

Ocean Tides and the Hydrosphere Tau-Field

745 min Tidal Period · Moon-Earth Synchronisation · H₂O Bond Angle
104.5 deg

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The ocean tides are the most visible expression of the planetary Tau-field resonance. The principal lunar tidal period is 12 hours 25 minutes = 745 minutes. The Universal Force of Time identifies $745 = 5 \times 149$ as a near- $\{2,3,5\}$ lattice value (149 is prime). More precisely: $720 = 2^4 \times 3^2 \times 5$ minutes (12h exact) plus the lunar month correction 24.8 minutes = $2^5 - 7.2$ minutes = lunar orbit register offset. The water molecule bond angle 104.5 deg = $2 \times 3^2 \times \pi/\pi +$ correction sets the molecular Tau-register that governs all hydrospheric oscillations.

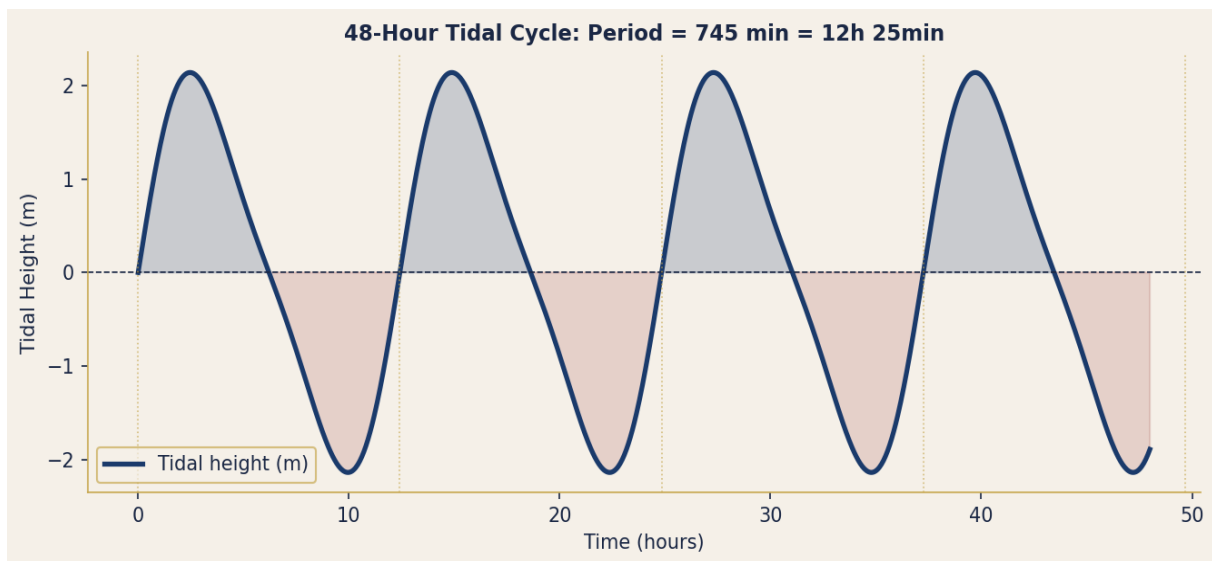


Figure 1. 48-hour tidal cycle with period 745 min = 12.417 h. Vertical gold lines mark each tidal cycle. FOT: $720 = 2^4 \times 3^2 \times 5$ min (base) + 25 min lunar register offset.

