



Tema 8.
Xeomorfoloxía litoral

An aerial photograph of a coastal region. On the left, the dark blue ocean meets a white sandy beach. To the right of the beach, there is a residential area with houses, roads, and green spaces. A large, irregularly shaped pond or reservoir is visible in the upper right quadrant. The overall scene illustrates the interface between the ocean, atmosphere, and land.

FRANXA LITORAL
INTERFASE: HIDROSFERA-ATMOSFERA-XEOSFERA

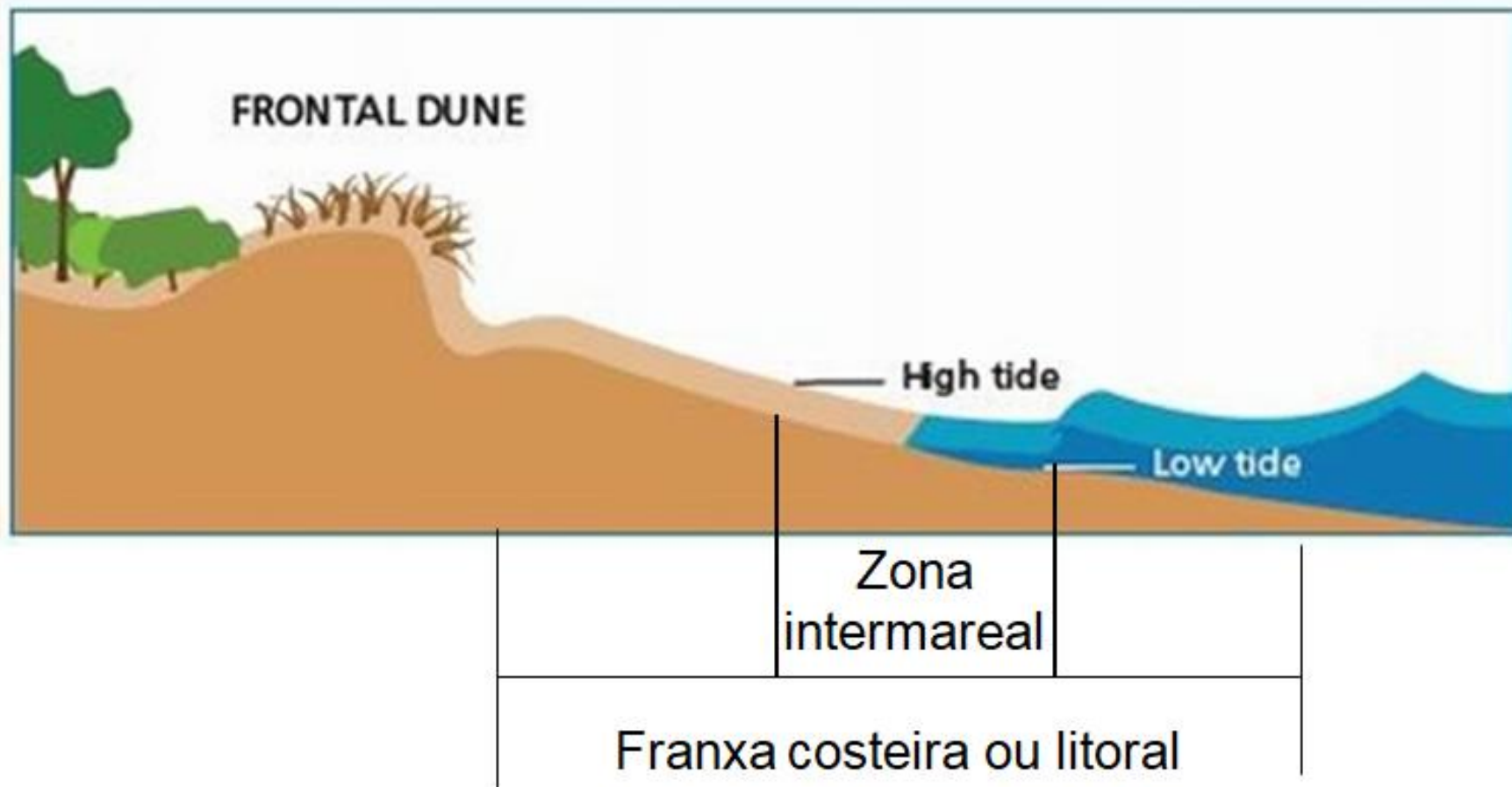
Movimentos oceánicos

MAREAS

CORRENTES

ONDAS

ZONACIÓN



Acción erosiva das augas oceánicas **(EROSIÓN – TRANSPORTE – SEDIMENTACIÓN)**

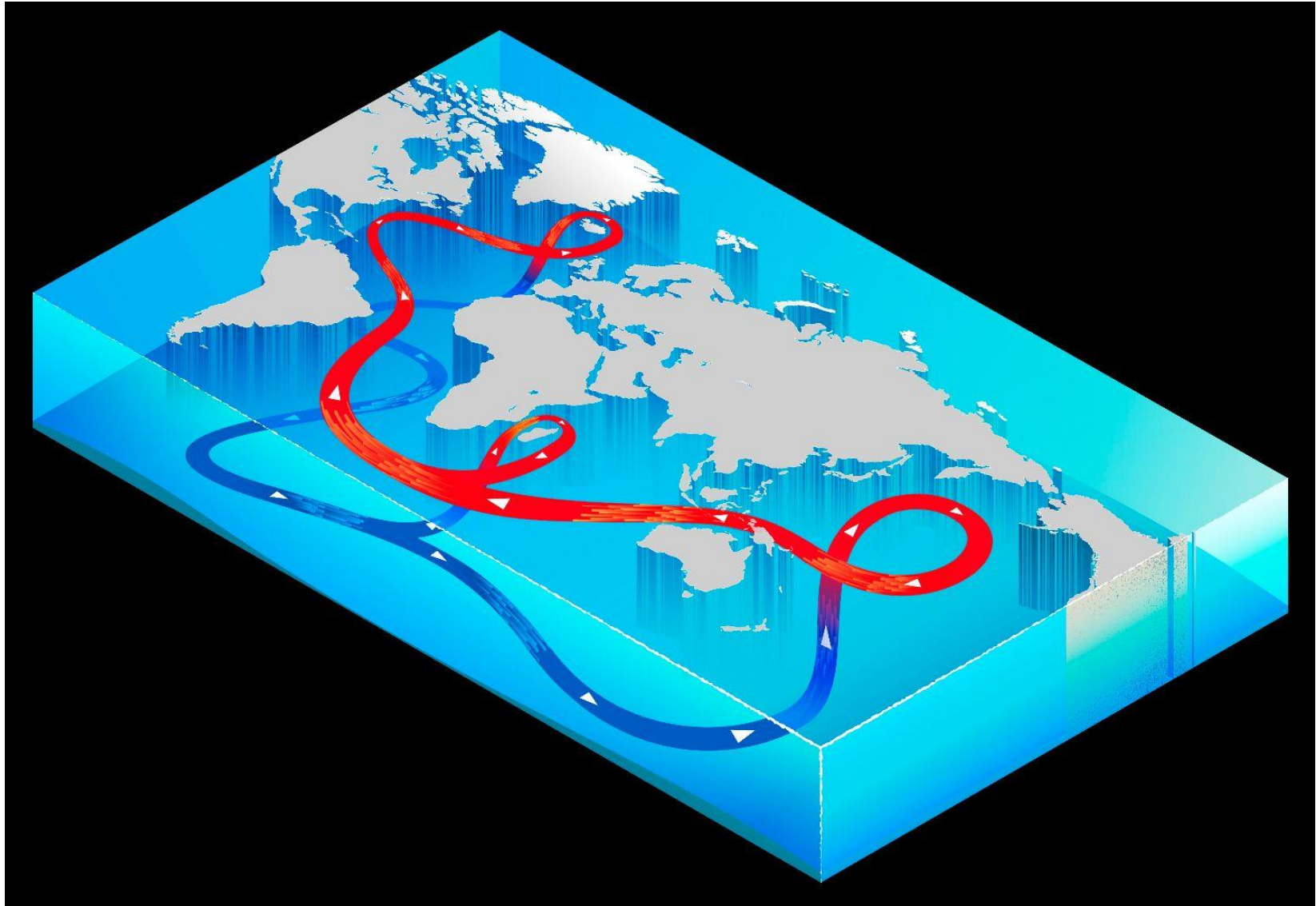
MOVEMENTOS OCEÁNICOS

CORRENTES

ONDAS

MAREAS

CORRENTES: DESPRAZAMENTOS MASAS DE AUGA NO OCÉANO



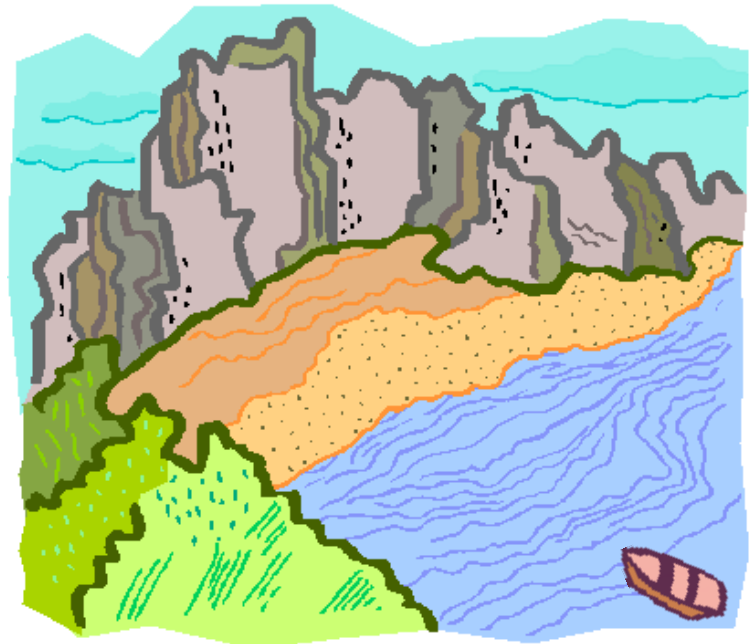
MAREAS

VARIACIÓNS DIARIAS PERIÓDICAS DO NIVEL DO MAR

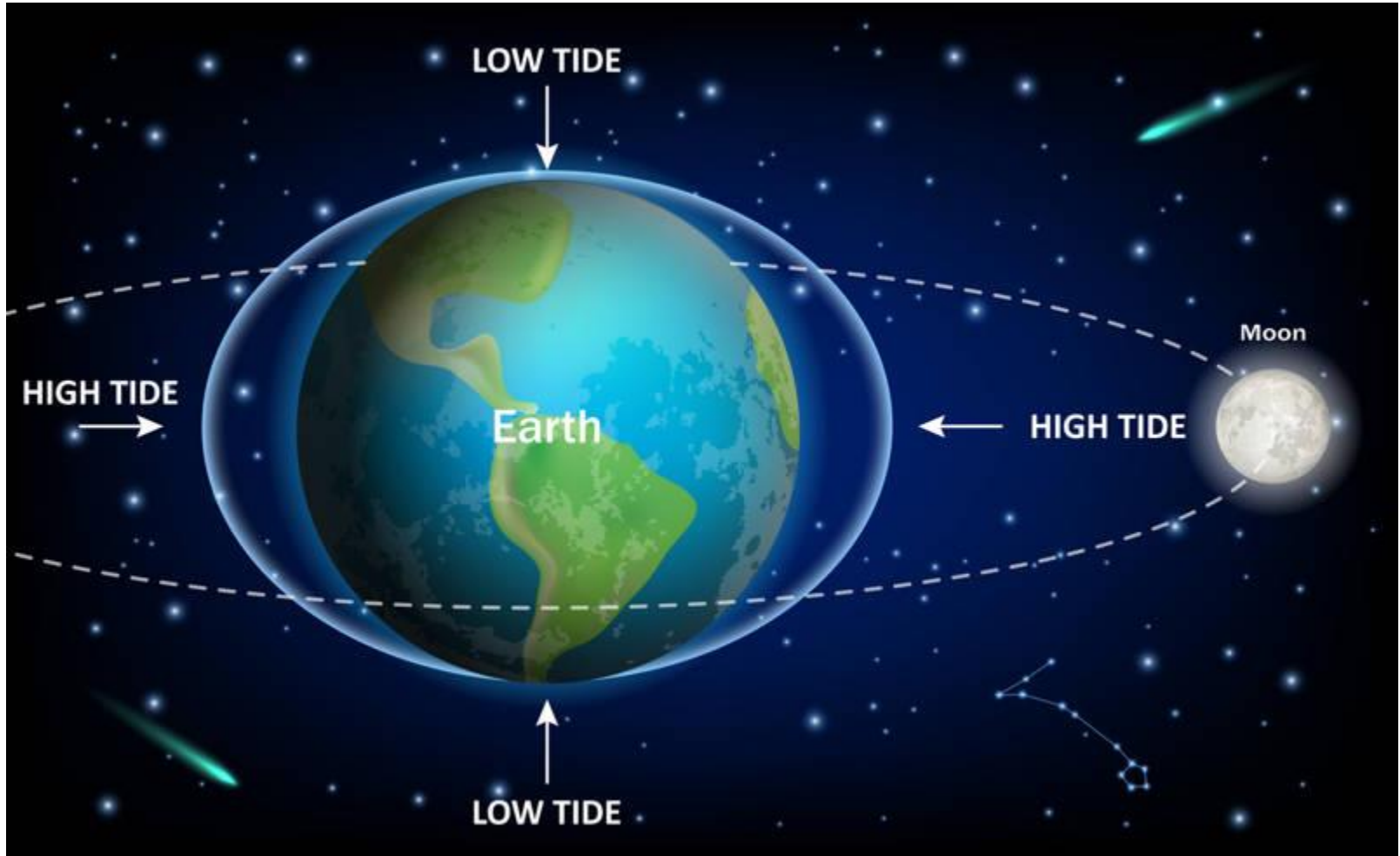
PREAMAR



BAIXAMAR



