



Type: Book Chapter

---

## Seasonality of Warfare in the Book of Mormon and in Mesoamerica

Author(s): John L. Sorenson

Source: *Nephite Culture and Society: Collected Papers*

Published: Salt Lake City; New Sage Books, 1997


Pages: 155-179

---

**Abstract:** When we carefully examine the accounts of wars in the middle portion of the Nephite record, we find that military action did not take place at random throughout the calendar year but at particular times. Whatever realistic scene we assume for the Nephite lands, we would expect to find a similar seasonal pattern in that area's secular historical sources. I consider Mesoamerica (central and southern Mexico and northern Central America) to have been the scene of the Nephite conflicts, but whatever plausible location one chooses will lie in the tropics because, among other reasons, only in those areas are there feasible isthmuses located that could correspond to the "narrow neck of land" of the Nephites. Everywhere in those latitudes, war was normally carried on by the pre-Columbian inhabitants during a limited annual period. This paper investigates the evidence for seasonality of warfare in the Book of Mormon account and compares it with what is currently known about the timing of warfare in Mesoamerica.

*Seasonality of  
Warfare in the  
Book of  
Mormon and in  
Mesoamerica*

---


 hen we carefully examine the accounts of wars in the middle portion of the Nephite record, we find that military action did not take place at random throughout the calendar year but at particular times. Whatever realistic scene we assume for the Nephite lands, we would expect to find a similar seasonal pattern in that area's secular historical sources. I consider Mesoamerica (central and southern Mexico and northern Central America) to have been the scene of the Nephite conflicts, but whatever plausible location one chooses will lie in the tropics because, among other reasons, only in those areas are there feasible isthmuses located that could correspond to the "narrow neck of land" of the Nephites. Everywhere in those latitudes, war was normally carried on by the pre-Columbian inhabitants during a limited annual period. This paper investigates the evidence for seasonality of warfare in the *Book of Mormon* account and compares it with what is currently known about the timing of warfare in Mesoamerica.

### *The Book of Mormon pattern*

For only one period are we presented with sufficient information to detect a seasonal pattern for fighting—during the period beginning with the fifth year of the reign of the judges (Alma 2) and continuing for about 110 years. Other reports of war (in 2 Nephi, Jacob, Enos, Jarom, Omni, Words of Mormon, Mosiah, Alma 24 and 27, Mormon and Ether) give us little useful data on the topic. I have listed in an appendix all "military actions" in the Nephite part of the record in order to allow readers to examine the data for themselves. I conclude that a remarkably consistent record of seasons for conflict emerges.

The first and probably prime determinant for scheduling wars was the primacy of the need to provide food according to a natural cycle. We learn quickly that the middle of the Nephite calendar year

---

was the growing season and that the primary harvest became available toward the end of the year. Since no army could operate effectively without a reasonably secure supply of food, this meant that wars had to await the completion of the crucial part of the agricultural year. This fundamental principle is clearly expressed in Alma 53:7, which says, regarding Moroni and his forces: "He did no more attempt a battle with the Lamanites in that year, but he did employ his men in preparing for war...and also delivering their women and their children from famine and affliction, and providing food for their armies."

The idea appears in other texts:

1. Alma 57:6; 58:4, 7: "We [Helaman's army] received a supply of provisions.... And...we were strong, yea, and we had also plenty of provisions." But later "we did wait to receive provisions...until we were about to perish for the want of food."
  2. Alma 60:9, 25, 35: "Ye have withheld your provisions from them, insomuch that many have fought...when they were about to perish with hunger.... Except ye...grant unto them food for their support," Moroni and his soldiers would render foot-dragging officials "extinct"; "God will not suffer that we should perish with hunger; therefore he will give unto us of your food, even if...by the sword."
  3. Alma 61:16, 18: Pahoran had "sent a few provisions unto [Lehi and Teancum], that they may not perish." He and Moroni aimed to "take possession of the city of Zarahemla, that we may obtain more food."
  4. Alma 62:29: Lamanite prisoners joined the people of Ammon in a crucial task in which they "did begin to labor exceedingly, tilling the ground."
  5. Alma 4:2: "But the people were afflicted...for the loss of their fields of grain, which were trodden under foot and destroyed by the Lamanites." (The Lamanites
-

obviously had attacked near the end of the year, when mature grain was standing in the fields. Suffering would continue until the next annual crop was ready.)

