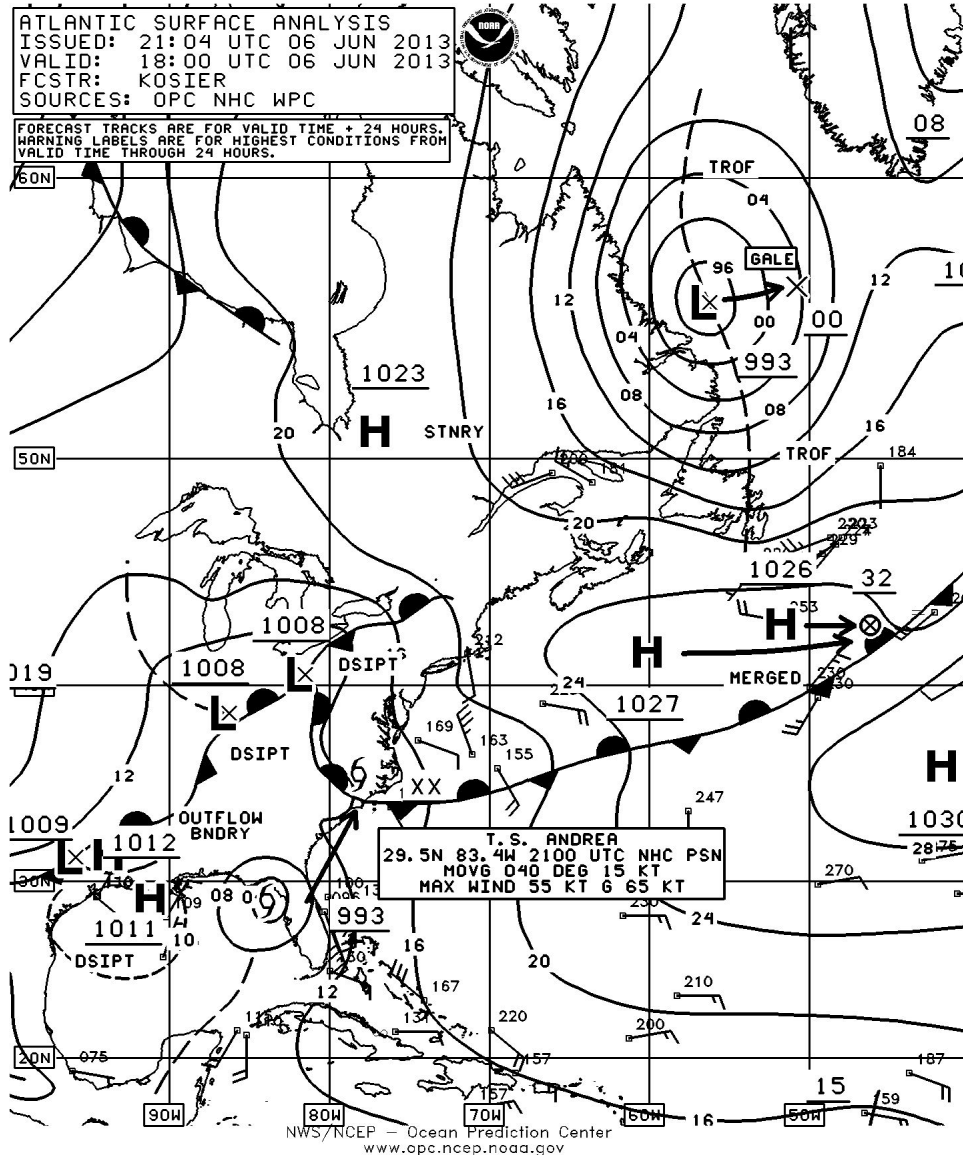
Four Steps of Forecasting

- 1 Gather information from outside sources.
- 2 Interpret information from outside sources.

Nexrad Mixed Composite Radar Map



NOAA synoptic chart





Local forecast by "City, St" or ZIP code

[Location Help](#)

As Post-Tropical Andrea Continues Racing Off to the Northeast, Focus Shifts back to Severe Weather Potential in the Great Plains on Saturday.