SISTEMA TERRA - LÚA

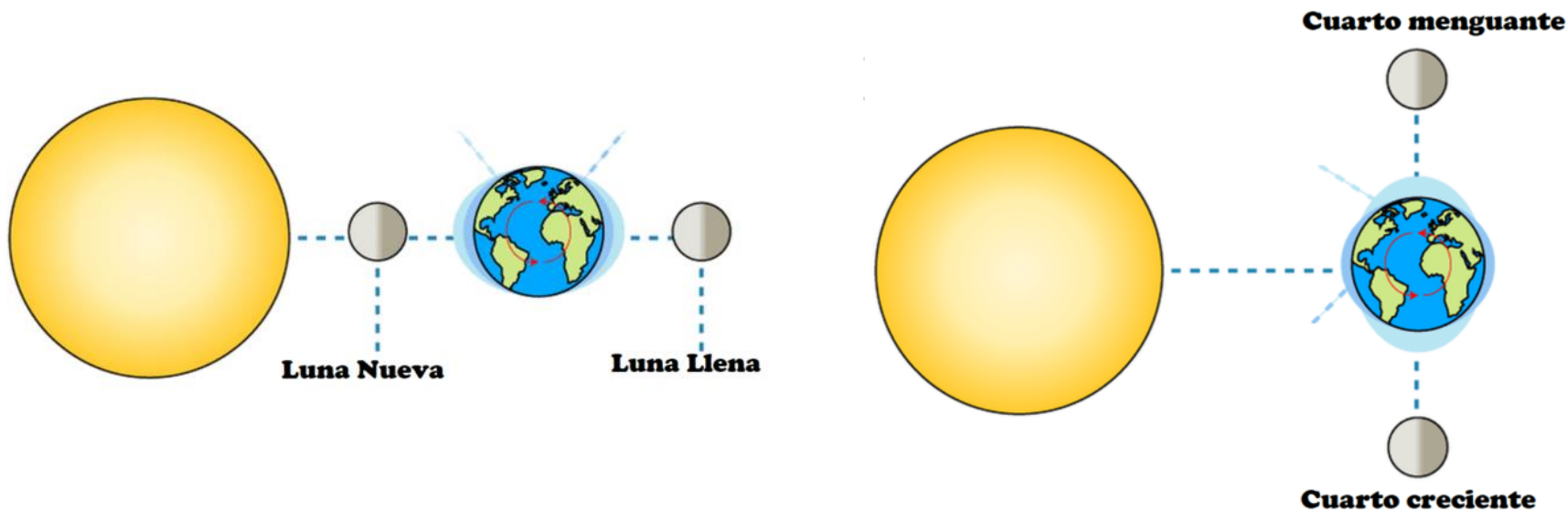


MAREAS VIVAS

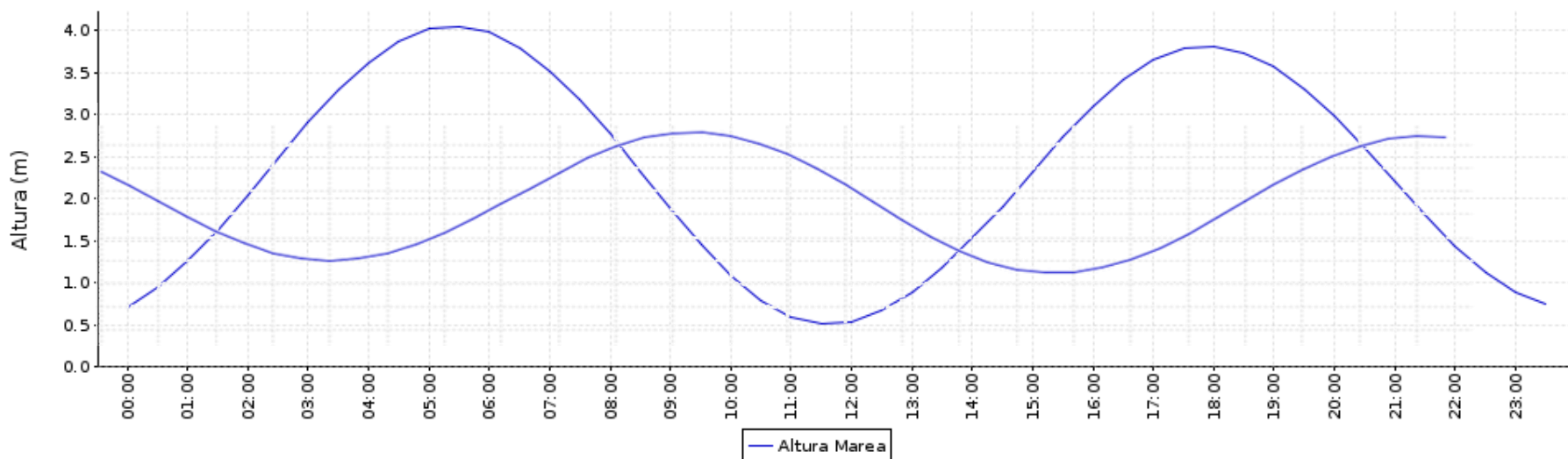


MAREAS MUERTAS





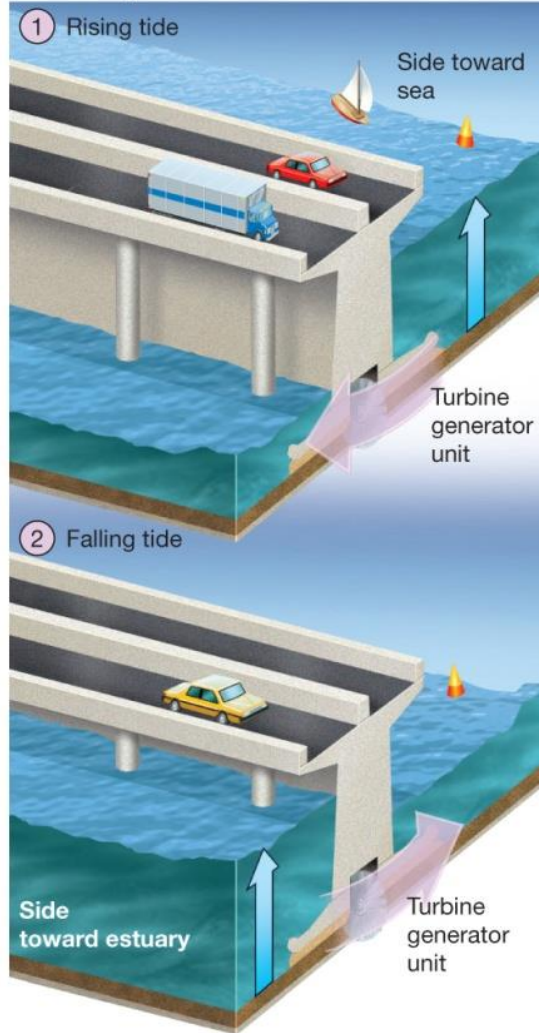
Día 17/11/2016



Power Plant at La Rance, France

Successfully producing tidal power since 1967

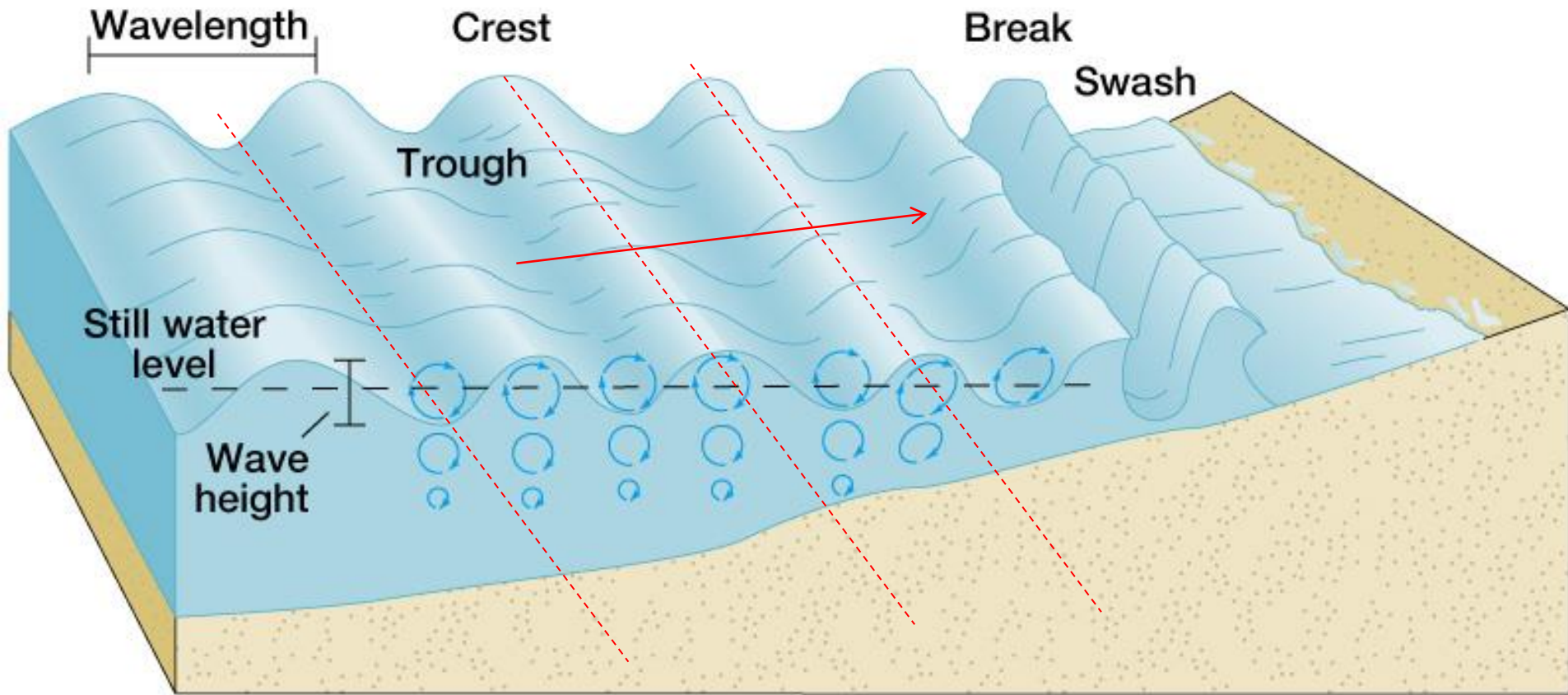
One tidal cycle = 12 hours 25 minutes



Muiño da seca en Cambados

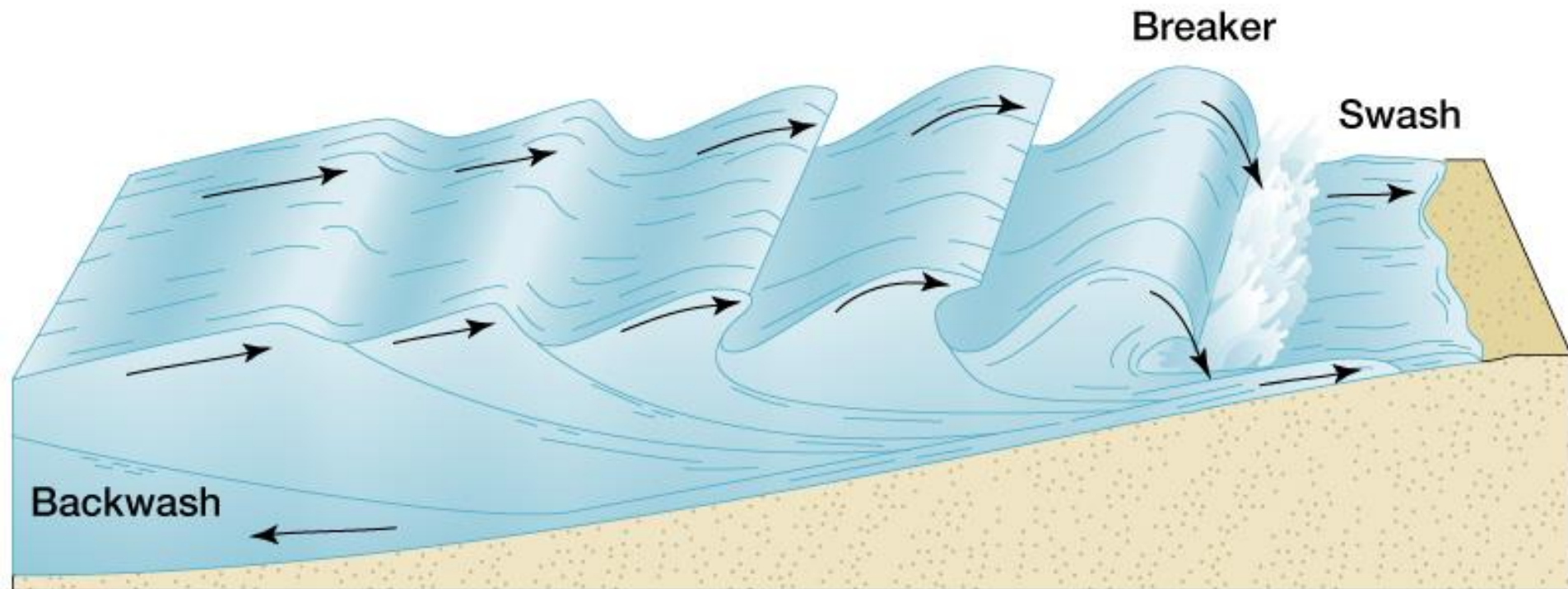


ONDAS: PRINCIPAL AXENTE XEOLÓXICO



ROTURA DA ONDA

AVANCE - RETROCESO



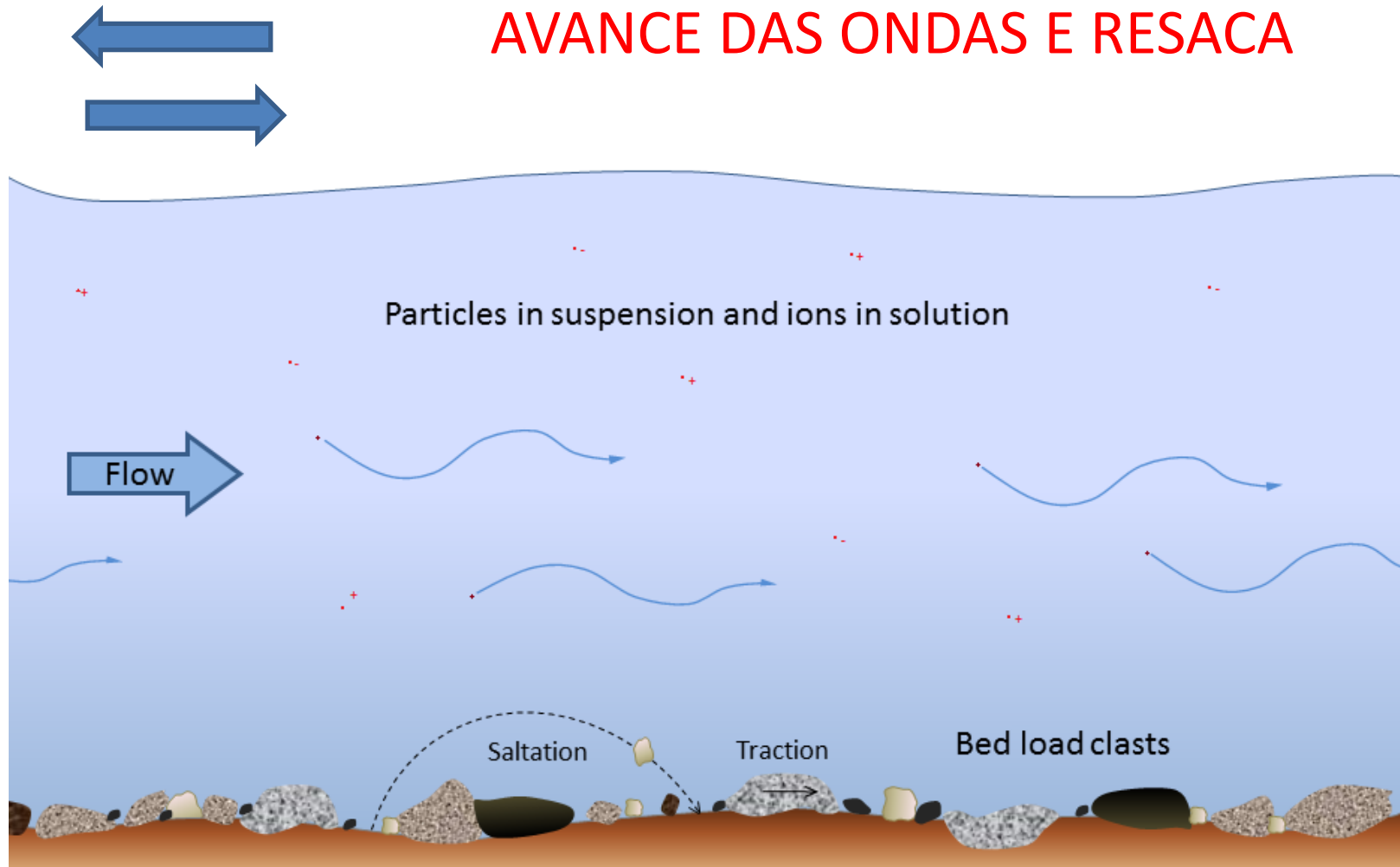
ACCIÓN XEOLÓXICA DAS ONDAS

EROSIÓN



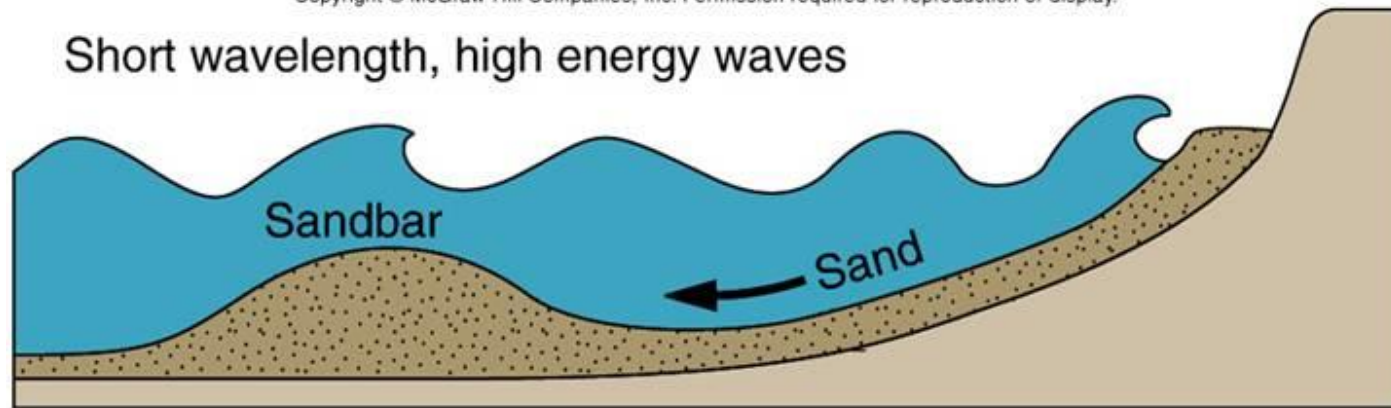
- IMPACTO
- METEORIZACIÓN QUÍMICA DA AUGA
- COMPRESIÓN DO AIRE

TRANSPORTE E SEDIMENTACIÓN

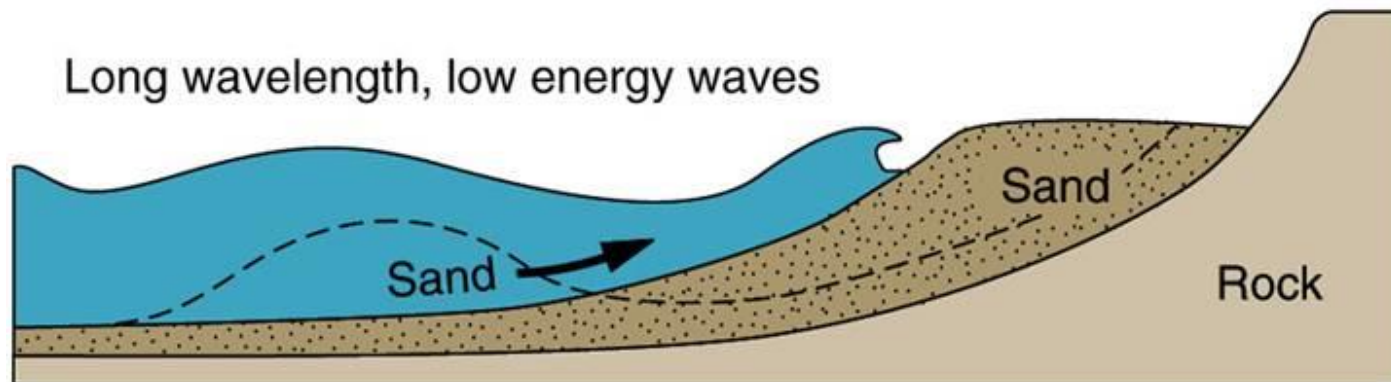


VARIACIÓN ESTACIONAL

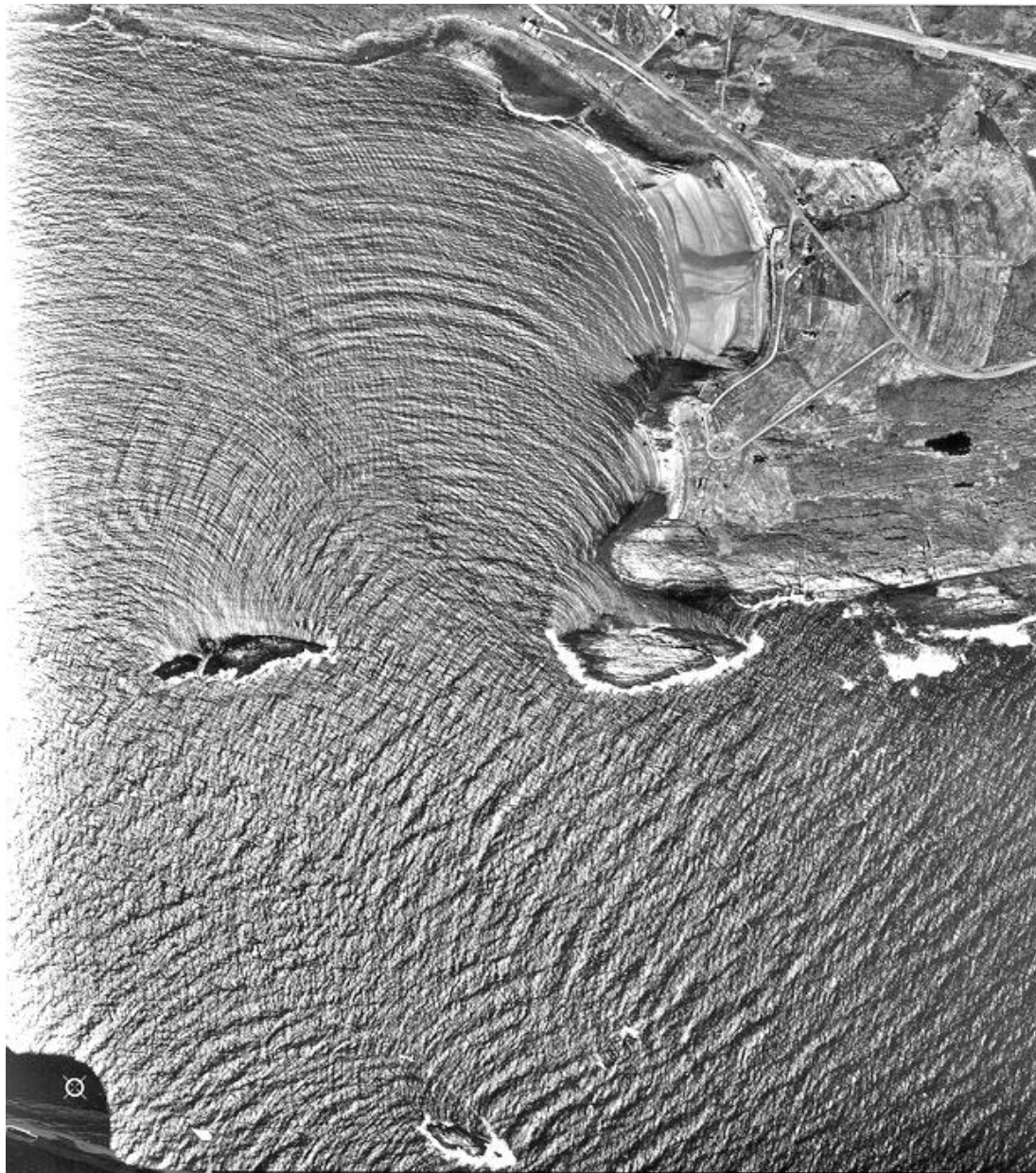
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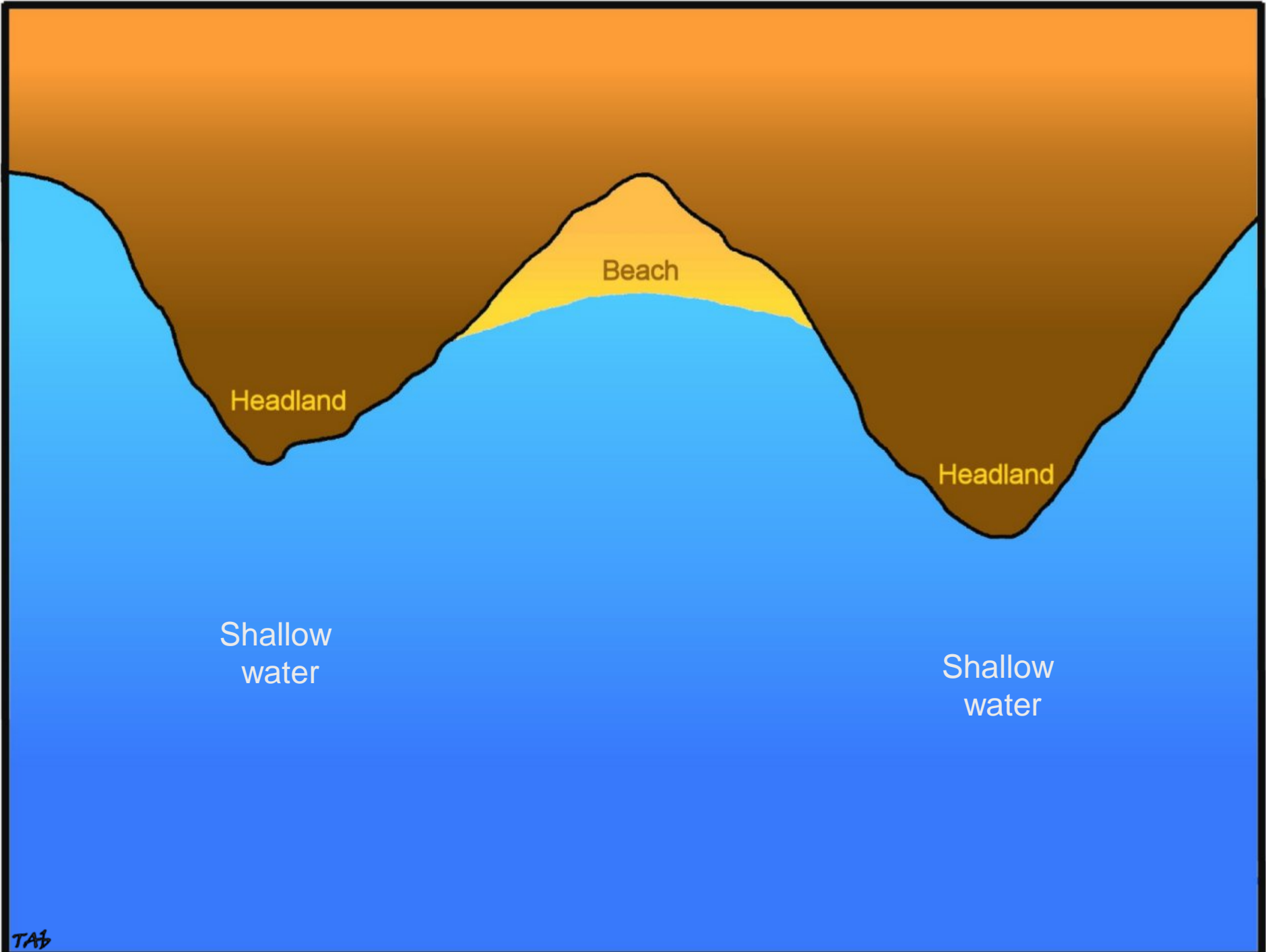
A Winter beach