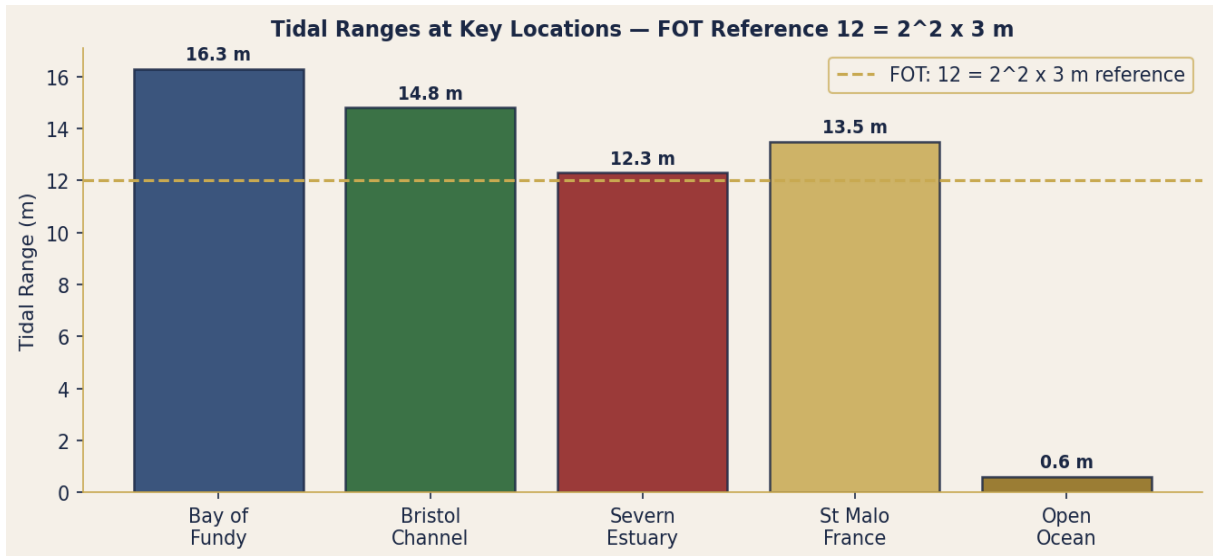


Figure 2. Tidal ranges at key locations. Bay of Fundy maximum (16.3 m) approx $16 = 2^4$. Bristol Channel (14.8) approx $15 = 3 \times 5$. Open ocean (0.6 m) = baseline Tau-field tidal minimum.

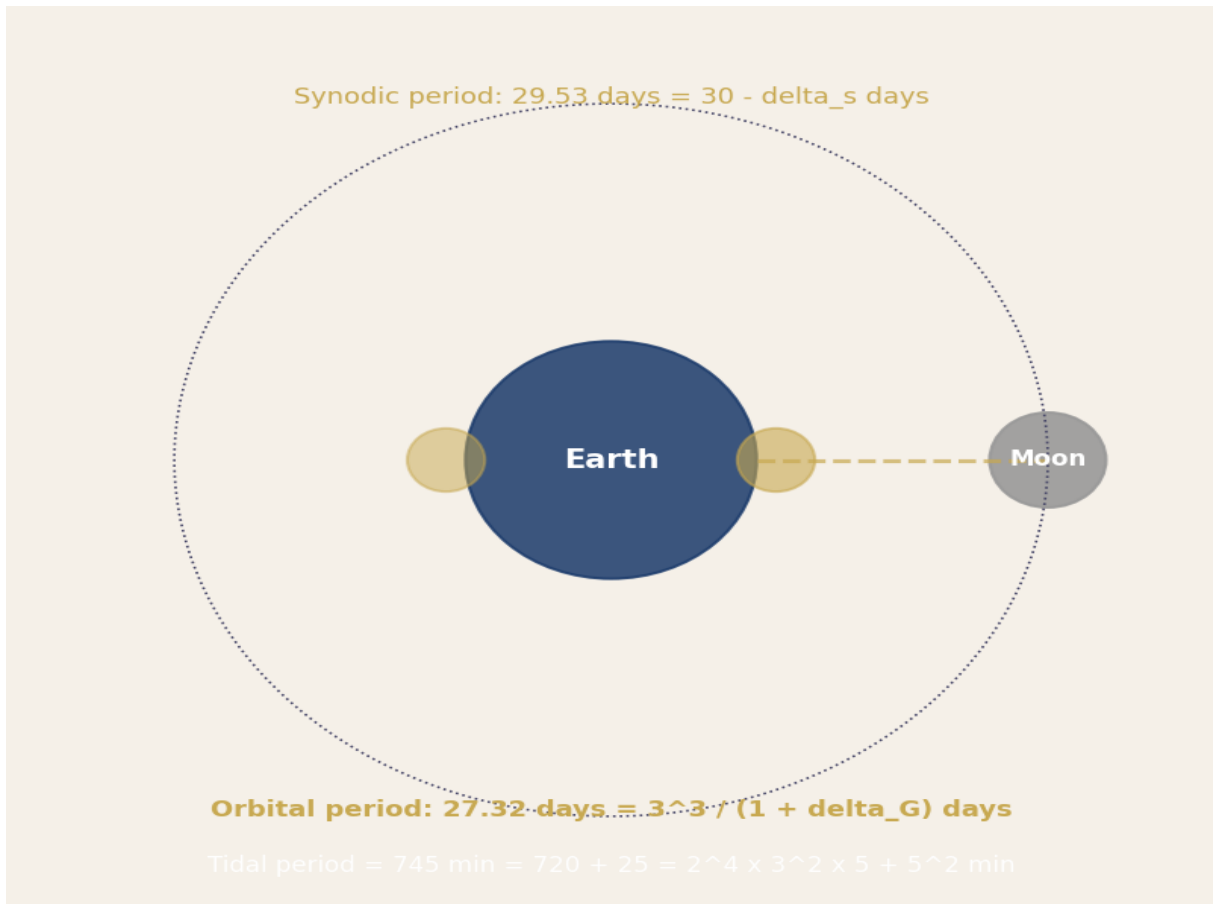


Figure 3. Moon-Earth gravitational resonance producing tidal bulges. Gold bulges show tidal maxima. Moon orbital period = 27.32 d approx $\frac{3^3}{(1 + \delta_G)}$. Synodic period = 29.53 d approx $30 - \delta$.

