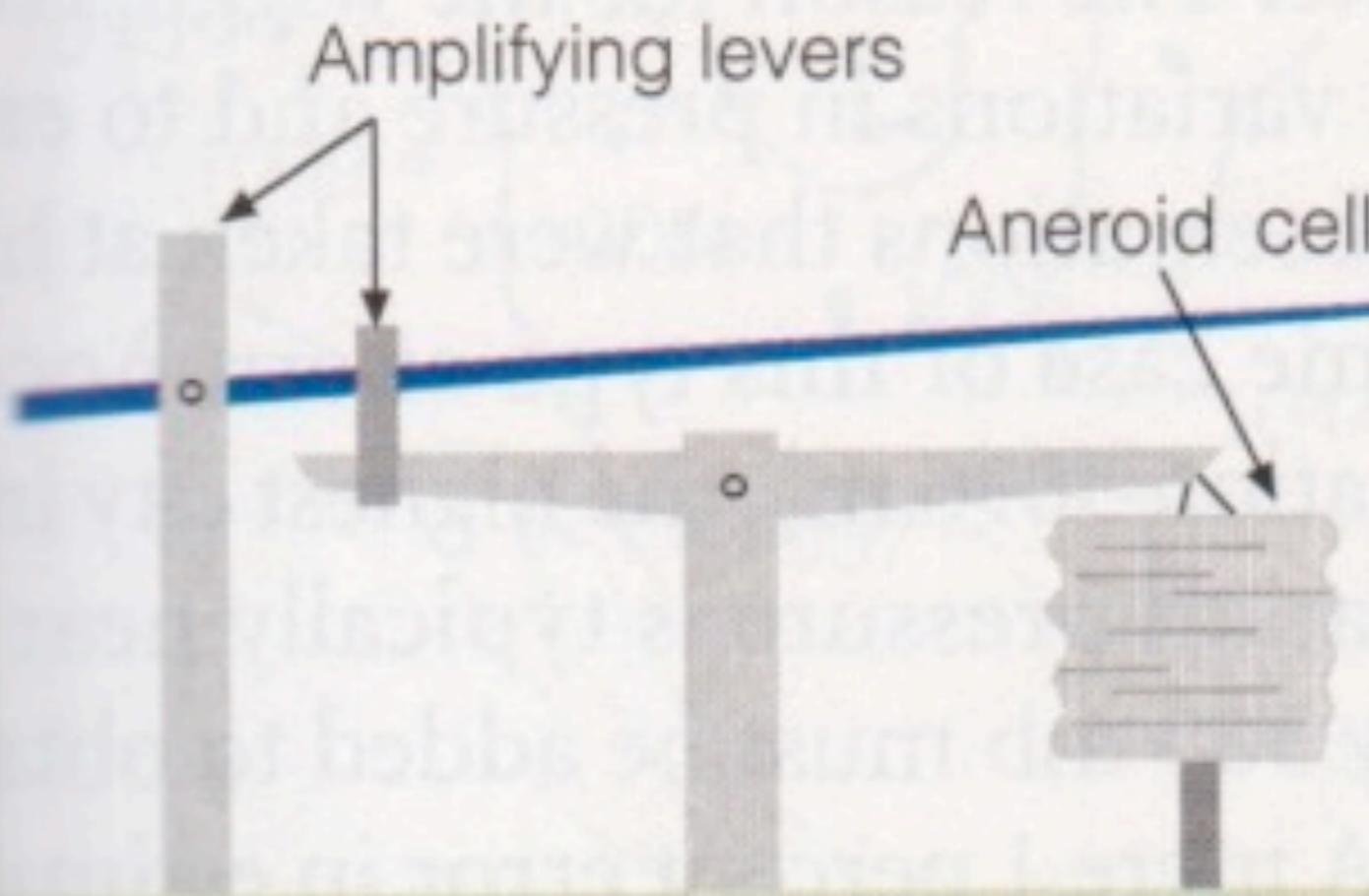
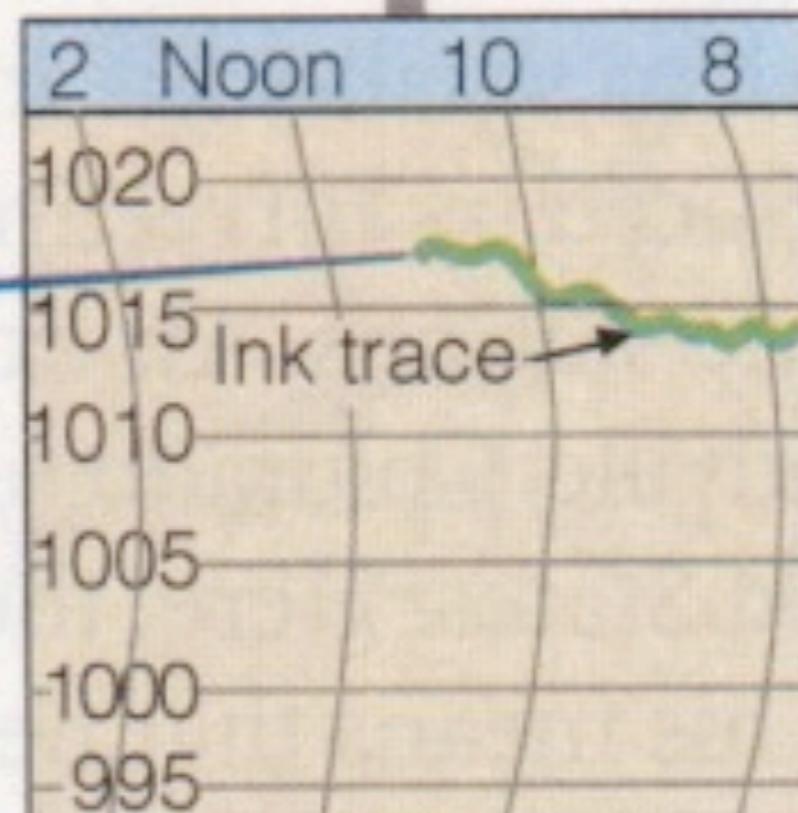


