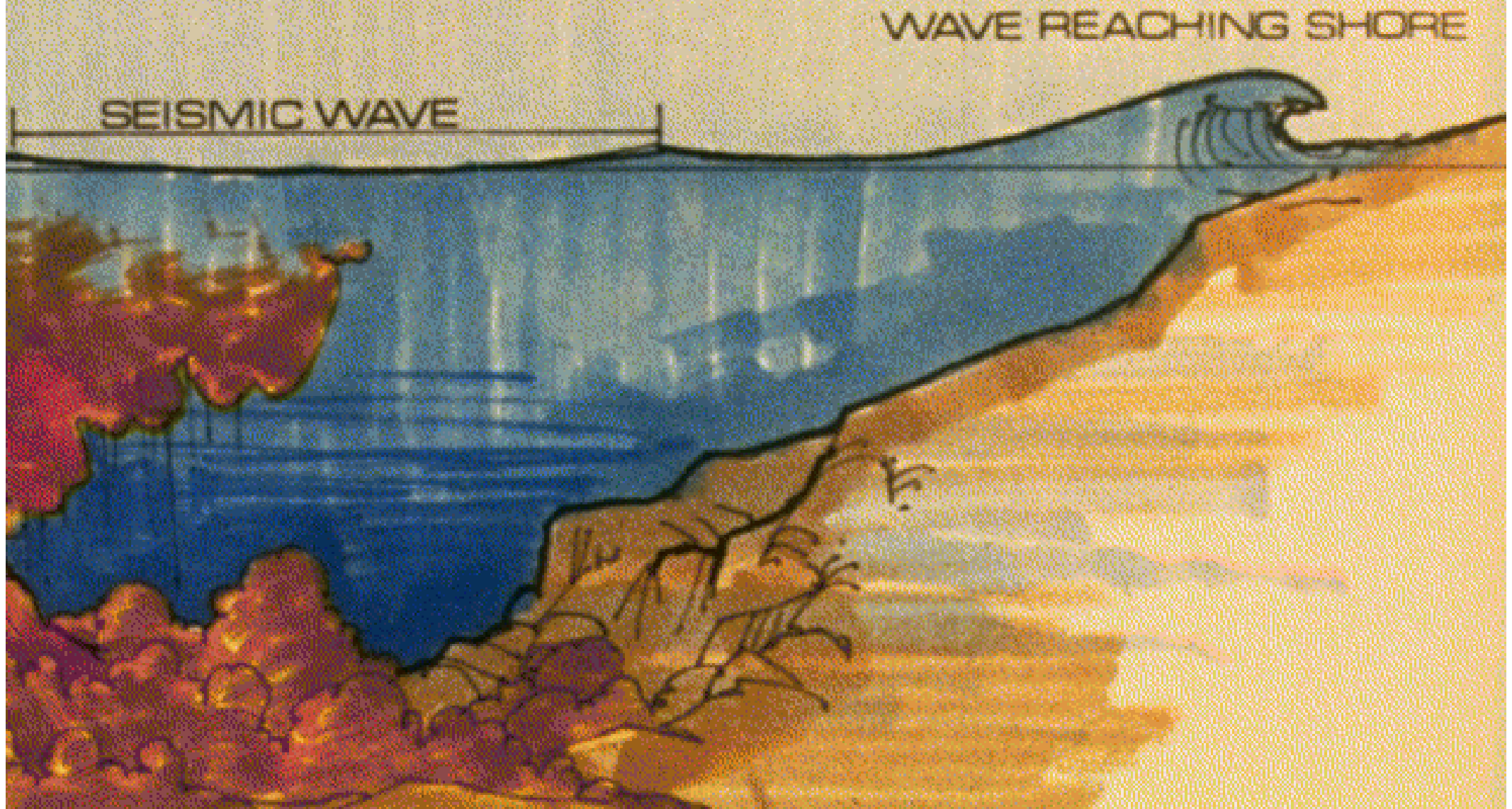
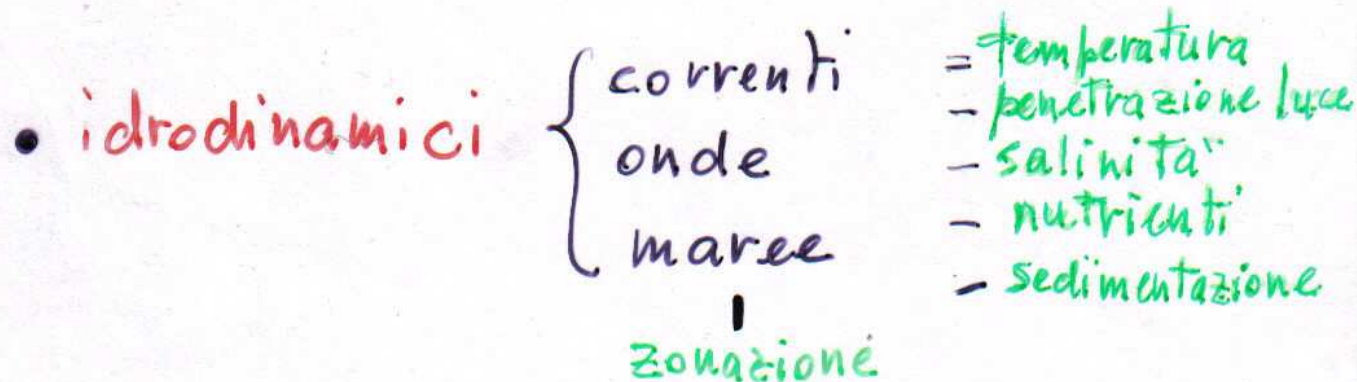