B Summer beach



REFRACCIÓN DAS ONDAS



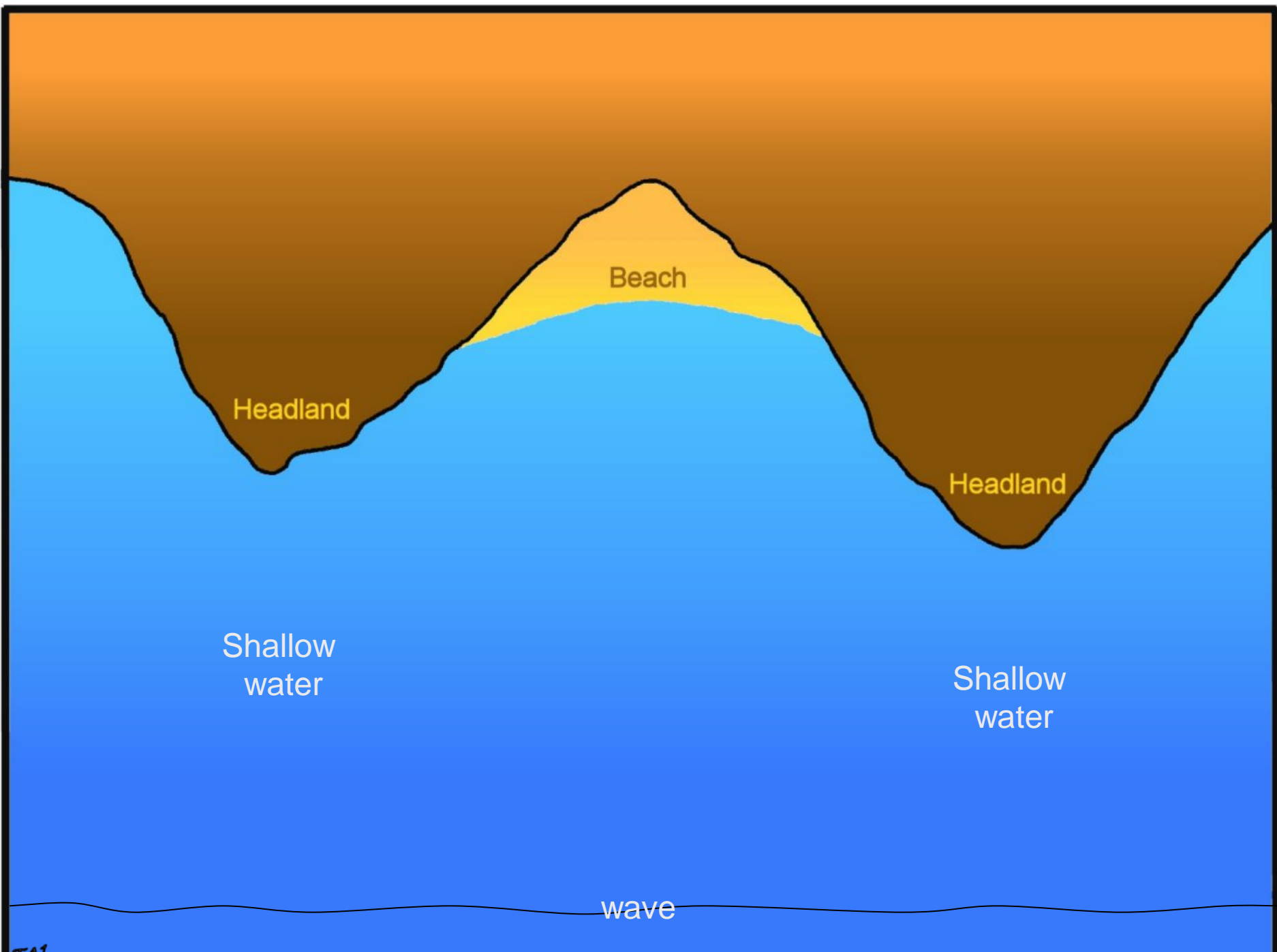
Headland

Beach

Headland

Shallow
water

Shallow
water



Beach

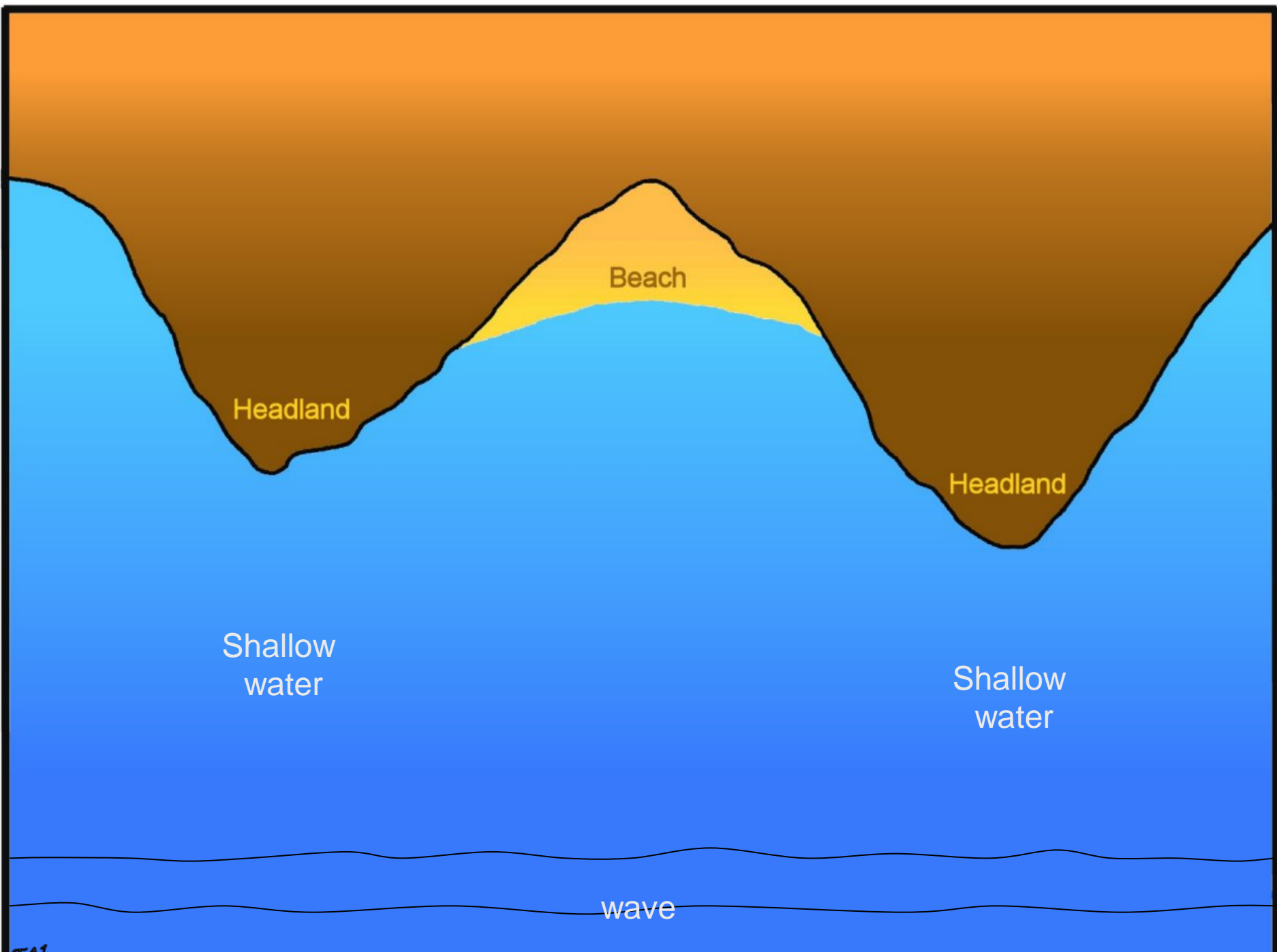
Headland

Headland

Shallow
water

Shallow
water

wave



Beach

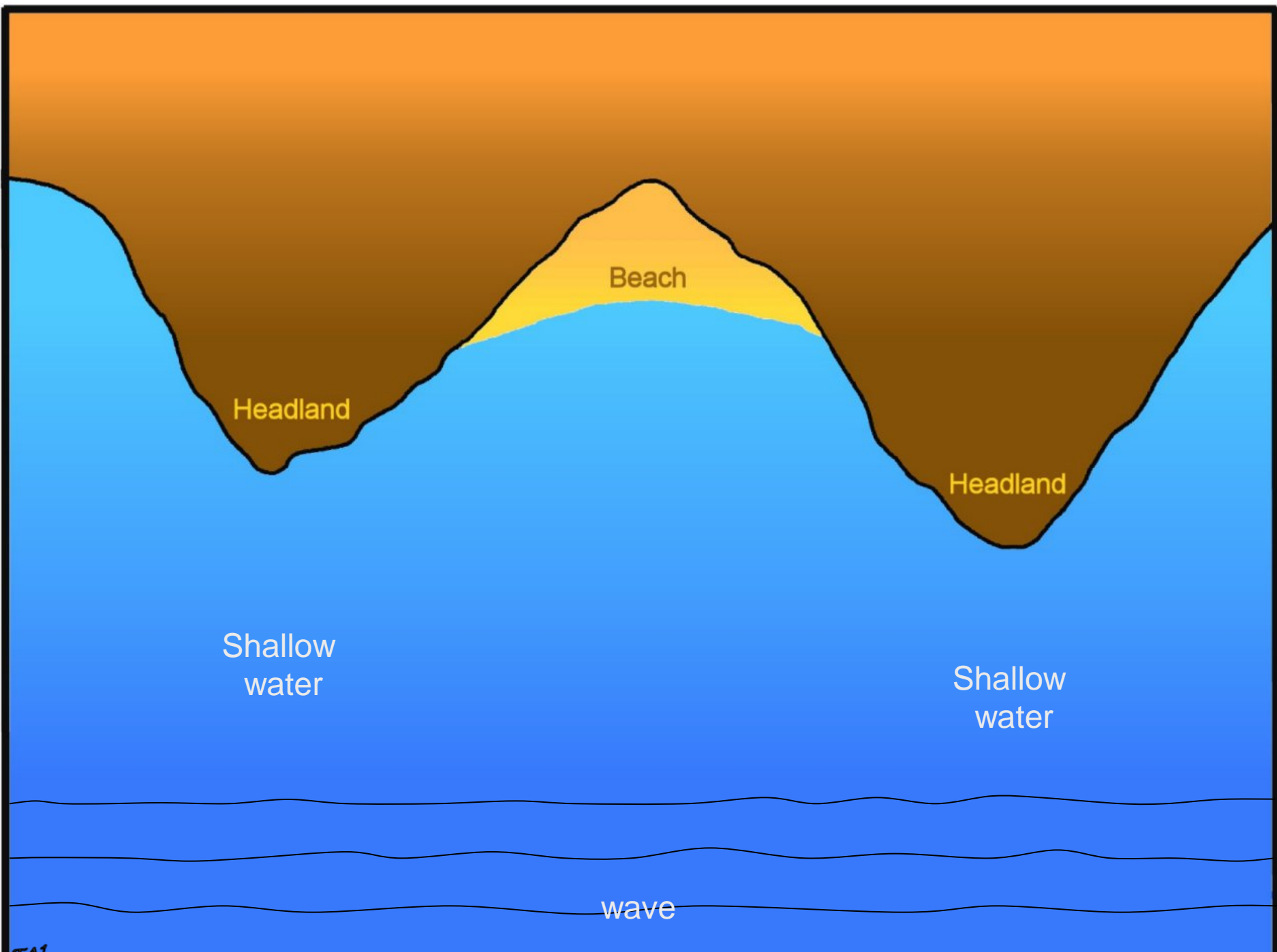
Headland

Headland

Shallow
water

Shallow
water

wave



Beach

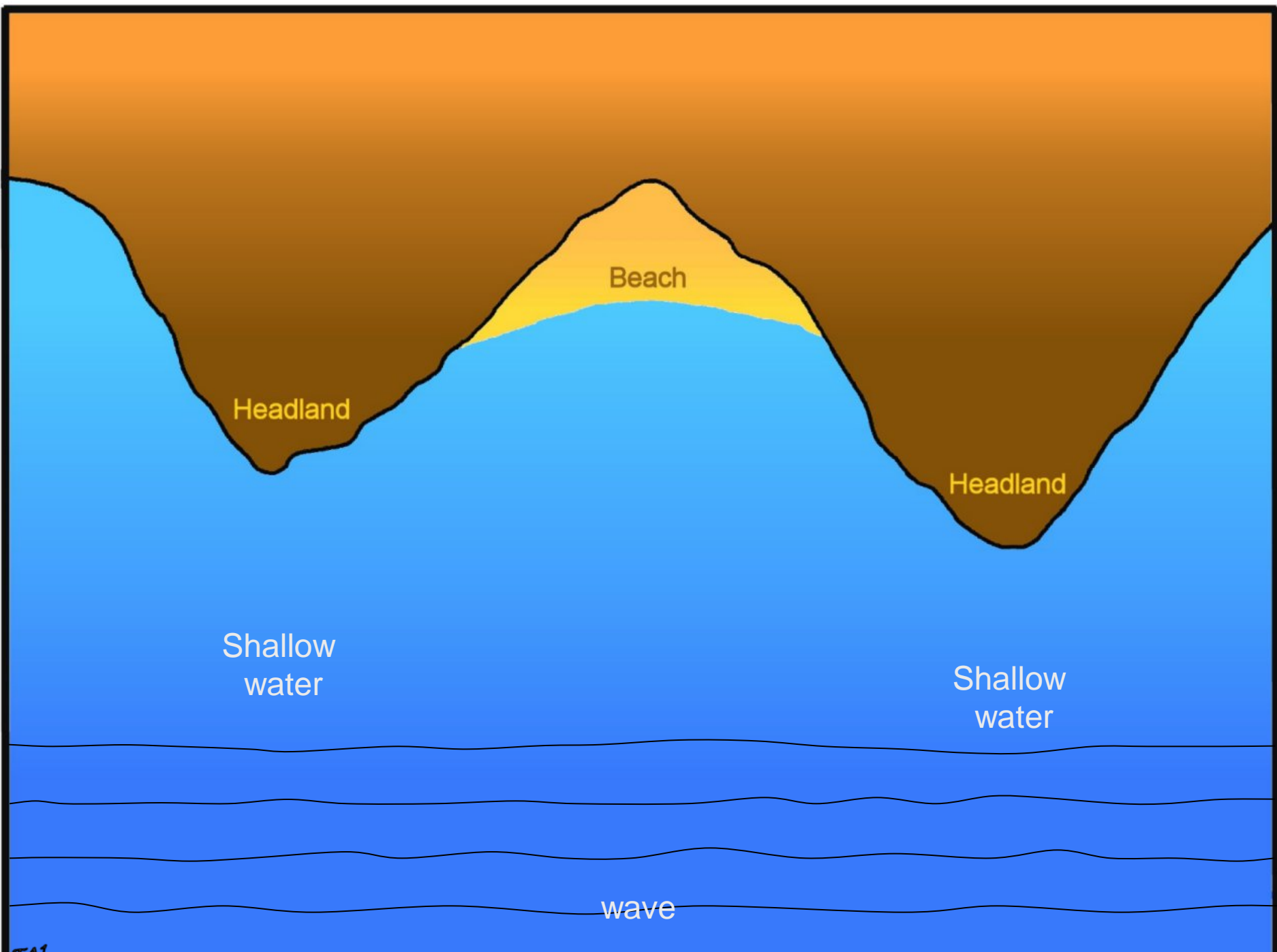
Headland

Headland

Shallow
water

Shallow
water

wave



Beach

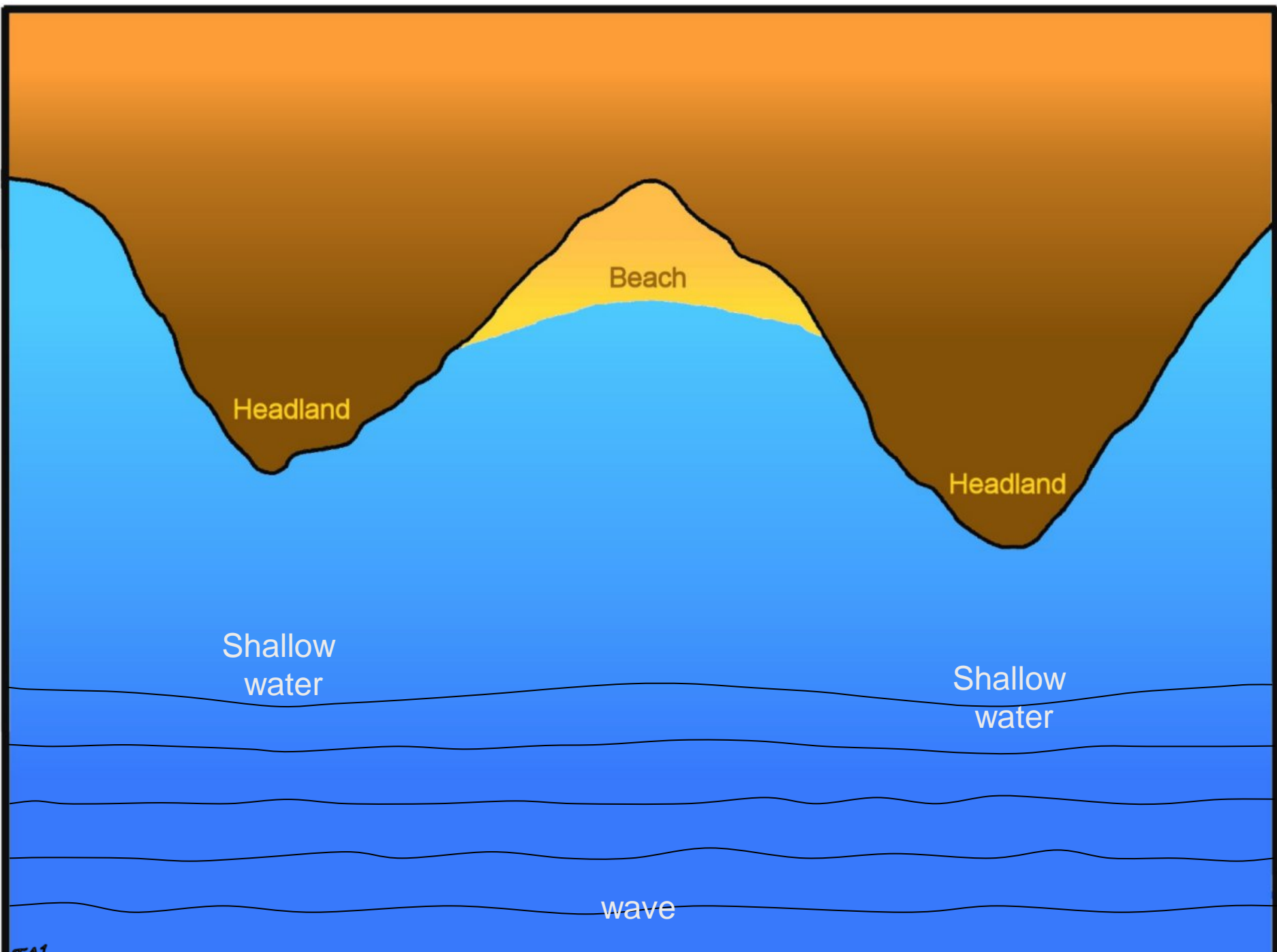
Headland

Headland

Shallow
water

Shallow
water

wave



Beach

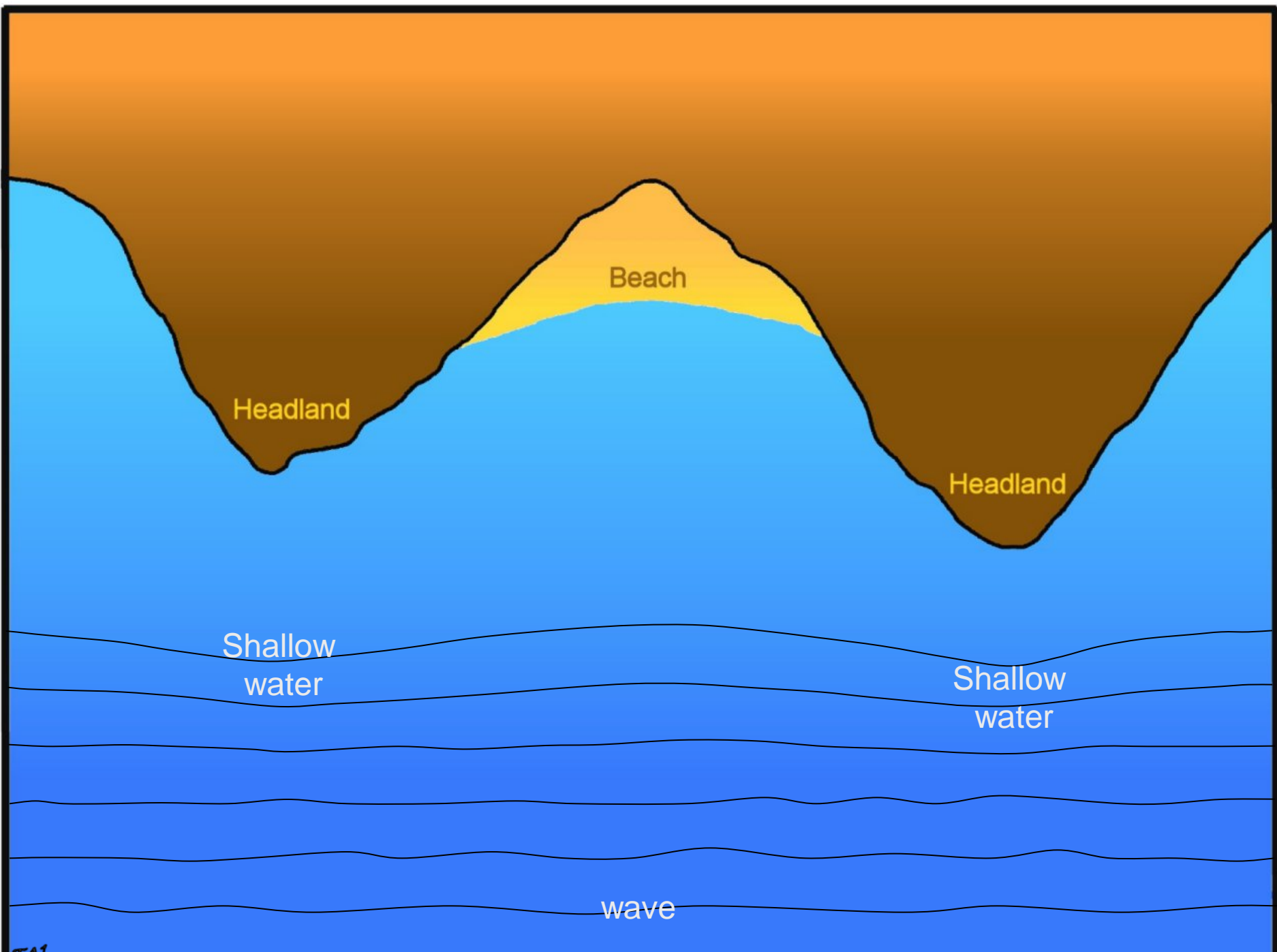
Headland

Headland

Shallow
water

Shallow
water

wave



Headland

