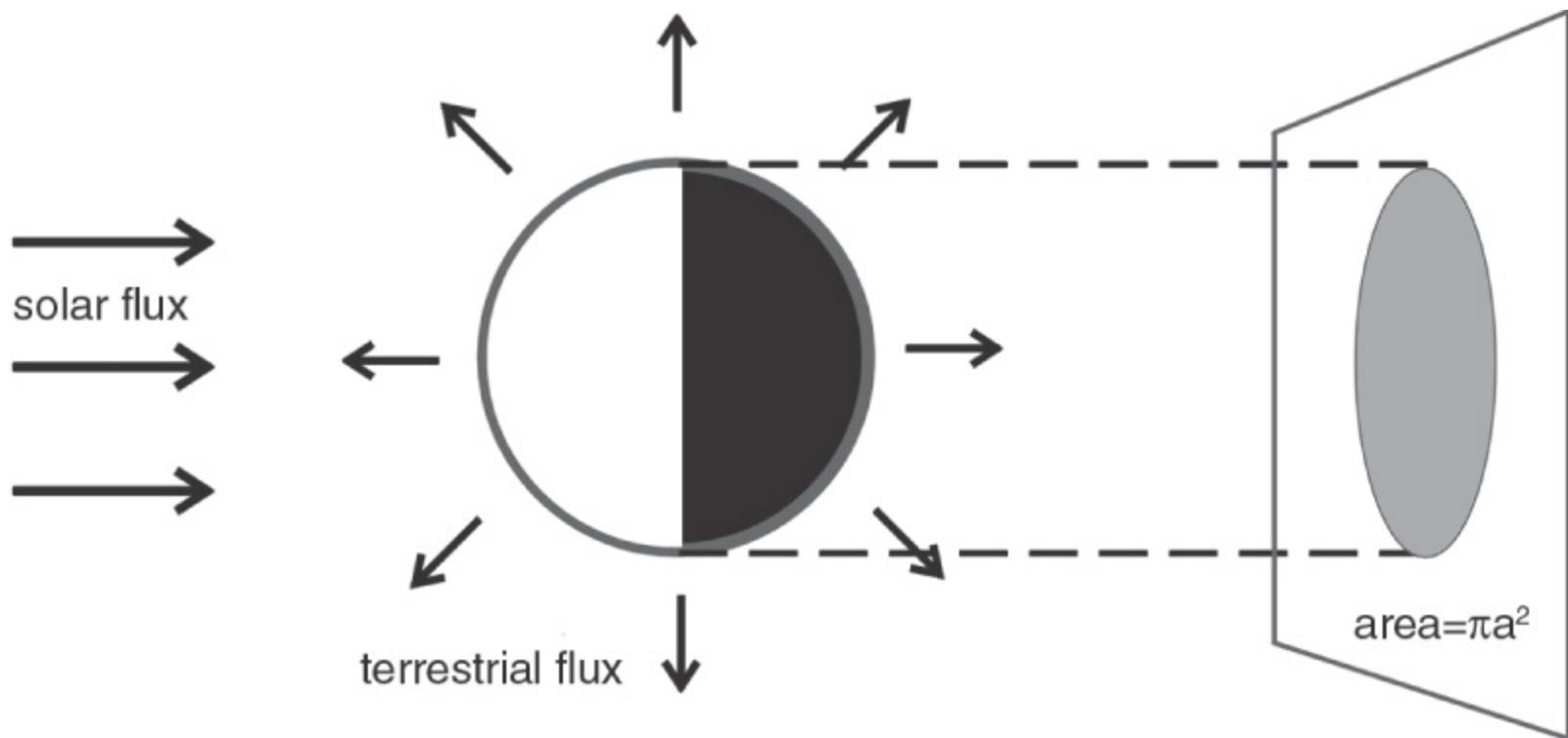


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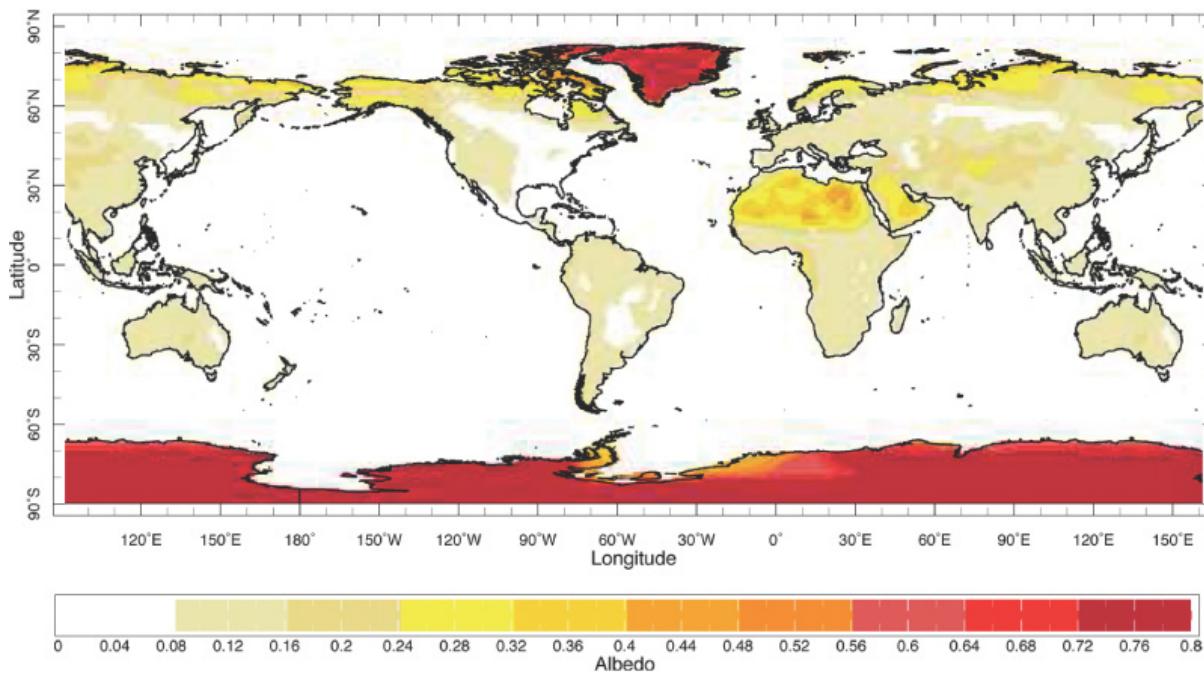
Global energy balance



$$T_e = \left[\frac{S_o(1 - \alpha_p)}{4\sigma} \right]^{1/4}$$

Emission temperature

Surface Albedo



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TABLE 2.2. Albedos for different surfaces. Note that the albedo of clouds is highly variable and depends on the type and form. See also the horizontal map of albedo shown in Fig. 2.5.

Type of surface	Albedo (%)
Ocean	2–10
Forest	6–18
Cities	14–18
Grass	7–25
Soil	10–20
Grassland	16–20
Desert (sand)	35–45
Ice	20–70
Cloud (thin, thick stratus)	30, 60–70
Snow (old)	40–60
Snow (fresh)	75–95