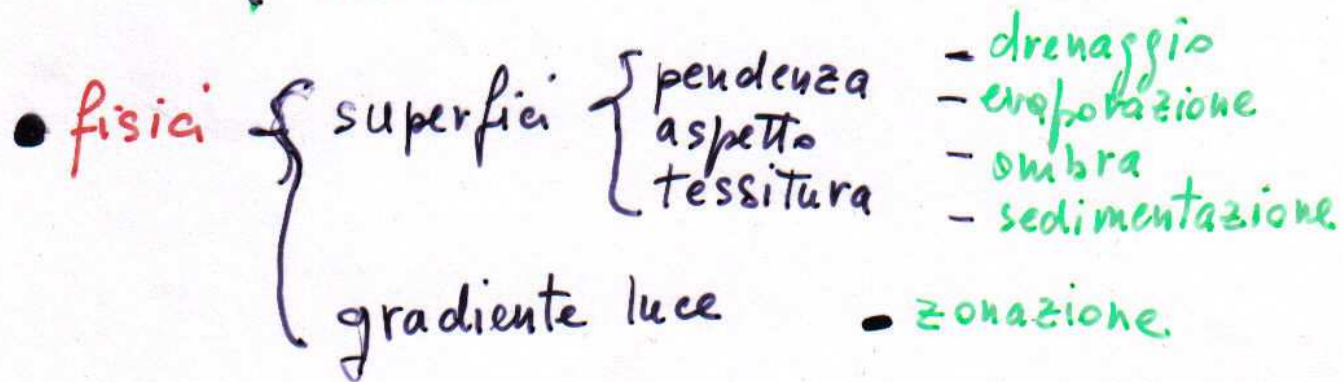
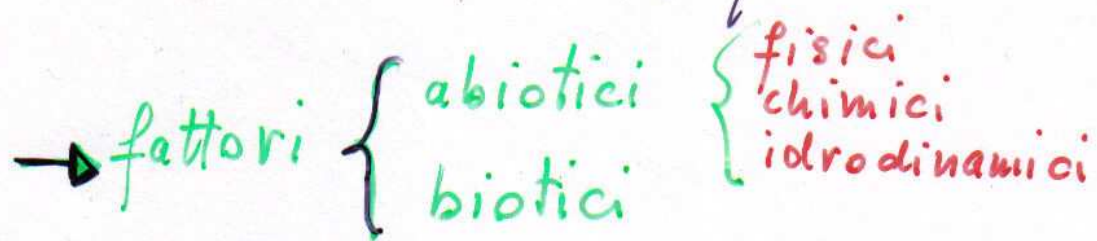