In civilizations at such a level of technological development, armies were formed of nonprofessional militia. For example, Alma 44:23 says, "The armies of the Nephites...returned and came to their houses and their lands." The demand for manpower to carry on agriculture provided the most stringent limit on maintaining armies. The husbandry of those times simply could not provide sufficient reliable surplus to feed many soldiers who were not themselves involved in the seasonal work. When an army did have to be kept in battle readiness, an added burden fell on the men who were still cultivating; thus the pacifist people of Ammon were obliged to exchange the products of their labor, "a large portion of their substance to support our armies," in exchange for protection by Nephite soldiers (Alma 43:13). But unavoidably, most of those serving in the army had to meet farming's demands during the vital part of the growing year.

Another seasonal consideration was the weather. Anywhere in the tropics, rain characterizes approximately half the year—the same season when the crops are growing—with resulting muddy trails and swollen streams that armies would have to cross. In all likelihood, the only time when Alma and his forces could have waded across the river Sidon, fighting as they went (see Alma 2:27), would have been in the drier part of the year. Furthermore, had armies been fighting during the rains, they would have suffered significantly while traveling, camping or fighting, for that time can be uncomfortably cool and unhealthy for those who must live out in the open. Typically the Lamanites traveled virtually naked to reach the Nephites (see Enos 1:20; Alma 3:5; 43:20, 37). They would not have done so had protecting themselves against rain and cold been a concern. On the contrary, heat-caused fatigue was mentioned as a problem in the lowlands during battles (see Alma 51:33; compare 62:35). So the

---

scripture confirms logic and observations about the timing of warfare in tropical lands—the rainy season ruled out major campaigns, which took place in the dry season instead.

Of course, there could be exceptions. Regions varied in climate; certain places and times would have permitted at least limited fighting other than at the normal dry time, although we must assume that planned major campaigns had to follow the general rule.

### *The Nephite calendar*

An entirely different matter concerns the translation of statements in the scriptural text from its calendrical terminology into climatic terms. The annals of the wars upon which Mormon relied in constructing his record were phrased in terms of “months” and “years”; at least that is how the terms were translated into English by Joseph Smith. But was a given numbered month hot or cool, dry or wet?

The world’s peoples have used “years” measuring 260, 354, 359, 360, 363, 364, 365 and 400 days, among others. No calendar fits precisely the duration of the period it takes the earth to complete a revolution around the sun (the general current definition of “year”). Each system only approximates nature’s periodicity, then either includes adjustments so that its count does not get far out of step with solar realities or else the system falls into increasing discrepancy. In the case of the Nephites, their record gives us insufficient information to permit us to describe their calendar with confidence. We can only make certain observations about it and then draw sensible inferences about the remaining features. We cannot clarify the matter decisively by citing Near Eastern precedents, for the *Book of Mormon* gives us no information about the calendrical knowledge possessed by Lehi’s pioneering group.

In any case, the assumption that Lehi’s descendants knew only a single calendar might be misleading. Based on how peoples at the Nephites’ level of civilization tracked time, we would be surprised if

---

the Nephites had not followed more than one system, perhaps one for ritual, another for agriculture, and at least one other for their political and historical annals. Also different localities could have followed differing systems. The checkered cultural history of Mulek's descendants (see Omni 1:17), the Ammonihahites' purposeful distancing of themselves from Zarahemla's ways (see Alma 8:11-12), and the Zoramites' divergence from Nephite culture (see Alma 31) hint at such potential diversity. A historical case illustrates how much variety is possible within a small territory: in and near the basin of Mexico at the time of the Spanish conquest, there were at least twenty-one cultures present, only one of which, that of "the Aztecs," is well known; and many of those groups maintained differing calendrical systems and historical traditions.<sup>2</sup>

For the early people of Zarahemla (the "Mulekites"), Omni 1:21 refers to "moons" as a time measure, strongly indicating that they followed a lunar calendar. But "moon" is never again mentioned. Instead, the word "month" occurs throughout the text that Mormon edited, suggesting that the Nephites followed a different system. Mosiah may have imposed the alternate terminology as the norm for keeping historical records when he became king at Zarahemla (see Omni 1:18-19). Helaman 12:15 indicates that the Nephites, at least by Mormon's day, considered the earth to move around the sun, suggesting a solar calendar and system that was probably operational throughout at least the six-hundred-year period for which we have Mormon's abridgment.