While Post-Tropical Andrea continues racing off to the northeast, the focus shifts back to the Great Plains where severe weather will be possible. SPC has indicated an area of Slight Risk on Saturday with the primary risks being large hail and damaging wind gusts. While isolated tornadoes will be possible, the threat is much lower than the hail and damaging wind threat.

[Read More...](#)

HAZARDOUS WEATHER CONDITIONS

[High Surf Advisory in effect June 8, 11:36 AM EDT until June 9, 06:00 PM EDT](#)

[Hazardous Weather Outlook](#)

Current Conditions

[En Español](#)

[Share](#) |



Overcast

63°F

17°C

Humidity 87%
 Wind Speed Vrbl 5 mph
 Barometer 29.85 in (1010.8 mb)
 Dewpoint 59°F (15°C)
 Visibility 10.00 mi

Last Update on 8 Jun 12:52 pm EDT

Current conditions at

Chatham Municipal Airport (KCQX)

Lat: 41.7 Lon: -69.99 Elev: 62ft.

[More Local Wx](#) | [3 Day History](#) | [Mobile Weather](#)

Chatham MA

7 Day Forecast

[Taunton, MA](#)

NWS Weather Forecast Office

THIS AFTERNOON	TONIGHT	SUNDAY	SUNDAY NIGHT	MONDAY	MONDAY NIGHT	TUESDAY	TUESDAY NIGHT	WEDNESDAY
Mostly Sunny High: 67 °F	Slight Chc Showers Low: 56 °F	Patchy Fog High: 69 °F	Patchy Fog Low: 57 °F	Slight Chc Thunderstorms High: 67 °F	Showers Likely Low: 59 °F	Showers Likely High: 69 °F	Thunderstorms Likely Low: 60 °F	Chance Showers High: 68 °F
	20%			20%	70%	60%	60%	40%

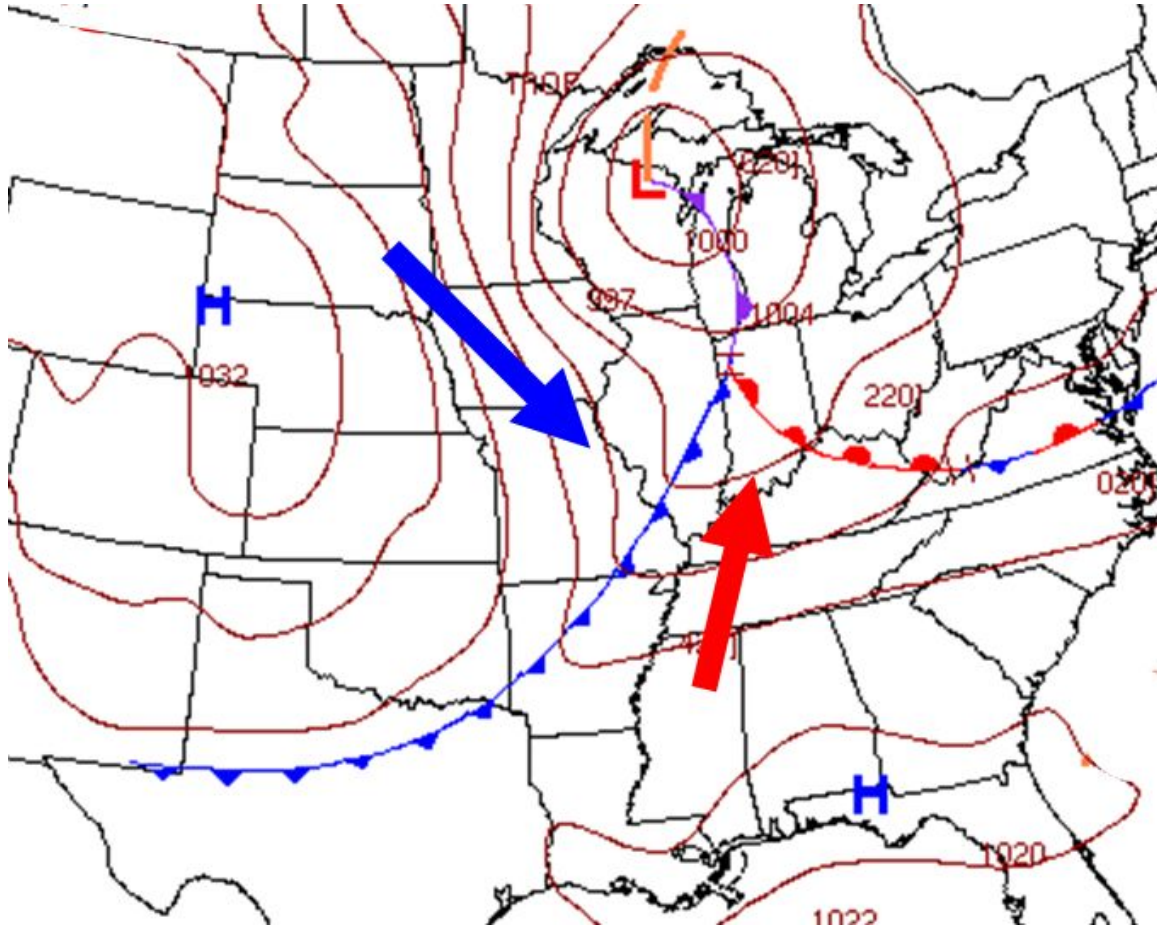
What's behind weather?