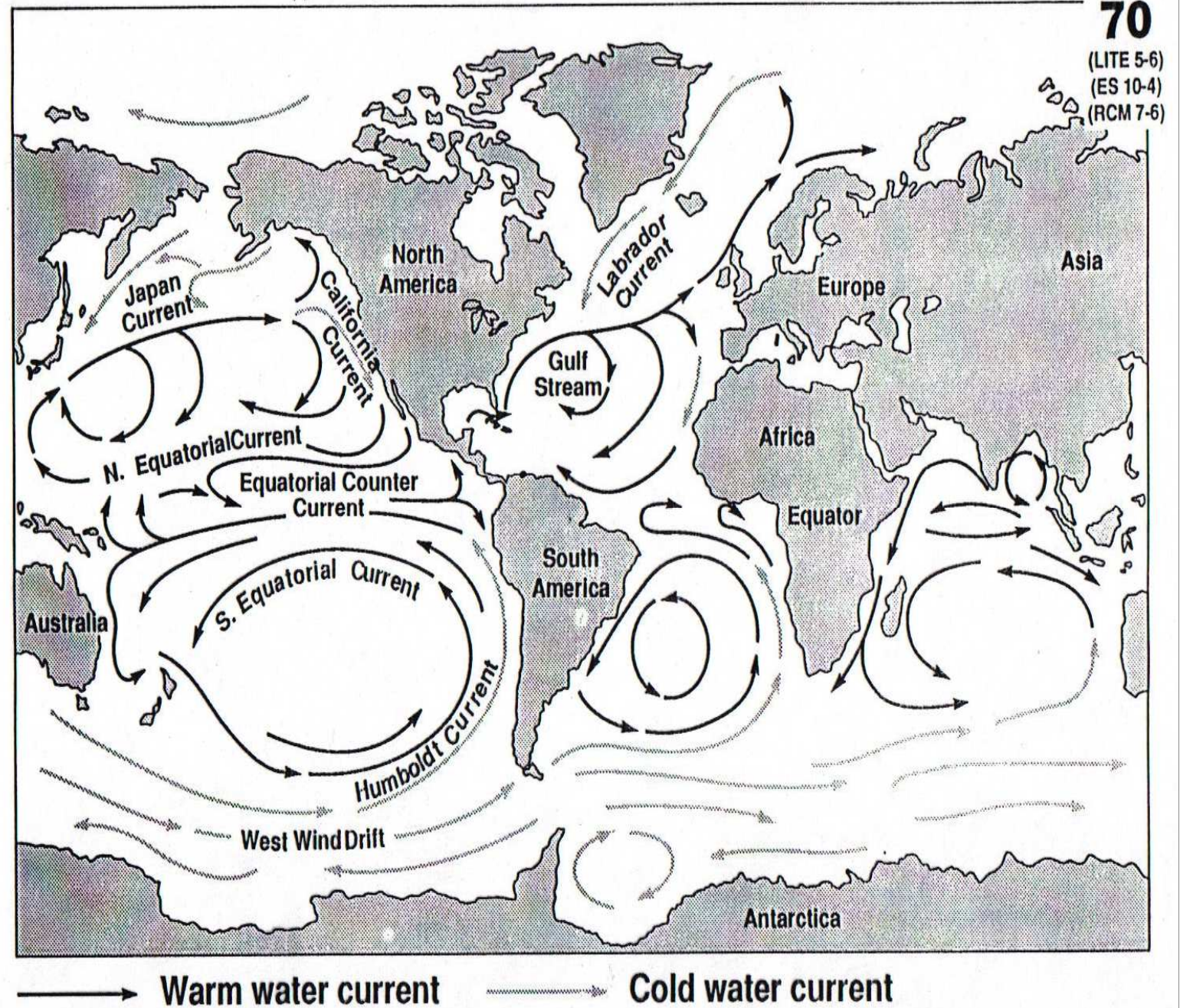
Water dynamics



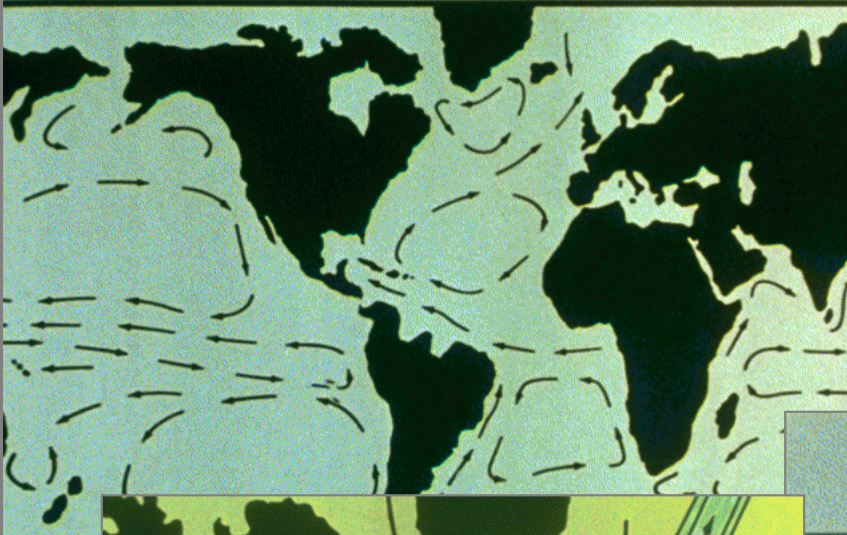
Distribuzione phyto benthos