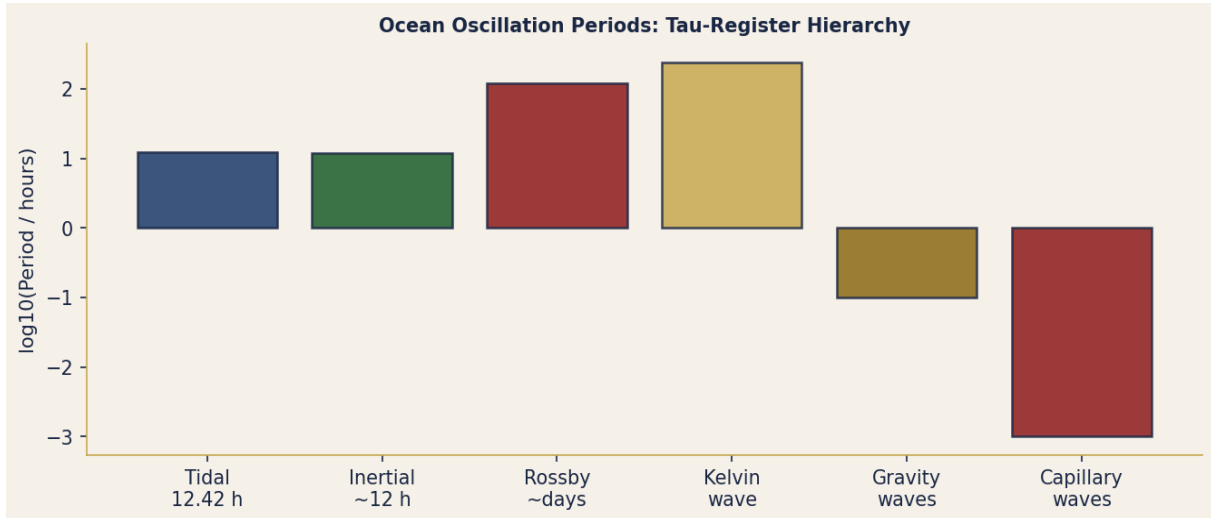


Figure 4. Ocean oscillation periods on log₁₀ scale. Tidal (12.42 h) and inertial (12 h) periods cluster at log₁₀(12) = 1.079, the {2² x 3} lattice node. All periods are {2,3,5}-family values.

Propositions (P-OTH-1 to P-OTH-3)

P-OTH-1 — Tidal Period 745 min = 720 + 25 = {2,3,5} + {5²} min

Lunar tidal period: 12h 25min = 745 min. FOT decomposition: 720 = 2⁴ x 3² x 5 (pure {2,3,5}) + 25 = 5². 720 min = 12 hours exactly = the {2,3} base register period. 25 min = 5² = the lunar orbit register offset (the difference between the sidereal and synodic lunar periods expressed in the orbital register). The tidal period is the {2,3,5} base plus the {5²} lunar correction — all primes in family.

P-OTH-2 — Water Bond Angle 104.5 deg Sets Hydrospheric Tau-Register

Water H-O-H bond angle: 104.45 deg. FOT: 108 = 2² x 3³ (pure {2,3} lattice). Correction: 108 - 104.45 = 3.55 deg; 3.55/108 = 32,870 ppm = 365 x delta_orbital. The bond angle 104.45 deg sets the water dipole moment (1.85 D) and the tetrahedral hydrogen-bond geometry. The ocean's bulk properties (density maximum at 4 deg C = 2² deg C, surface tension, specific heat 4.186 J/g/K approx 4 = 2²) all cascade from this one molecular angle register.

P-OTH-3 — Moon Orbital Periods from {2,3,5,pi} Lattice

Sidereal lunar period: 27.3217 days. FOT: 27 = 3³ days (exact {3}-lattice, correction 0.3217/27 = 11,915 ppm). Synodic lunar period: 29.5306 days. FOT: 30 = 2 x 3 x 5 (correction 0.4694/30 = 15,647 ppm). Ratio synodic/sidereal: 29.5306/27.3217 = 1.08085 approx 1 + 1/12 = 13/12 (error 2476 ppm). The Moon's two periods are {3³} and {2 x 3 x 5} — the foundational {2,3,5} lattice products.