Whatever knowledge of the calendar Lehi and Nephi brought with them is suggested, or at least limited, by what historical sources tell us of the pre-exilic Israelite calendars.<sup>3</sup> A solar calendar was used that apparently had Canaanite—and ultimately Egyptian—sources and was closely connected with the seasons, and thus the festivals, marking the agricultural year in Palestine. It had twelve months of thirty days each. Some method was also used for intercalating days to keep the count straight with the sun's year (probably by adding five or more days at the end or beginning of the year.)

---

A cultural revamping, termed the Deuteronomic reformation, is thought by scholars to have taken place beginning at the time of King Josiah of Judah (who died in 608 B.C., within Lehi's lifetime). This reform effort attempted to root out pernicious cultic influences from the Canaanites and other neighboring peoples (see particularly the list of ritual abominations in 2 Kings 23:4-20). The reform enhanced the role of the then-neglected temple at Jerusalem, eliminated or reduced local shrine-centered variations in worship, and officially adopted the Assyrian-Babylonian calendar, which emphasized the moon instead of the sun in year and month calculations. At the same time, it shifted about or amalgamated religious festivals to fit into the new calendar scheme and to break up the old Canaanite pattern.<sup>4</sup>

But it is likely that nearly all this concern for change was on the part of Jewish priestly reformers while most of the population preferred to continue with the old ways. Certainly two, and later at least three, calendar systems coexisted.<sup>5</sup>

It may be helpful to consider what might have happened to the Lehi colony upon leaving their homeland near Jerusalem. What happened with the colony of Jews that settled at Elephantine in Egypt around the same time, as well as the changes that occurred among the Jewish exiles in Babylon, must have been comparable in many ways to what occurred in Lehi's group. The cultural dynamics induced and required among each of these groups of resettled Israelites of the sixth century B.C. would likely be similar.

Like the Nephites, the Elephantine people built a temple modeled after the one at Jerusalem, but their calendar followed the local Egyptian one. The calendar they used to set their festivals had been heavily modified by the Babylonian and Persian conquerors of Egypt. In Babylon, too, the exiles quickly adapted to the local lunisolar calendar, which returnees in the days of Nehemiah and Ezra would later bring back to Palestine. Change was inevitable since, after all, in Judah knowledge of the calendar of the day must have been limited to courtly or priestly specialists. The resettled groups may not have included people who were highly informed in such matters. The new

---



conditions of seasons and ecology, as well as socio-cultural influences from neighbors, moved them to adapt their calendar from what in the Palestine homeland had been based on nature or imposed by Jerusalem to something simpler and surely more functional in the new settings.

With Lehi's people we may suppose in the first place that their arduous trek across western Arabia would have stripped them culturally of much of what they knew about calendrical matters at home. Crossing the sea to a different environment would have wiped their cultural slate even cleaner (compare Nephi's observations in 2 Nephi 5:7-16 and 25:1-6). For example, the Shavu'ot festival, which in the land of Israel had fallen in late spring, fifty days after the first grain was harvested,<sup>6</sup> could not have been carried on in tropical America without change, for there the late spring was exclusively a time for planting, not harvesting (fifty days after the first harvest in Mesoamerica would fall in December).

I consider it likely that the Nephites carried with them the basic twelve-month solar calendar of the old regime; after all, even during their travel in Arabia they continued to keep track of "years." Reasons for thinking this include, (1) Lehi was strongly opposed to the Jewish establishment of his day, certainly including the nationalistic, Deuteronomic reformer priests, hence he would have resisted following the Assyrian-Babylonian lunisolar count they urged; and, (2) his own Manassehite tribal background meant that he would have stayed closer to Egyptian and traditional Israelite ways rather than following the new-fangled Babylonian count.<sup>7</sup> (However, King Zedekiah's son Mulek and his company would have been more likely to follow the reformers' calendar, which emphasized "moons" as well as the naming rather than the numbering of months.)

The highest numbered month mentioned in the *Book of Mormon* is the eleventh (see Alma 49:1). (The highest day number is the twelfth—see Alma 14:23.) Still, two texts in the *Book of Mormon* point to the likelihood that the Nephites recognized twelve months. Alma and Amulek were freed from prison in Ammonihah on "the twelfth

---

day, in the tenth month” (Alma 14:23). The events reported to intervene between then and the end of the year (see Alma 15:16) can be accommodated very plausibly in the roughly eighty days remaining in a twelve-month solar year. The same kind of general confirmation occurs in Alma 49, which reports a Lamanite army approaching the land of Ammonihah on the tenth day of the eleventh month (see Alma 49:1). Subsequent action until year’s end (Alma 49:29) would fit well into the remaining fifty days allowed by a solar year but could hardly have stretched much longer.