Surface currents



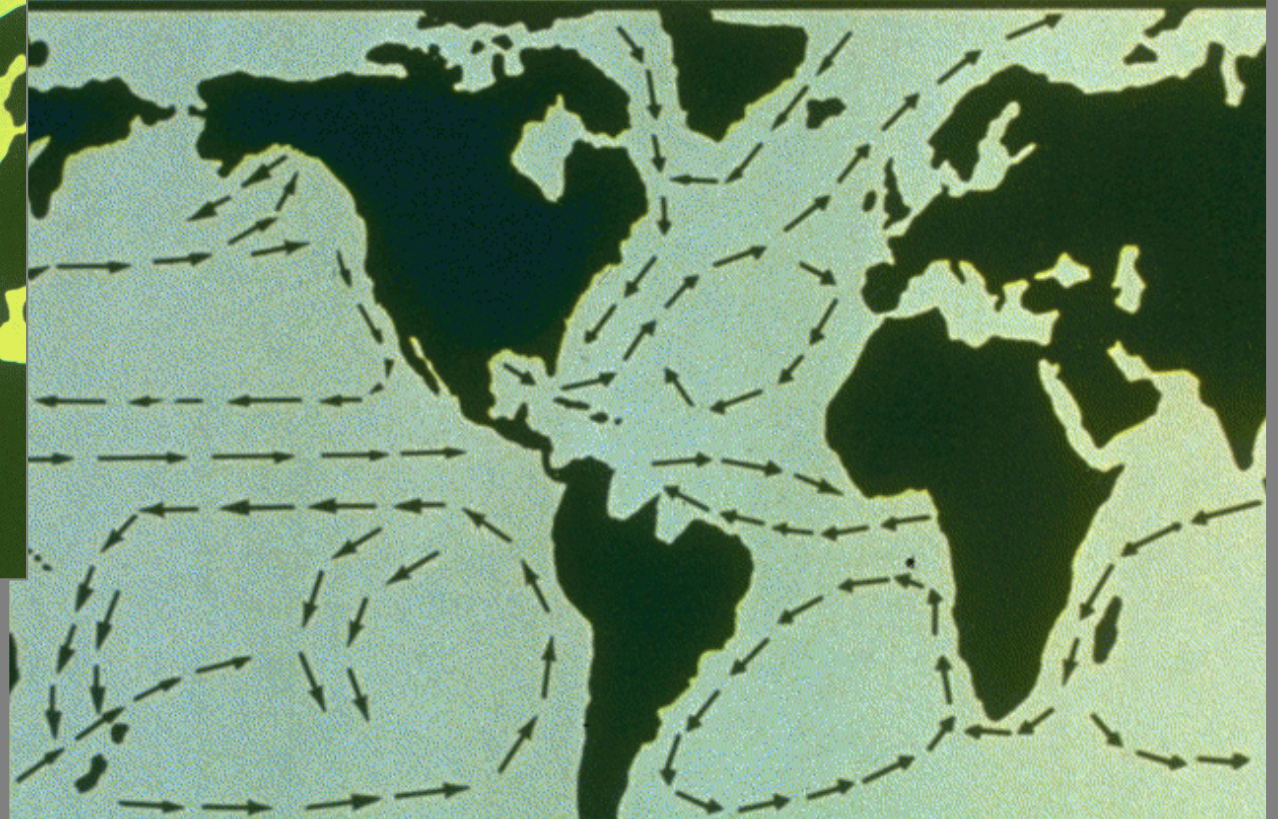
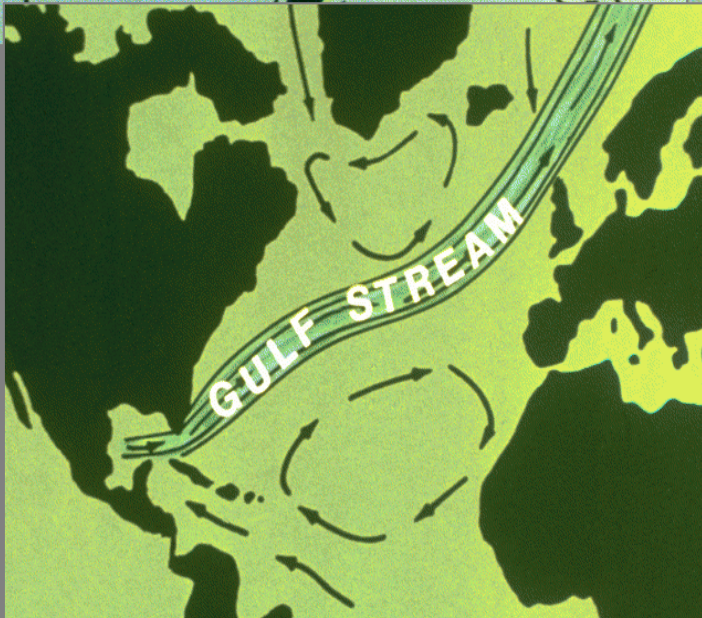
