

U. S. NAVAL OBSERVATORY
ASTRONOMICAL APPLICATIONS DEPT.
3450 MASSACHUSETTS AVENUE NW
WASHINGTON DC 20392-5420

<http://aa.usno.navy.mil/>

**TABLES OF ASTRONOMICAL DATA
CUSTOM COMPUTATION ORDER FORM**

One-year tables of astronomical data (sunrise/sunset, civil twilight, and moonrise/moonset) can be computed for a given year and location. A city and state or longitude and latitude can be used to specify locations. For the stated location, the tables have errors not exceeding two minutes, and are generally less than one minute. The tables may also be used in the vicinity of the stated places with an additional error of less than one minute for each nine miles. The tables are not certified or authenticated.

Sunrise, sunset, moonrise, and moonset are considered to occur when the upper edge (limb) of the body's disk appears to be exactly on the horizon. The tabulated times of these phenomena assume an observer at sea level with an unobstructed (level) horizon. A standard value for astronomical refraction is used in the computations.

Civil twilight is informally defined as the interval preceding sunrise and following sunset when there is sufficient light for normal outdoor activities.

• **Sunrise/Sunset Table**\$15.00 each
Specify year(s) and location(s):

• **Civil Twilight Table**\$15.00 each
Specify year(s) and location(s):

• **Moonrise/Moonset Table**\$15.00 each
Specify year(s) and location(s):

Total Amount Enclosed: \$ _____ (check or money order drawn on a U.S. bank made payable to U.S. Naval Observatory)

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

MAIL COMPLETED FORM AND PAYMENT TO THE ADDRESS ABOVE