

Methodological Note

v1.0

Mesoamerican and Balinese Calendar Converter

Stella Nova Research Center

Purpose and scope

This note documents the computational and interpretive boundaries of the Stella Nova Mesoamerican and Balinese Calendar Converter. The tool accepts a Gregorian date, computes a Julian Day Number, and displays two cyclical calendrical systems side by side: a Maya-oriented Mesoamerican Long Count / Tzolk'in / Haab' conversion and a Balinese Pawukon comparison. The comparison is designed for visual and pedagogical exploration of cyclic calendrical structure. It does not claim that the two systems share a demonstrated historical origin, nor does it infer migration, contact, or diffusion from formal similarity alone.

Computational basis

Gregorian dates are converted to Julian Day Numbers using deterministic arithmetic. The default Maya correlation is GMT 584283, the common constant used by many educational and research conversion tools. Alternative constants may be exposed for comparison, but changing the correlation shifts every Maya field and should be treated as a research sensitivity setting rather than a correction.

Component	Displayed field	Computational role
Maya Long Count	Baktun.Katun.Tun.Winal.K'in	Linear day count from the selected correlation base.
Tzolk'in	1-13 number x 20 named signs	260-day cycle generated from Long Count total days.
Haab'	0-19 day x 19 periods	365-day vague year: 18 twenty-day periods plus Wayeb'.
G-series	G1-G9 labels	Nine-day sequence shown as labels, avoiding deity-name overclaiming.
Balinese Pawukon	30 wuku x 7 days	210-day cycle with concurrent cycle rings.
Weton pairing	Saptawara x Pancawara	Arithmetic 7-day and 5-day concurrence; not a ritual reading.

Mesoamerican calendar display

The Mesoamerican display uses the Long Count as the linear scaffold and presents the Tzolk'in and Haab' as interlocking cycles. SVG day-sign and period tokens are original interface line art created for legibility and comparative visualization. They are not manuscript facsimiles, epigraphic drawings, or a substitute for reading inscriptions in archaeological context. The 2012-12-21 CE anchor is included as a practical quick check because it is widely used in public-facing GMT conversion examples.

Balinese Pawukon display

The Balinese display models the Pawukon as a 210-day cycle made from thirty named seven-day wuku, shown with the 7-day Saptawara, 5-day Pancawara, and 3-day Triwara rings. These cycles are rendered as schematic tokens for interface continuity with the Maya wheel. The drawings are not presented as manuscript glyphs, sacred symbols, or authoritative ritual icons. They are graphical placeholders for computational cycle positions.

Interpretive boundaries

Calendars often invite comparison because cyclic systems can produce striking structural echoes. Formal resemblance, however, is not evidence by itself. Any argument for historical connection between Mesoamerican and Balinese calendrical systems would require independent archaeological, linguistic, genetic, historical, navigational, or material-culture evidence. This tool intentionally separates arithmetic visualization from causal interpretation.

The converter should be cited as a computational visualization, not as a source for ritual diagnosis, auspicious-day selection, epigraphic decipherment, or calendrical authority in living communities.

Validation and reproducibility

The tool is designed for reproducible local computation. It does not scrape live conversion services at runtime. Fixed validation anchors can be used to detect arithmetic regressions after code changes. This approach improves reliability on ordinary shared hosting and prevents external service outages from changing the behavior of a classroom or research demonstration.

Core validation expectations

- Changing the GMT correlation must change the Maya Long Count, Tzolk'in, Haab', Calendar Round, and G-series outputs consistently.
- Changing the Maya correlation must not change the Balinese Pawukon result, because the Pawukon module is keyed to Julian Day arithmetic rather than the Maya correlation constant.
- The selected-date depiction should update the active tokens, the ring pointers, and the catalog highlights together.
- The generated report should preserve both calendars as data tables and as simplified selected-date diagrams.

Source use and caution

The bibliography combines computational calendrical references, Maya calendrical and epigraphic sources, public educational references, and Balinese ethnographic or calendrical references. These sources are used to establish cycle structure and methodological caution. The interface does not reproduce copyrighted plates or claim to represent every regional variant.

Selected bibliography

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Academic caution

Use this note and tool as an explicit computational scaffold. It supports comparison, teaching, and exploratory visualization, but it should not be treated as an ethnographic substitute for living Balinese calendrical expertise or as epigraphic authority for Maya inscriptions.