GENERAL WORLD SURFACE CURRENTS



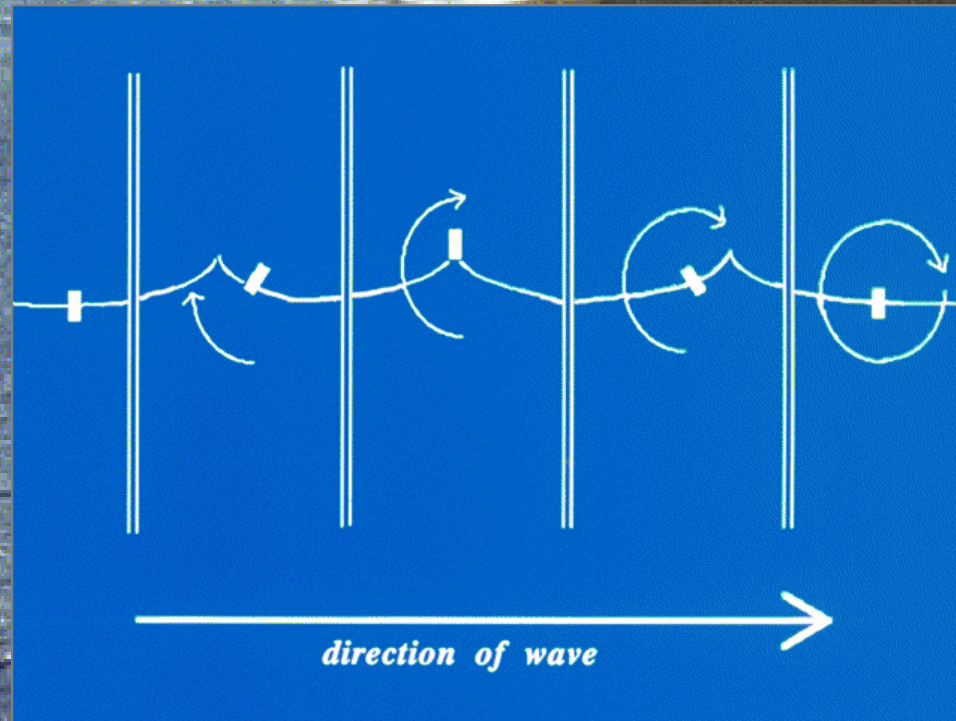
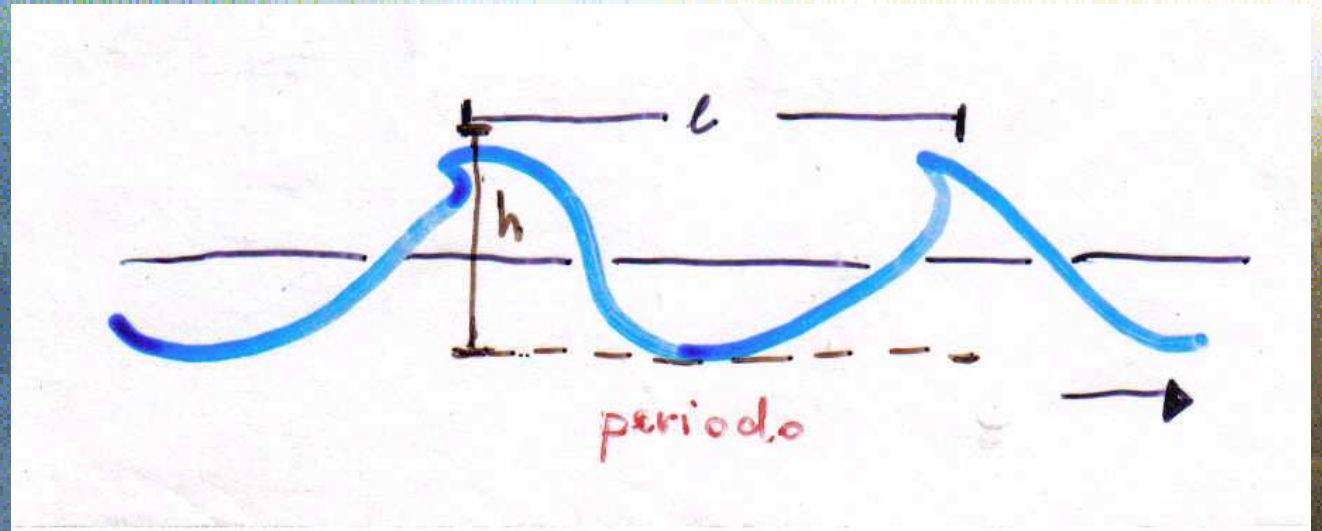
Deep currents