Protective case



Record paper on cylinder



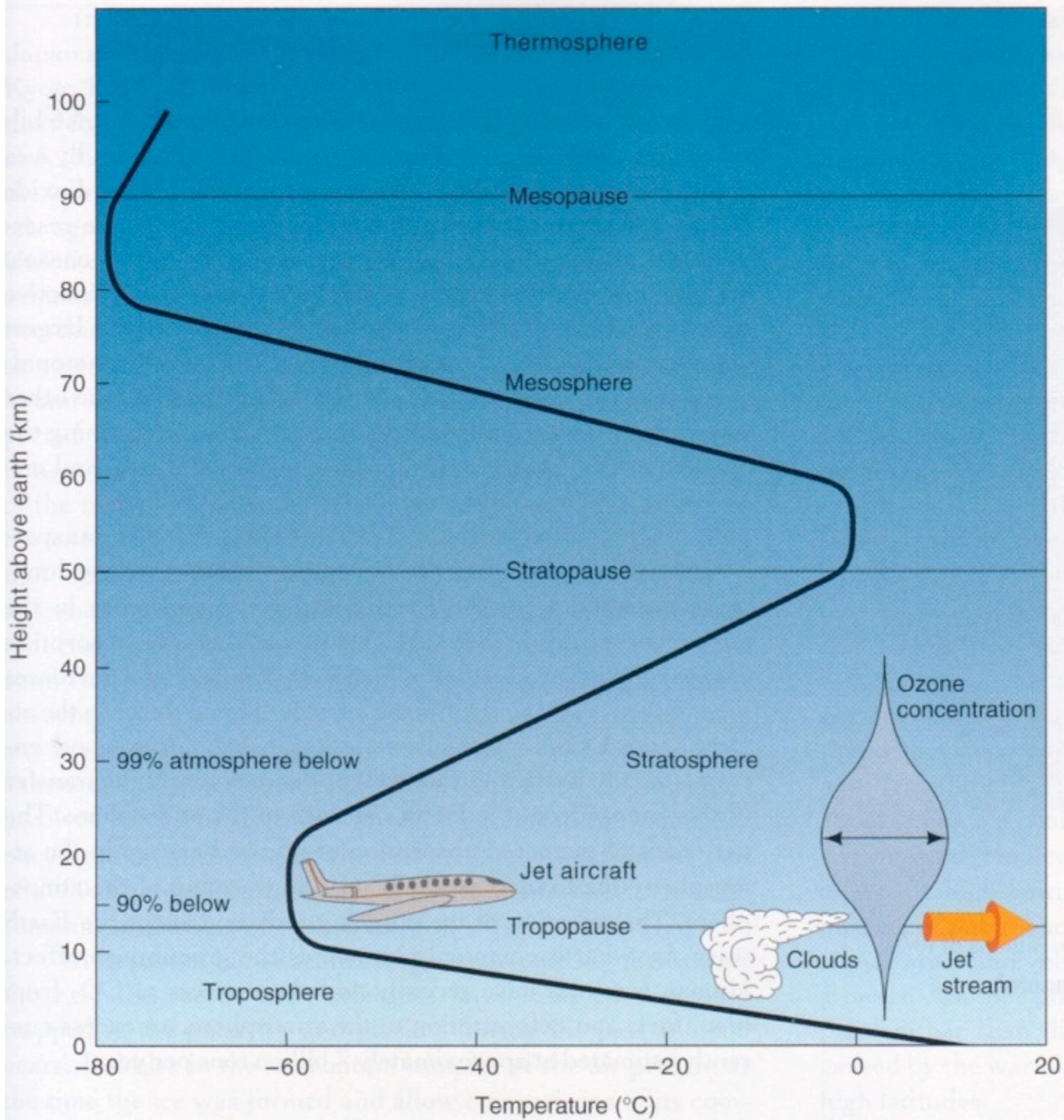
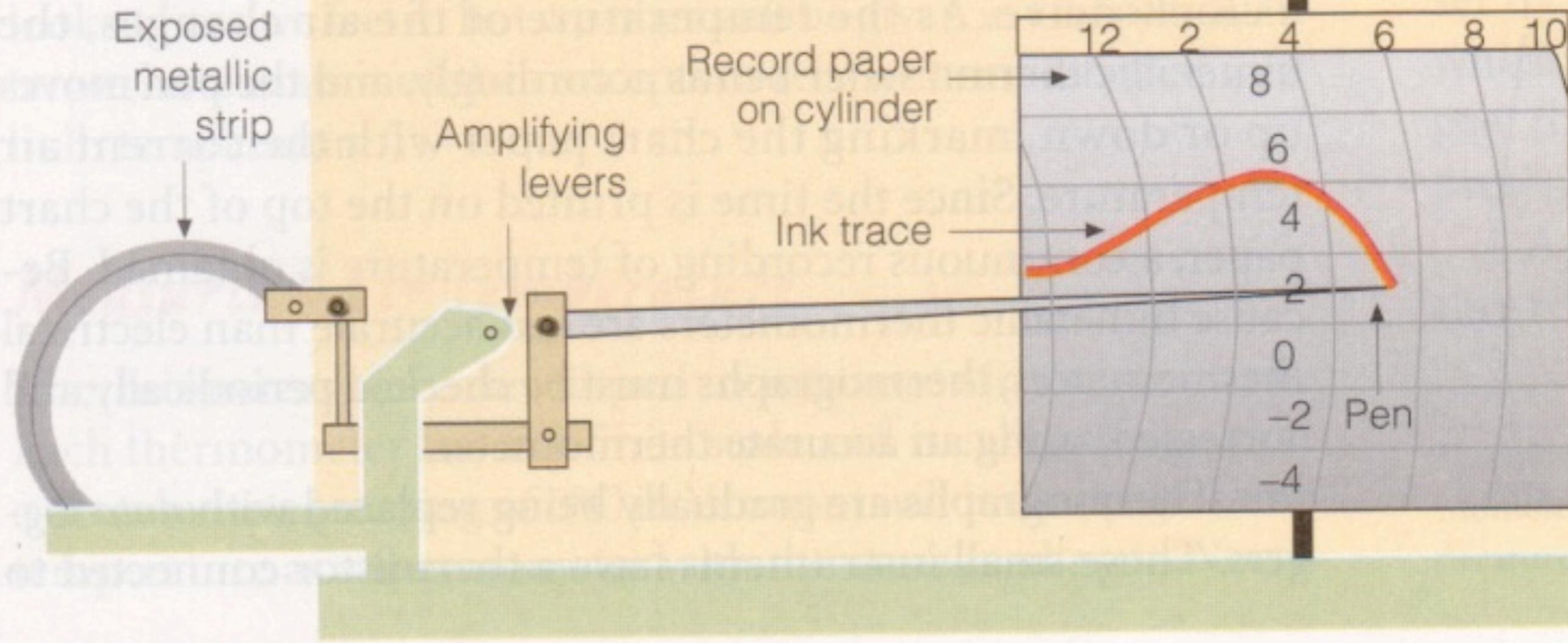
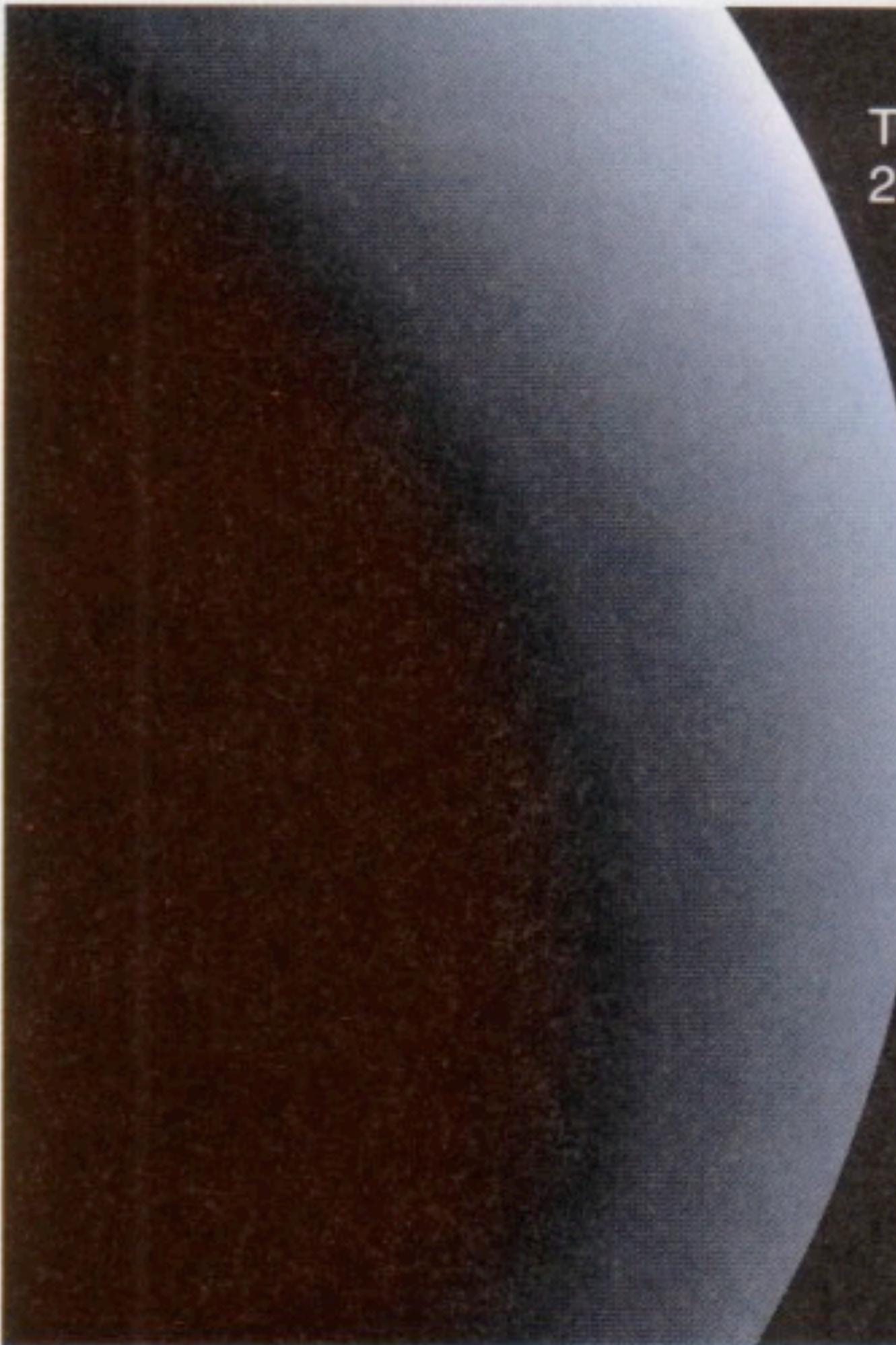