Incidentally, the old Israelite “Calendar I” quite clearly incorporated the necessary corrections by adding days to keep sun and day counts from getting out of step. Just how this was done is not clear, but the use of leap days is almost inevitable.<sup>8</sup>

In the present discussion, I assume that the dates mentioned in the period from Alma 2:1 to 3 Nephi 2:8, during which virtually all references to warfare in calendrical terms occur, were calculated on a 360- or 365-day solar-based calendar, though this was probably just one of the calendars the *Book of Mormon* peoples followed.<sup>9</sup> I further assume that the Nephites recognized twelve months of thirty days each, with a probable five-day intercalary interval at the end of the last month.

### *The Nephite Annals of Wars*

This paper is based upon information laid out in the appendix at the end of the chapter. In every case where Mormon provides us with sufficient chronological information to be helpful, I have analyzed and presented the plausible duration and distribution of events within each year. Even where chronology seems limited or absent, I tabulate each “military action” for the sake of completeness and because others may see in the text things I have failed to see. In the first of four columns is a “military action reference number,” beginning with the number 1. Omitted are the wars of the people of Zarahemla mentioned vaguely in Omni 1:17 and the purely Lamanite wars (in general at Mormon 8:8;

---

note also Helaman 5:21), but those reported by the people of Zeniff and the sons of Mosiah are included. The list thus includes all actions involving Nephites *per se*. Actions planned, though not consummated, are counted, for they suggest times perceived to be appropriate for war even if a conflict failed to materialize. Other significant information has also been included in the table.

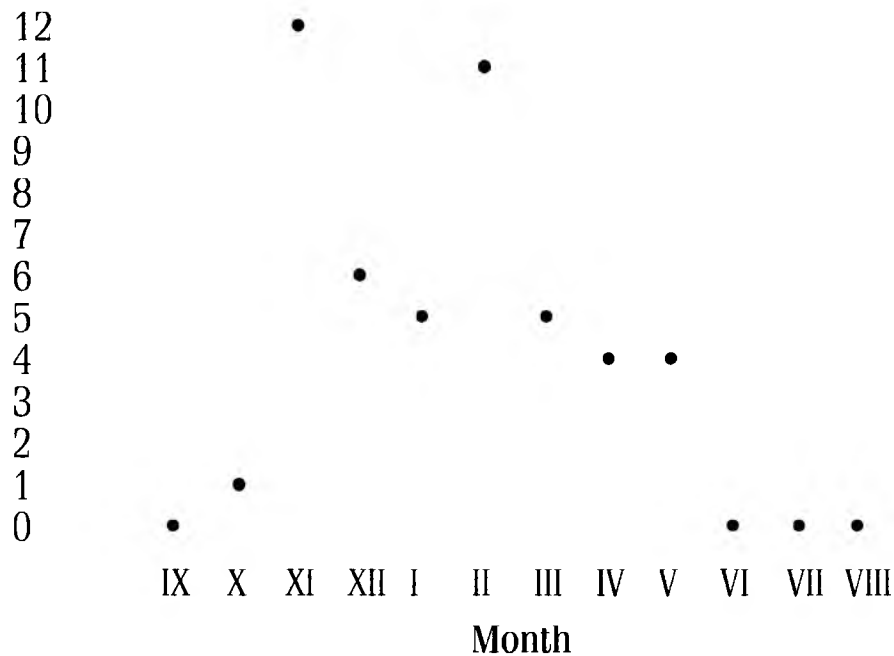
Table 7.1 summarizes the information on the seasons in relation to war as presented in the appendix. There are forty-six months to which a military action has been assigned (if an action carries into a second month, each month is counted separately). For each I have indicated a date, by year, month and day as far as the record permits. Admittedly my assignment of months is subject both to the limitations of the data in the text and to my interpretations of it. Possibly I have skewed the months to fit my preconceptions, but not consciously. In any event, my month assignments are displayed so that others may check and modify my dates if they consider that necessary. Whatever bias may be involved, the pattern that emerges is too dramatic for me to have imposed it on the data. For each date given, I also show an indicator as to whether it was (a) derived from a specific statement of the month, (b) inferred from a textual statement about the commencement or ending of a year, or (c) simply plausibly inferred by interpolating the year's events reasonably across twelve months.

