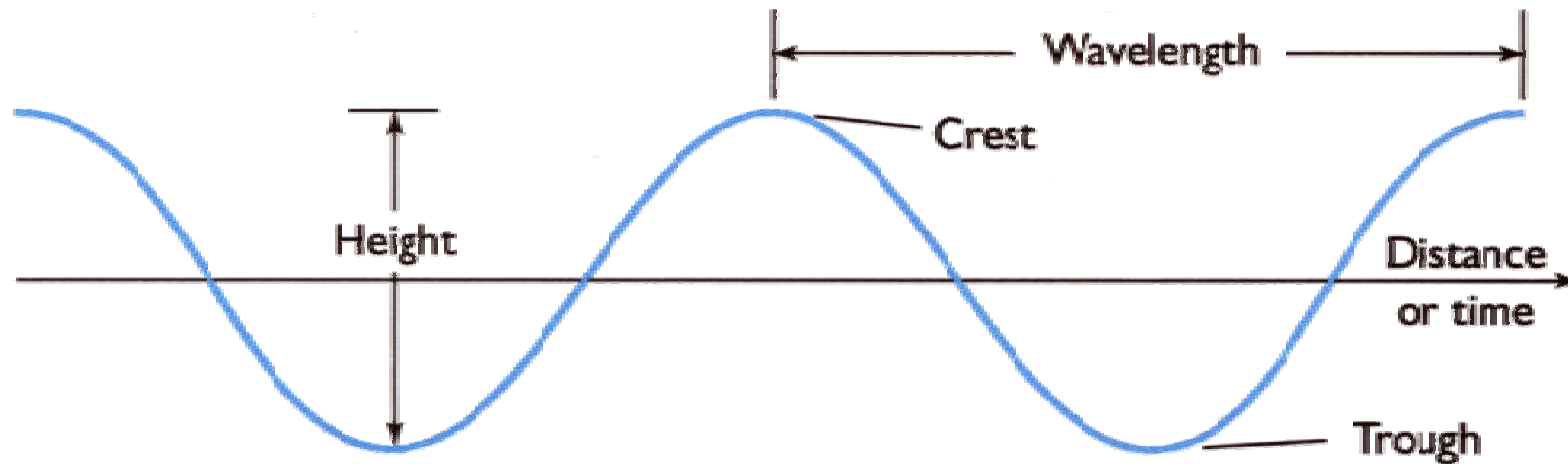


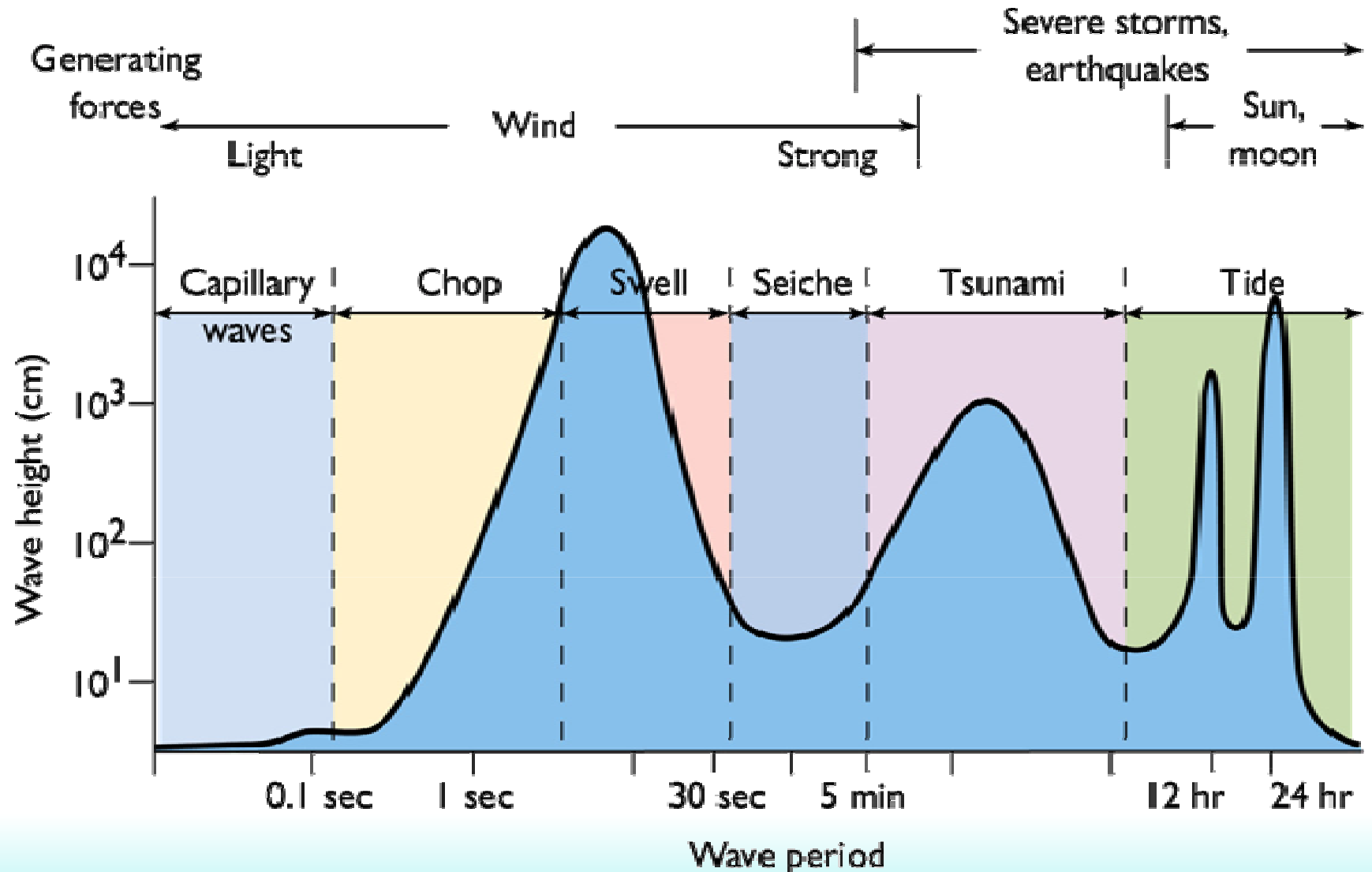
Wave Parameters



- **Wave Period** = Time it Takes a Wave Crest to Travel one Wavelength (units of time)
- **Wave Frequency** = Number of Crest per Unit Time Passing A Fixed Location (units of 1/time)
- **Wave Speed** = Distance a Wave Crest Travels per Unit Time (units of distance/time)



Wave Spectrum





Wave Classification

Table 10.1 Wavelengths and Disturbing Forces of Important Ocean Waves

Wave Type	Typical Wavelength	Disturbing Force
Wind wave	60–150 m (200–500 ft)	Wind over ocean
Seiche	Large, variable; a function of basin size	Change in atmospheric pressure, storm surge, tsunami
Seismic sea wave (tsunami)	200 km (125 mi)	Faulting of seafloor, volcanic eruption, landslide
Tide	$\frac{1}{2}$ circumference of Earth	Gravitational attraction, rotation of Earth

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Wave Classification

Most of the waves present on the ocean's surface are wind-generated waves.

- Size and type of wind-generated waves are controlled by Wind velocity, Wind duration, Fetch, and Original state of sea surface
- As wind velocity increases wave length, period and height increase, but only if wind duration and fetch are sufficient
- Significant wave height is the average wave height of the highest 1/3 of the waves present and is a good indicator of potential for wave damage