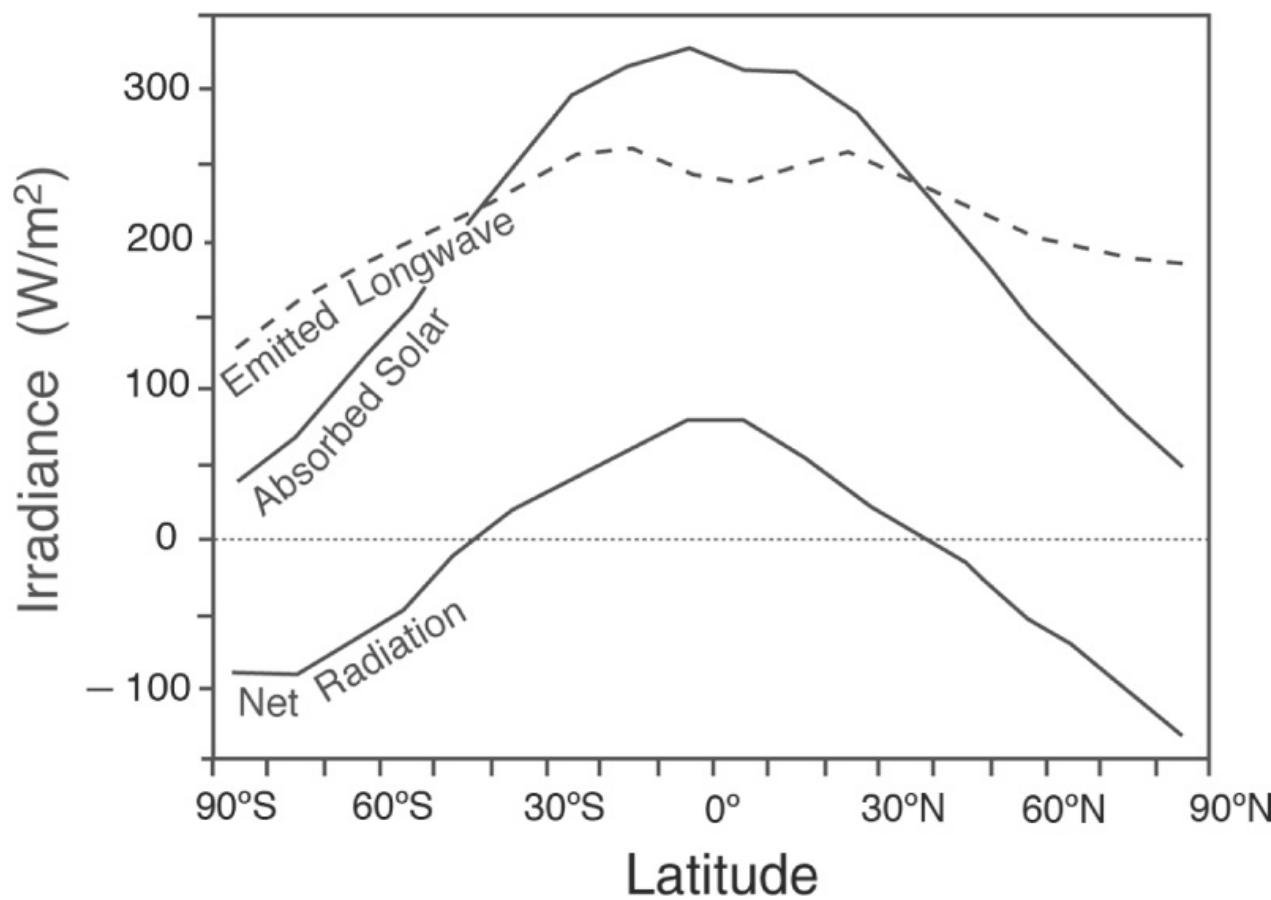
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TABLE 2.1. Properties of some of the planets. S_0 is the solar constant at a distance r from the Sun, α_p is the planetary albedo, T_e is the emission temperature computed from Eq. 2.4, T_m is the measured emission temperature, and T_s is the global mean surface temperature. The rotation period, τ , is given in Earth days.

	r 10^9 m	S_0 W m^{-2}	α_p	T_e K	T_m K	T_s K	τ Earth days
Venus	108	2632	0.77	227	230	760	243
Earth	150	1367	0.30	255	250	288	1.00
Mars	228	589	0.24	211	220	230	1.03
Jupiter	780	51	0.51	103	130	134	0.41

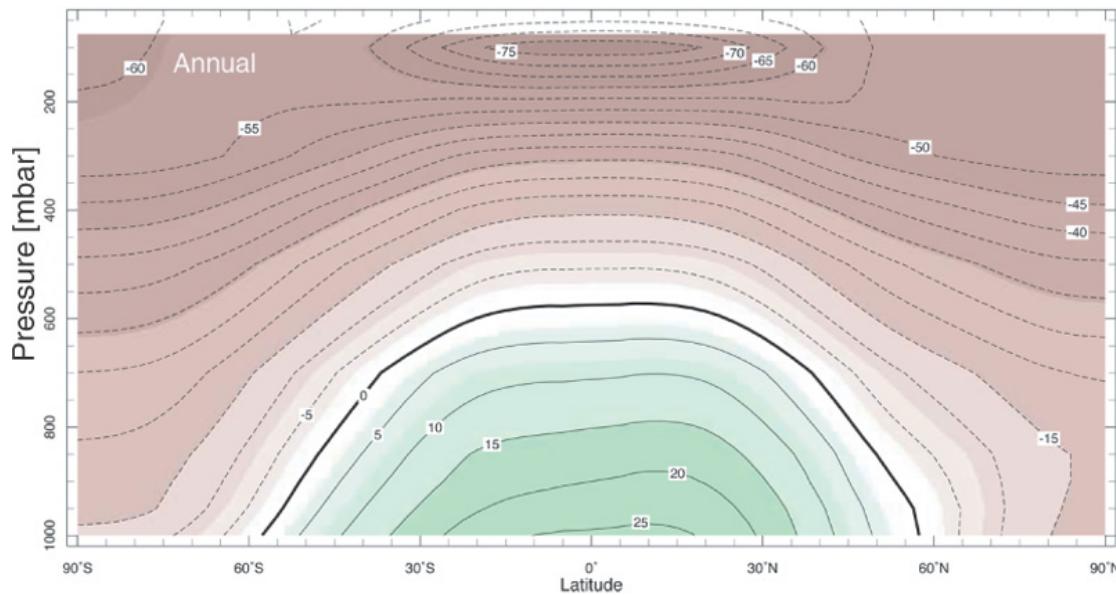
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Meridional distribution of absorbed and emitted radiation