Table 7.1 vividly shows that wars did not simply happen at random but with striking seasonal variation. Twin peaks near the end and again near the beginning of the year are emphatic. If my assignments of just a few less-than-certain cases to the eleventh and the second months should be off by only a few weeks, the pattern might more nearly appear as a single four-month season. I consider it likely, however, that the decline in twelfth-and first-month activity is real. It is plausible that it reflects a Nephite pattern that avoided war at new years so as not to interfere with ritual observances of the year's end/beginning, or else it related to a concern with the "bad luck" tied in with the five intercalary days that in later Mesoamerica were considered unlucky. (Compare the implications of Alma

---

51:28-52:2 regarding the Lamanites who pressed their attack during their new year's eve day only to meet disaster.) It should also be noted that the comparatively few military actions in the third through sixth months tended to be minor. Major actions thus clearly were limited to the season between the end of the tenth and the start of the fourth month.

*Table 7.1. Nephite military actions by month*



When statements in the record about food or “provisions” are analyzed, a confirming pattern emerges. The second month is most frequently indicated as a time for re-provisioning (seven occurrences), with the third month next (four occurrences). Two cases may indicate logistical support somewhere between the fifth and tenth months. In addition there are single references for the twelfth, first and fourth months. These combine to form a consistent season for primary replenishment from, say, the twelfth through the fourth months. This is agreeable with the harvest falling primarily in the tenth through twelfth months. (After the crop was mature, actual harvest work would have required some time, followed by an administrative process of assessment or taxation, and then transport to the armies.)

---

Of course limited local supplies were no doubt furnished to the forces at almost any time of year, but I am talking about the primary supply effort. Moreover, three references to hunger conditions for soldiers are consistent in falling between the fifth and tenth months, that is the period when old supplies were most likely to be running short, and also when the rains would hinder transport.

### *Seasons of war in Mesoamerica*

Our information on the timing of warfare in this area has not been examined comprehensively by scholars. What is known is at least consistent. For example, in Yucatan, wars were usually fought between October and the end of January (or February in other Mesoamerican regions).<sup>10</sup> In that period, travel was rarely restricted due to bad weather; it was still relatively cool, and food was available either by supply from the logistical base or by taxing the subjugated.

The schedule varied slightly depending on local topography and climate. The corn crop, fundamental in the diet everywhere in Mesoamerica, was typically planted in April or May, just before the rains began and after the fields had been cleared and the rubbish burned. It could be harvested about the time when the clouds and rain taper off (the wettest months are July and September for most regions) and the temperature had risen because of greater sunshine. Harvest was from October to December, again depending on locality and crop variety. The crucial time for agricultural labor under this regime is, and was anciently, March through May. At other times, men's being away was inconvenient but not critical. Probably the segment of time freest from field work for the typical cultivator/warrior was November through February, which, of course, coincided with the war season. Under emergency conditions, naturally, some military action could go on, though hampered, throughout most of the year.

---

## *Comparing the patterns*

The congruency of the two bodies of data is obvious in their division of the year into fighting and nonfighting times, the former during weather compatible with travel and the latter at planting season. This is so unmistakable that point-by-point comparison is hardly needed.

When we see in such marked fashion that the bulk of the military action for the Nephites took place during their eleventh through second months, while in Mesoamerica late October into February battle time, I must equate the two patterns broadly. If Mesoamerica is taken as the location of the *Book of Mormon* wars, as most Latter-day Saint students of the matter now believe, there is no alternative to concluding that the Nephite new year day during the first century B.C. fell late in December. The winter solstice is perceived by so many of the world's peoples as an obvious phenomenon of cosmic significance that December 22, give or take a day, is the favorite also to have been the Nephites' new year marker.<sup>11</sup>

Supposing that is the case, we find the following equivalences:

*Table 7.2. Probable Nephite calendar during the Reign of the Judges*

First month	About December 22 to January 20
Second month	About January 21 to February 19
Third month	About February 20 to March 21
Fourth month	About March 22 to April 20
Fifth month	About April 21 to May 20
Sixth month	About May 21 to June 19
Seventh month	About June 20 to July 19
Eighth month	About July 20 to August 18
Ninth month	About August 19 to September 17
Tenth month	About September 18 to October 17

---

Eleventh month      About October 18 to November 16  
 Twelfth month      About November 17 to December 16  
 Probably five extra days completed the year.  
 [See now the Post Script at the end of this chapter.]