Table C.1 Estimating Wind Speed from Surface Observations

BEAUFORT NUMBER	DESCRIPTION	mi/hr	WIND SPEED		OBSERVATIONS
			knots	km/hr	
0	Calm	0–1	0–1	0–2	Smoke rises vertically
1	Light air	1–3	1–3	2–6	Direction of wind shown by drifting smoke, but not by wind vanes
2	Slight breeze	4–7	4–6	7–11	Wind felt on face; leaves rustle; wind vanes moved by wind; flags stir
3	Gentle breeze	8–12	7–10	12–19	Leaves and small twigs move; wind will extend light flag
4	Moderate breeze	13–18	11–16	20–29	Wind raises dust and loose paper; small branches move; flags flap
5	Fresh breeze	19–24	17–21	30–39	Small trees with leaves begin to sway; flags ripple
6	Strong breeze	25–31	22–27	40–50	Large tree branches in motion; whistling heard in telegraph wires; umbrellas used with difficulty
7	High wind	32–38	28–33	51–61	Whole trees in motion; inconvenience felt walking against wind; flags extend
8	Gale	39–46	34–40	62–74	Wind breaks twigs off trees; walking is difficult
9	Strong gale	47–54	41–47	75–87	Slight structural damage occurs (signs and antennas blown down)
10	Whole gale	55–63	48–55	88–101	Trees uprooted; considerable damage occurs
11	Storm	64–74	56–64	102–119	Winds produce widespread damage
12	Hurricane	≥ 75	≥ 65	≥ 120	Winds produce extensive damage