Upwelling

GENERAL DEEP SEA CURRENTS



Waves



Tides

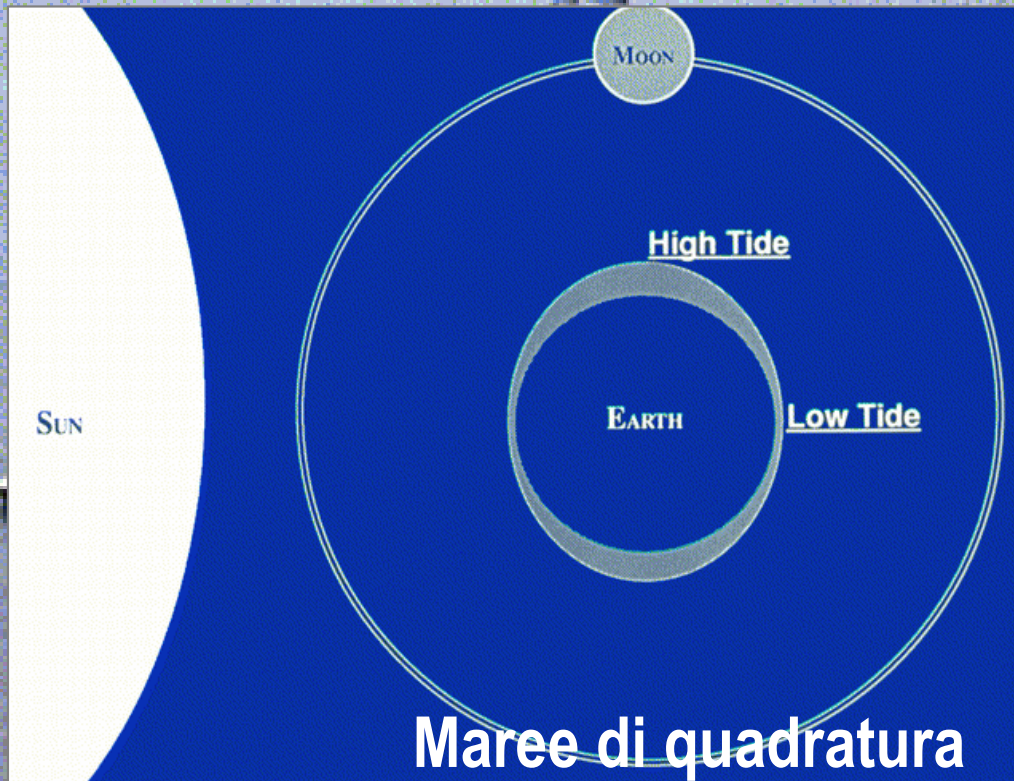
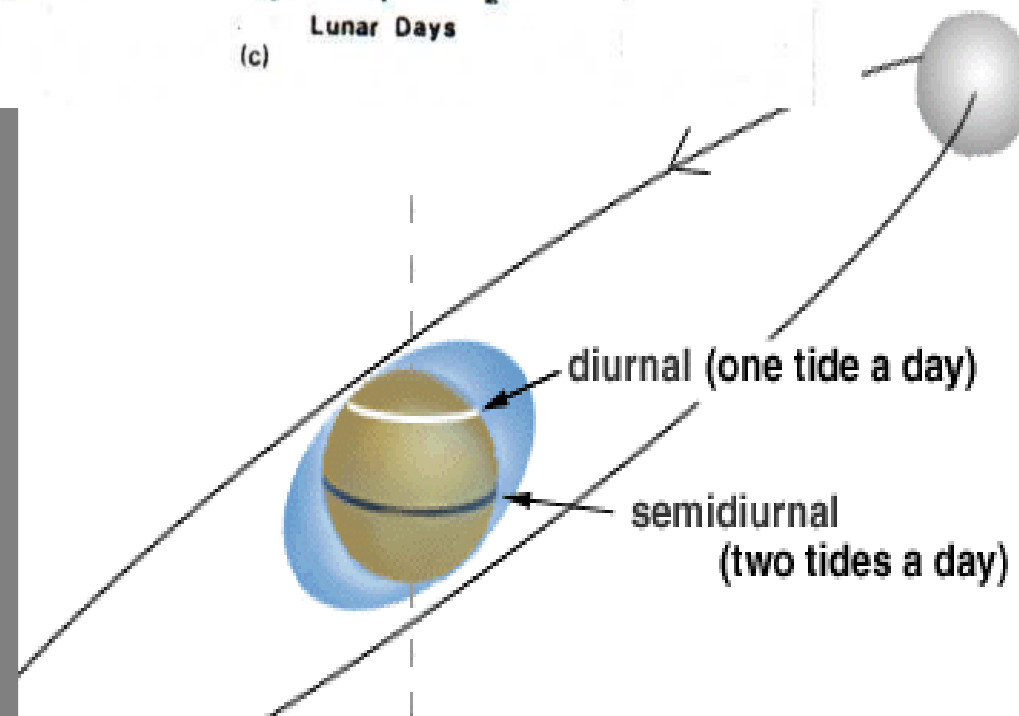
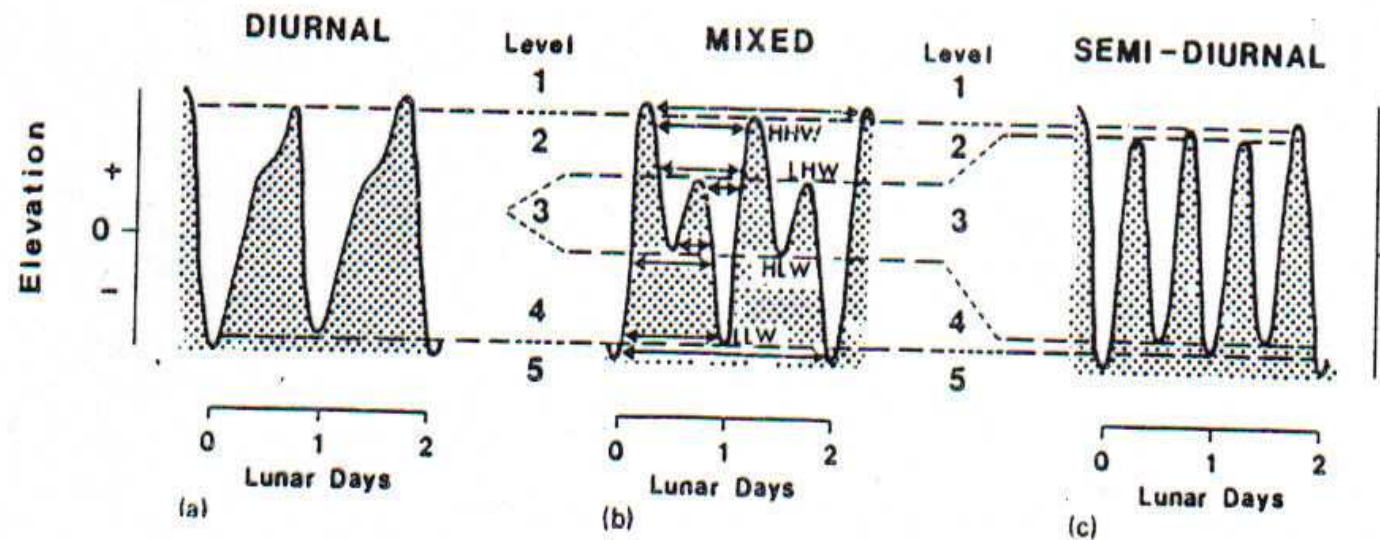


Figure 9.1. Physical division of the seashore. Daily (first order) critical tide levels (CTLs) in diurnal, mixed, and semidiurnal tide regimes during a neap tidal cycle. Stippling indicates submergence; arrows indicate duration of continuous exposure or submergence immediately above and below CTLs. CTLs divide the intertidal region into four or five levels. (



Waves and tide effect on seaweeds



(a)



(b)

Figure 7.13. Habitat of *Laminaria sinclairii* on a sandy beach in Oregon (a) in April, with little sand present, and (b) in July, with rocks almost buried in sand. Arrows point to the same rock.