### *Two possible exceptions to the pattern*

But our comparison must consider a couple of possible exceptions to the generalization that major military actions fell at the year's end or beginning. One is the battle in which Helaman and his two thousand young warriors helped lure a Lamanite army out of Antiparah to its destruction. This event is said to have occurred early in the seventh month (see Alma 56:42). The other is the attack by robbers on the besieged Nephites under Lachoneus; it is placed in the sixth month, but under a different calendar system (see 3 Nephi 4:7; compare 2:8). In the first place, the accuracy of the seventh-month date in Alma 56:42 might be questioned. I have shown elsewhere<sup>12</sup> that Helaman's recollection of some dates was probably in error, for he omitted one entire year from his narrative. This is understandable because his record, an epistle to Moroni, was hastily written in the field immediately after concluding long, rigorous combat. A careful reading of Alma 56:27-30 indicates to me that Helaman's date for the battle near Antiparah may have been erroneous.

Consider the following statements: The text first reports the arrival of food and reinforcements for Helaman's and Antipus's army in the second month, "*thus* we were prepared" with both warriors and supplies (Alma 56:27-28). And, "the Lamanites, *thus* seeing our forces increase *daily*, and provisions arrive for our support, they *began* to be fearful, and *began* to sally forth, if it were possible to put an end to our receiving provisions and strength. Now *when* we saw that the Lamanites *began* to grow uneasy on this wise, we were desirous to bring a stratagem into effect upon them" (Alma 56:29-30; italics added). The expressions I have emphasized connote passage of only a short period of time. Despite Helaman's dating the subsequent

---

engagement to the seventh month, the phrasing and logic of these verses make it seem to me unlikely that the interval between the arrival of the food and the tactical action would encompass as much as five months. Moreover, it is somewhat doubtful that Helaman would carry, or credibly appear to carry, food to a neighboring city at the seventh month, an odd time for reprovisioning.

Also, an explanation can be offered for a dating error, although perhaps it is strained. Two comments made when this paper was read publicly suggested that Helaman might have miswritten the month number due to features of either Mesoamerican glyphic or Hebrew conventions for writing numbers. Professor John P. Hawkins suggested that perhaps Helaman made an arithmetical mistake while referring to calculations involving the Mesoamerican bar-and-dot system of numbers. There a seven would appear as two dots above a bar. A stray mark that was misread as a bar could produce a seven, from an intended two. On the same occasion, John A. Tvedtnes drew attention to the fact that in Hebrew mistakes sometimes occur among the numbers two, three, seven and eight due to confusion when those numbers are abbreviated. Either effect might have been involved for Helaman, although of course we are uncertain whether Helaman used either the bar-and-dot system or Hebrew in his epistle where he made the possible error.

On the other hand, if the conflict did take place as early as the third month, the account seems to get to the end of the year rather abruptly (see Alma 57:3-5). Hence one can argue pro and con without any way to settle the issue given the present limited text. (In Figure 1.7, I have simply not counted this incident, nor any others from the appendix that bear a question mark.)

Even if the seventh month should be correct, a unique geographical circumstance could mean that the "rainy season" would not have ruled out this particular action. The location of Antiparah in the geographical correlation I follow is near Motozintla, within a few miles of the Guatemalan border and almost at the top of the pass over the Sierra Madre de Chiapas linking the Central Depression of Chiapas

---



and the Pacific lowlands.<sup>13</sup> Peculiar geographical conditions affect rainfall there. A configuration of high peaks (the highest mountain in Central America is only a few miles away) makes the northeast versant of the mountains, including the little Motozintla valley, unusually dry by shielding it from moist air off the Pacific. The abbreviated wet season in this locality consists of two peaks each less than two months in length, April-May and September-October. Even then, annual rainfall in the valley is only a fraction of what it is on the peaks a few miles away. An early seventh-month battle would fall around June 21 on the Nephite calendar (see Table 7.1). This is within the annual period called the *canicula* ("dog days") or *veranillo* ("little dry season"), when in most years the rains let up for a period of one to three weeks.<sup>14</sup> Thus for good reasons, even if Helaman's battle was in the seventh month, the weather could have allowed such an event. Interestingly, on the calendar laid out above, a seventh-month attack would have taken place within a day or two of summer solstice, if not precisely then, and may have been planned to fall exactly on that auspicious day.<sup>15</sup>

Another problem in chronology occurs when the robbers in the time of the Nephite judge Lachoneus launched their main attack on the Nephites' refuge area in the "sixth month." But the event took place following the change in the era for reckoning the Nephite year, as reported in 3 Nephi 2:5-8. We are told there that when nine years had passed since the signs of the Savior's birth, the Nephites took that event as a beginning for their new system for calculating time.