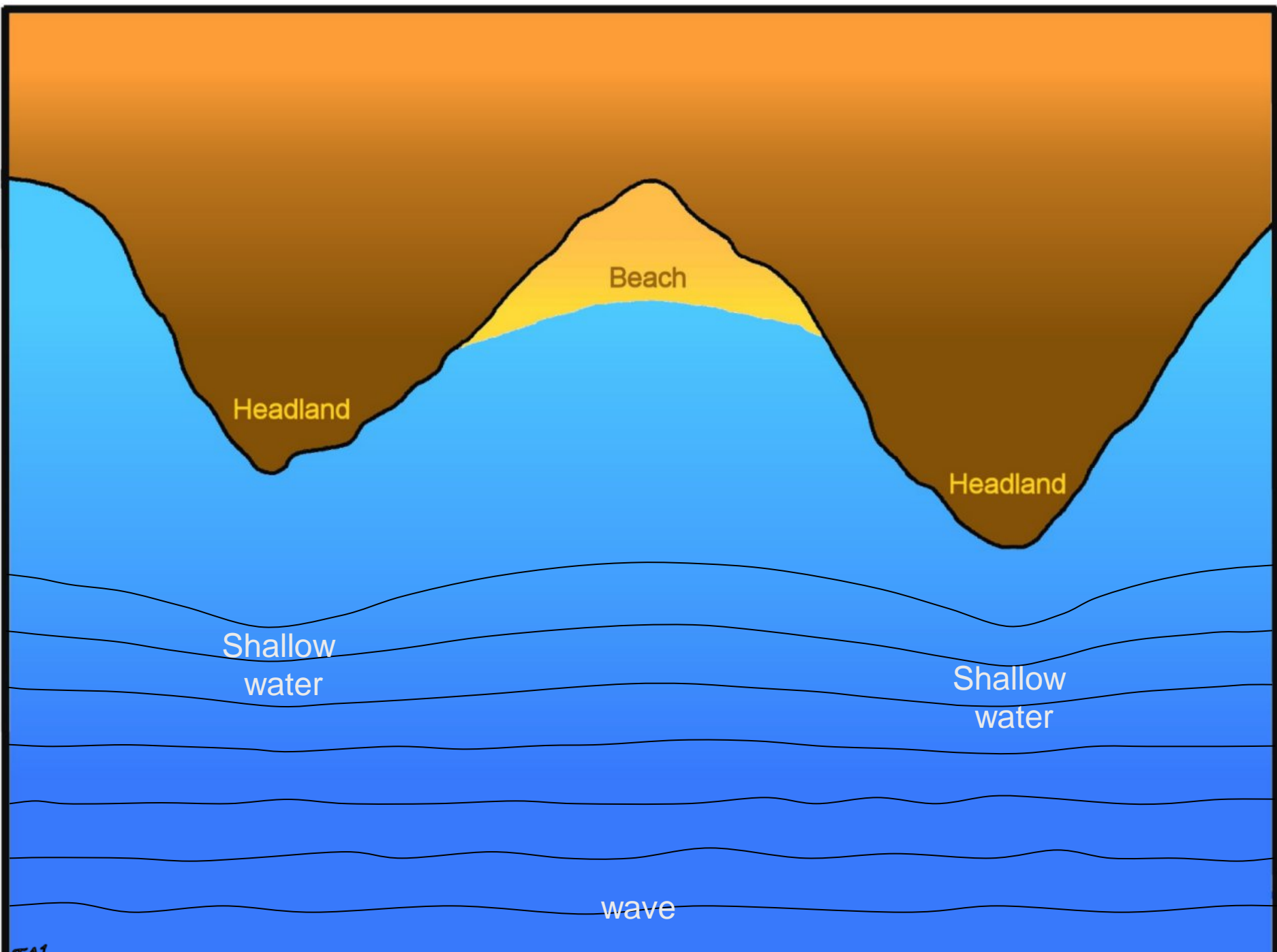
Beach

Headland

Shallow
water

Shallow
water

wave



Beach

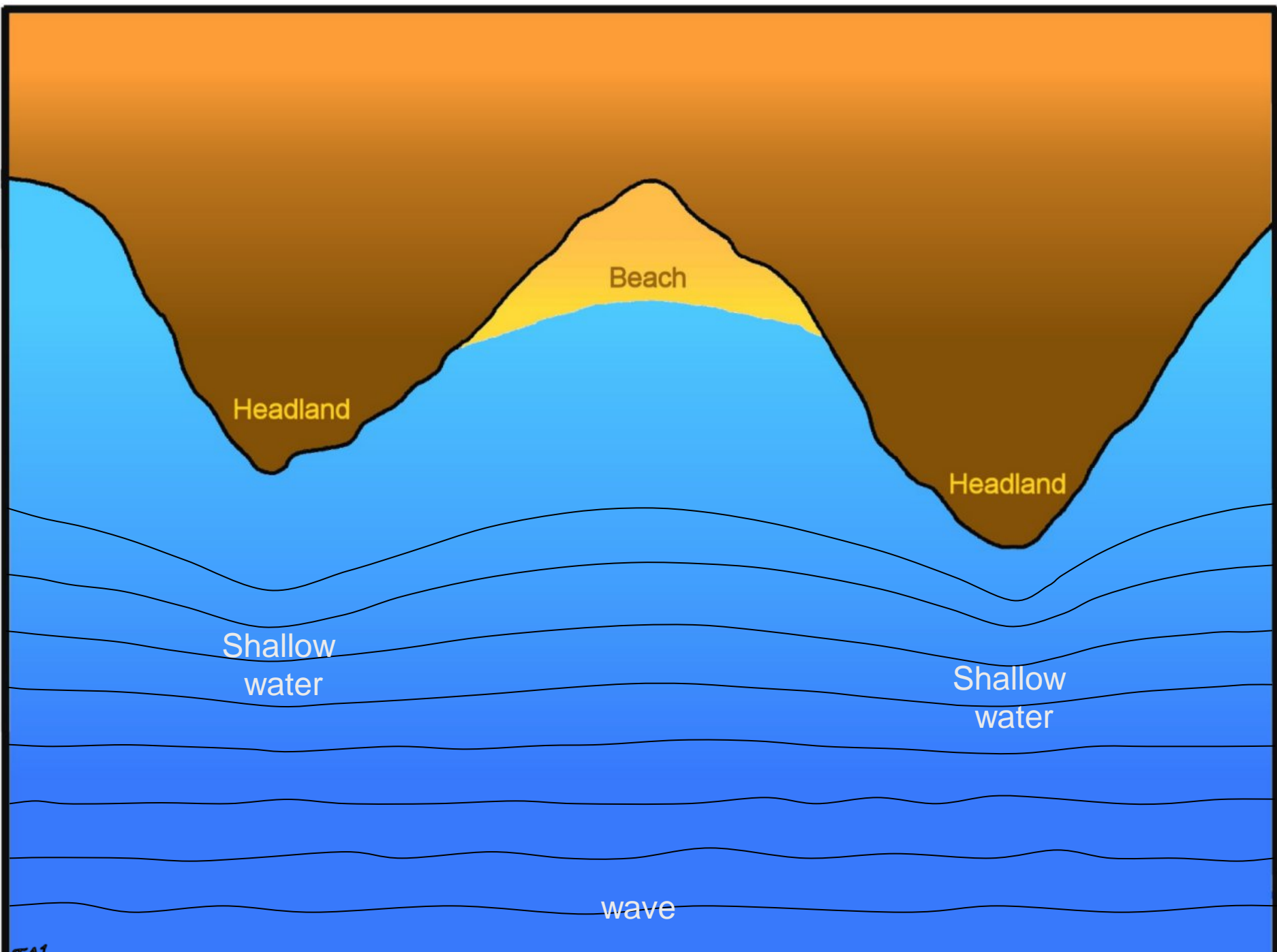
Headland

Headland

Shallow
water

Shallow
water

wave



Beach

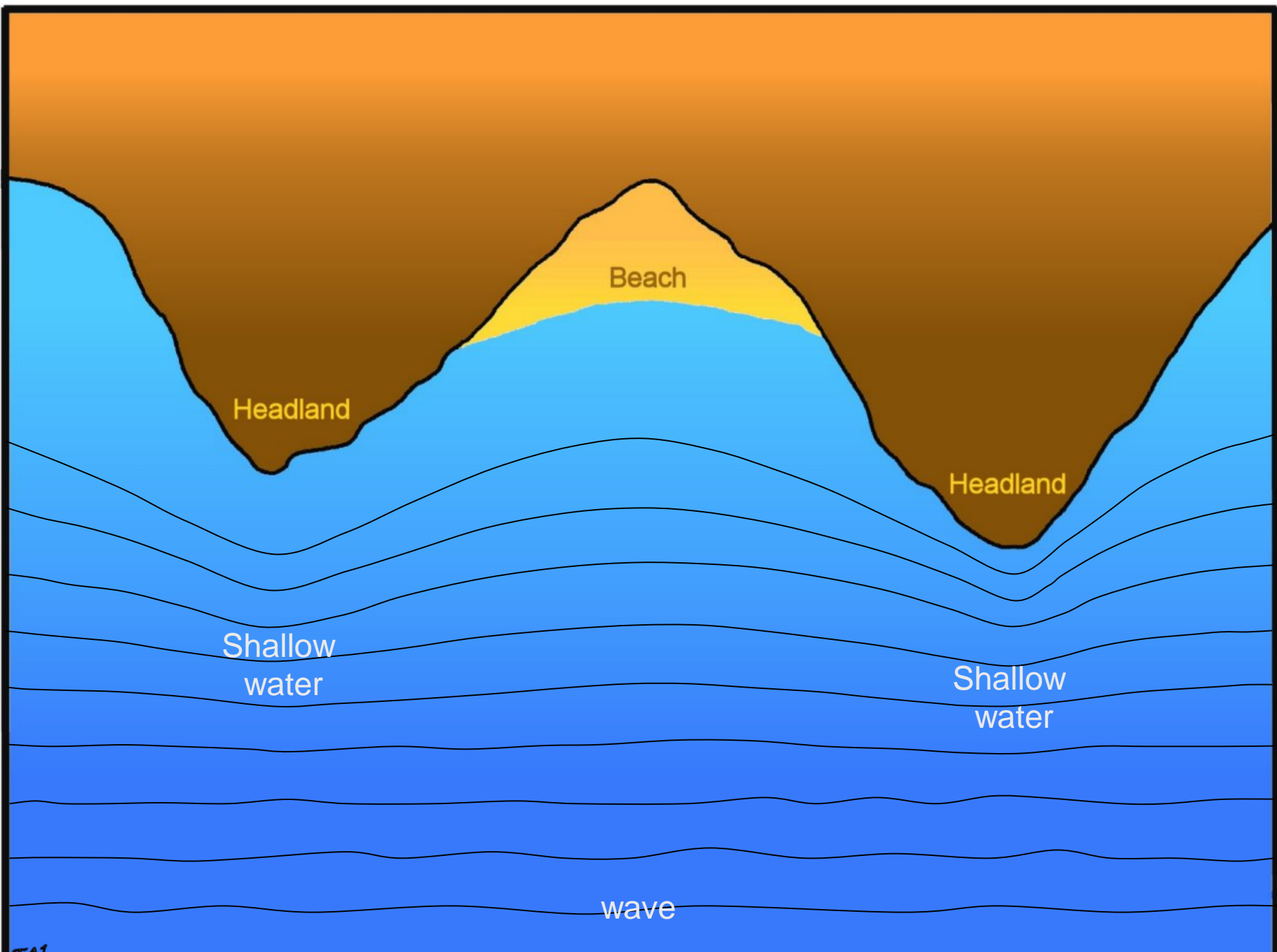
Headland

Headland

Shallow
water

Shallow
water

wave



Beach

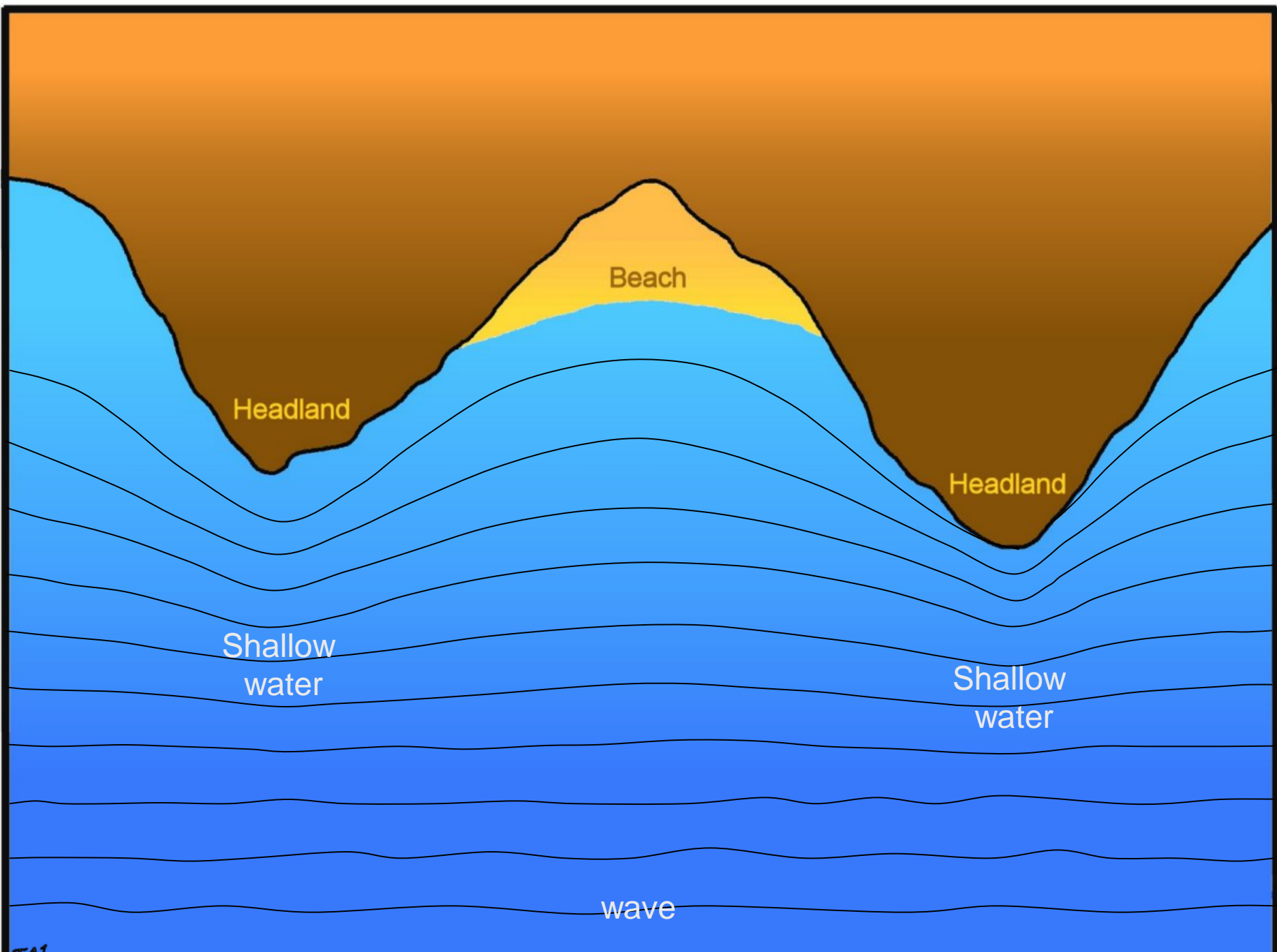
Headland

Headland

Shallow
water

Shallow
water

wave



Beach

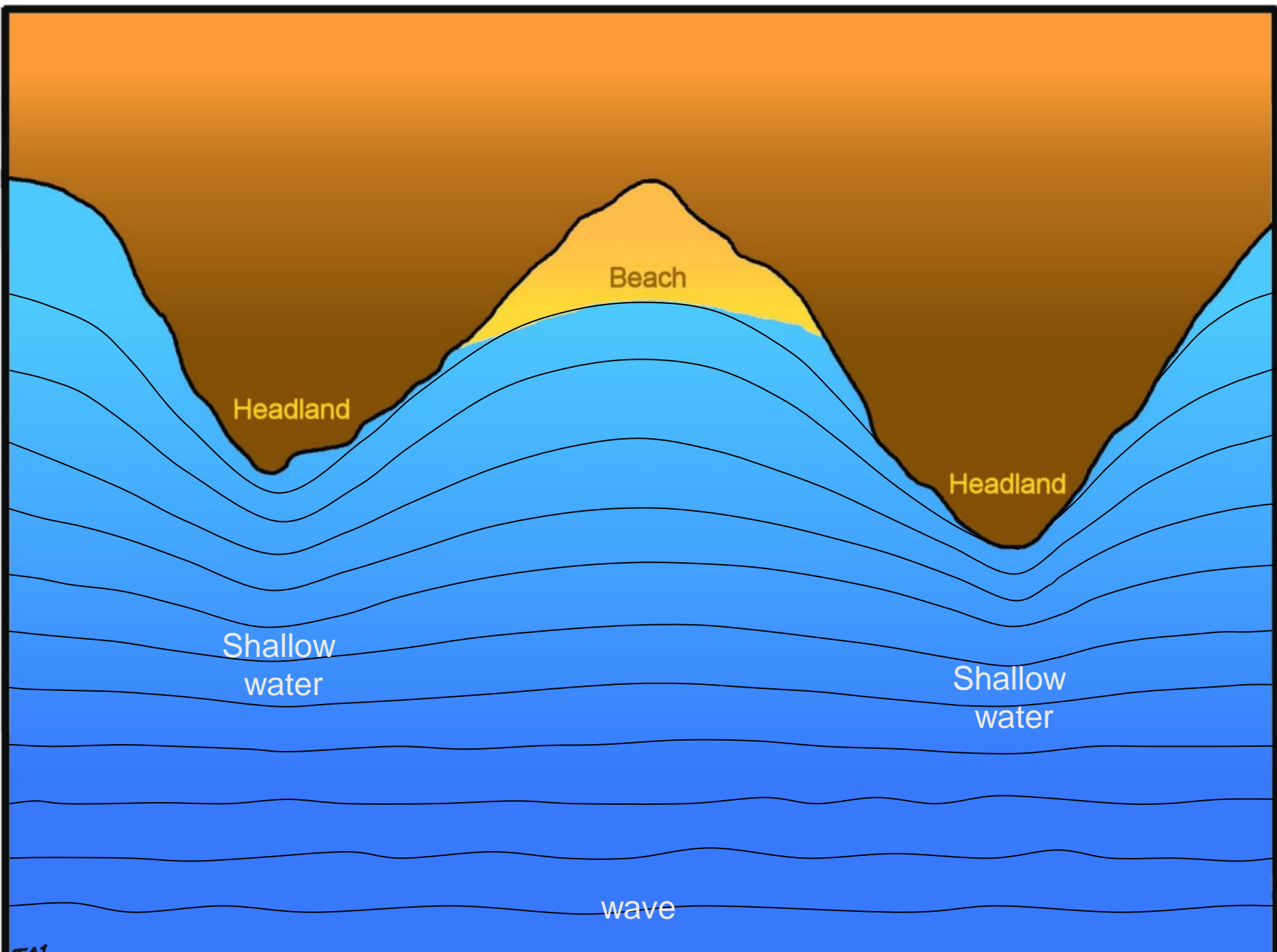
Headland

Headland

Shallow
water

Shallow
water

wave



Beach

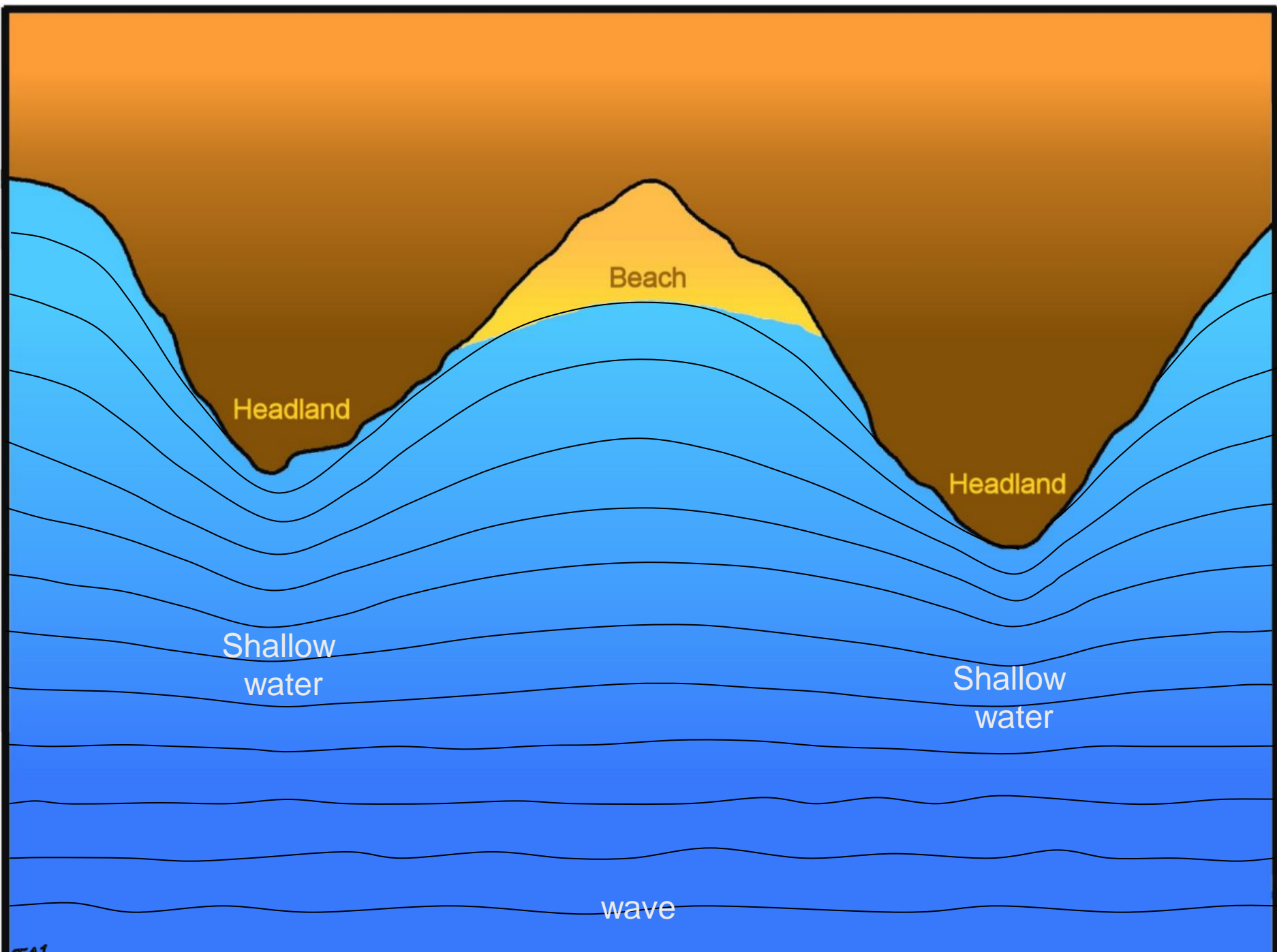
Headland

Headland

Shallow
water

Shallow
water

wave



Beach

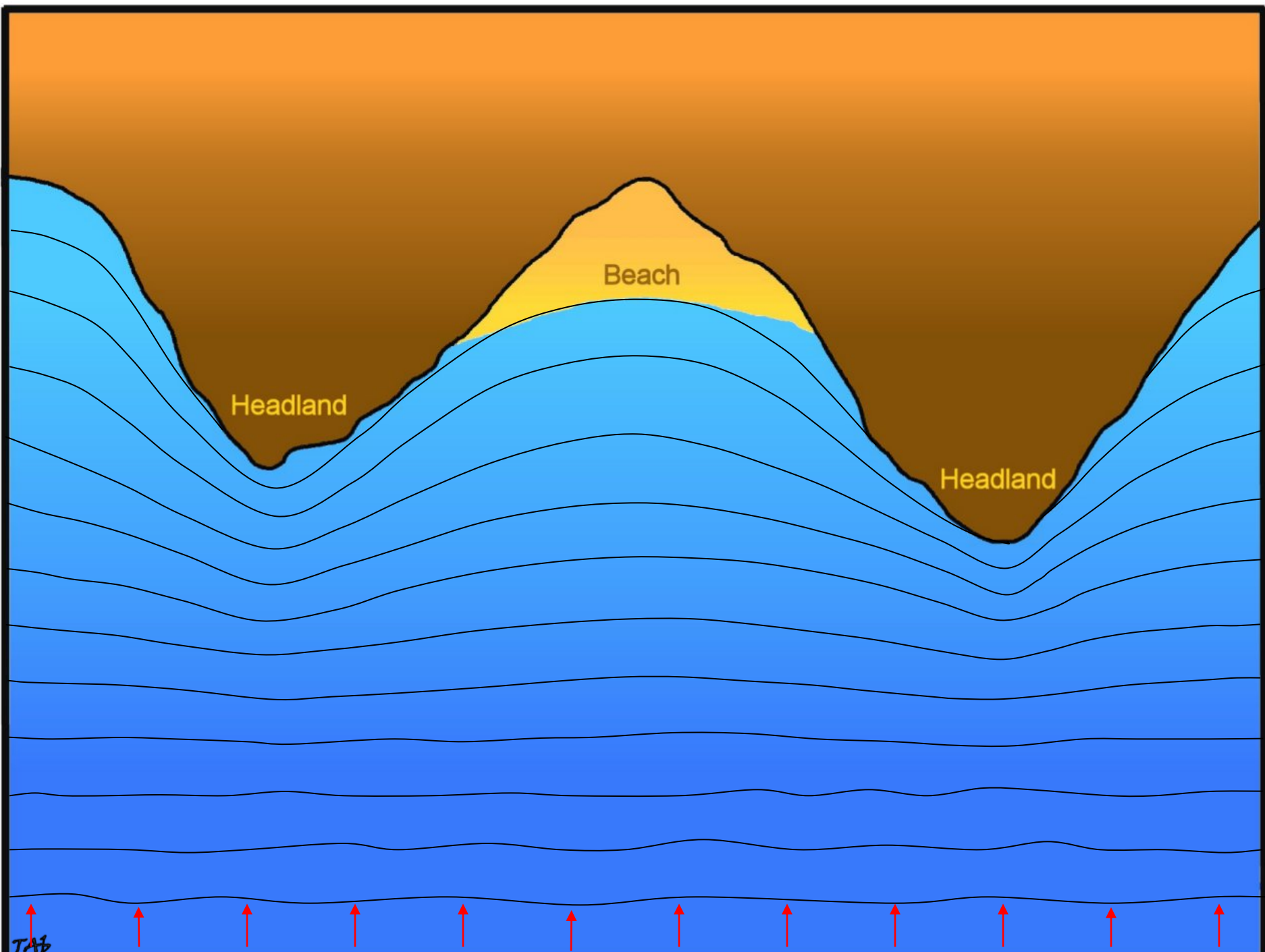