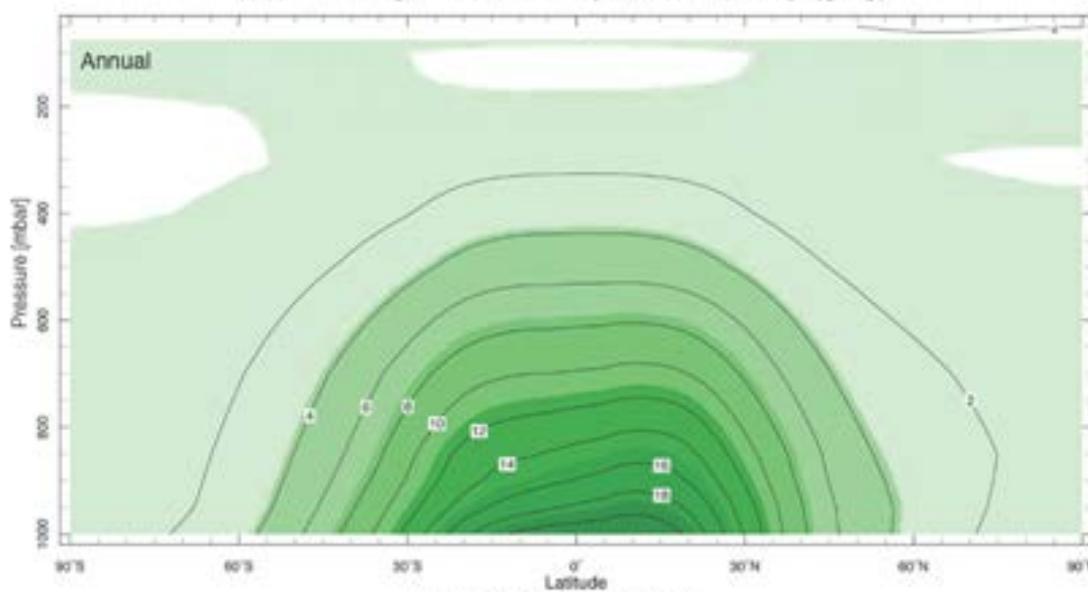
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Zonal-Average Temperature ($^{\circ}\text{C}$)