Differences in air pressure due to uneven heating and cooling of the earth.

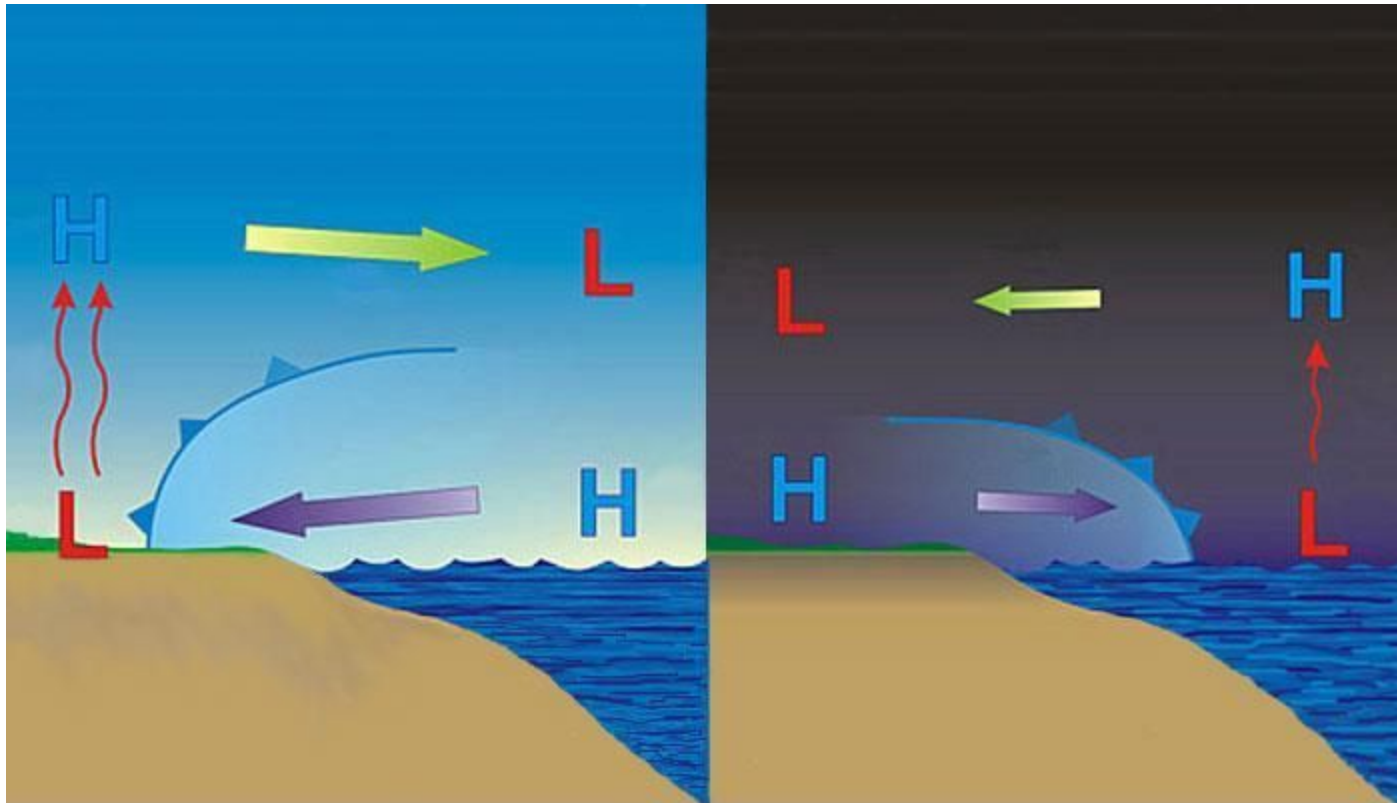
How wind forms

Differences in air pressure

- **Large scale winds – differences in air pressure between highs & lows**
- **Local winds – sea breezes & land breezes due to local heating & cooling**