Protective case





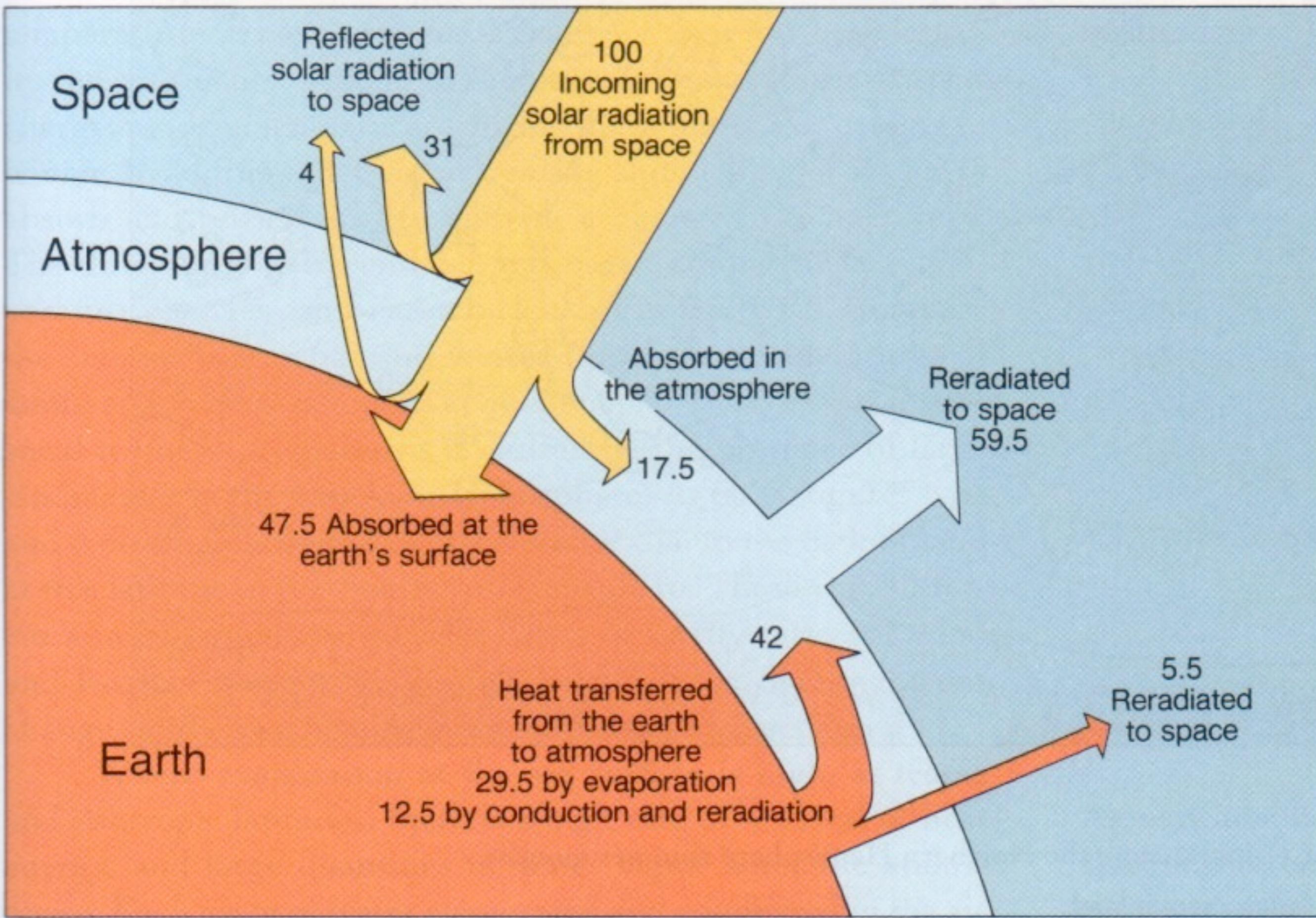
Typical raindrop
2000 μm

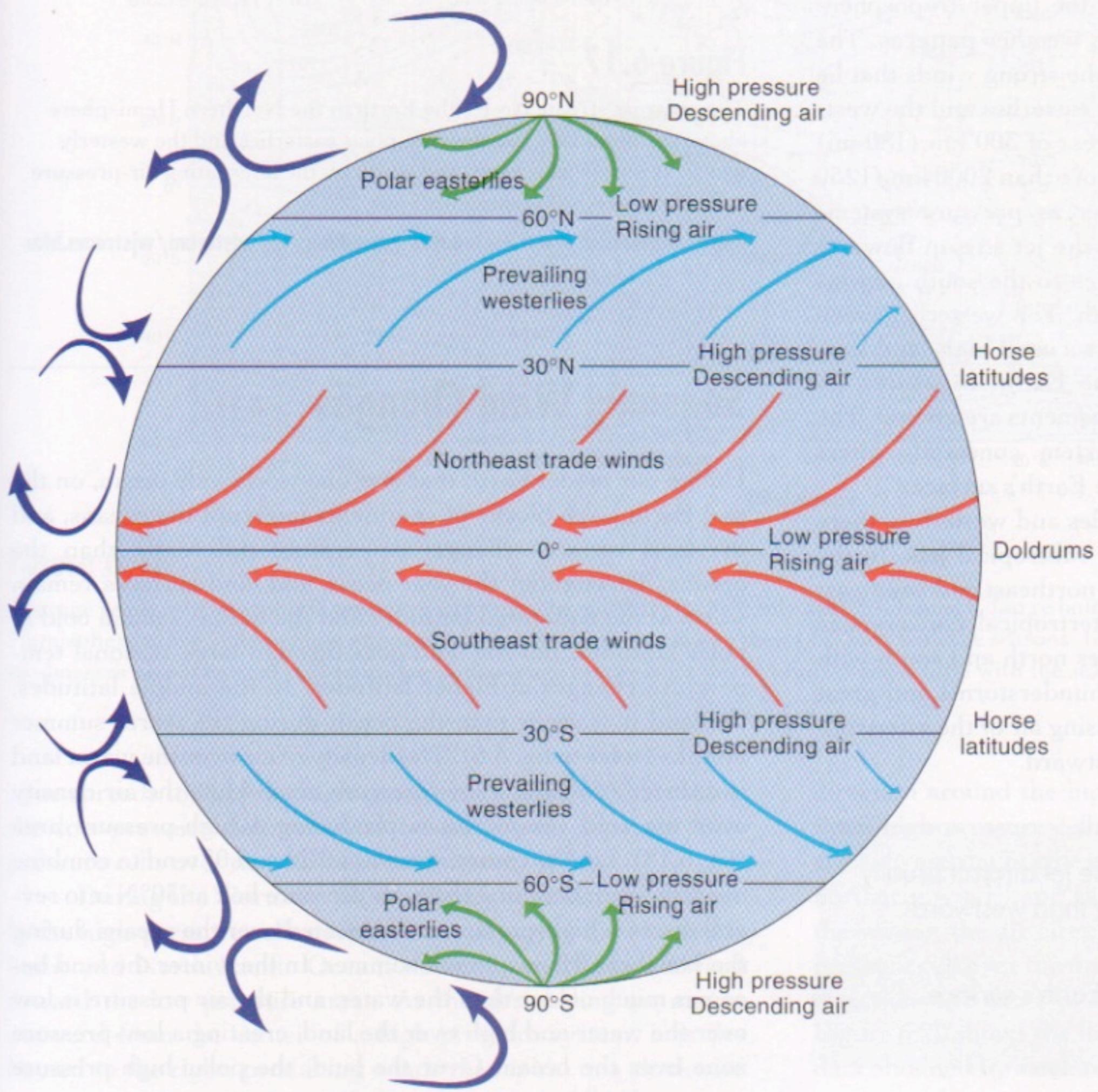