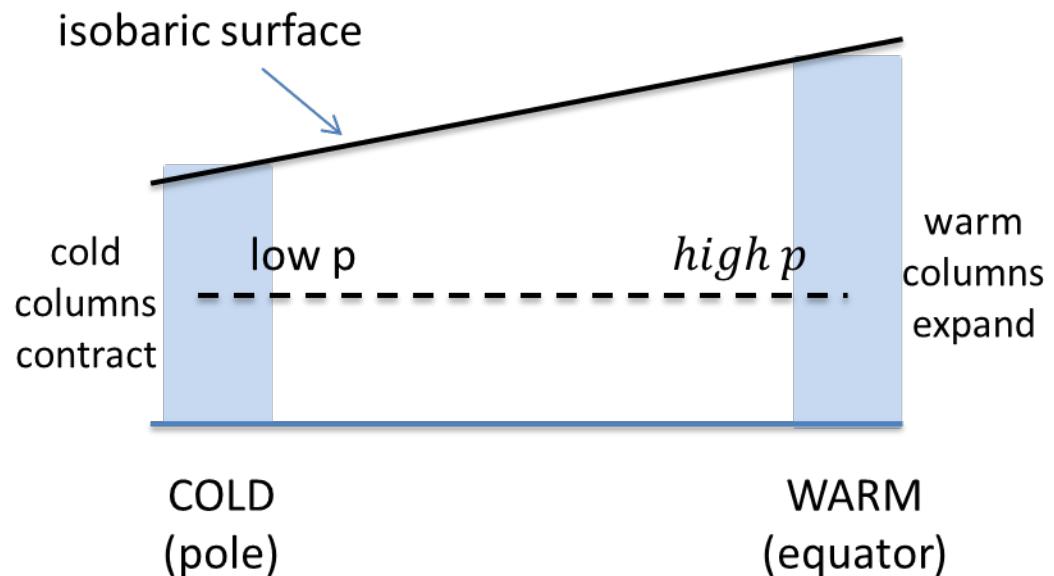


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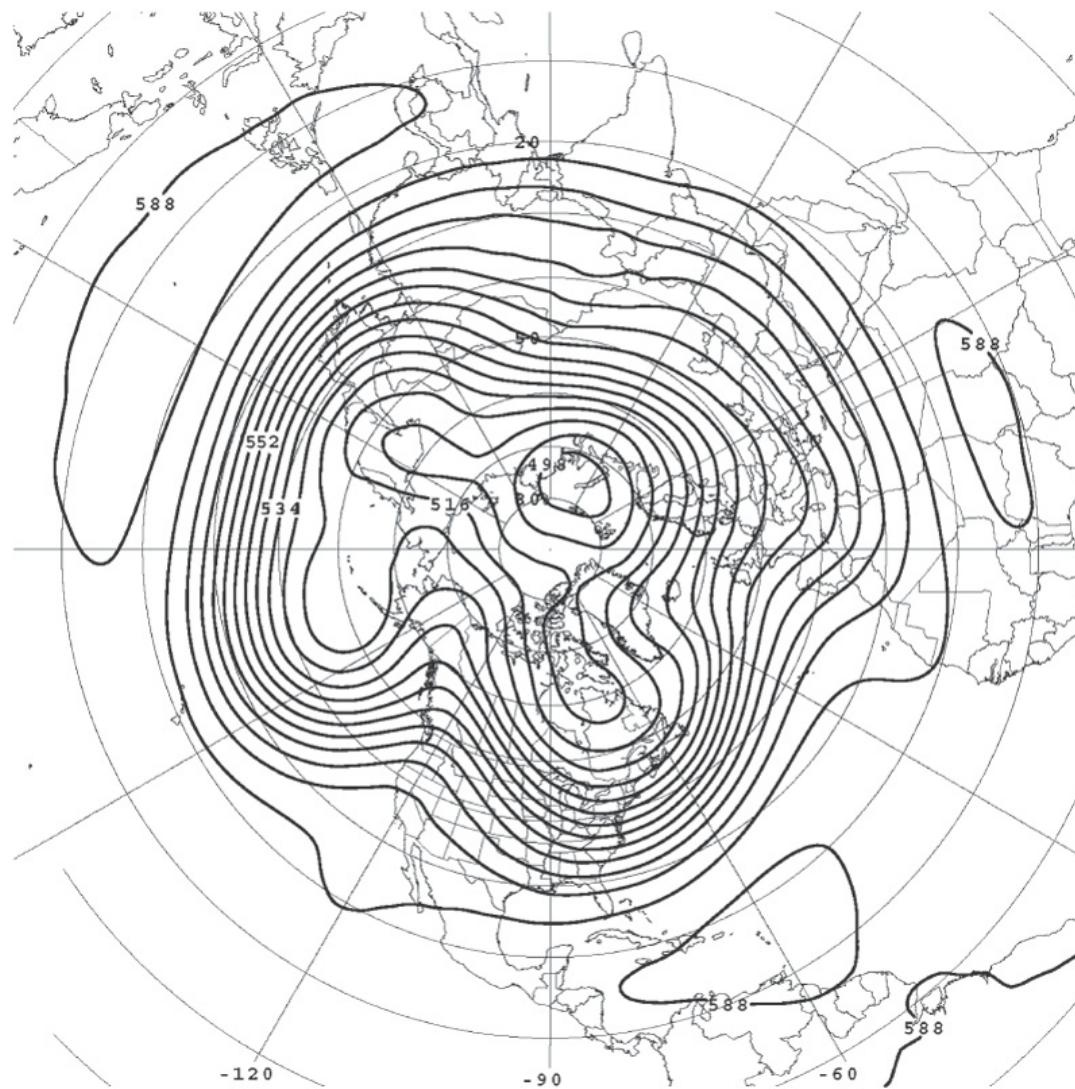
Zonal-Average Saturated Specific Humidity (g/kg)



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Height of the 500mb surface



Zonal-Average Geopotential Height Anomaly (m)