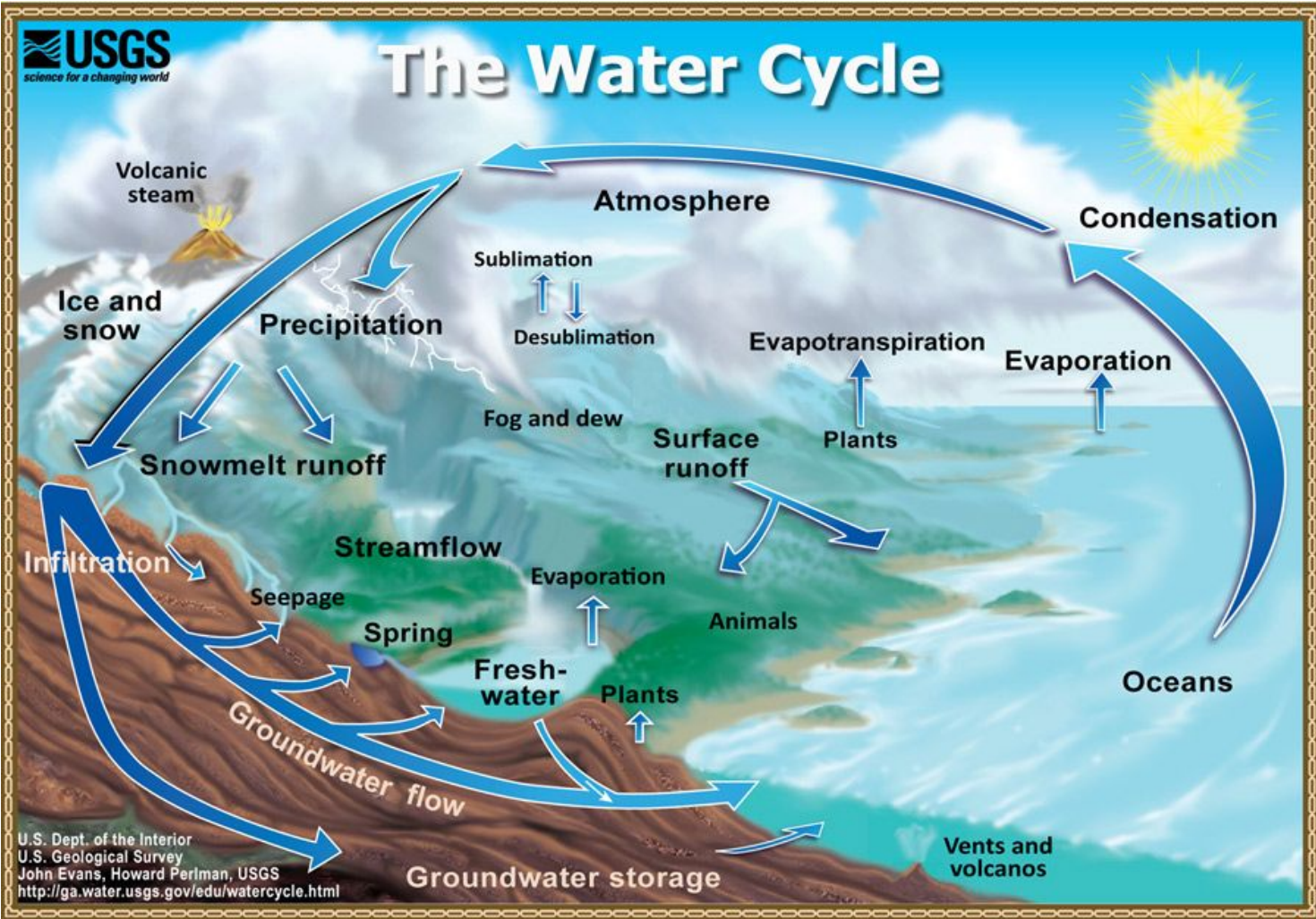


NOAA synoptic chart