Headland

Headland

Shallow
water

Shallow
water

wave

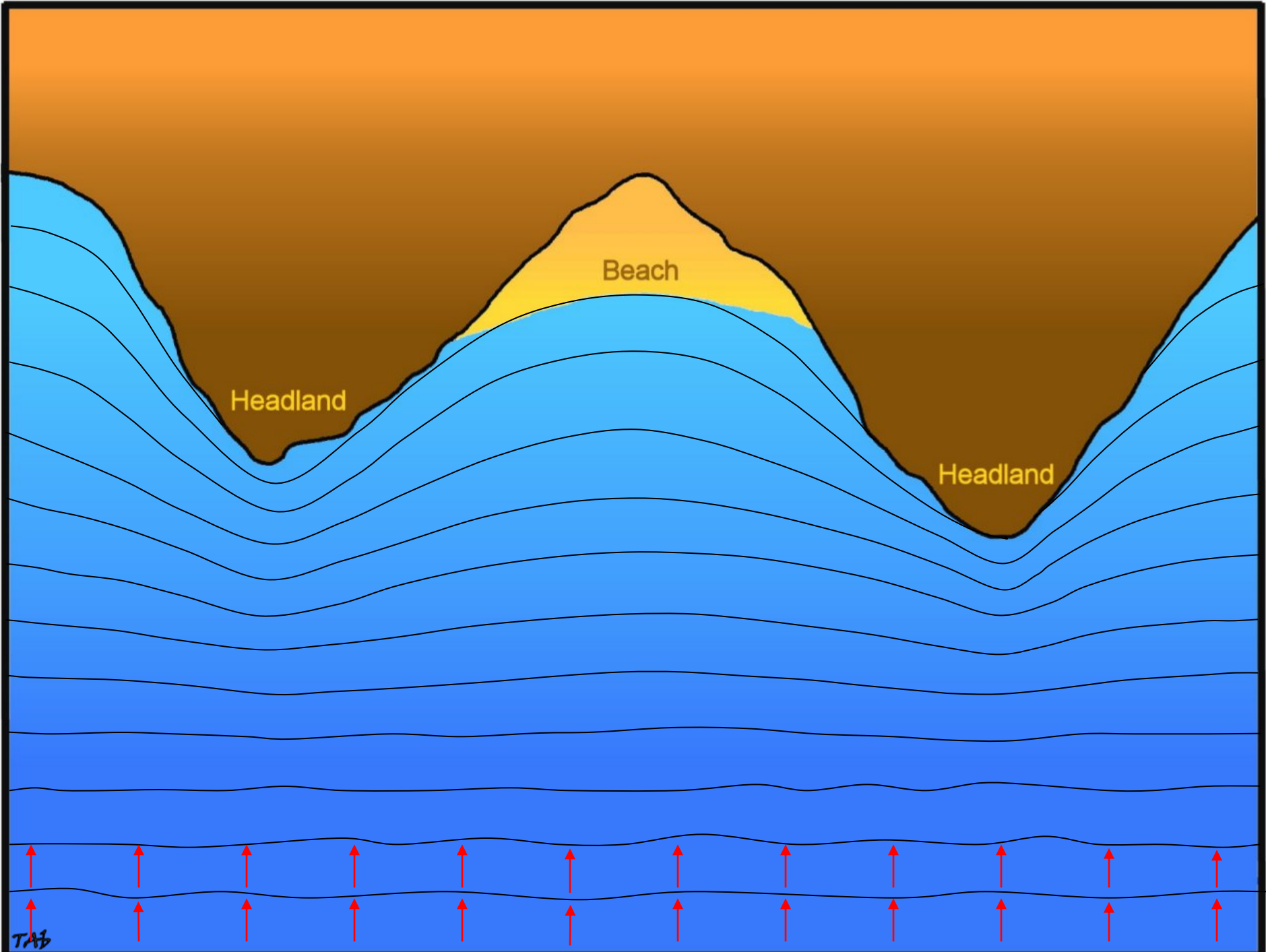


Beach

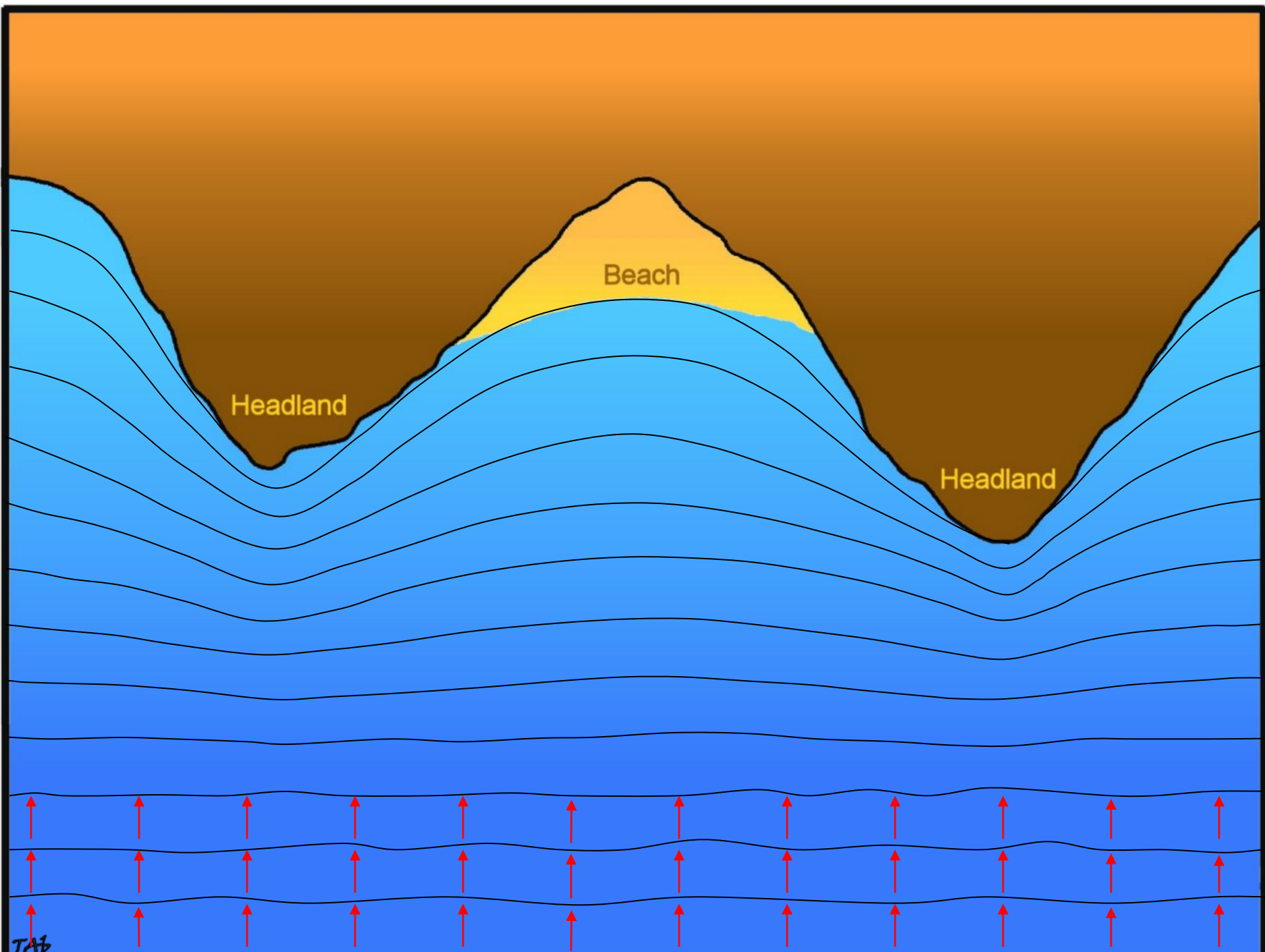
Headland

Headland

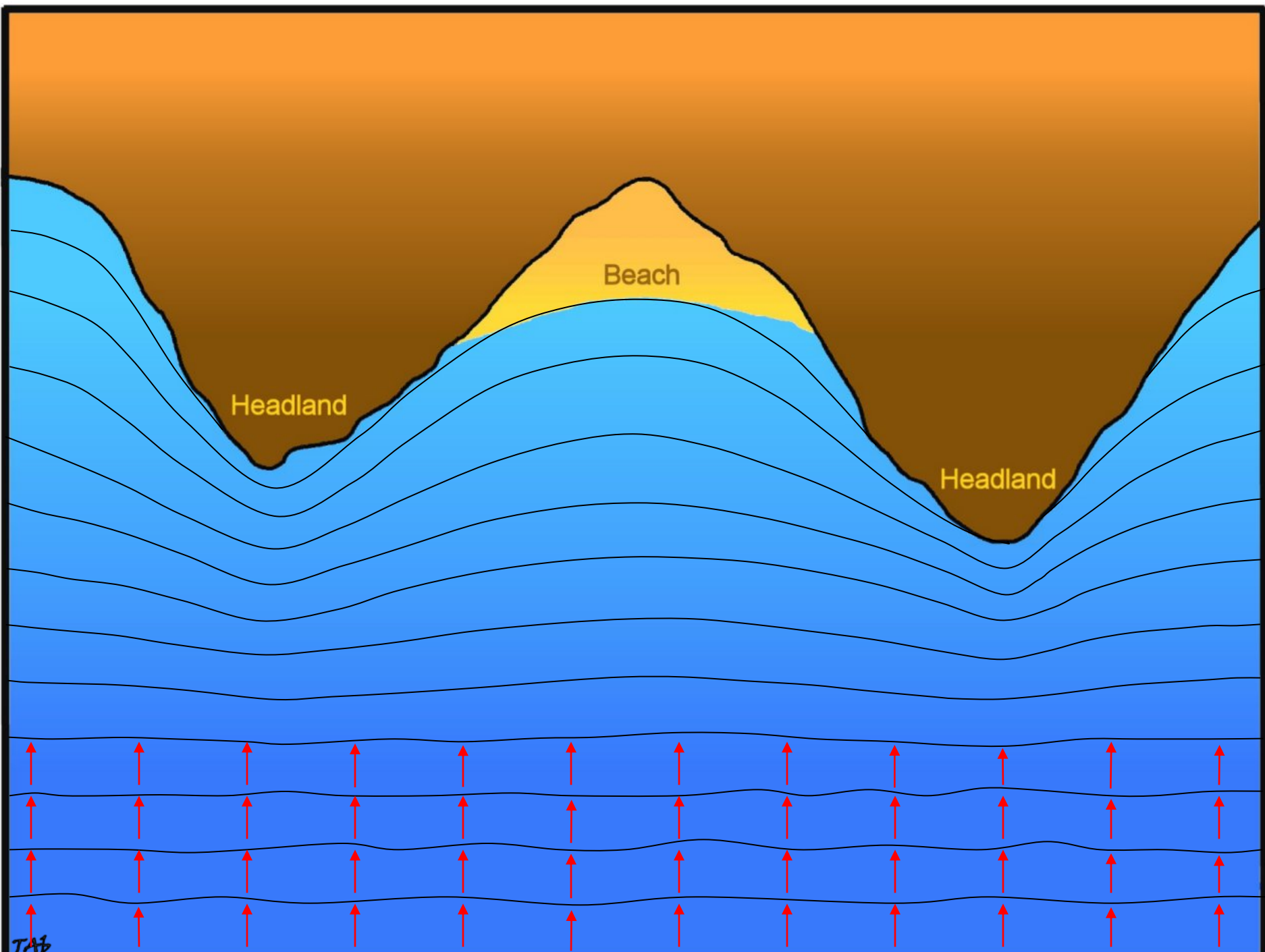
TAB



TAB



TAB

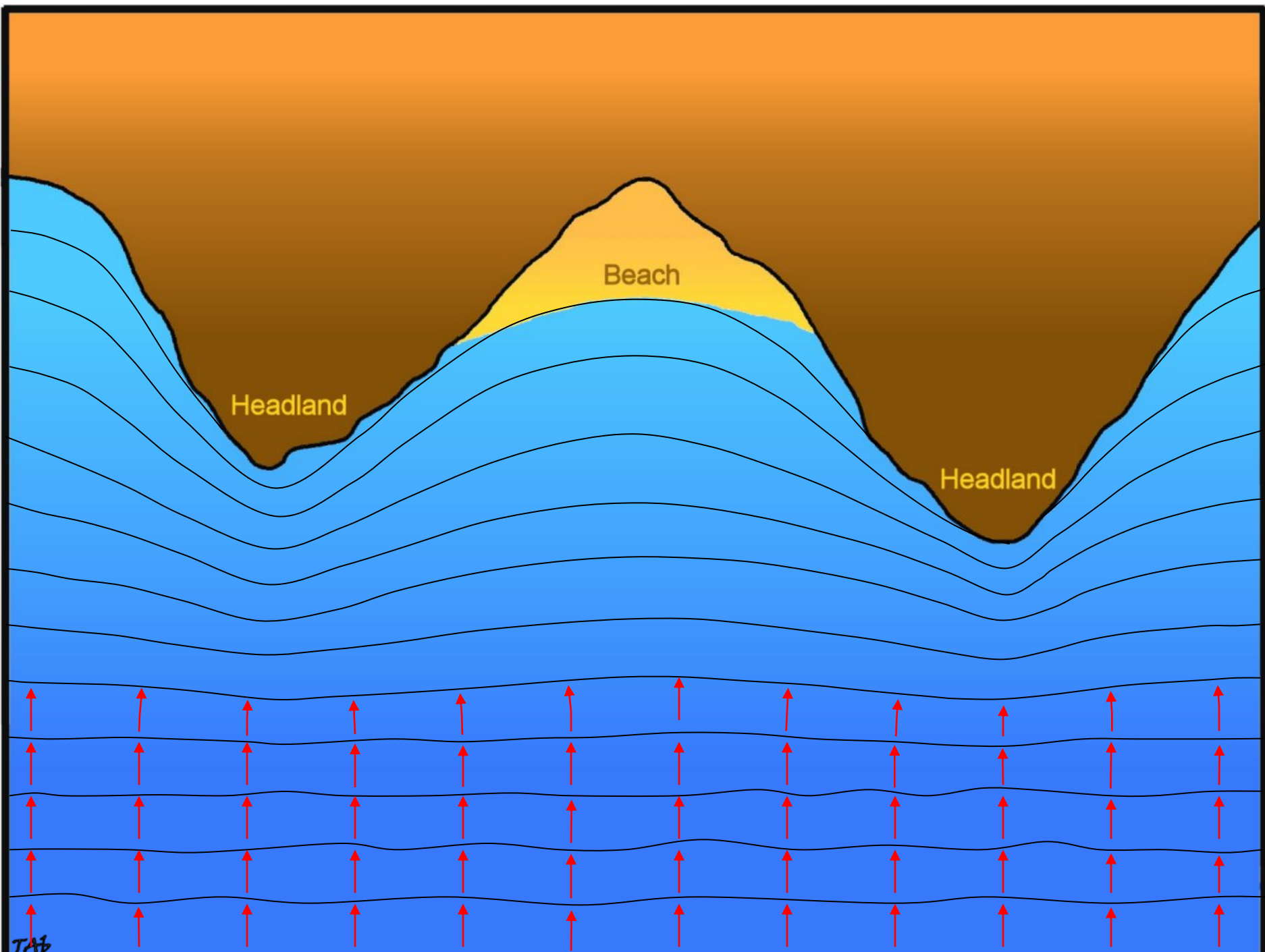


Beach

Headland

Headland

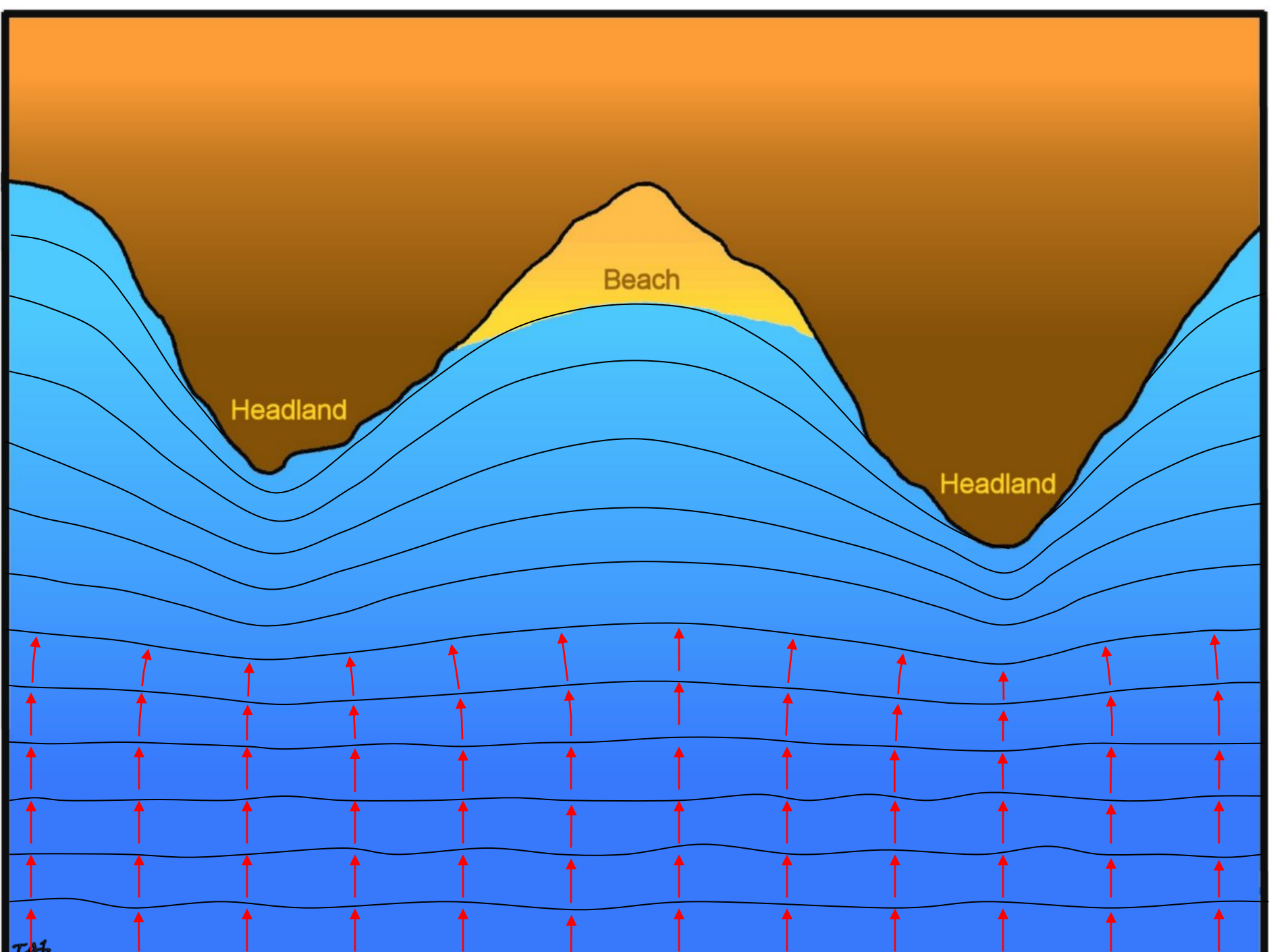
TAB



Headland

Beach

Headland

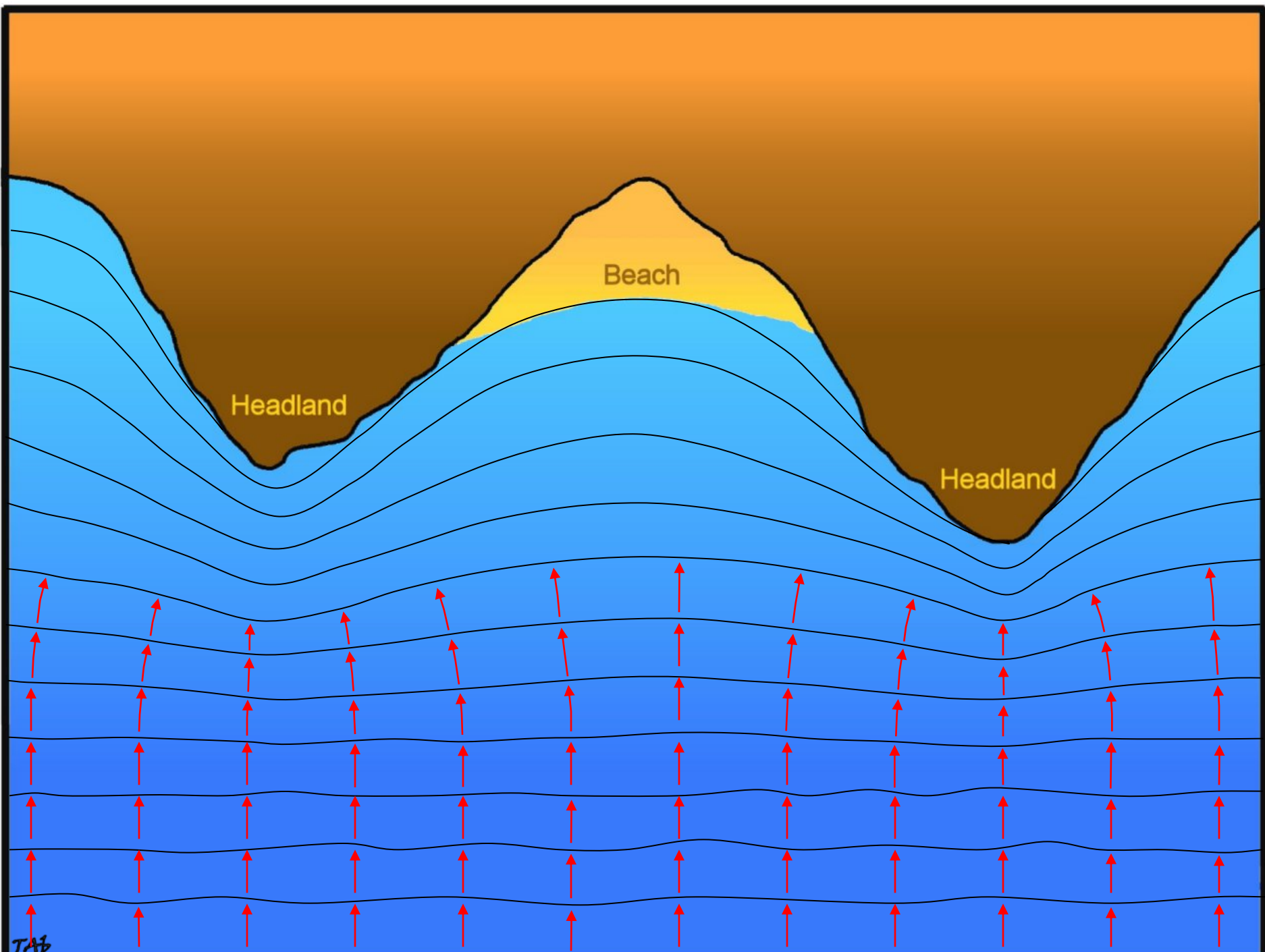


Headland

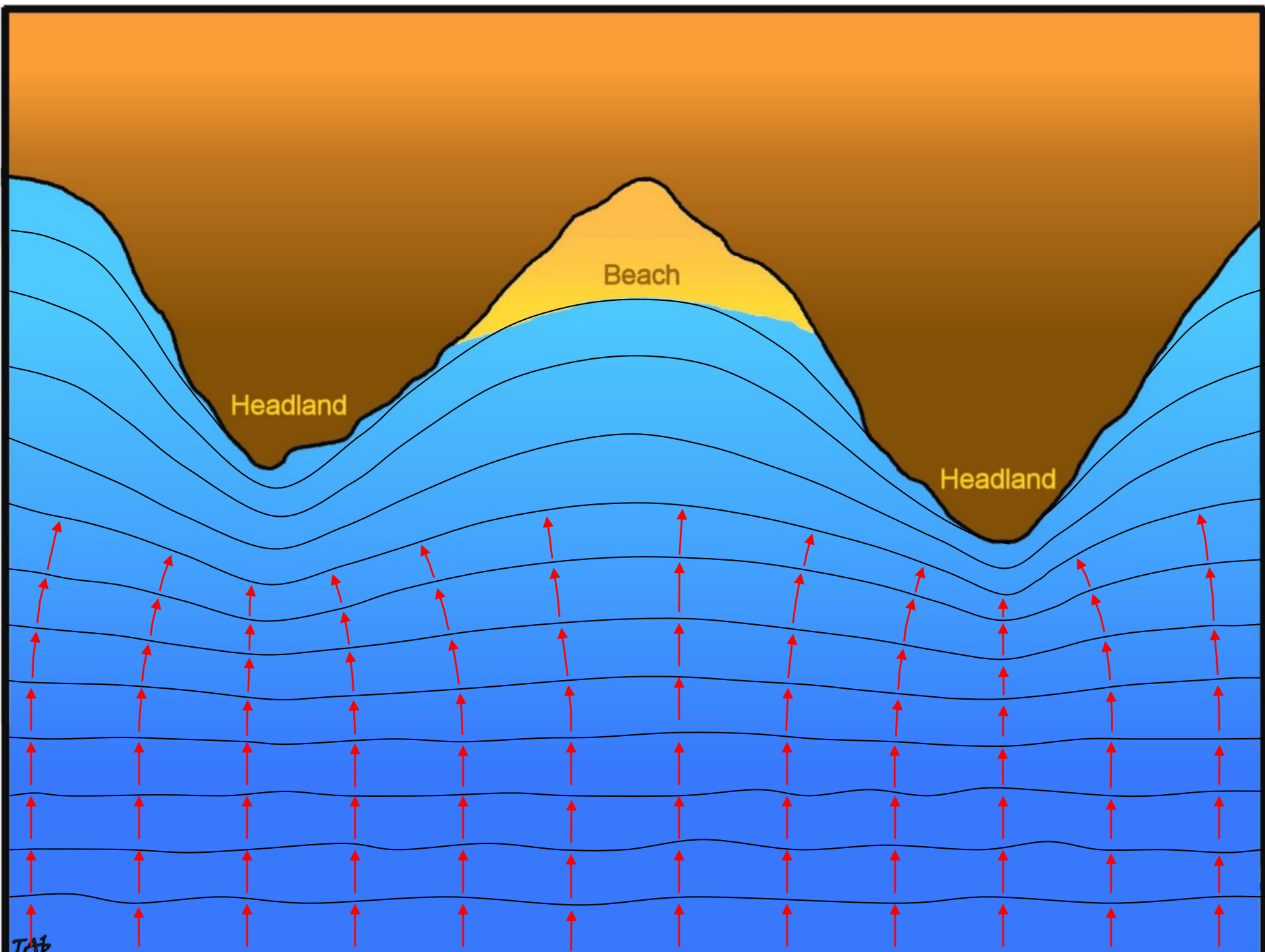
Beach

Headland

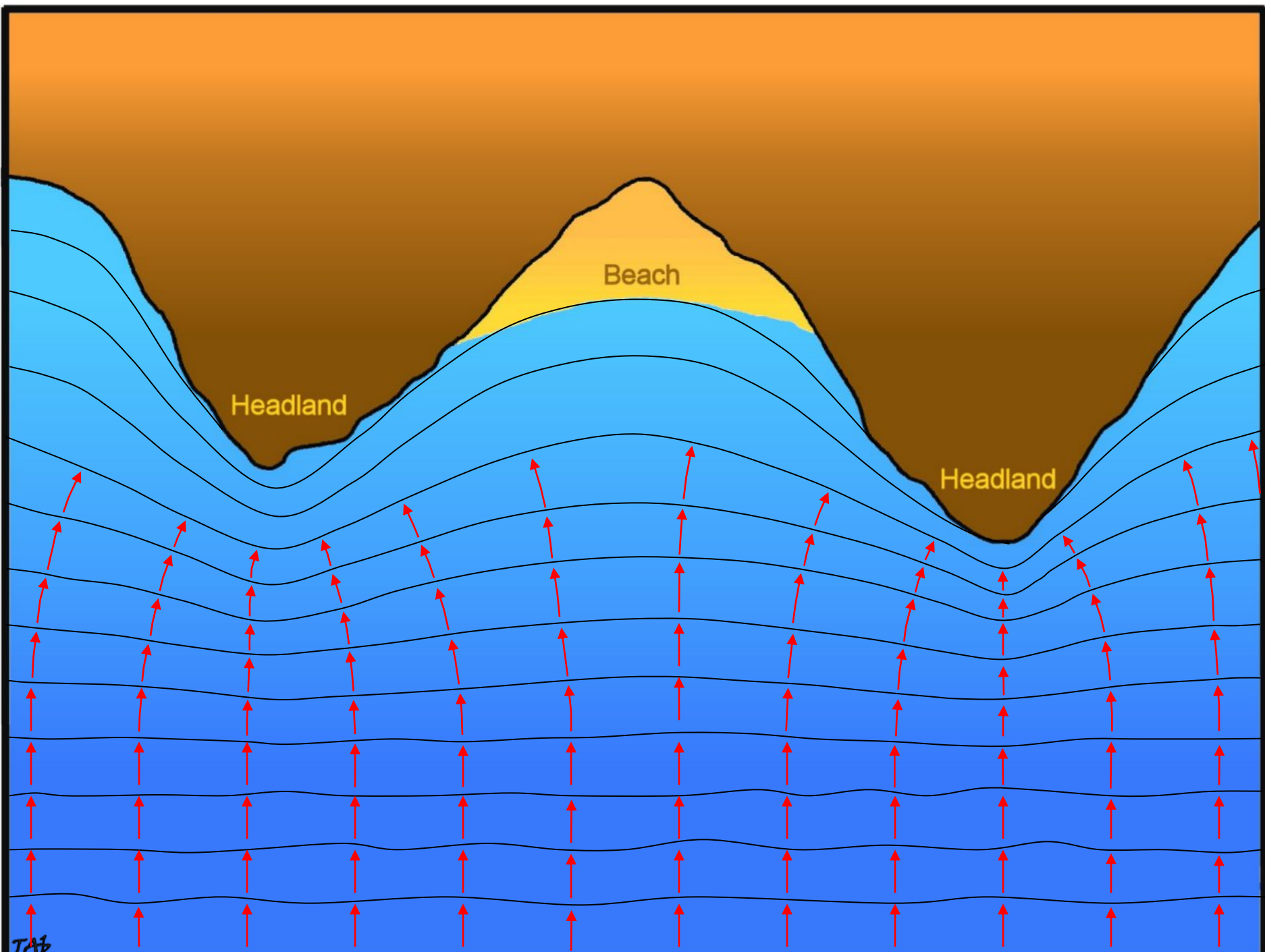
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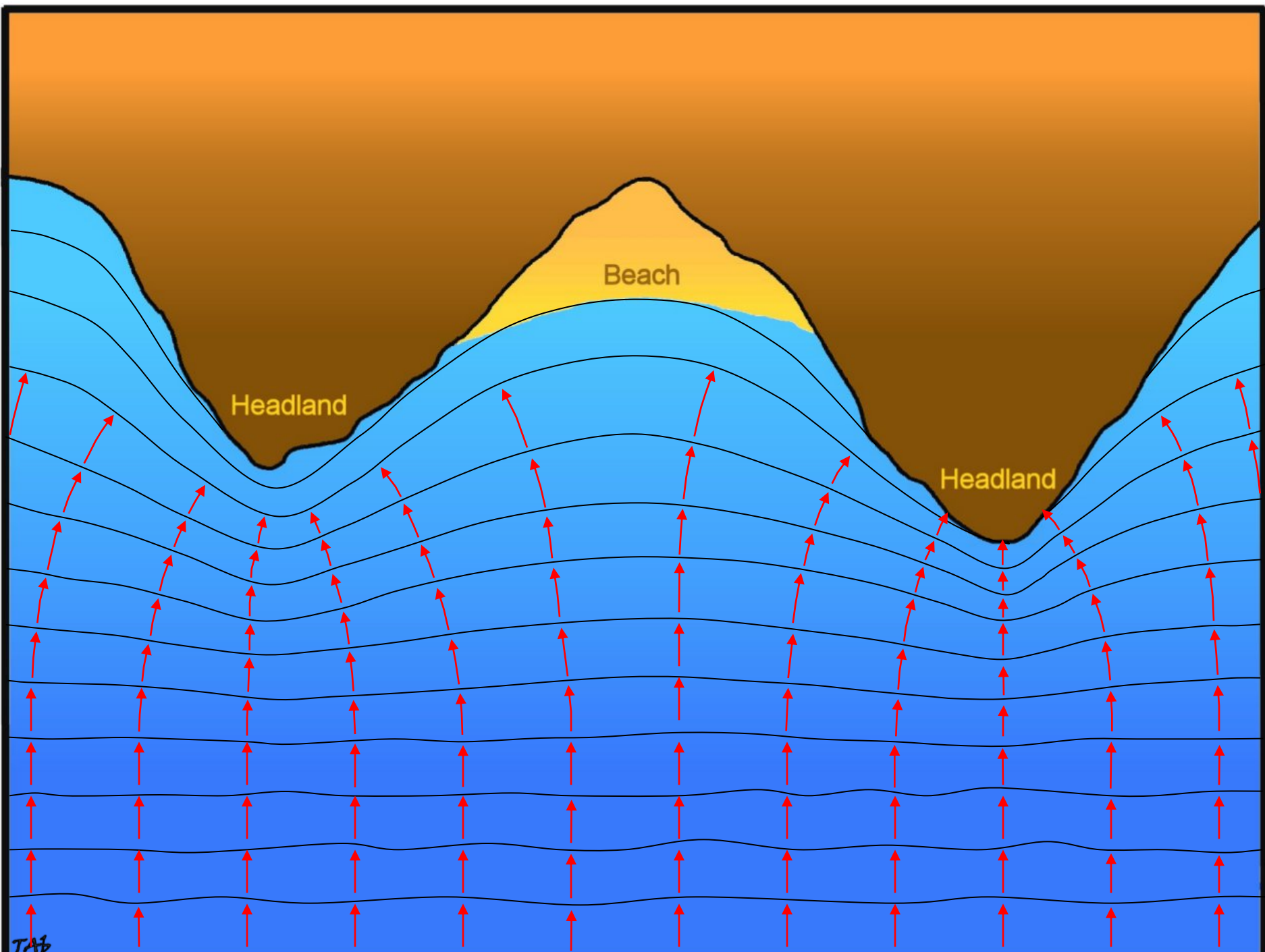
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TAB