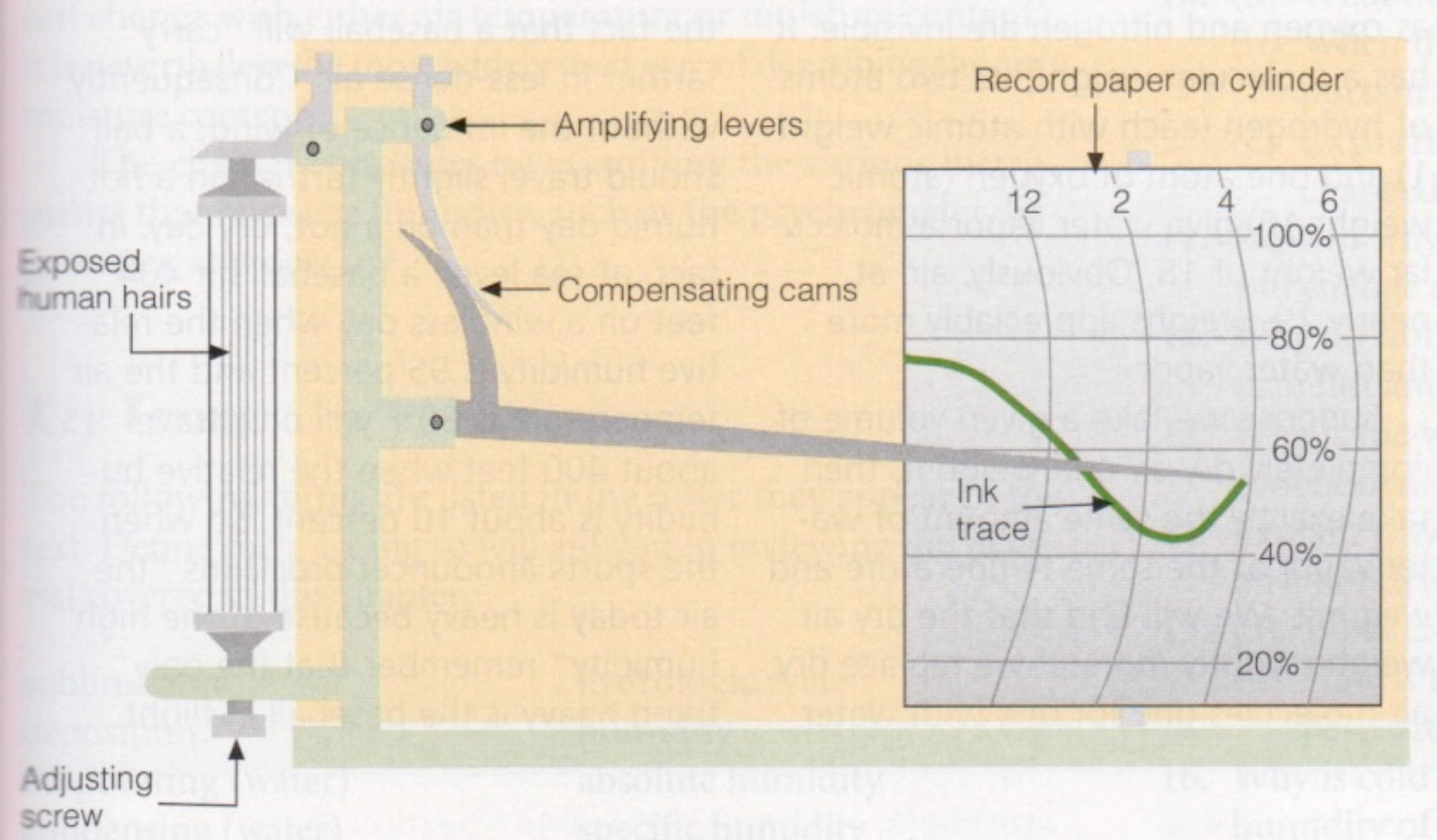
Typical
cloud droplet
20 μm



Condensation
nucleus
0.2 μm







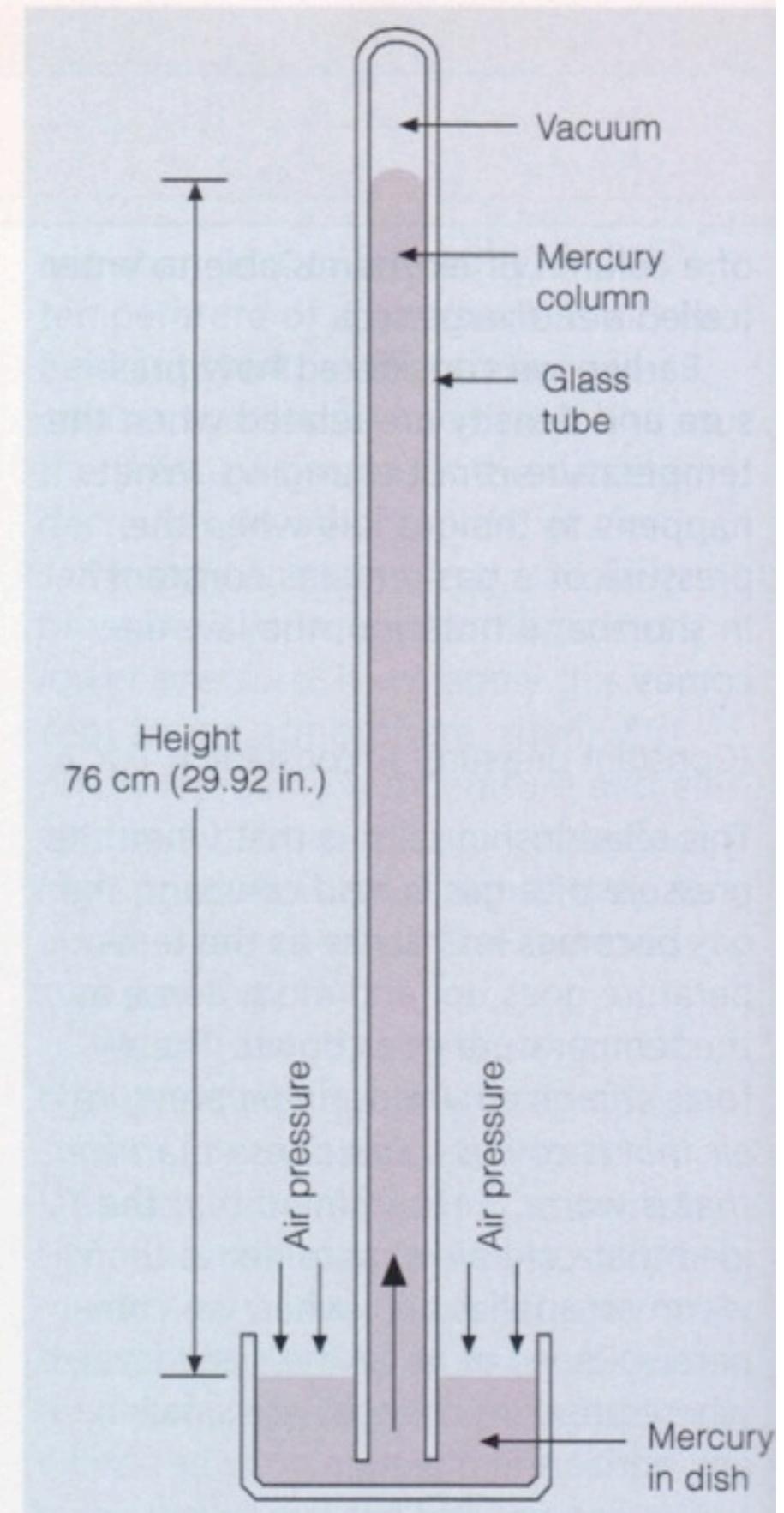
