

# Jupiter's moon hosts ingredients for life

Images from the James Webb Space Telescope reveal that Jupiter's moon Europa may hold carbon dioxide in the ocean beneath its icy shell, meaning it could harbour conditions suitable for life

## STRUCTURE OF EUROPA

### Ice crust

10-30km thick

### Ocean

Up to 160km deep

### Interior

Silicate rock

### Core

Iron

Diameter

3,138km

## "CHAOS TERRAIN"

Plume of warm water rises, melting ice which breaks and then refreezes

## REGIONS WHERE CO<sub>2</sub> DETECTED

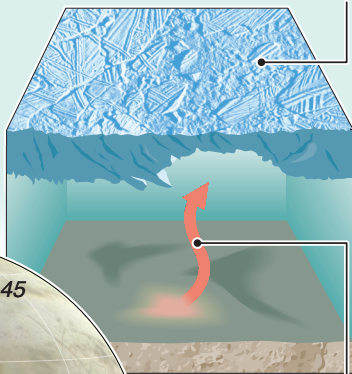
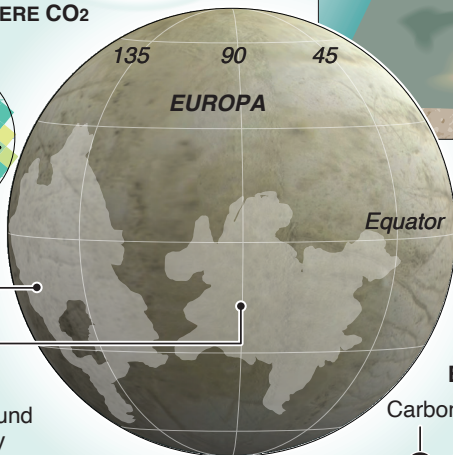


JWST image

### Powys Regio

### Tara Regio

Highest concentration of CO<sub>2</sub> ice found in geologically young area of disrupted and resurfaced terrain



Rising warm water brings CO<sub>2</sub> and salts to surface

Sodium chloride (salt) detected in 2019

## ESSENTIAL ELEMENTS FOR LIFE

Carbon Oxygen Sulphur



Hydrogen

Nitrogen

Phosphorus