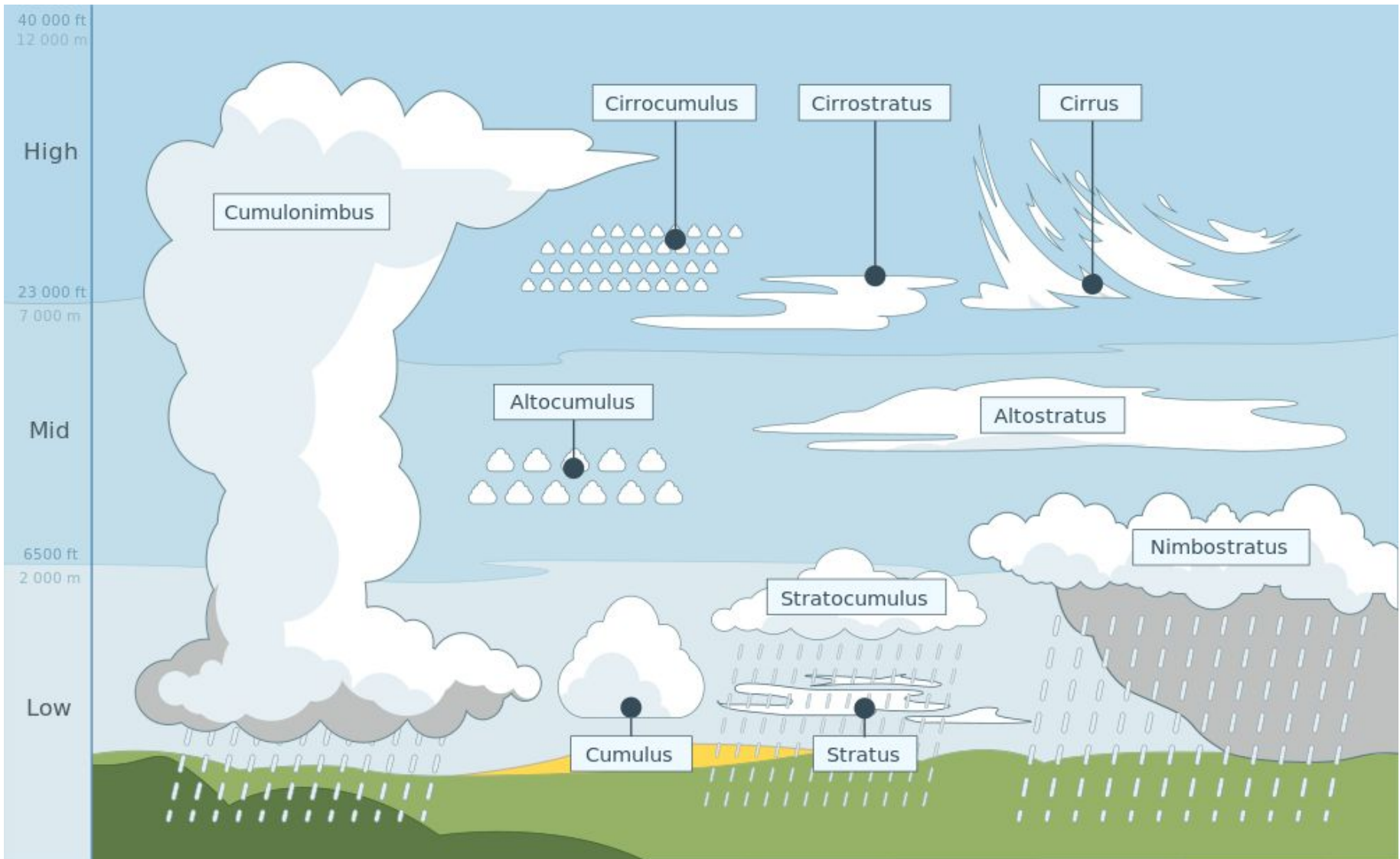


Sea breeze

Land breeze



The water cycle makes rain.