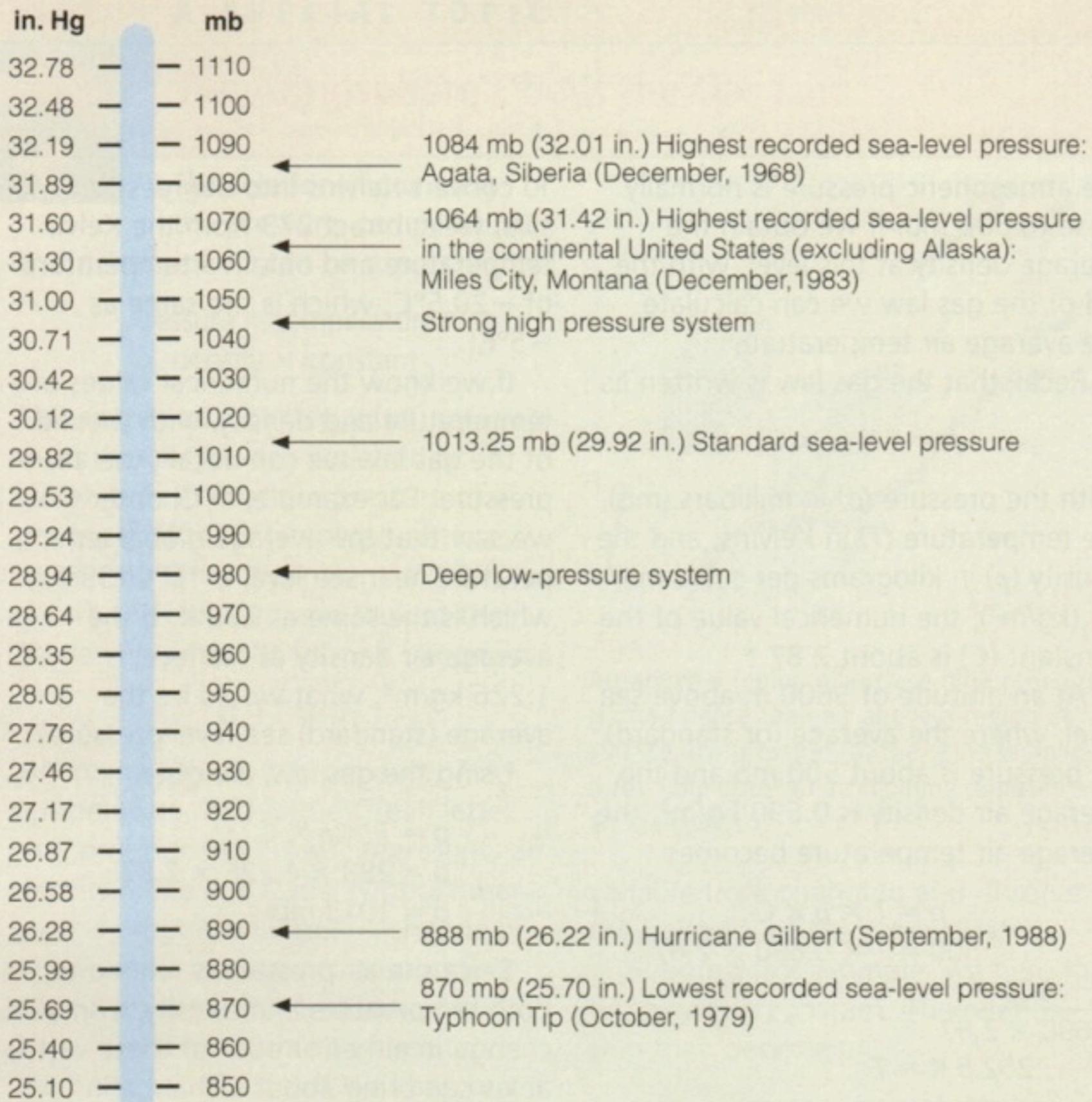
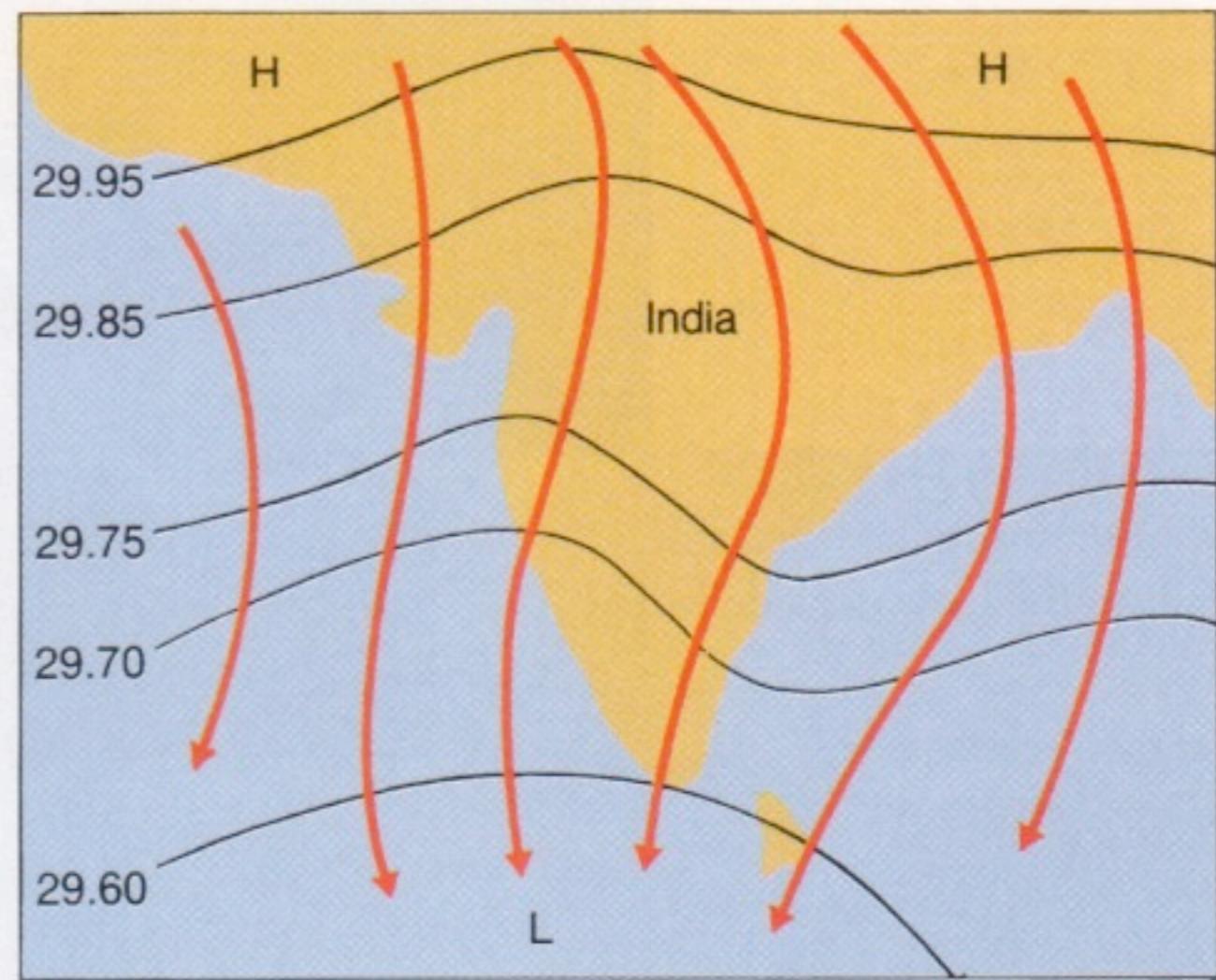
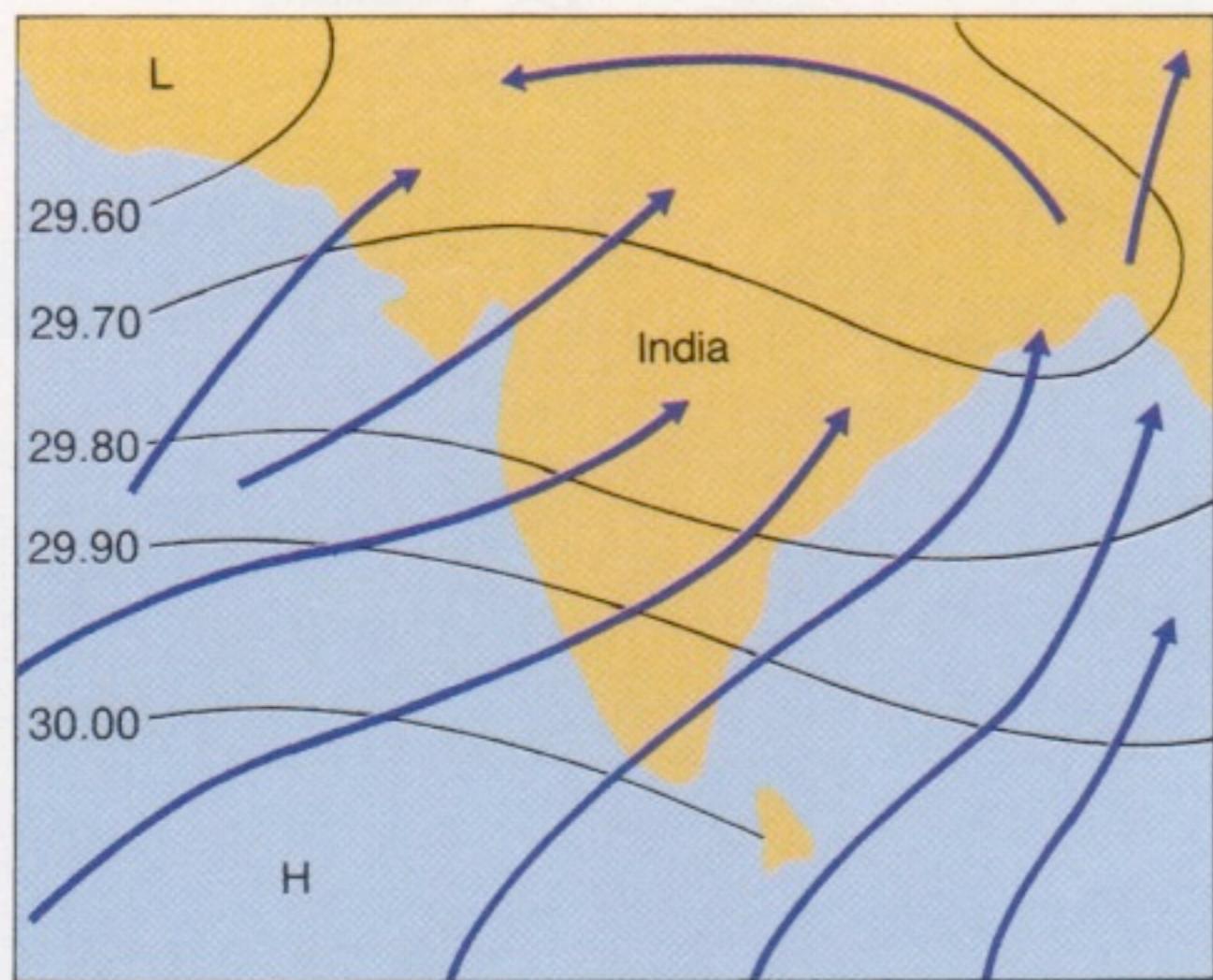
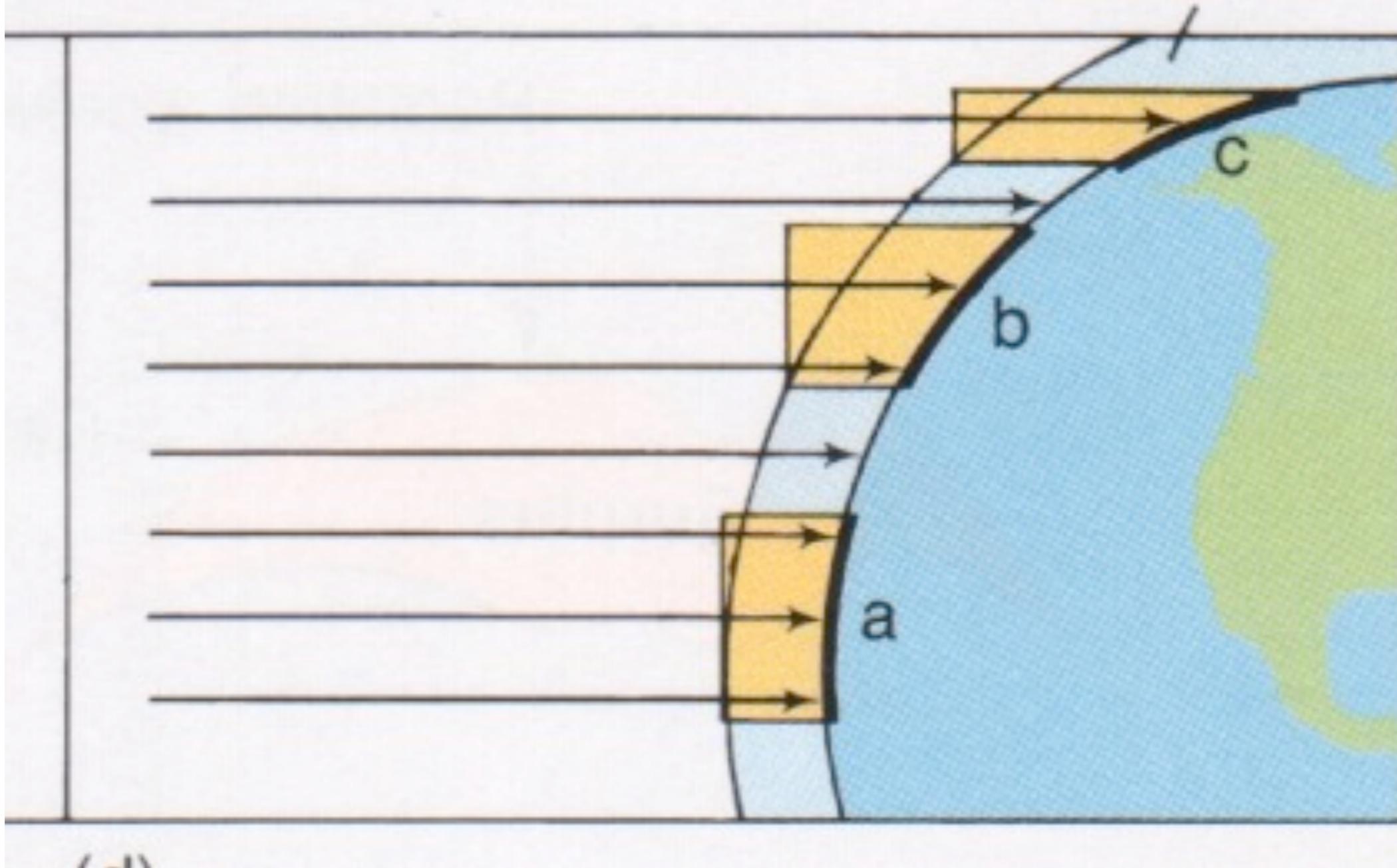