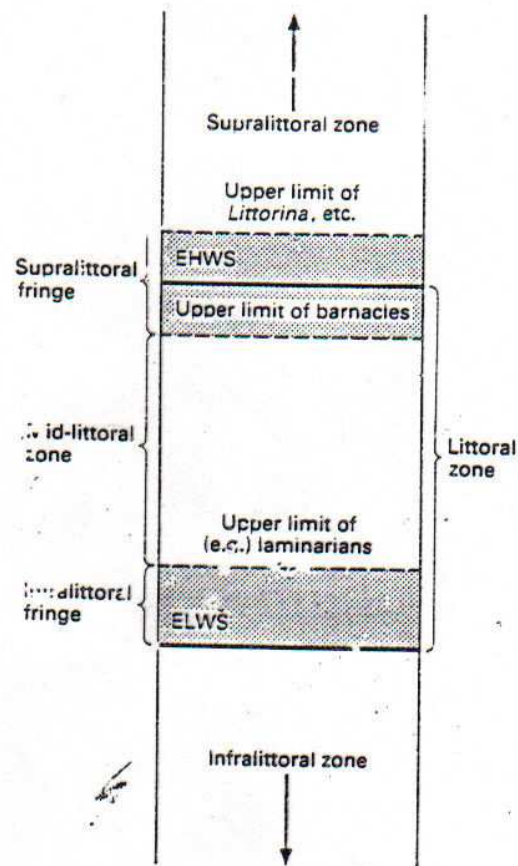
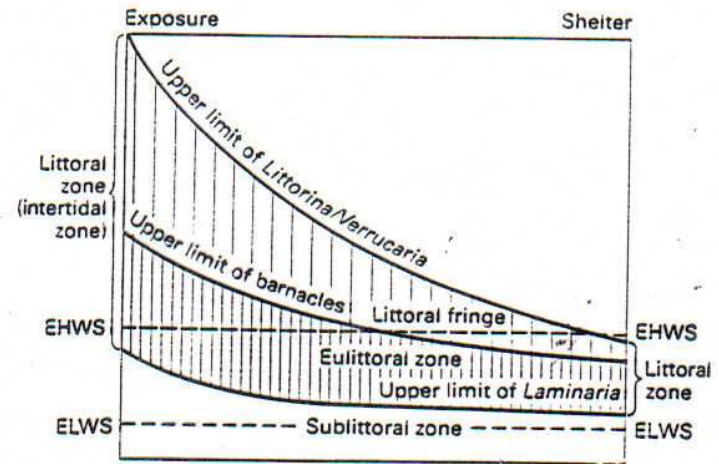


Fig. 7.24 Universal features of intertidal zonation on a rocky shore. EHWS, extreme high-water spring tides; ELWS, extreme low-water spring tides. (After Stephenson & Stephenson, 1949.)

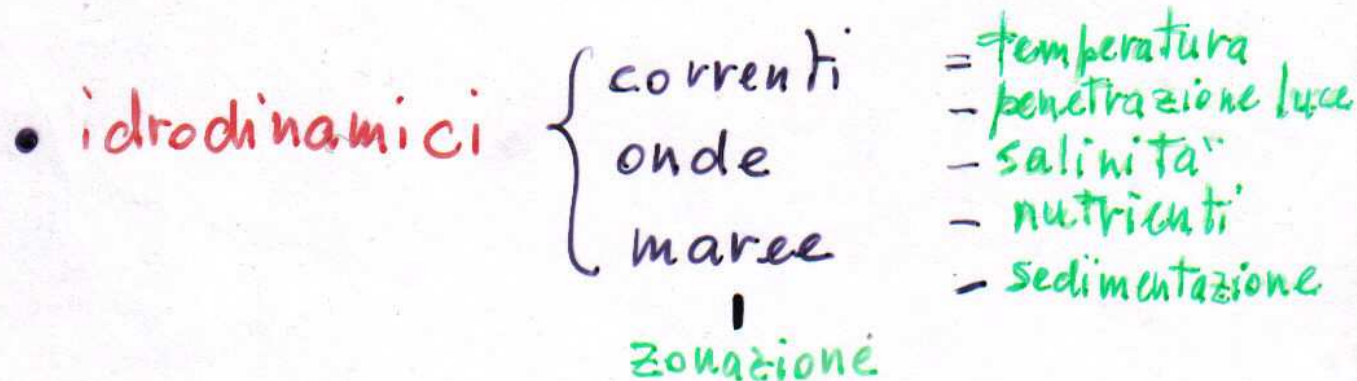
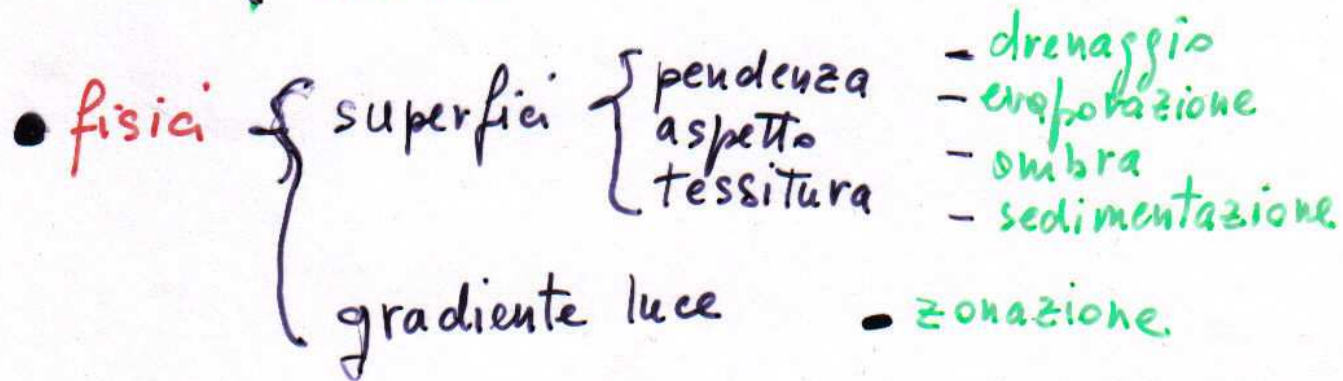
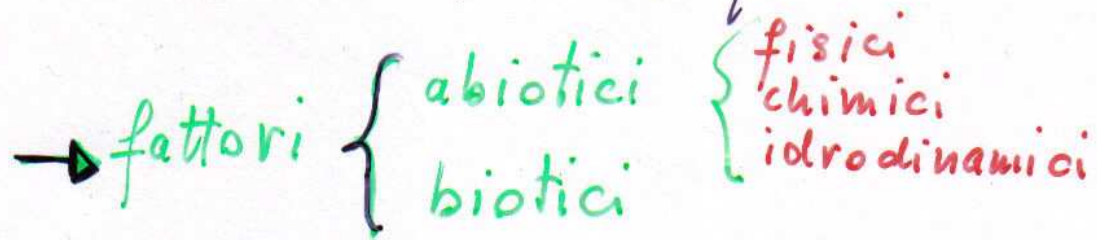


