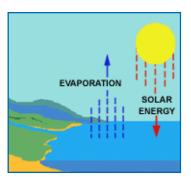
Name			HR	
Weather Systems	Outline			
Energy in the Atmo	osphere			
>The	is the major source of	for _		
>	, including our	, give off	eı	nergy over the wide
range of	that	make up the	spect	<u>rum</u>
•Ear	rth's atmosphere	out most of the	wave	
•Mo	ost of the output from the	that reache	s the	of Earth is in the
	band that we p	perceive as	light	
≻Earth also	oelectromaş	gnetic	, mostly in the _	
() part of the spectrum			
ectromagnetic S ₁	pectrum			
RADIO	MICROWAVE INFRARED	VISIBLE ULT	RAVIOLET X-RAY	GAMMA RAYS
10 ³ -10 ⁻¹	10-1-10-3 10-3-10-6	10-6 - 10-7 10	0 ⁻⁷ -10 ⁻⁸ 10 ⁻⁸ -10)·11 10·11-10·15
Low Frequency =	Longer Wavelength			
	\	(X,Y,Y,Y,Y,Y,Y,Y,Y,Y,Y,Y,Y,Y,Y,Y,Y,Y,Y,Y	$\Lambda\Lambda\Lambda\Lambda\Lambda\Lambda$	MMMMM
			HighFreque	ency = Shorter Wavelength
10 ⁶ -10 ¹⁰	1010-1012 1012-1015	1015 1016 10) ¹⁶ -10 ¹⁷ 10 ¹⁷ -10	0 ²¹ 10 ²¹ -10 ²⁴
5			. 9302	0
Mavelenge Marketenge		6		
Brighten Section	Par Lift And Reputer	Visible Spectrum	Probability Pro	S. BOTTO
	Infrared Light		Ultraviolet Light	
	700 6	500 500 400	-	

Evaporation

>Of the ______, about ______

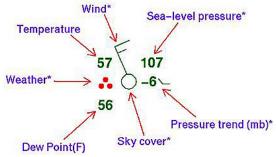
Wavelength (nm)

evaporates _____ from the _____



•	is the change of state from		to	or
•	adds	and	to the	
•	when water is	covered or		
•	when water is un	acovered,	, and whe	en wind
over it				
Three Stages of Water				
>	water, water		Melting Melting	Evaporating Gas
➤ Energy that is	or	during a	Melting) Liquid
change in state is calle	ed(hidde	en) heat, a	<u>ā</u> So¥ia	
form of	_ energy			at operavipput
•It is	energy because	it does	ne	at energy input
cause	a change in			
Heat of Fusion When the	of the ice rea	iches °C	C. it begins to	
	_ changes to			
•The	(the	enee	eded to melt	gram of ice is
cal/g)				
•The	of the ice do	oes not change u	ntil	the ice has
Heat of Vaporization ➤ When the	of the liq	uid water reache	s°C,	the
point of water,	water	to water		

	➤The _	necessary to change	gram of a sub	ostance from the liquid to the
		state is called the		-
		•The heat of	of water is	_cal/g
		•The gram of water absorbs	calories of	heat as it changes to
		the liquid water becomes	, the	begins to
Latent	Heat Er ➤ The	nergy of	vapor is	cal/g·°C
	≽If the	e water vapor is cooled to	°C, it will condense	and release the
	calorie	s of latent heat it absorbed		
	≻As th	ne cooling continues, the	_ will release the	it absorbed while it was
	➤It als	o releases the calories per	gram that was needed	to the original ice
Synop	tic Weat	ther Maps		
	≻A	map that shows a	of atmosph	eric field
	≻May	show information about	, air	,
		, and other weat	her conditions at a part	icular and over a large
	geogra	phic		
Weath	er Statio	on Symbols Wind	Sea-level pressure*	



Air M					
	The leading	of air ma	asses		ental Arctic
	➤When a	passes,	often	The second secon	ly cold, dry
	accompanies th	ne changes in temperatu	re, humidity, and	Maritime Polar	ontinental M. Polar
	atmospheric pr	essure		Cool, moist	Cold, dry
	➤The	of an air mass	depends on its	(Contraction of the Contraction	inental
	geographic			Maritime Tropic Varm, moist	dry Maritime Verm, moi
Weath	er Fronts				
	>	are shown by	_ that	two air	
	>	along the fronts in	dicate the	the fronts are	
		and what	of front they	are	
	>	fronts are		between air	that are not
	<u> </u>	fronts result	from	air being	above the surface
	of Earth by	air closing	in from both sides	3	
Front	Symbols	·			
		1	=Low-	-Pressure a	
			<u>)</u>	ı-Pressure	
				Sald Facul	

Natural

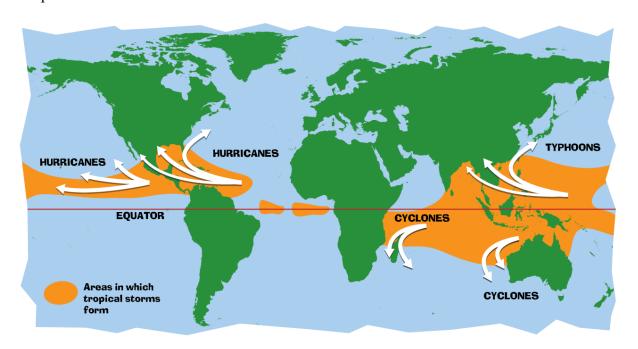
Hazards

➤ Thunderstorms

•Most occur in the _____ when the air is ____ and ____

	•Advancing	fronts may push the		air	, causing the
	formation of giant	clouds	, and heavy		
	•	, damaging	, and	are po	ssible
	•Lightning	, flash	and	spawne	d by thunderstorms
	cause about	fatalities per ye	ar in the US		
≻Torn	adoes •Most common in the		and early	over the	US
	•Are usually less than	miles	(0.5 km) in	and usual	ly last for
	min or less				
	•have b	een measured by	in exces	ss of	mi/hr
≻Hurr	icanes •Tropical	, areas of	low	that usually	develop in the late
	and e	arly	in the Atlantic		between South
	America and Africa				
	•When winds exceed	mi/hr	the designation is	changed from _	
	to a				

Tropical Storm Formation



Tropical Storm Categories

Category	Wind Speed (mph)	Damage at Landfall	Storm Surge (feet)
1		Minimal	4-5
2		Moderate	6-8
3		Extensive	9-12
4		Extreme	13-18
5		Catastrophic	19+