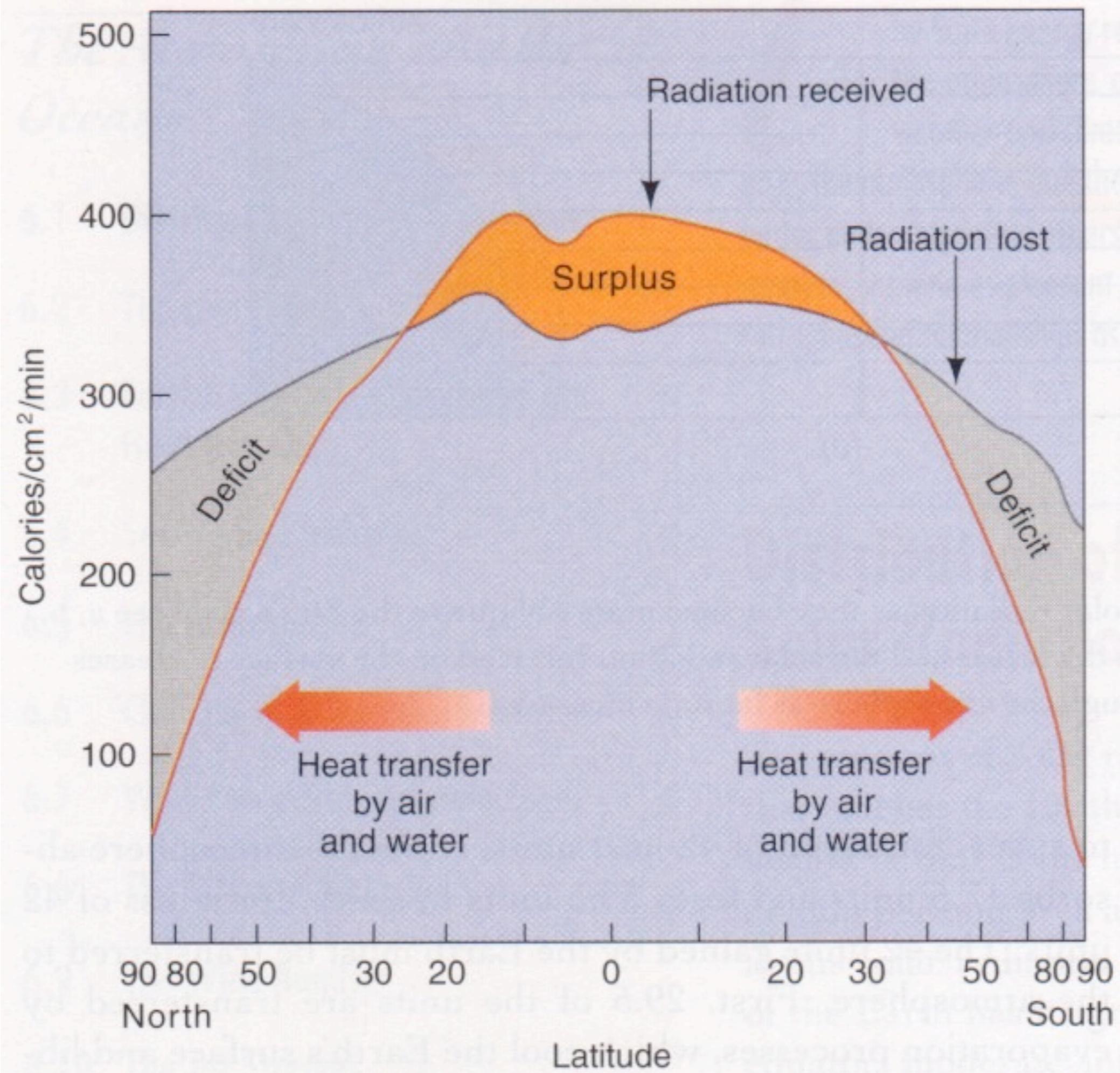
Figure 9.4
Atmospheric pressure in inches of mercury and in millibars.