TAB

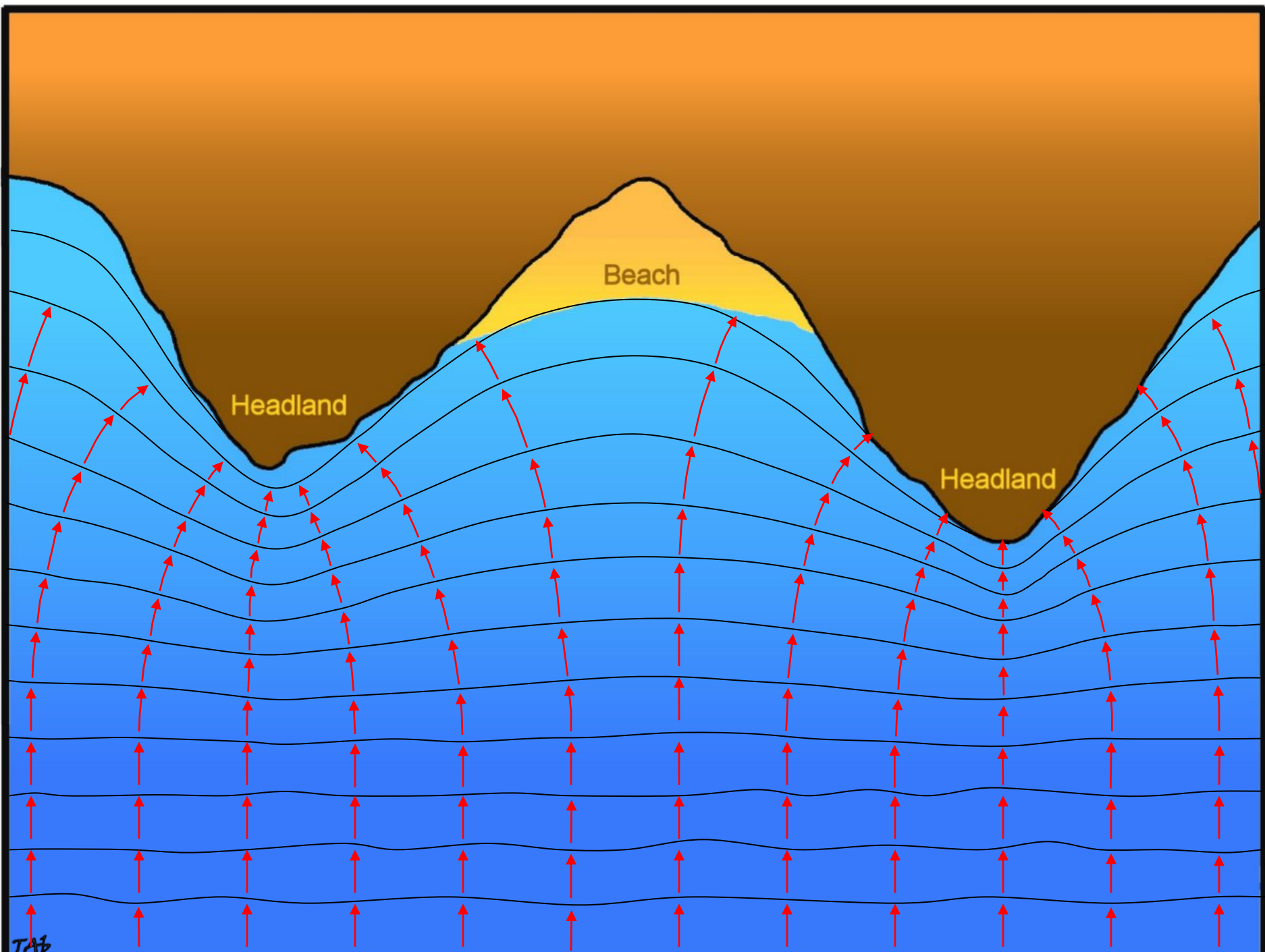


Beach

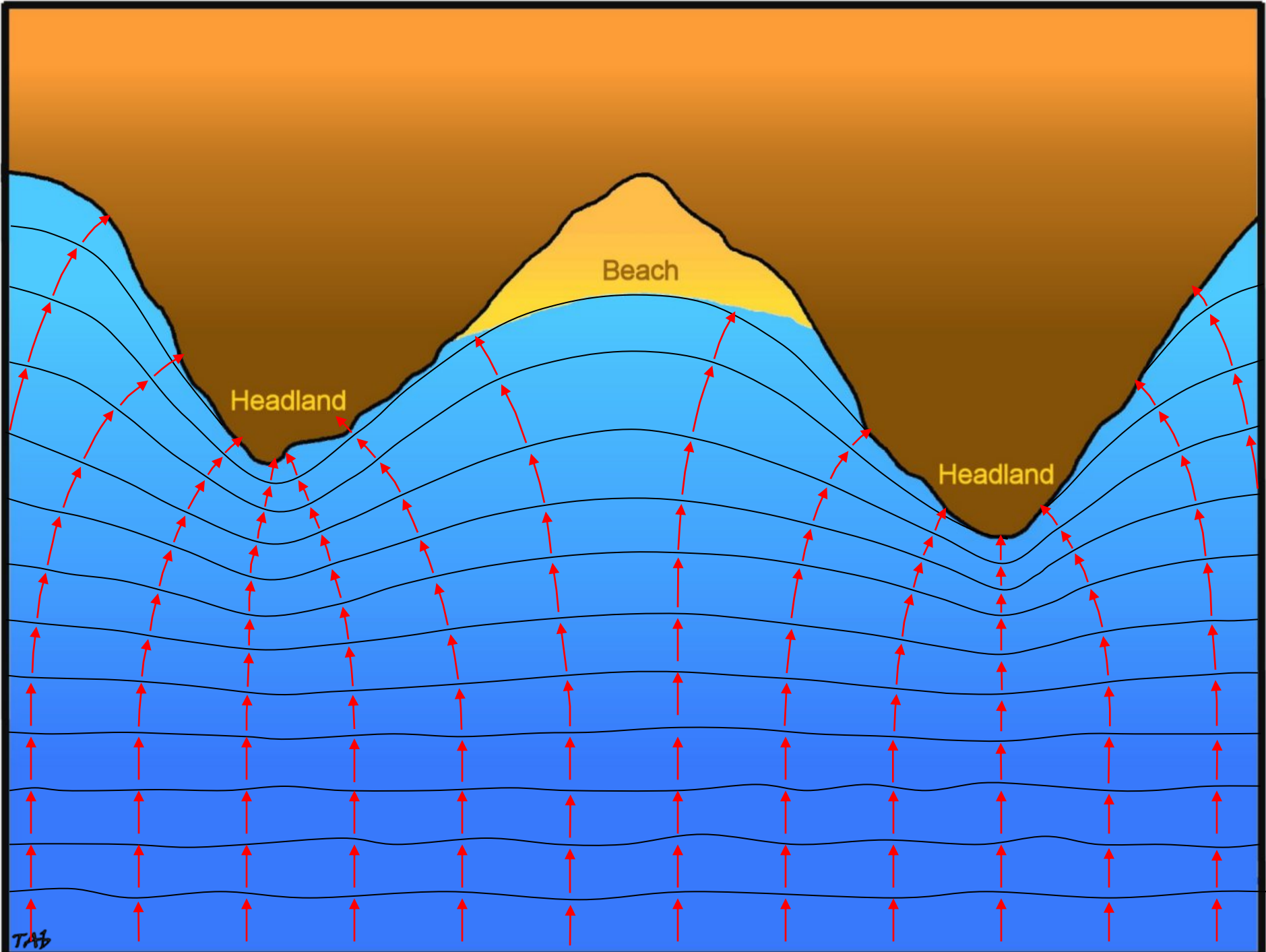
Headland

Headland

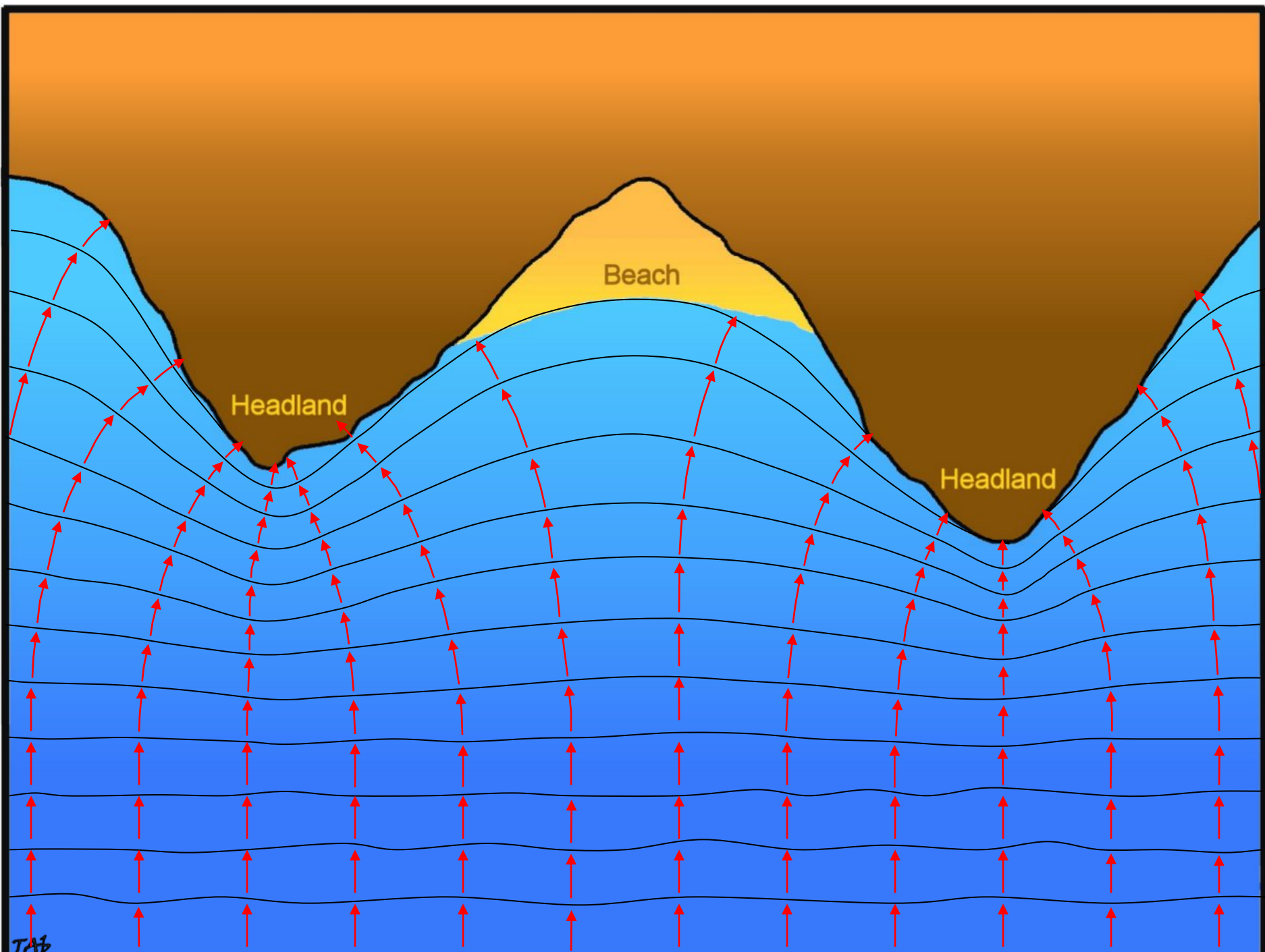
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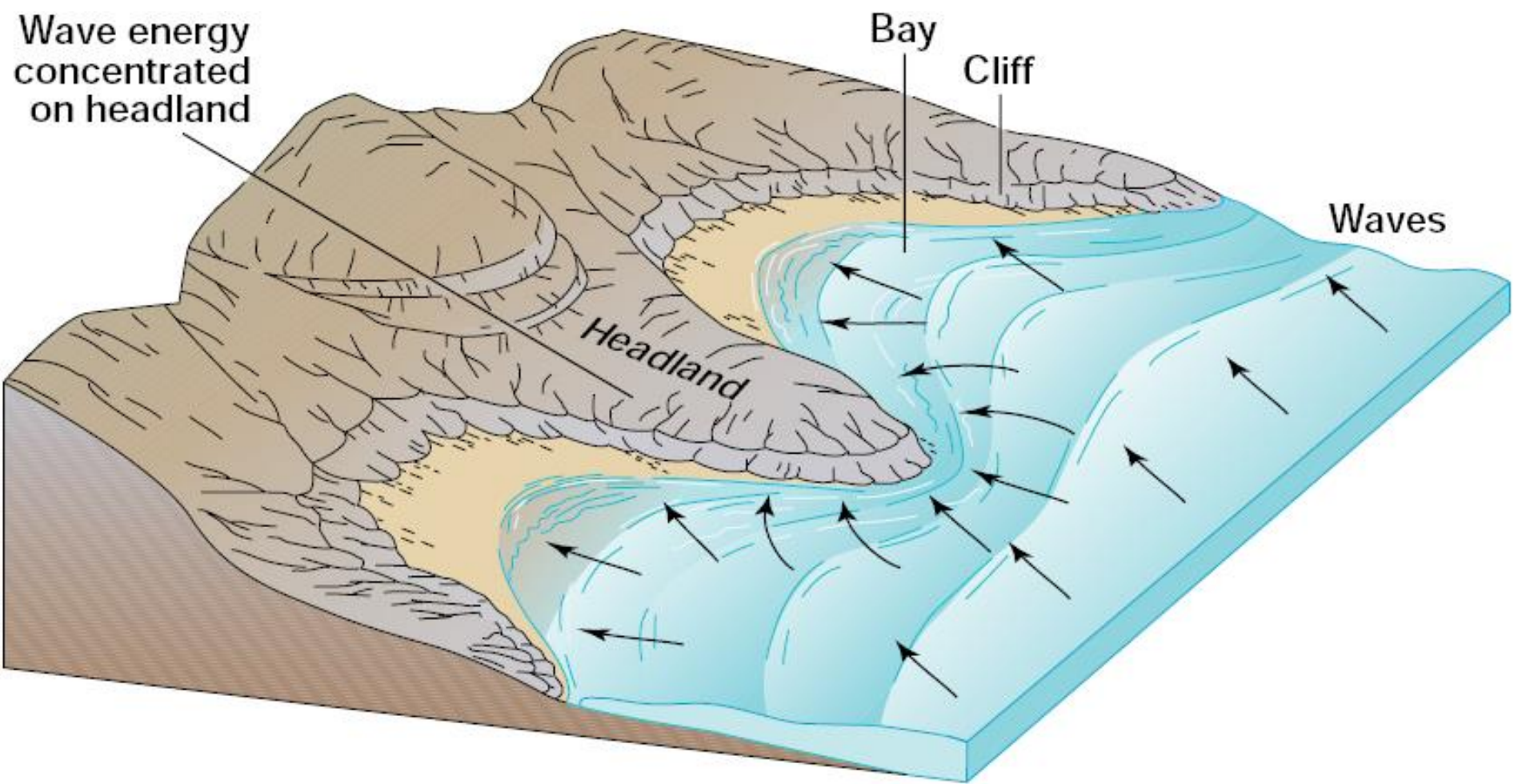
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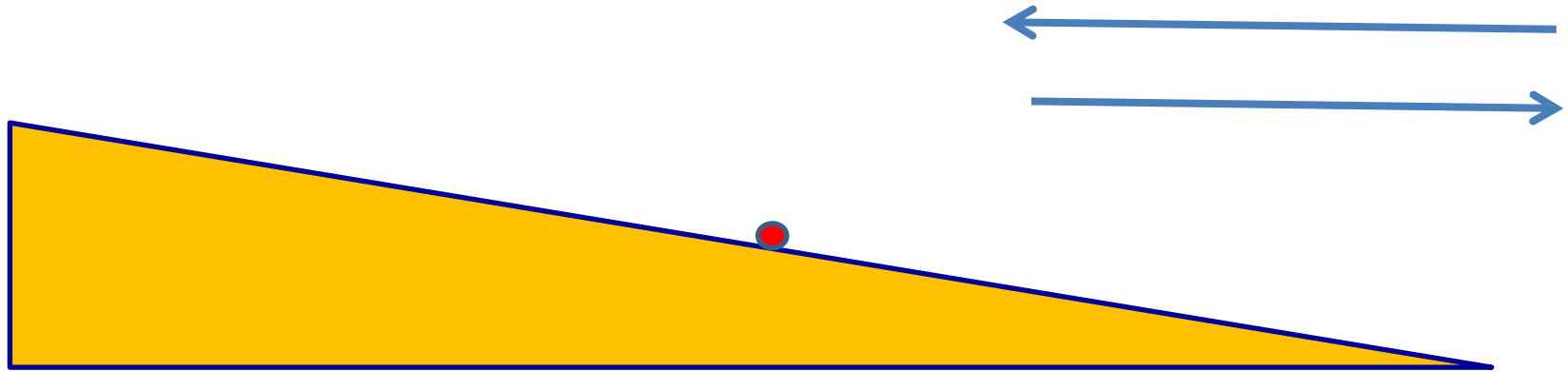
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TAB



A DERIVA LITORAL OU COSTEIRA

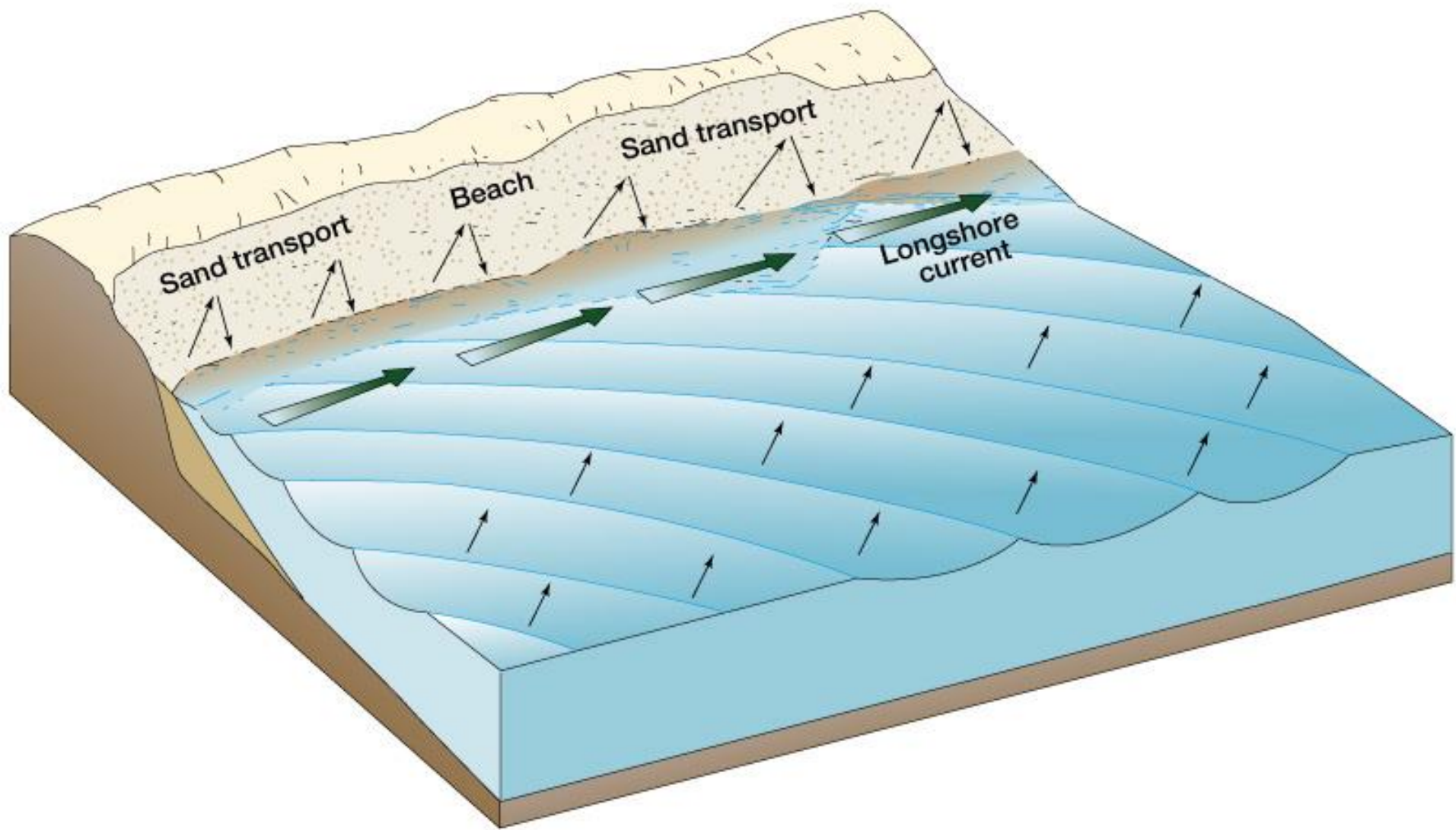


ONDAS PERPENDICULARES A LIÑA DE COSTA



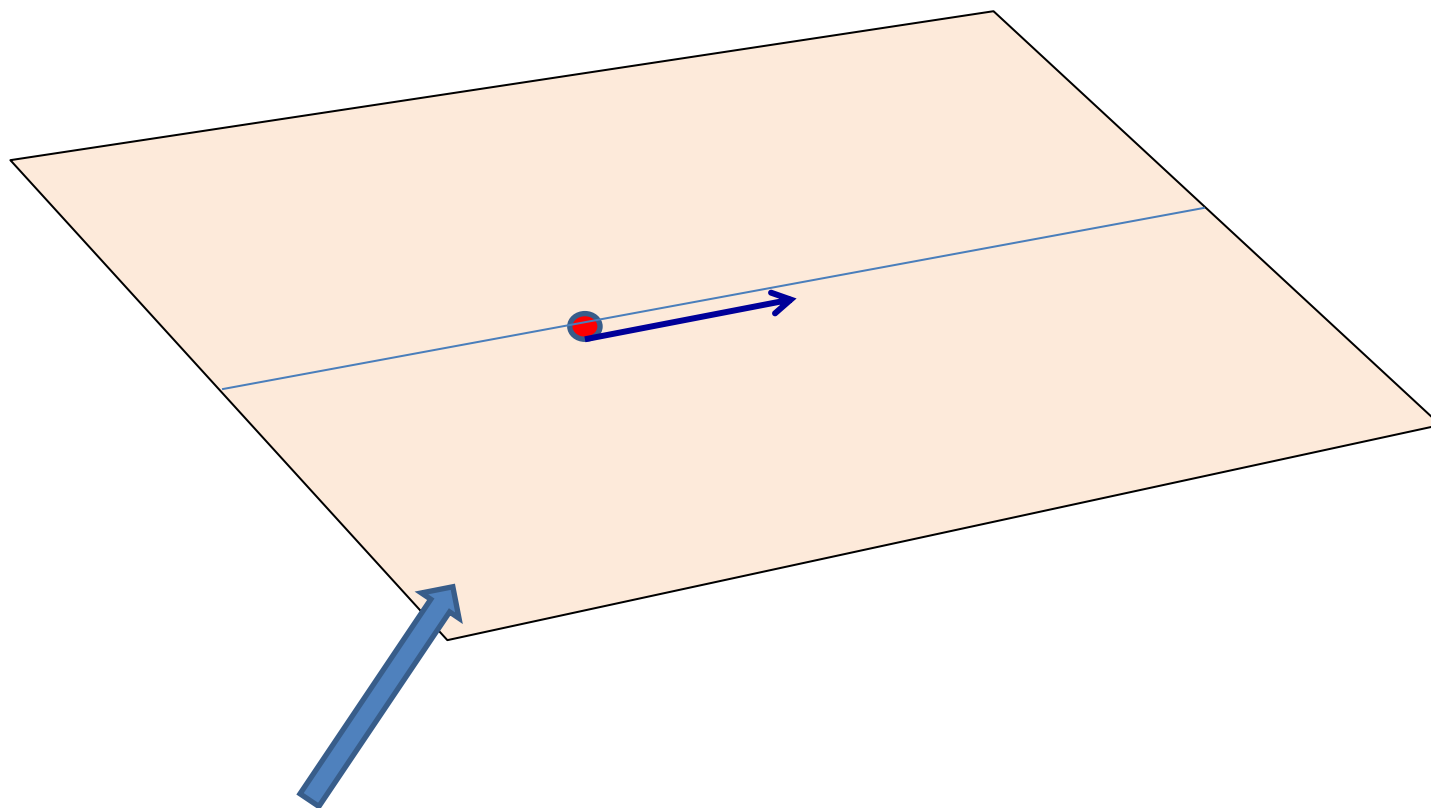
ONDAS OBLÍCUAS Á LIÑA DE COSTA





AVANCE: EMPUXE DA ONDA

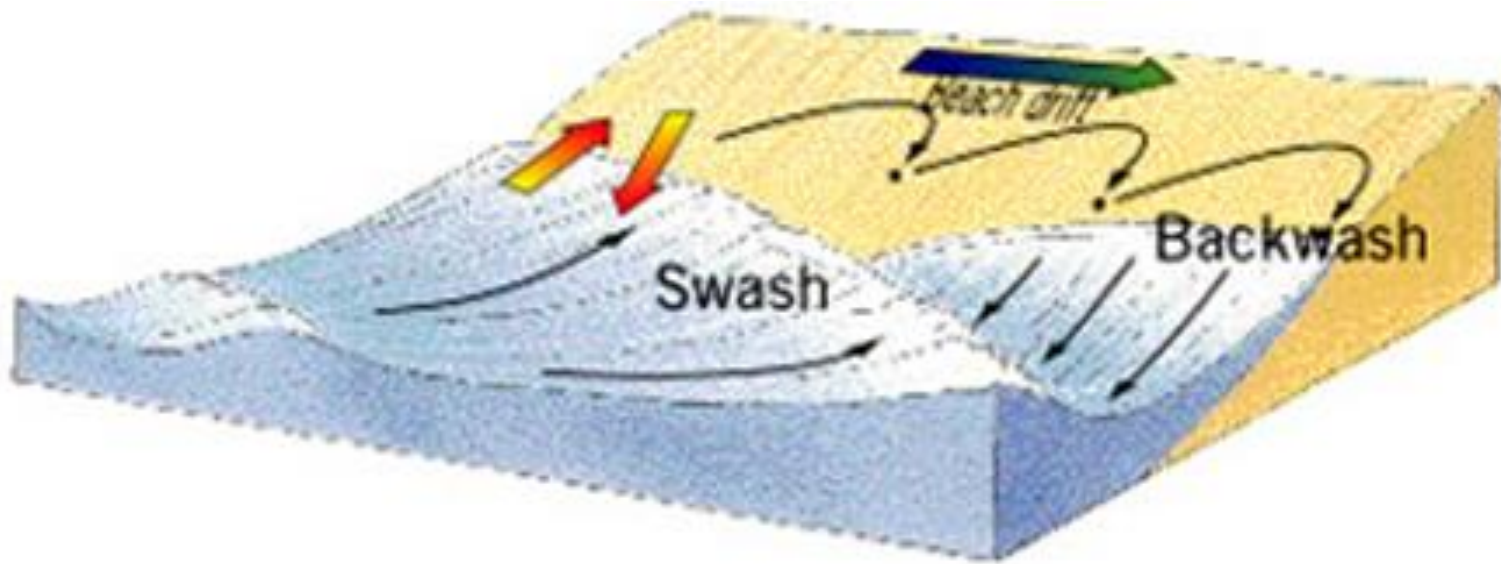
RETROCESO: GRAVIDADE



CORRENTE DE DERIVA
DERIVA DE PRAIA

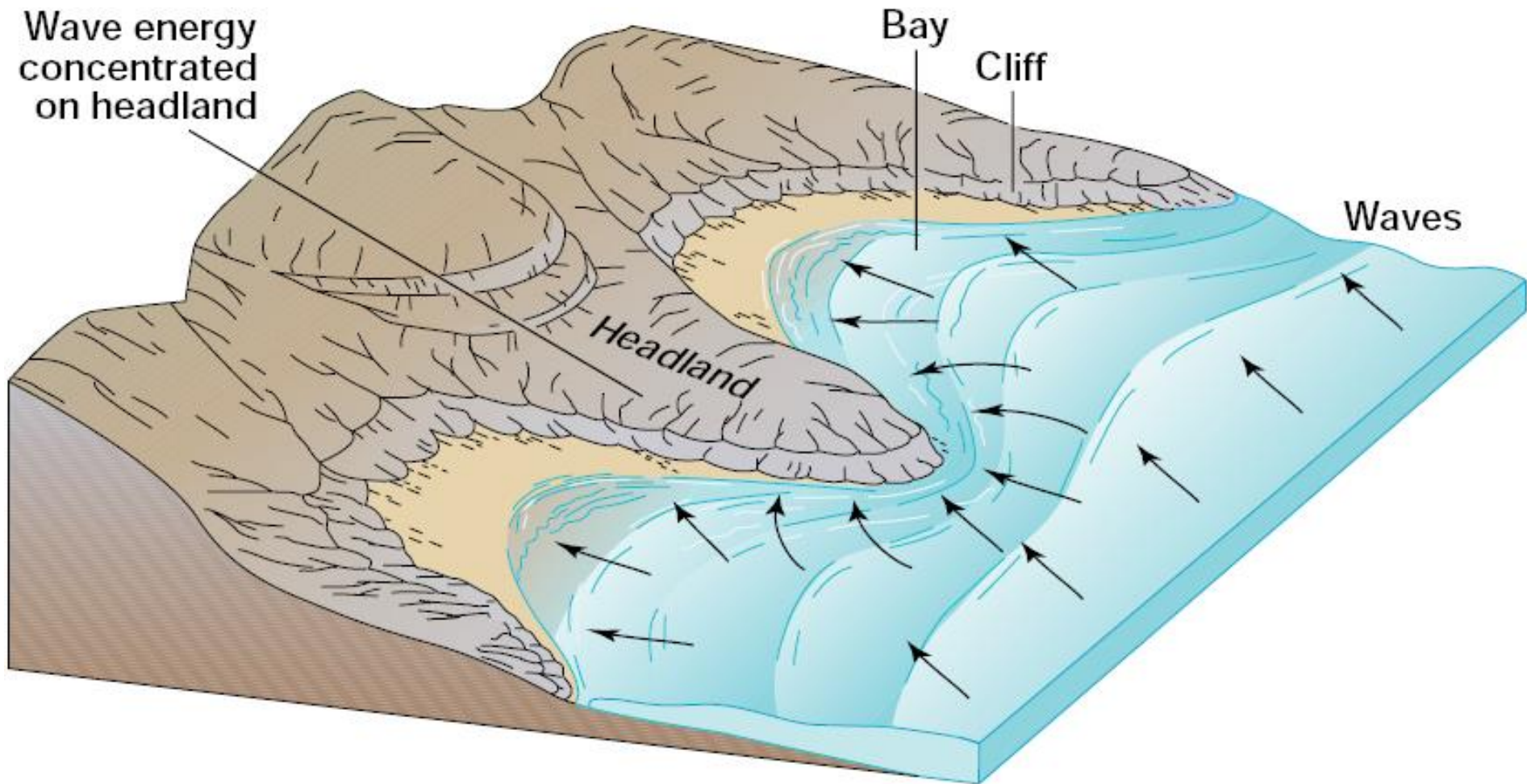


DERIVA
LITORAL



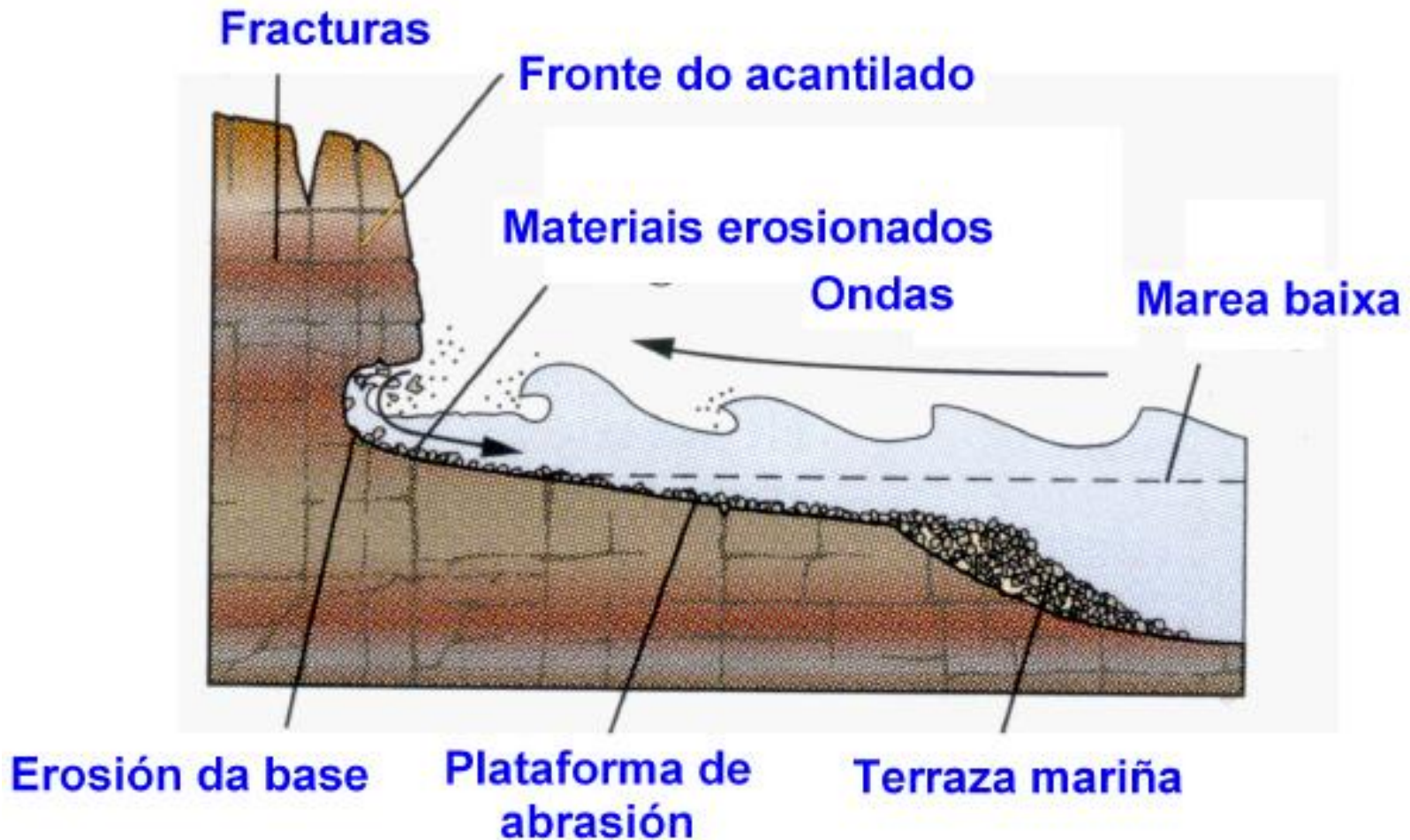
FORMAS DA PAISAXE COSTEIRA

EROSIÓN - SEDIMENTACIÓN



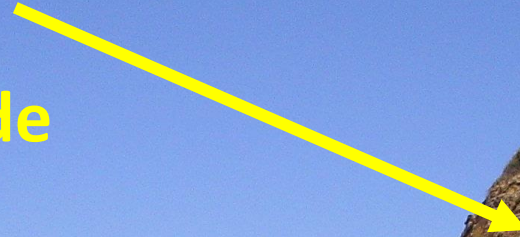
FORMAS DE EROSIÓN: CANTÍS

PARTES DUN ACANTILADO



Fronte do acantilado

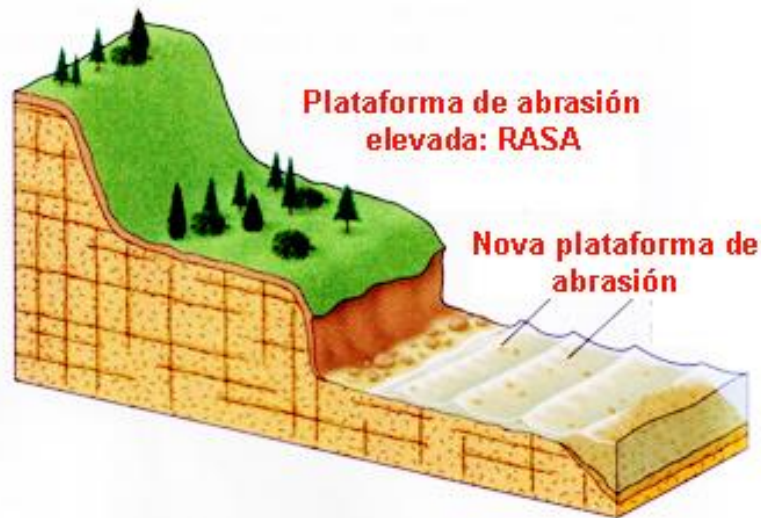
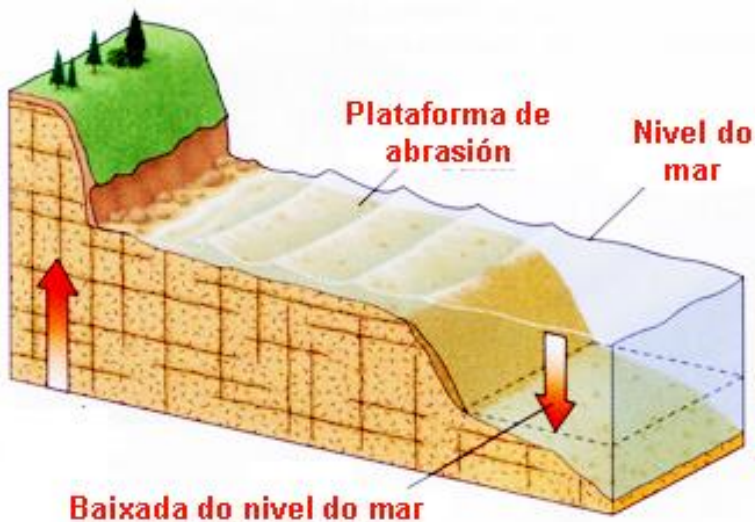
**ou
talude**