sopratidale ← { substrato
moto ondoso

intertidale ← { livelli di marea
moto ondoso

infratidale ← luce

Distribuzione phytobenthos



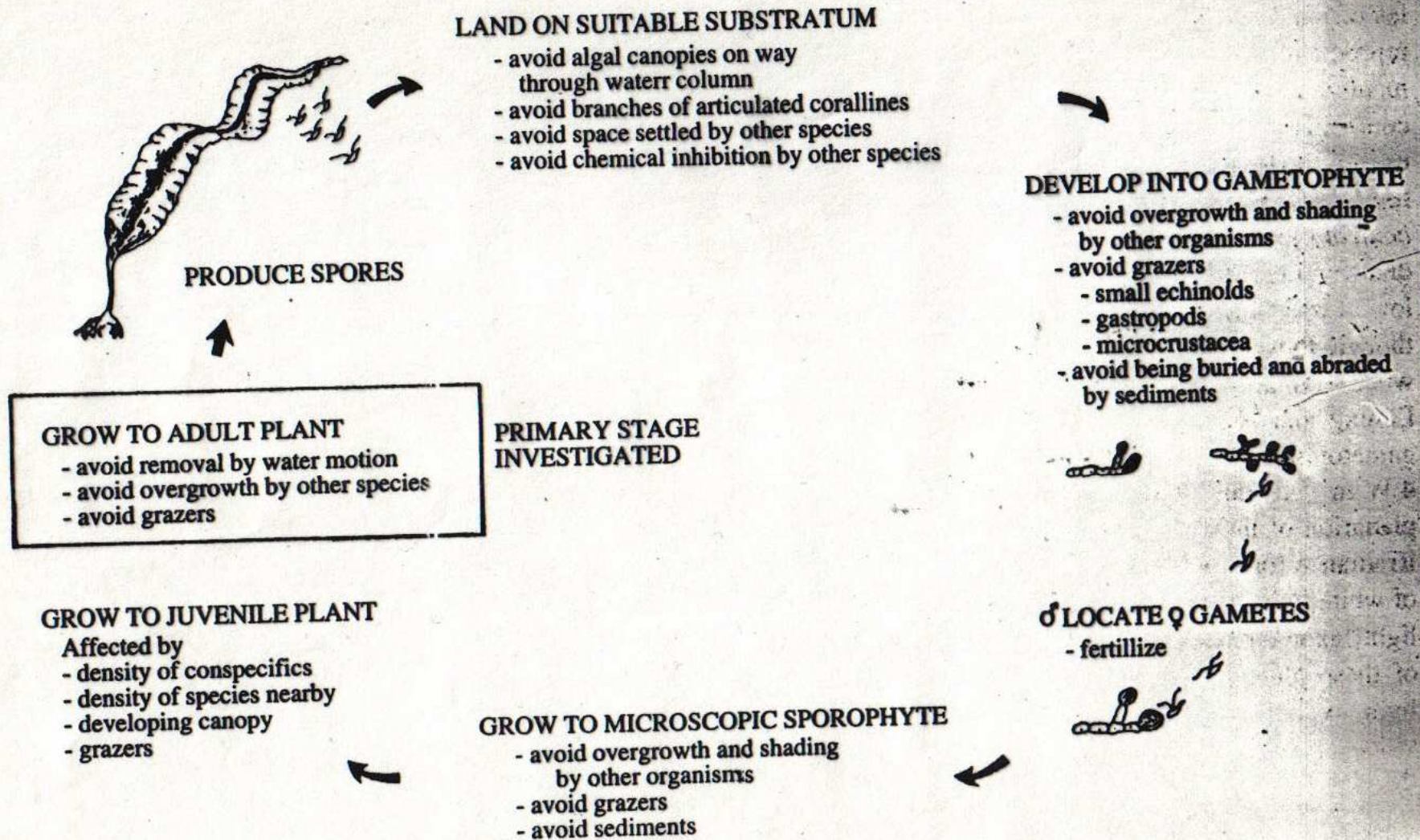


Figure 1.29. Life history of a laminarian alga, showing some of the major (chiefly biotic) environmental hazards that must be overcome at each stage. In addition, success will be affected by abiotic factors such as light, temperature, water motion.