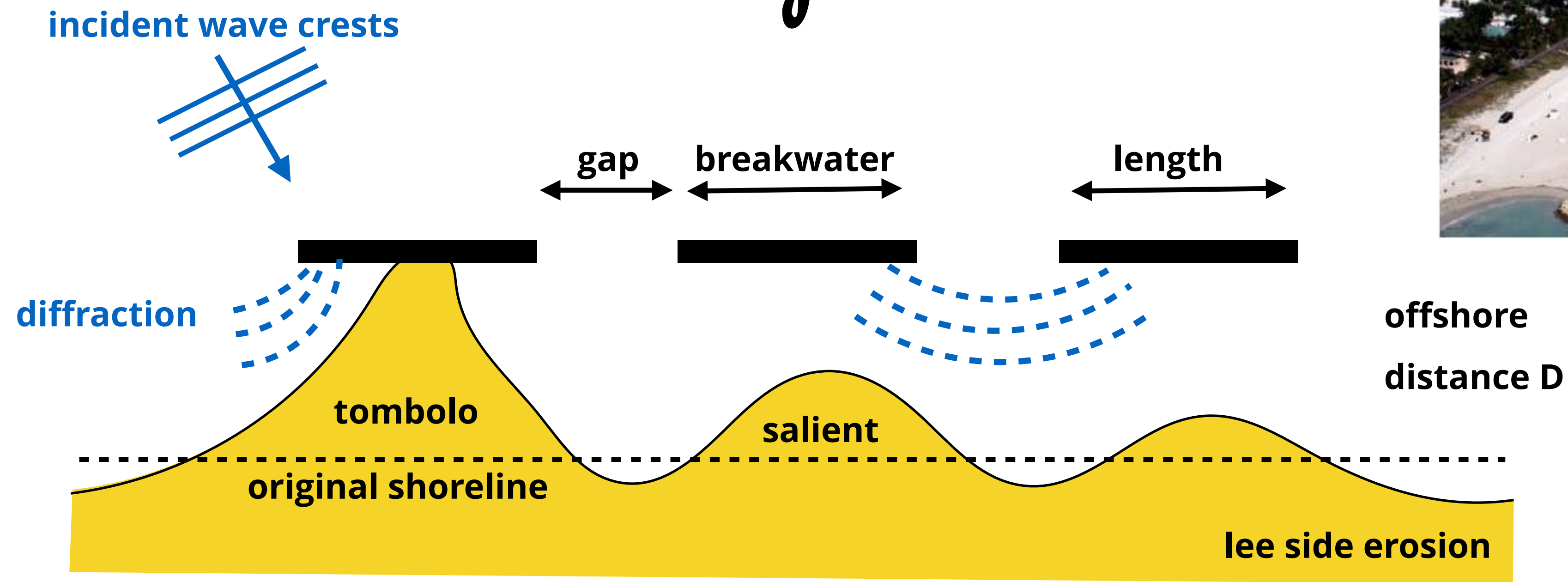
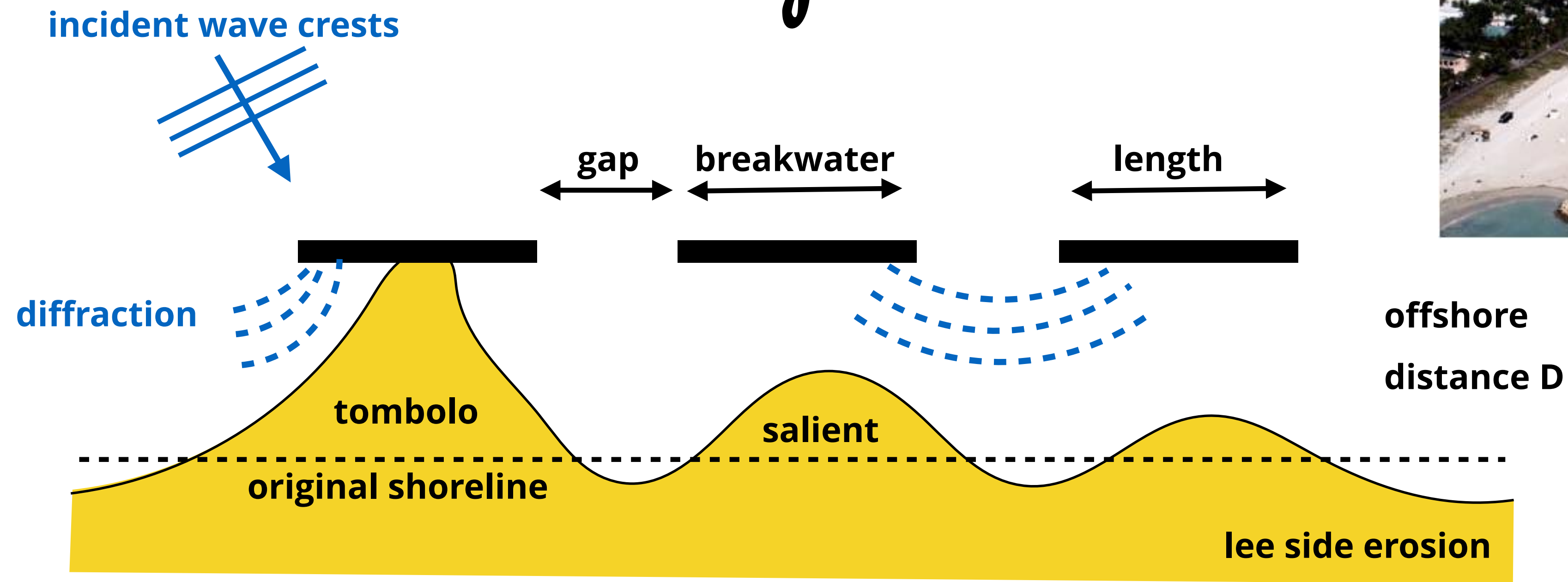


Coastal protection



- **$L/D \geq 2$ to 3; permanent or periodic tombolo** (if depth at breakwater location < 3 m) **or well-developed salient** (depth > 3 m) periodic tombolos are removed during storm conditions (highly variable wave climate)

Coastal protection



► $L/D=1$ to 2 — well-developed salient to incipient tombolo

- salients create less lee-side erosion due to bypassing of sand
- salient formation can be promoted by allowing sufficient wave energy in the lee area by increasing offshore distance (depending on magnitude of littoral drift) and gap length, and by increasing the permeability of the structure (wave transmission)

► $L/D=0.5$ to 1 — weak to well-developed salient

► $L/D=0.2$ to 0.5 — incipient to weak salient

► $L/D<0.2$ — no effect.