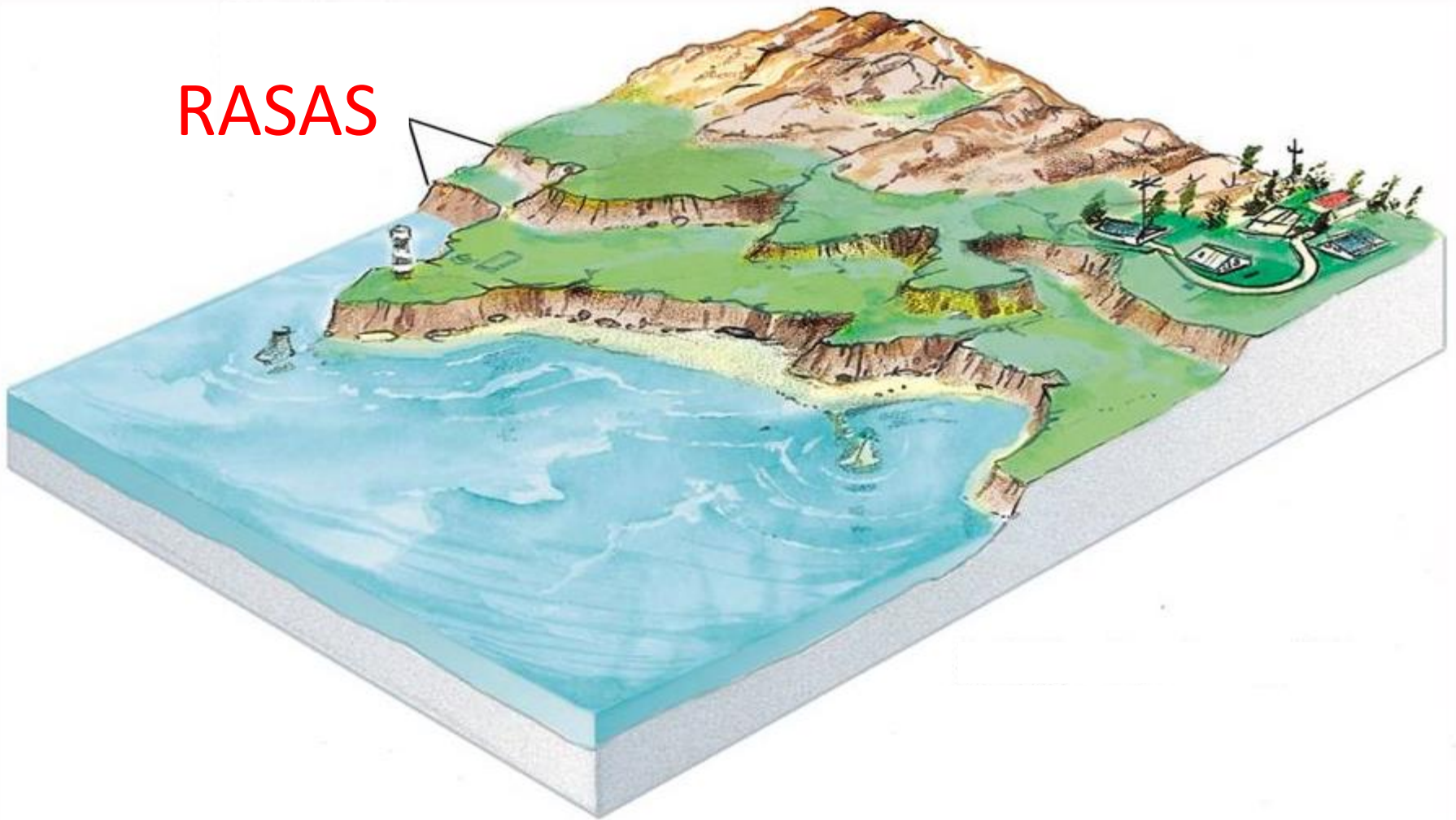
Desprendimentos

Plataforma de abrasión





RASAS







Viladesuso

○ Mato Vello

Vilar

○ Oya

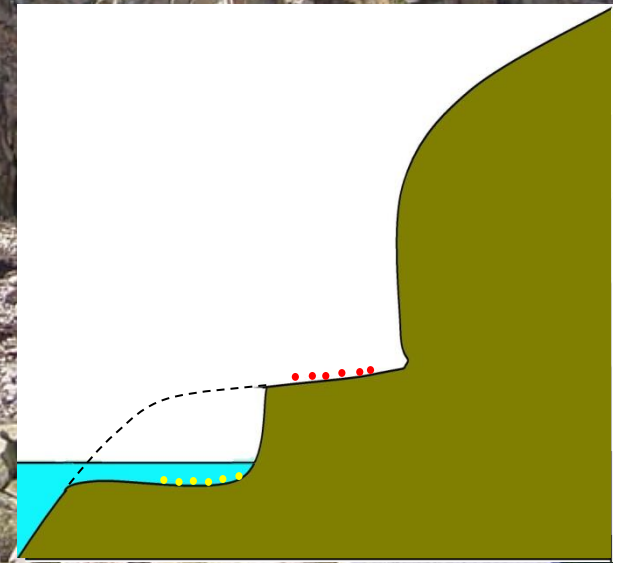
Data SIO, NOAA, U.S. Navy, NGA, GEBCO

© 2018 Google

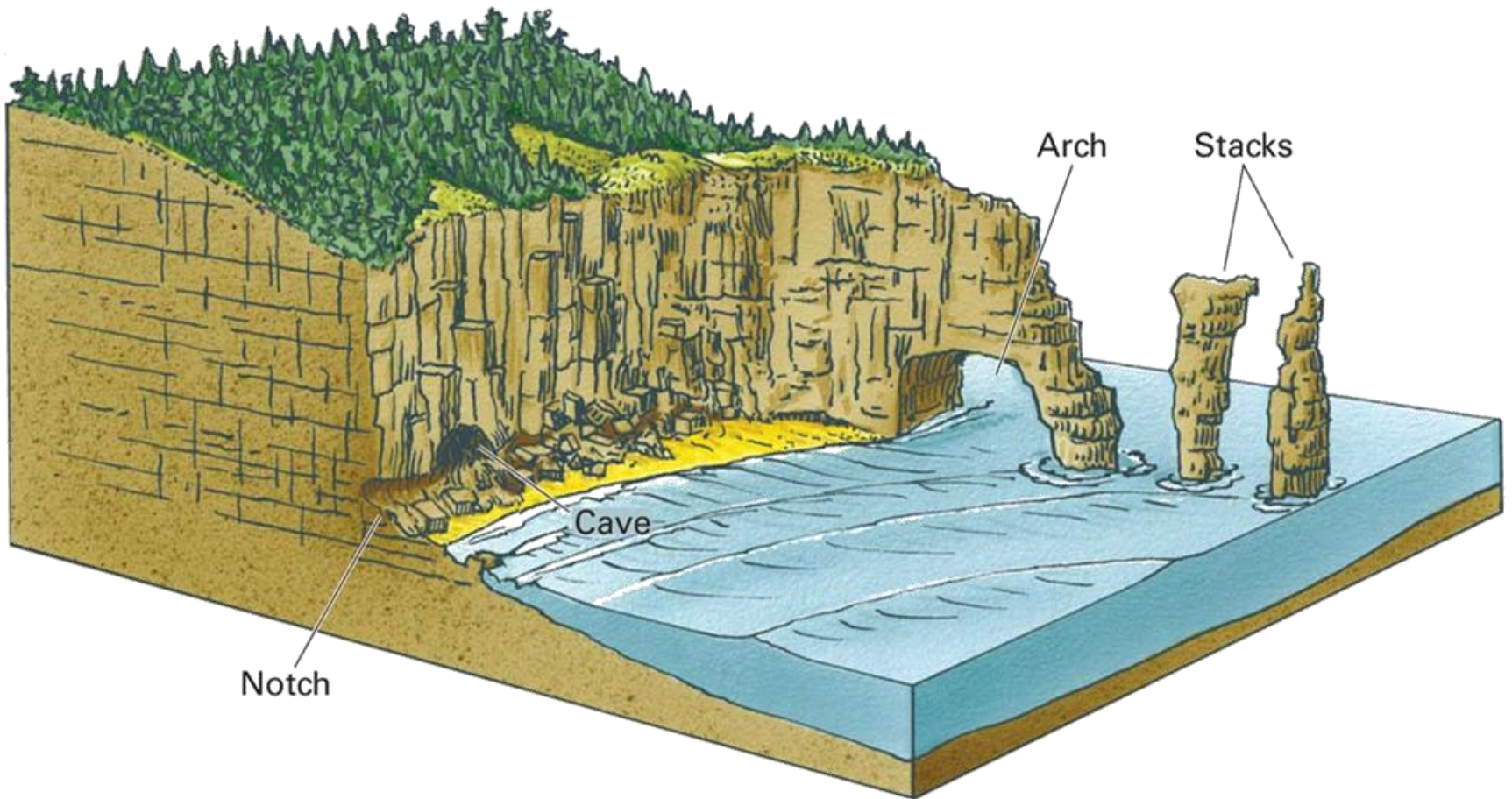
SEDIMENTOS DA RASA

FRONTE DO ACANTILADO

PLATAFORMA DE ABRASIÃO



FORMAS ASOCIADAS

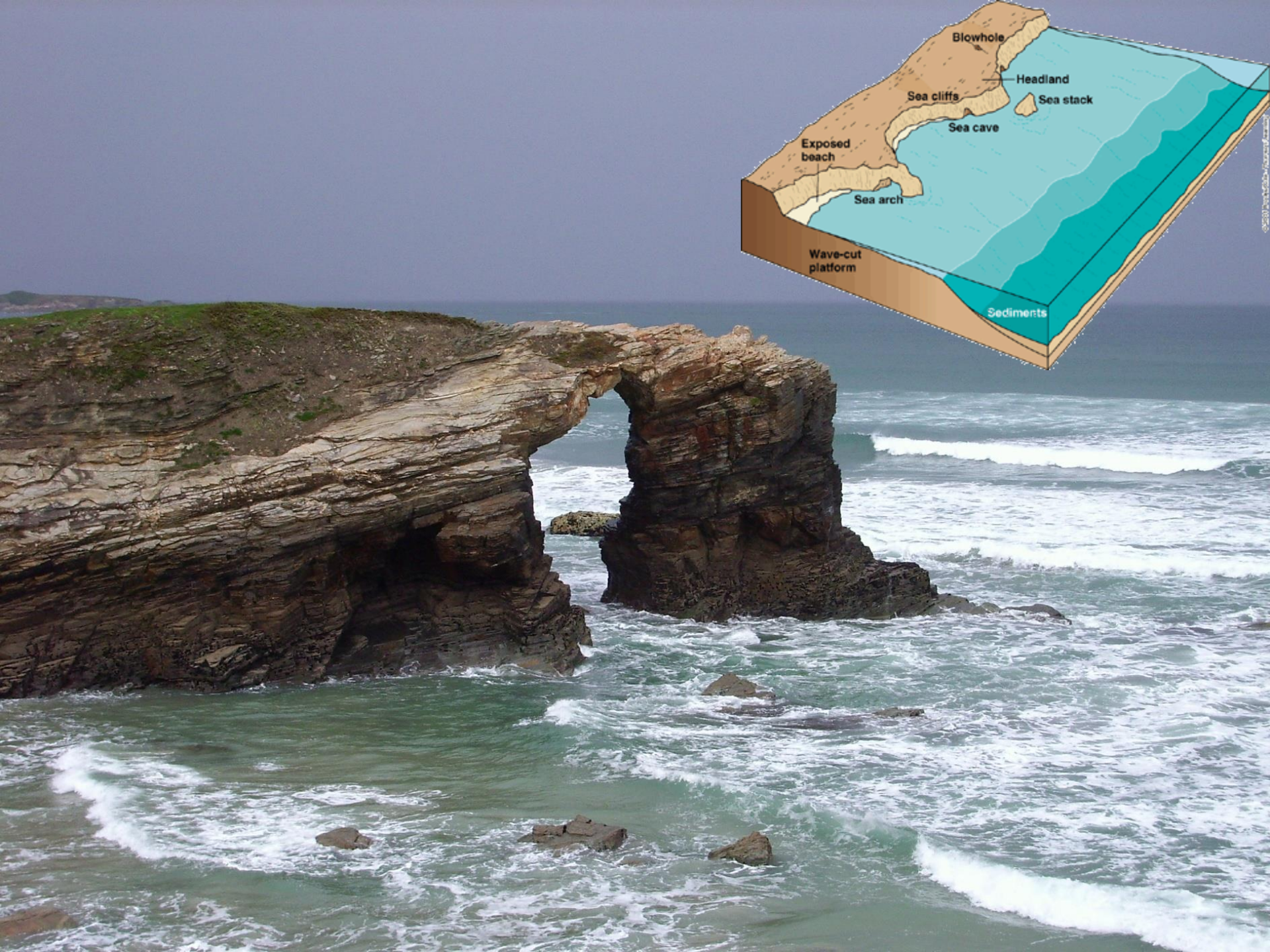






OS CANTÍS DAS CATEDRAIS





Blowhole

Headland

Sea cliffs

Sea stack

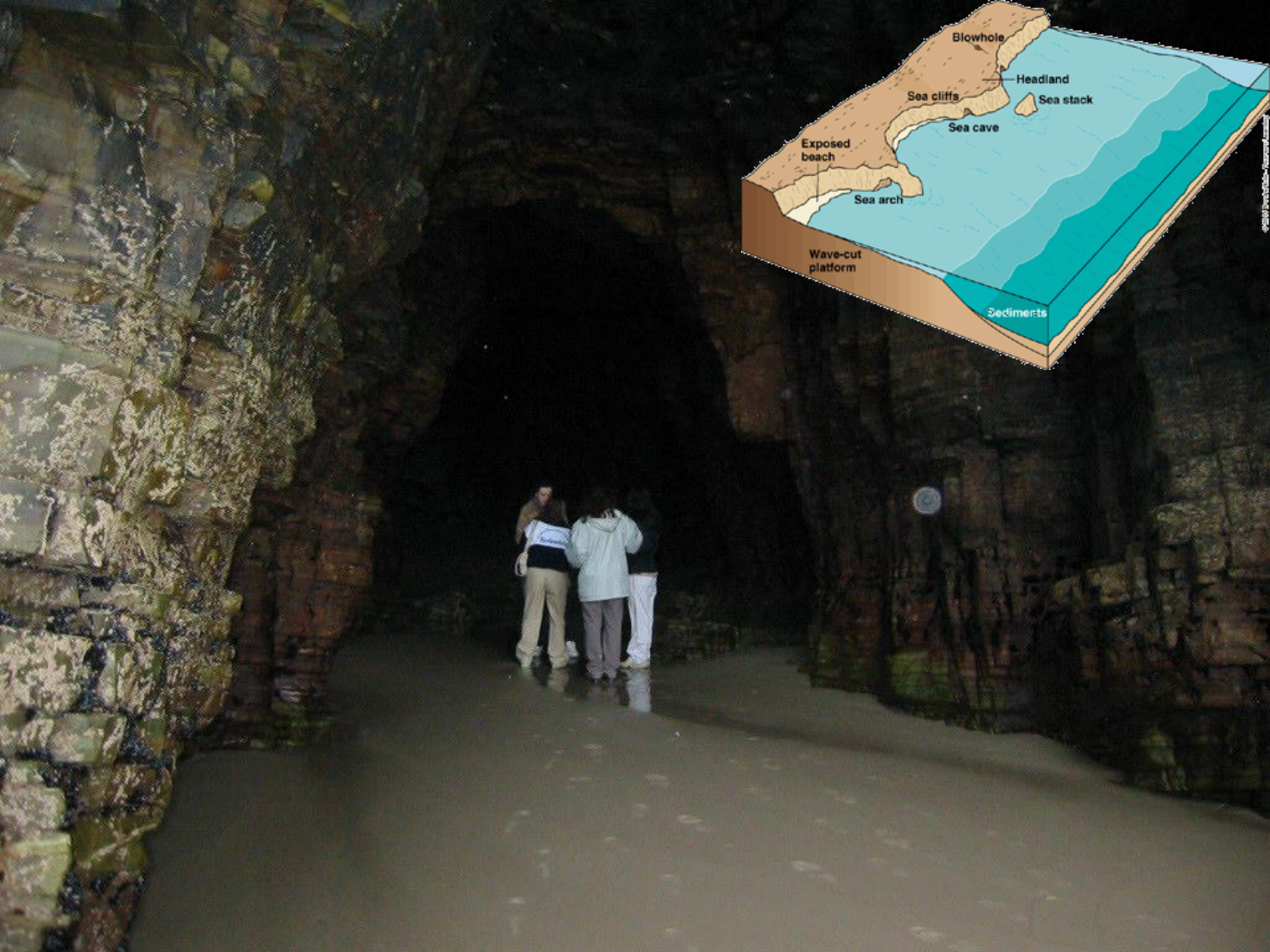
Sea cave

Exposed beach

Sea arch

Wave-cut platform

Sediments



Blowhole

Headland

Sea cliffs

Sea stack

Sea cave

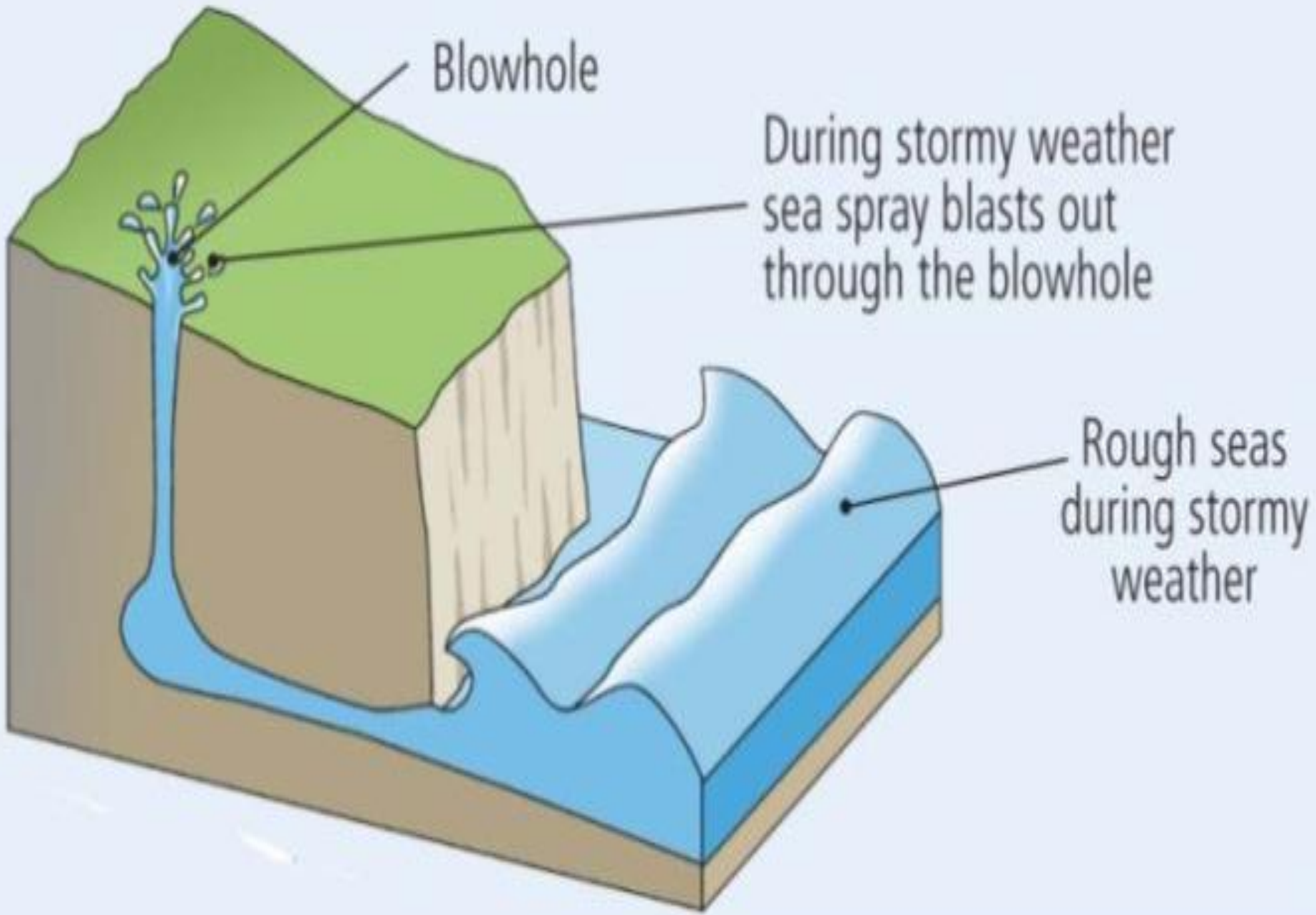
Exposed beach

Sea arch

Wave-cut platform

Sediments





Blowhole

During stormy weather
sea spray blasts out
through the blowhole

Rough seas
during stormy
weather

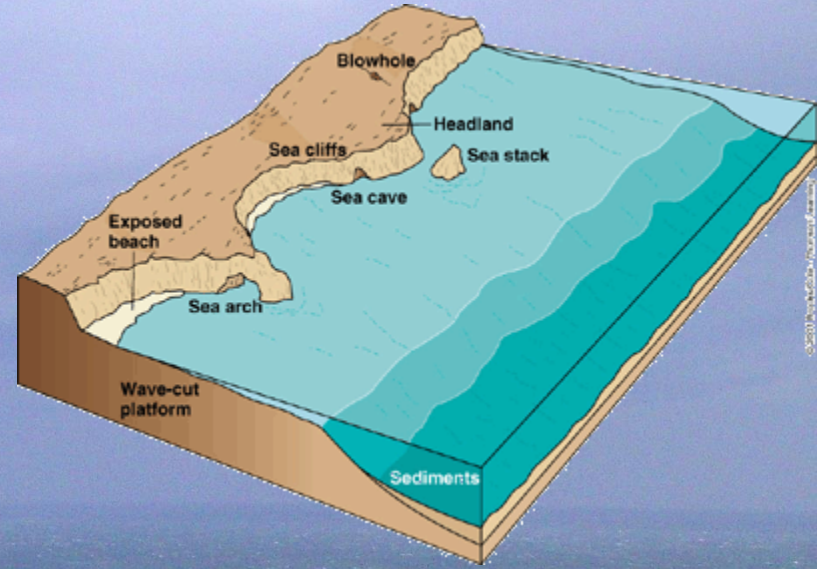


BURACO DO INFERNO

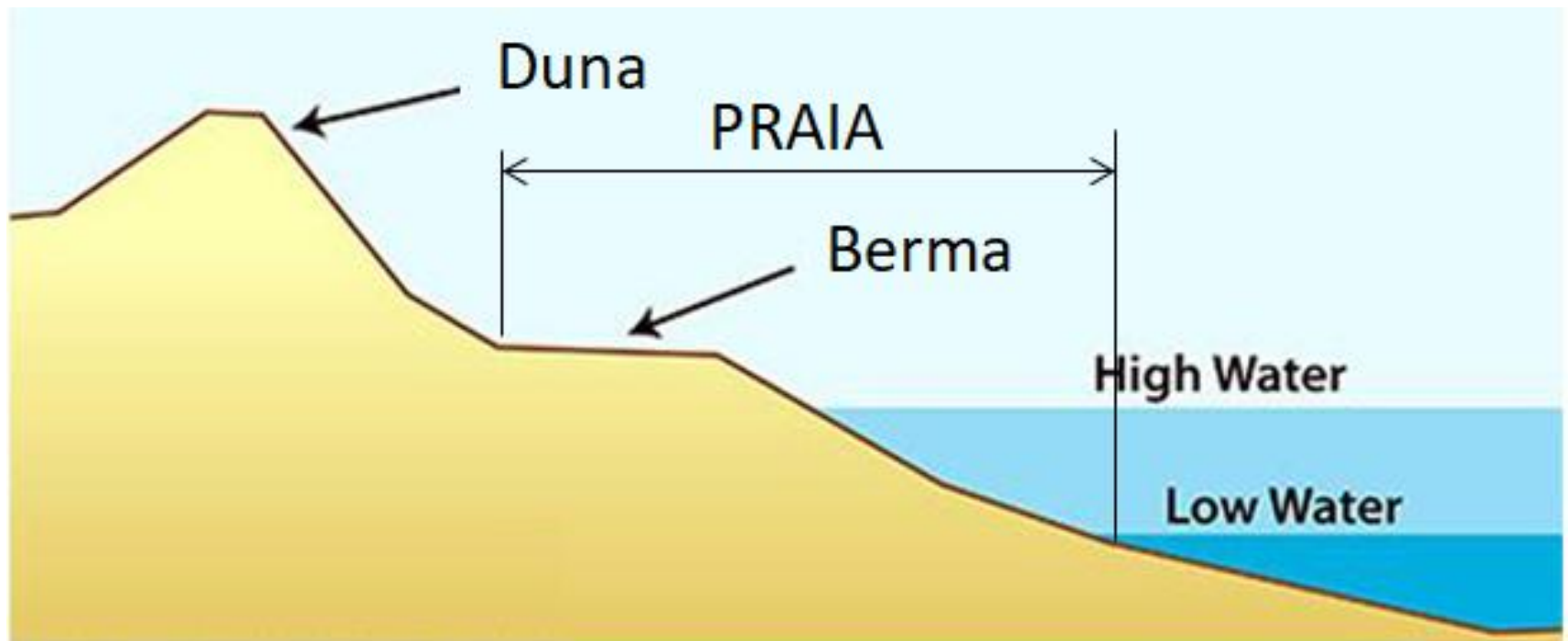
BUFONES

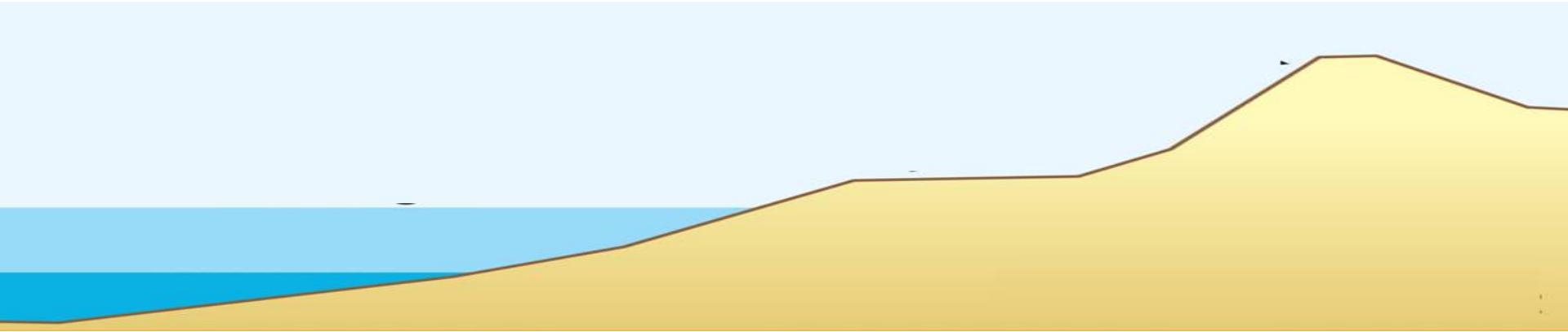


PUNTA DOS AGUILLÓNS EN CABO ORTEGAL



FORMAS DE SEDIMENTACIÓN PRAIAS

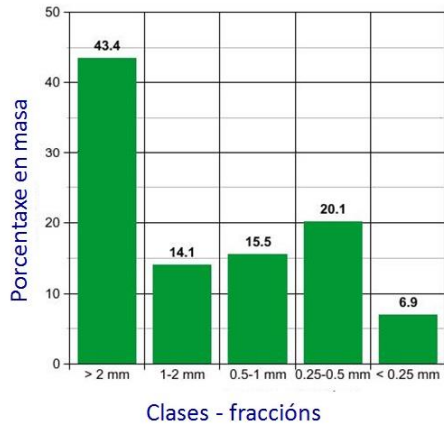






GRANULOMETRÍA PRAIA DA FONTAÍÑA N

PUNTO A

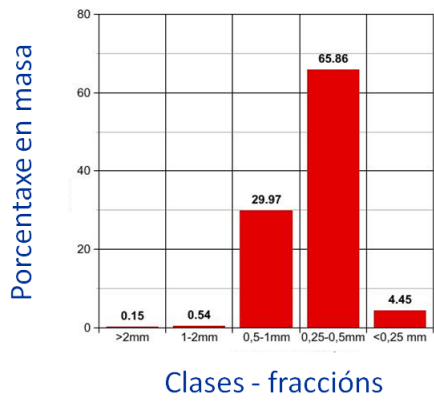


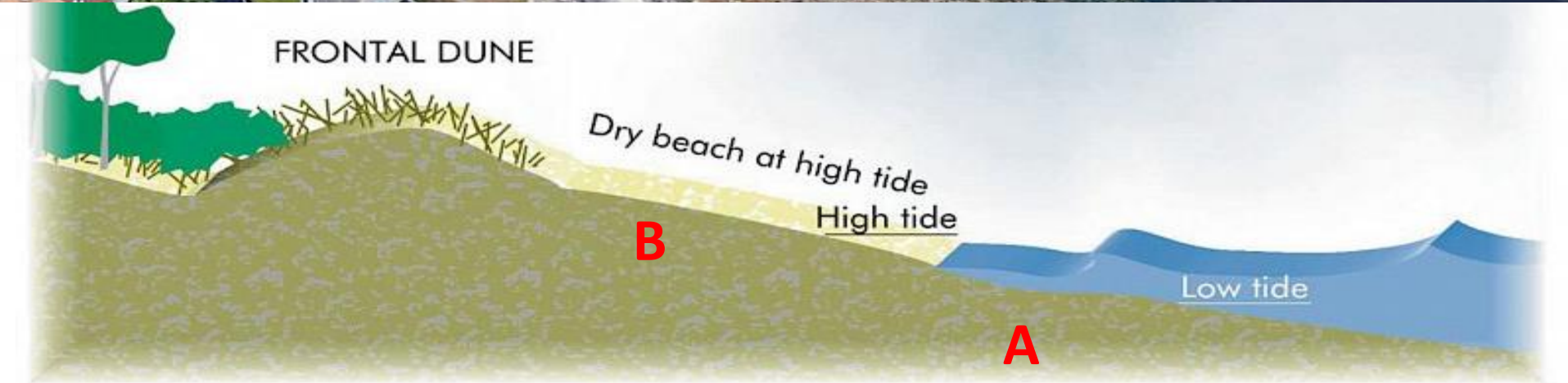
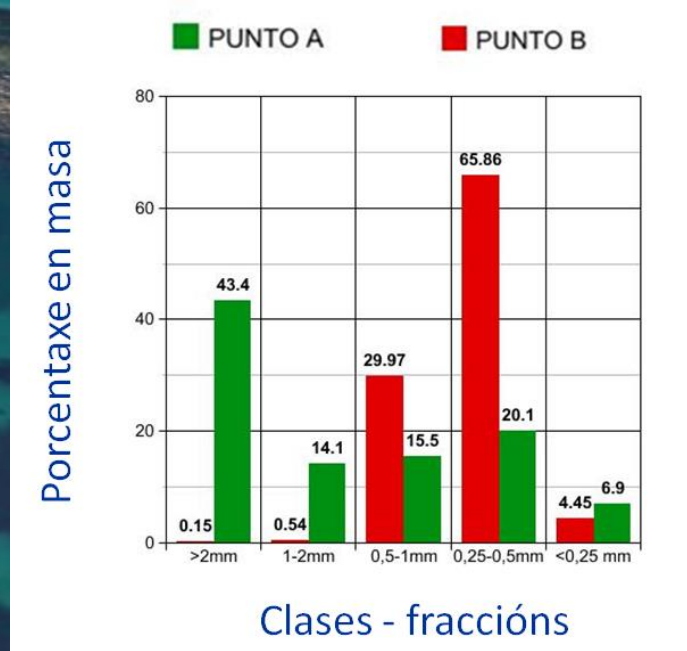
A