Clouds and rain



Cirrus



Stratus



Cumulus early stage



Anvil forming



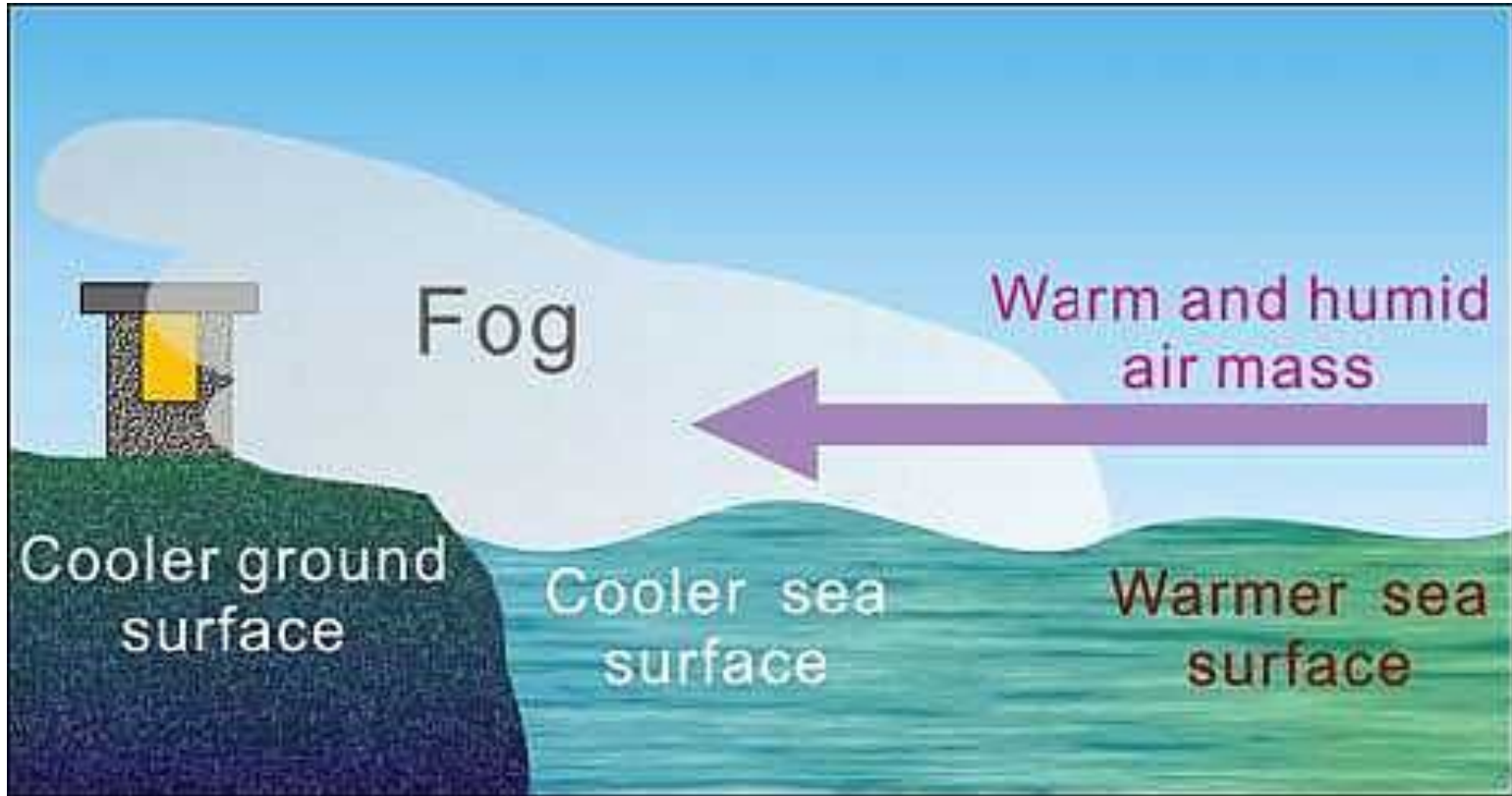
Fair weather cumulus



What you don't want to see.

Fog

- a collection of liquid water droplets or ice crystals suspended in the air at or near the Earth's surface.
- A type of low-lying stratus cloud often generated locally from a nearby body of water, like a lake or the ocean, or from nearby moist ground or marshes.



Typical Chatham fog

Four Steps of Forecasting

- 1 Gather information from outside sources.
- 2 Interpret information from outside sources.
- 3 **Observe current conditions**

Start with the sky.

- **Clouds**
- **Precipitation**
- **Halo around sun or moon**
- **Color**

Gauge the wind.

- **Direction**
- **Velocity**

Read sea conditions

- **Wave height**
- **Tide & current**
- **Sea direction**

Four Steps of Forecasting

- 1 Gather information from outside sources.
- 2 Interpret information from outside sources.
- 3 Observe current conditions
- 4 Make on-the-spot predictions

Reconcile observation with collected information.

Observation

Sky: Partly cloudy

Clouds: early stage Cumulus overhead, Cumulonimbus western horizon.

Wind: West at 15mph. Barometer: falling.

Sea: 1-2 ft. seas

Information

NOAA radar clear, marine forecast is for possible afternoon thundershowers

Synoptic chart showed no defined fronts.

Prediction

OK to make morning voyage, expect afternoon thundershowers.

Observe western sky, be aware of wind shift to northwest.

Reconcile observation with collected information.

Observation

Sky: Clear overhead

Clouds: High cirrus to the west gradually lowering and thickening

Wind: West at 15mph.