Figure 9.5
The mercury barometer. The height of the mercury column is a measure of atmospheric pressure.



Atmosphere





K	°C	°F	
373	100	212	Boiling point of water at sea level
363	90	194	
353	80	176	
343	70	158	
333	60	140	58°C (136°F) Highest temperature recorded in the world. El Azizia, Libya, September, 1922
323	50	122	
313	40	104	A hot day
303	30	86	Average body temperature 37°C (98.6°F)
293	20	68	Average room temperature
283	10	50	
273	0	32	Freezing (melting) point of water (ice) at sea level
263	-10	14	
253	-20	-4	
243	-30	-22	A bitter cold day
233	-40	-40	
223	-50	-58	
213	-60	-76	
203	-70	-94	
193	-80	-112	
183	-90	-130	-89°C (-129°F) Lowest temperature recorded in the world. Vostok, Antarctica, July, 1983
173	-100	-148	

Table D.2 Relative Humidity (Percent)

AIR (DRY-BULB) TEMPERATURE (°C)	WET-BULB DEPRESSION (DRY-BULB TEMPERATURE MINUS WET-BULB TEMPERATURE) (°C)																	
	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	7.5	10.0	12.5	15.0	17.5	20.0	22.5	25.0
-20	70	41	11															
-17.5	75	51	26	2														
-15	79	58	38	18														
-12.5	82	65	47	30	13													
-10	85	69	54	39	24	10												
-7.5	87	73	60	48	35	22	10											
-5	88	77	66	54	43	32	21	11	1									
-2.5	90	80	70	60	50	42	37	22	12	3								
0	91	82	73	65	56	47	39	31	23	15								
2.5	92	84	76	68	61	53	46	38	31	24								
5	93	86	78	71	65	58	51	45	38	32	1							
7.5	93	87	80	74	68	62	56	50	44	38	11							
10	94	88	82	76	71	65	60	54	49	44	19							
12.5	94	89	84	78	73	68	63	58	53	48	25	4						
15	95	90	85	80	75	70	66	61	57	52	31	12						
17.5	95	90	86	81	77	72	68	64	60	55	36	18	2					
20	95	91	87	82	78	74	70	66	62	58	40	24	8					
22.5	96	92	87	83	80	76	72	68	64	61	44	28	14	1				
25	96	92	88	84	81	77	73	70	66	63	47	32	19	7				
27.5	96	92	89	85	82	78	75	71	68	65	50	36	23	12	1			
30	96	93	89	86	82	79	76	73	70	67	52	39	27	16	6			
32.5	97	93	90	86	83	80	77	74	71	68	54	42	30	20	11	1		
35	97	93	90	87	84	81	78	75	72	69	56	44	33	23	14	6		
37.5	97	94	91	87	85	82	79	76	73	70	58	46	36	26	18	10	3	
40	97	94	91	88	85	82	79	77	74	72	59	48	38	29	21	13	6	
42.5	97	94	91	88	86	83	80	78	75	72	61	50	40	31	23	16	9	2
45	97	94	91	89	86	83	81	78	76	73	62	51	42	33	26	18	12	6
47.5	97	94	92	89	86	84	81	79	76	74	63	53	44	35	28	21	15	9
50	97	95	92	89	87	84	82	79	77	75	64	54	45	37	30	23	17	11

