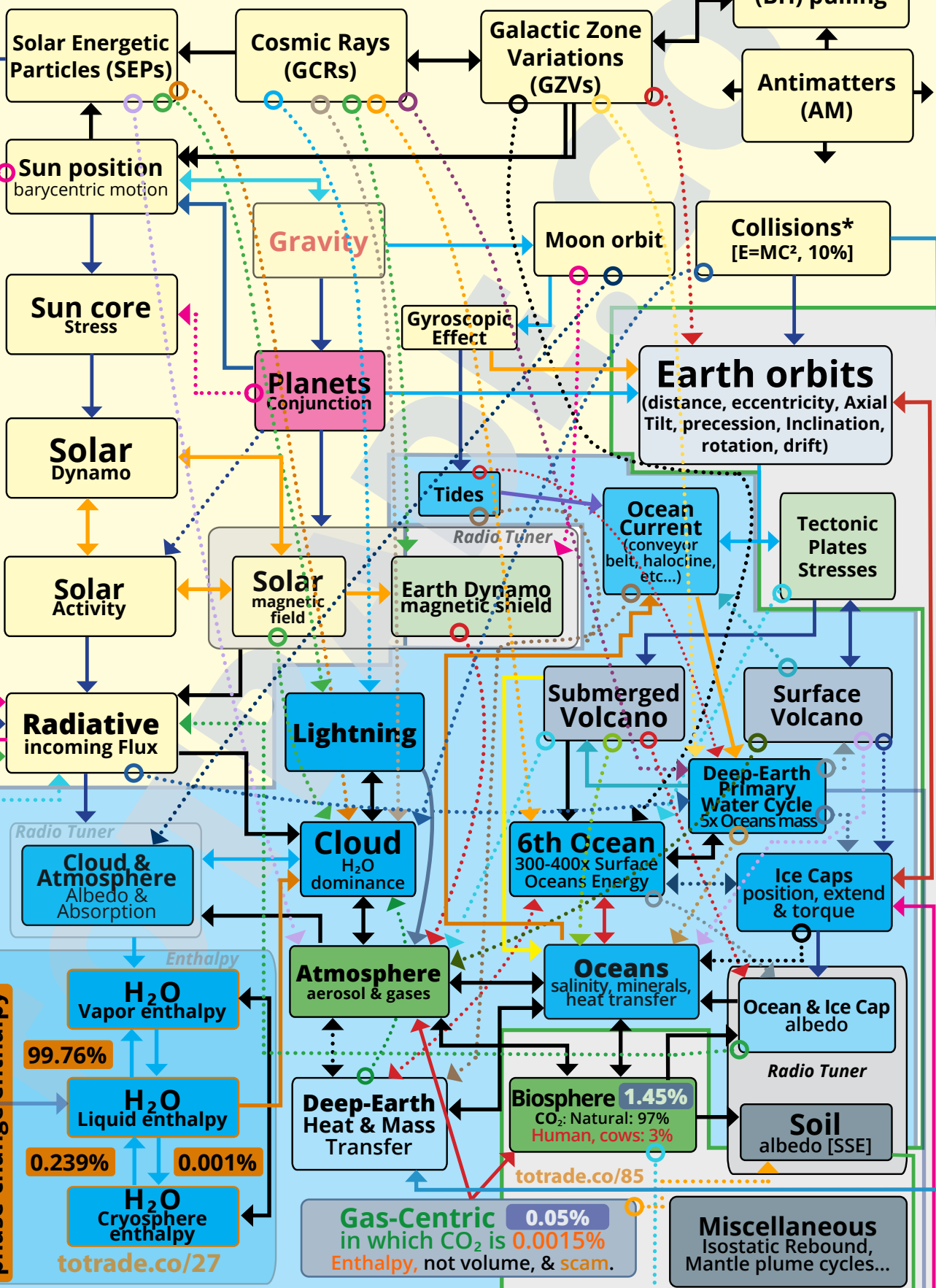


## Earth's Dynamics: Cosmic Drivers



\* Include impacts from asteroids, meteoroids, cometary fragments, and any macroscopic and subatomic mass.



# Cosmic Energy Budget at Earth Scale

True Limitless Clean Energy

## Solar Energy

20%  $\approx$  173,000 TW

## Other Cosmic Drivers

70%  $\approx$  605,000 TW

## Collisions

10%  $\approx$  86,500 TW

Cosmic Rays &  
High-Energy Particles

Meteoroids & Impacts

## Earth's Heat

$\approx$  50 TW

- Atmosphere Regulates Timing
- Water Stores & Buffers Energy
- Earth Acts as a Charged System

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# Earth System as a Coupled Enthalpy Engine

Energy Stored, Transported, & Released Across Air, Water, Ice, & Rock



**Abrupt Deep Earth Heat Overwhelms Climate System**

- ▶ Intense Convection & Extreme Weather
- ▶ Rapid Oceanic Disruption
- ▶ Historical Flood Events

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~100 km Kármán line: ~0.000 000 1 atm