Sea: calm

Information

NOAA radar clear, marine forecast for extended rain within 24 hours

Synoptic chart shows stationary front to west.

Prediction

Good boating today, but forget about Nantucket trip Thursday.

Observation

Sky: Slight haze

Clouds: Some alto stratus in distance to west

Wind: Variable , less than 5 Knots

Sea: 1 ft.

Information

NOAA radar clear, forecast for continued cool weather

Synoptic chart shows stationary cold front to east.

Prediction?

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Just a Few Resources

Print

- *Onboard Weather Forecasting* by Bob Sweet; Captain's Quick Guides
- *Weather for Dummies* by John D. Cox; Kindle and paperback
- *Guide to Weather Forecasting* by Storm Dunlop; Kindle

Internet

- <http://weather.noaa.gov/> comprehensive site for weather conditions, forecasts, seas, tides ,radar and more. Search by zipcode for real-time data.
- <http://www.wunderground.com/> Provides an enormous amount of data and forecasts, plus animated local and regional radar. Real-time conditions from local weather stations such as Oyster River Boat Yard, Outermost Marine, Chatham Wind and Time, Chatham Airport, Saquatucket Harbor. Marine forecast shows buoy data and water temps.
- http://support.radioshack.com/support_tutorials/weather/weather-0.htm Simple approach to understanding, observing and forecasting weather. Comprehensive section on predicting weather with clouds and with barometer and wind.

BOUY #'s 888-701-8992: Nantucket 44008 54 Mi SE, SE Cape 44018 #OOS, Nantucket Sound 44020 #17

iPhone & Android Apps Too many to list. Come to the *Smart Phones, Smart Boating seminar* on June 19 to learn more.