N

B

PUNTO B





COMPOÑENTES DO SEDIMENTO

2 mm

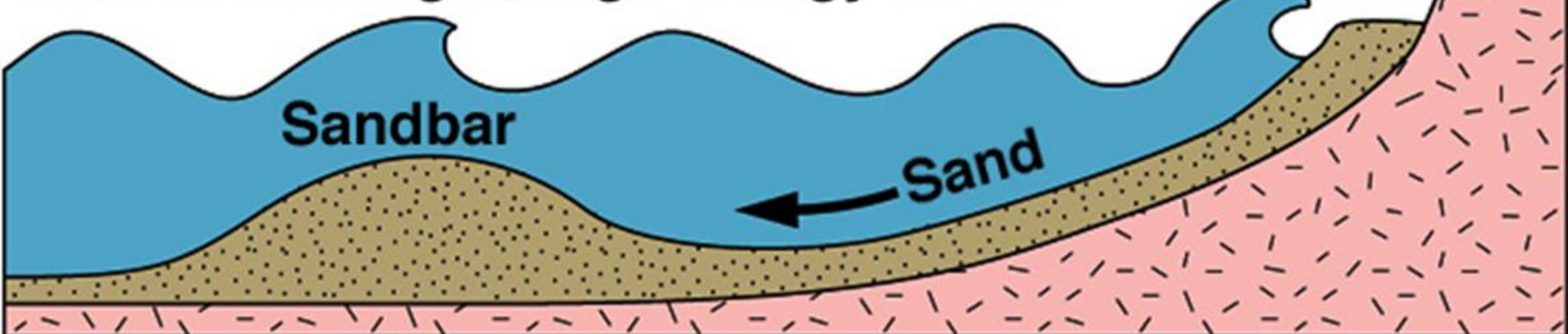






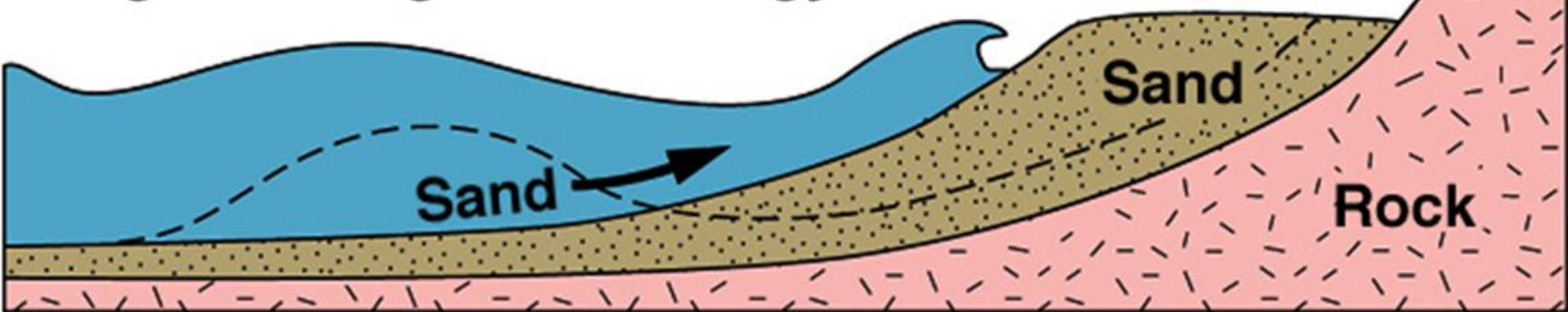
Seasonal Cycle of a Beach

Short wavelength, high energy waves



A Winter beach

Long wavelength, low energy waves



B Summer beach

PRAIA DE CANTOS. COÍDO



COÍDO DE BARREIROS

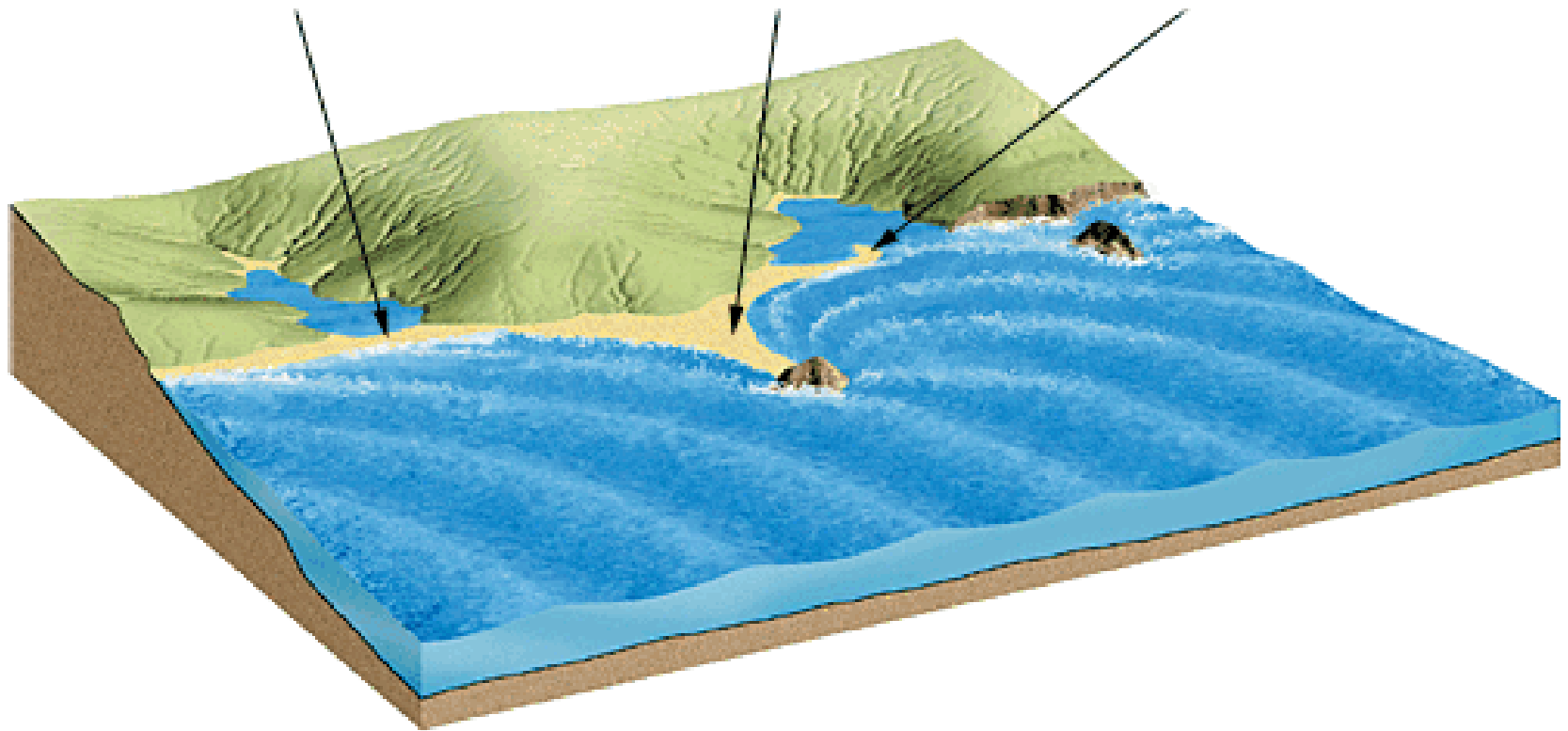


OUTRAS FORMAS DE SEDIMENTACIÓN

BARRA

TÓMBOLO

FRECHA



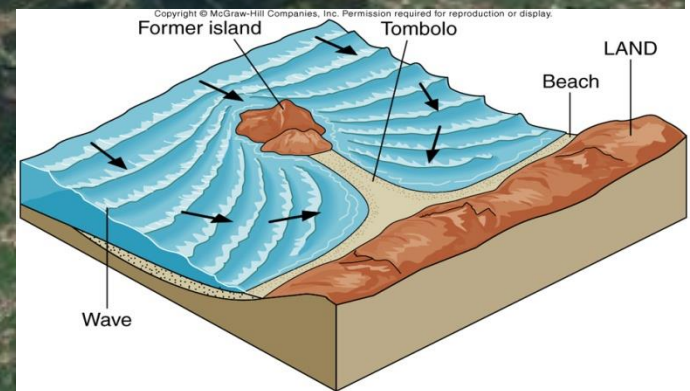
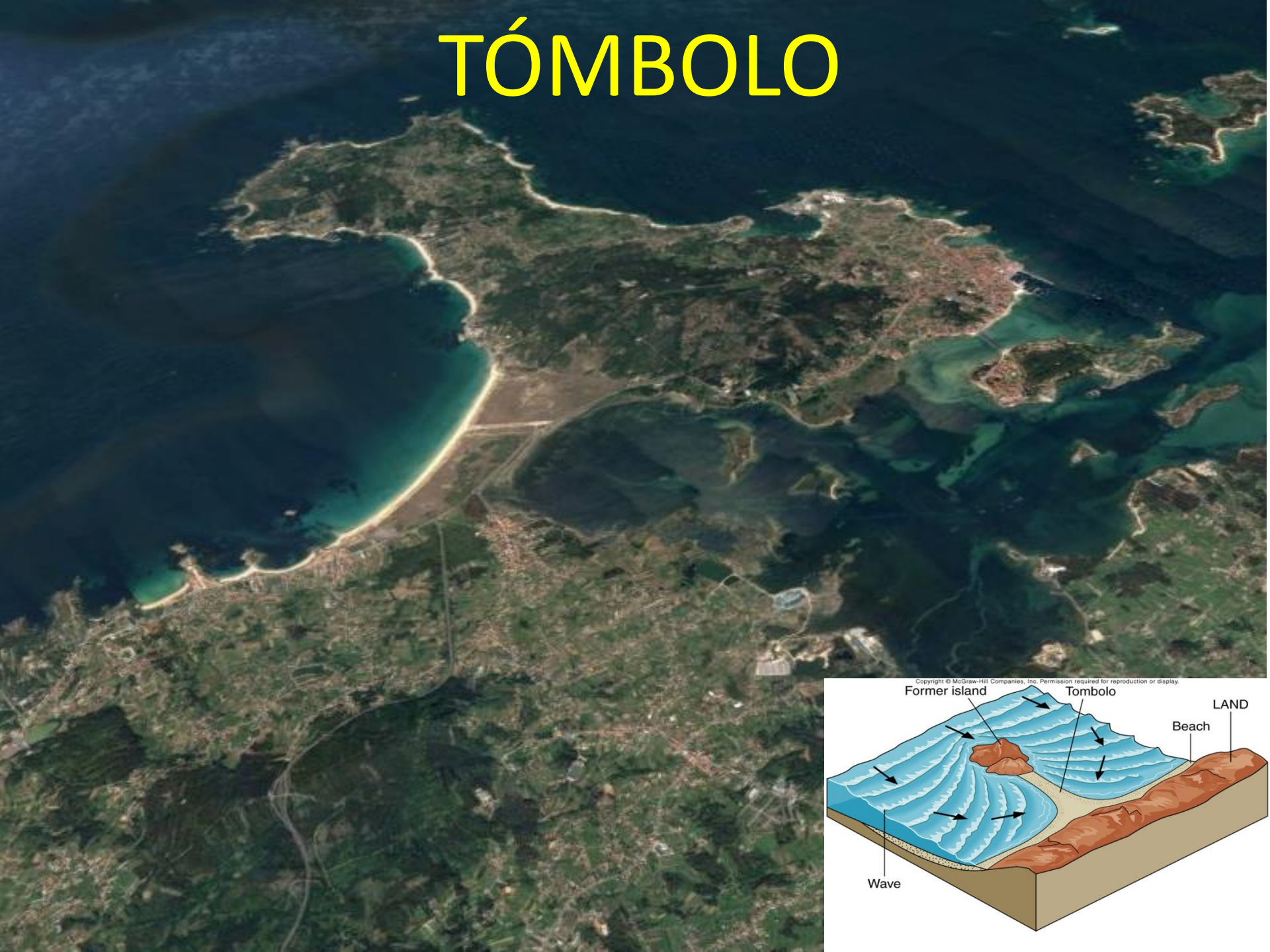
FRECHA AREOSA



FLECHA DE CESANTES (REDONDELA)



TÓMBOLO





ALTO DA SIRADELLA





Praia de A Ladeira

Canle mareal

Marismas

Río Miñor

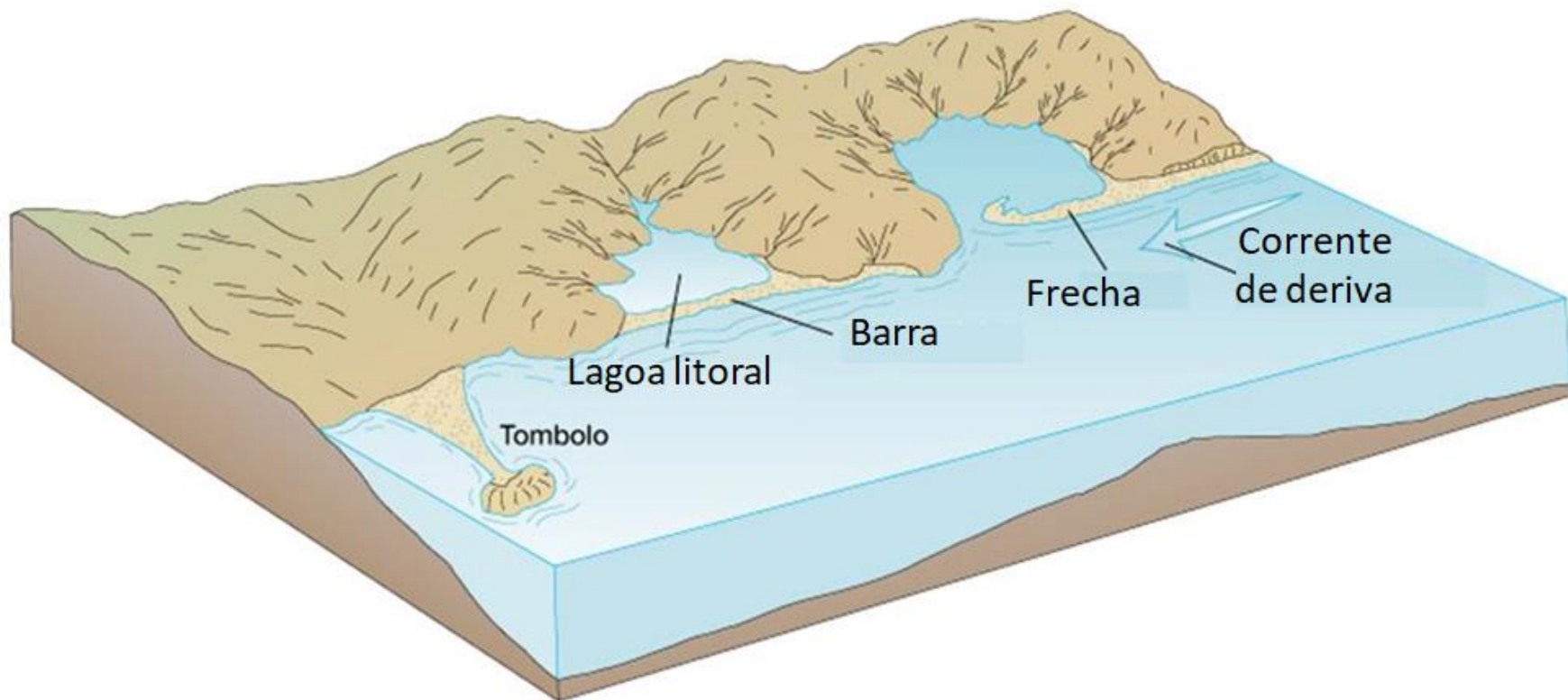
MARISMAS: zonas da desembocadura do río, resgardadas das ondas, onde se acumulan sedimentos finos e se desenvolve unha vexetación adaptada ás augas salobres.



BARRA E MARISMAS DE A RAMALLOSA

LAGOAS LITORAIS

COMPLEXO BARRA - LAGOON



COMPLEXO DE CORRUBEDO

Duna mobil

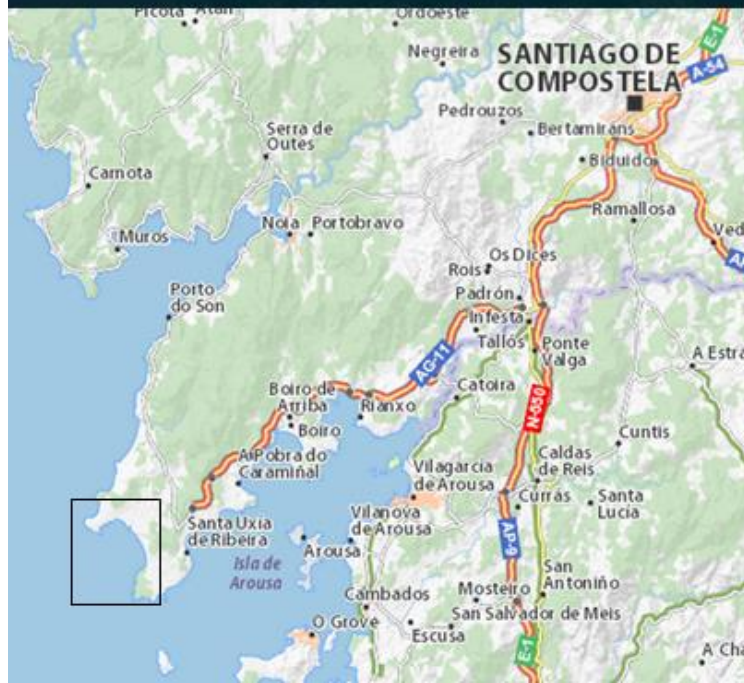
Canle de marea

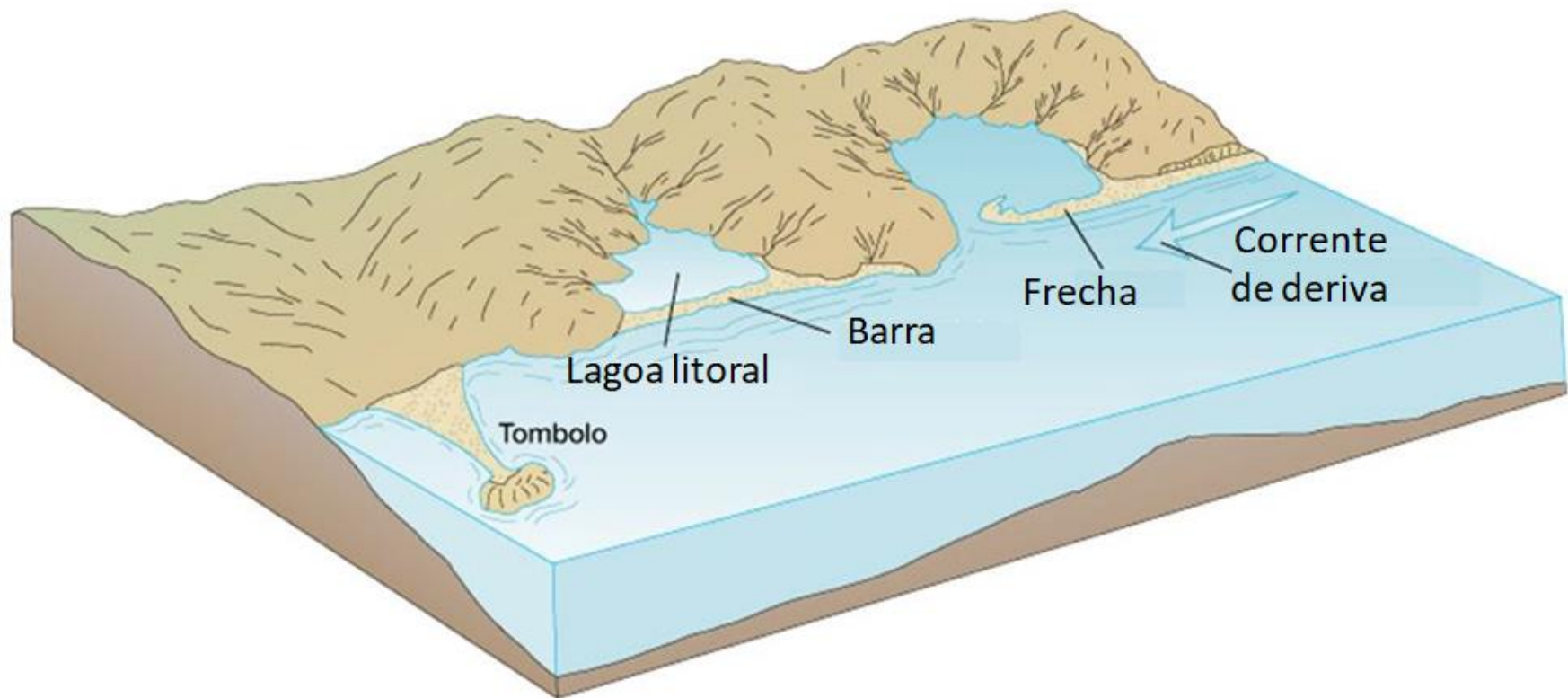
Lagoa de Carregal Auga salobre

Praia de Vilar

Canle de marea

Lagoa de Vixan Auga doce

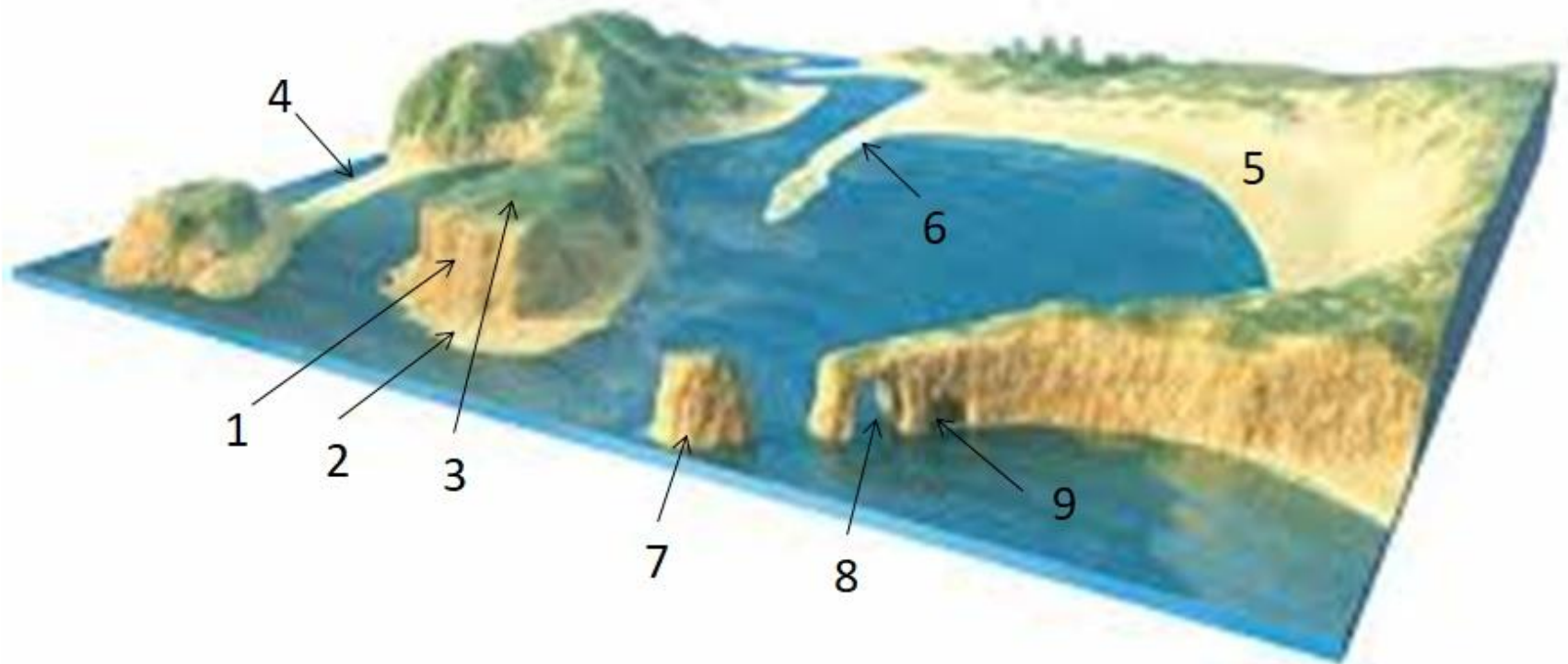








EXERCICIO 3



RIA DE VIVEIRO E PORTO DO CELEIRO



1957



2017



Google Earth

AMPLIACIÓN: AS FORMACIÓNS COSTEIRAS E A ACTIVIDADE HUMANA

Como xa comentamos as formacións costeiras son moi cambiantes e incluso en períodos de tempo curto (anos, decenas de anos) experimentan importantes transformacións de xeito natural.

A presión humana nestas zonas é moi forte xa que o seu clima adoita ser máis suave e permite actividades económicas como a pesca, transporte marítimo ou turismo. Todo isto fai que se modifique artificialmente a costa construindo diques, paseos marítimos etc., o que altera as correntes de deriva e a acción das ondas provocando un forte impacto nas formacións costeiras naturais. No seu momento estudaremos algunha destas alteracións.