Weather is Driven By **Clausius-Clapeyron** Relation

$$H = U + pV$$

Enthalpy = Internal Energy + Expansion Work

## Water's Behavior in the Atmosphere

## Other Gases' Behavior in the Atmosphere



— 60°C 11km: ~0.23 atm

**Gas**  
(cloud, humidity)

Energy Released

Condensation

**Solid**  
(snow, hail <0°C)

**Liquid**  
(rain >0°C)

**Heat**  
(UP)

**Cold**  
(DOWN)

**Secondary  
Water Cycle**  
(SWC)

Latent Heat Upward

7% per °C expansion

Energy Absorbed

Evaporation

99.76%

widespread

**Gas**  
(vapor)

0.239%

localized

**Liquid >0°C**

0.001%  
trace location

**Solid <0°C**

(snow, ice)

Melting Ice

**6th Ocean (Solid OH<sup>-</sup>)**

230,000 atm, 1600-1900°C

~300-400 times Surface Enthalpy

Phase change on standby, [totrade.co/6](http://totrade.co/6)

0m: 1 atm

**H<sub>2</sub>O vs CO<sub>2</sub>**

600,000 : 1

### No Phase Change

% = Thermal Influence, not volume.

O<sub>2</sub>  
0.025%

N<sub>2</sub>  
0.0166%

Ar  
0.005%

CO<sub>2</sub>  
0.0015%

O<sub>3</sub>  
0.000833%

H<sub>2</sub>  
0.0005%

CH<sub>4</sub>  
0.000333%

N<sub>2</sub>O  
0.00017%

Etc  
0.0000833%

### Small Expansion Work



Sensible Heat Only

► Limited Energy Transfer (sensible 20/80 latent)

### H<sub>2</sub>O vs Other Gases

95.5%  
+ 3.00%  
+ 1.45%  
=====  
100%

0.05%  
Solid State Enthalpy (SSE)  
Biosphere Mix

### Outcome

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### Thermal Buffer Only

► Limited Enthalpy Transfer (other gases: 0.05%)

### H<sub>2</sub>O: Thermal Elevator



### OCEAN MASS

Water (H<sub>2</sub>O) > 96.5%  
CO<sub>2</sub> < 0.002%

### ATMOSPHERE VOLUME

H<sub>2</sub>O (Variable) 0 to 4%  
CO<sub>2</sub> ~ 0.04%  
N<sub>2</sub> ~ 78%  
O<sub>2</sub> ~ 21%  
Ar ~ 0.93%

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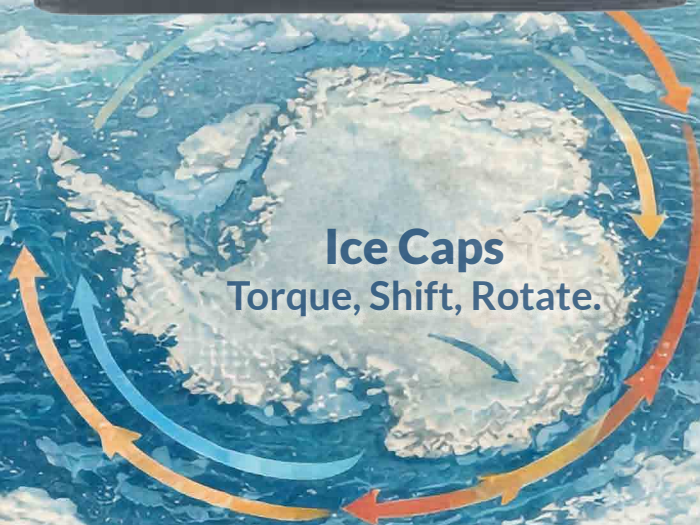
**Below sea avg Pressure**  
-11km: 1,100 atm, Mantle: 230,000 atm

Web



# Short-lived forcing: Deep Earth Abrupt Enthalpy Release

## Multimillenia Cosmic Waves



6 days every ~12,000 years  
"2012" is ~2036

Massive destruction and  
flood across the planet

**Food, Energy, Water, Space  
Systems total destruction.**

## Cataclysm in Mythology

Flood narratives encode memories  
of abrupt melt and ocean rise tied to  
deep enthalpy release, [totrade.co/c](http://totrade.co/c)

### ► Sixth Ocean Enthalpy Trigger

| Sea Level Benchmarks

- 150 m rise → ~0.04–0.06 %
- 200 m rise → ~0.05–0.09 %

## Rapid Tectonic Shift

>1,200km/h  
Eastward  
¼ to ½ day



## Preparedness ≠ belief

- One system against all risks.
- Always useful, regardless of risk.
- Use physics, not narratives.

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**FEWS SYSTEM**  
Food♦Energy♦Water♦Space

## Rapid phase change

**Cold Blast <80 °C**

**Hydrothermal blasts**

**Tsunami, extreme storms**

**Quakes, Landslide**

**Sudden Heat Release**

**6th Ocean = Solid OH<sup>-</sup>**

230,000 atm, 1600–1900°C  
~300–400 times Surface Enthalpy  
Sudden Phase change, [totrade.co/6](http://totrade.co/6)



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