As we look back at the record of that marker event, we learn that it did not take place at the new year but sometime afterward. Here is what 3 Nephi 1 reports about the timing. In "the commencement of the ninety and second year...the prophecies...began to be fulfilled more fully" with the appearance of greater signs and miracles among the people (3 Nephi 1:4). Some people began to say that the time was past for the prophecy of Samuel to be fulfilled and they began to rejoice over the fact (see 3 Nephi 1:5-6). "It came to pass that they did make a great uproar throughout

---

the land” (3 Nephi 1:7). Believers, however, watched steadfastly for the day and night and day without darkness that had been prophesied (see 3 Nephi 1:8). “There was a day set apart” when believers would be destroyed if the prophesied event did not take place (3 Nephi 1:9). Note how many time-significant phrases occur in these verses—“began to be,” “began to say,” “began to rejoice,” “and it came to pass,” “began to be,” “did watch steadfastly,” and “now it came to pass”—all of which point to the passing of a considerable length of time between the end of the ninety-first year and the dramatic event of the light-filled night. An interval of months seems required by this language. (The statements about events during the remainder of the ninety-second year, in 3 Nephi 1:22, 23 and 25, are more obscure in regard to chronology.)

What we know from Palestine about the crucifixion sets the date in early April. (In light of the statements on chronology in the four Gospels, the only legitimate possibilities, it appears, are April 7, A.D. 30, or April 3, A.D. 33.)<sup>16</sup> If we suppose the old Nephite year ended around December 22, while the birth date of Jesus occurred in the beginning of April, we can accommodate the *Book of Mormon* statements about dating. The Nephite calendar adjustment would then have been about three-and-a-third months.<sup>17</sup> This would allow enough time to encompass the events reported in the text prior to the special day and would also fit the Palestine data.

In that case the beginning of the Nephite year in the new system would have been in the first week of April. The attack of the robbers reported in 3 Nephi 4:7 in “the sixth month” would then have fallen in September, as late as the twenty-seventh. In weather terms that would not normally be a good time for fighting, although in a particular year it might have been feasible. One explanation for this anomalous date is the robbers’ desperate need for food. Given their evident extremity, that may be reason enough for hastening their campaign. (In the tabulation of military actions, I have marked this event with “VI,” but I have not counted it in Figure 7.1.)

---

## *Conclusions*

1. Nephite wars were typically carried out early in the dry season as permitted by the agricultural maintenance pattern and when weather conditions were most suited for military campaigns.
2. The Nephite calendrical system used to report their wars in the first century B.C. probably placed their new year day at or near the winter solstice.
3. Shortly after the birth of Christ, the Nephite calendar system changed to a base that seems to have put their new year near the beginning of April.
4. The Nephite seasonality pattern for warfare agrees remarkably well with what we know from Mesoamerica about seasons for fighting and for cultivation and harvest.
5. Two possible anomalies in the agreement between the two patterns exist, but reasonable explanations can be provided for each.



## *Post Script*

Important points about chronology were modified from the original version of the preceding article in the author's "Comments on Nephite Chronology," *Journal of Book of Mormon Studies* 2 (Fall, 1993), pages 207-11 on the basis of the paper for Randall Spackman, *Introduction to Book of Mormon Chronology: The Primary Prophecies*,

---

*Calendars, and Dates*, Provo: FARMS, 1993. The points of main relevance regarding seasonality are reproduced here.

I had supposed that the Nephite new year's day referred to in Alma 51:37 and 52:1 (when captain Teancum killed king Amalickiah and so turned back the Lamanite military offensive that had reached as far as the land of Bountiful) fell near the winter solstice in December. Spackman calculates that in the year 69 *B.C.*, the Nephites' new year's day fell on February 25.<sup>18</sup> My analysis of the *Book of Mormon* text found that most references to warfare placed it near the end or the beginning of the Nephite year. I reasoned that these Lamanite and Nephite military campaigns would have been constrained by the same conditions that made most Mesoamerican warfare fall between late November and early February.

Further investigation has persuaded me, however, that I generalized too much. The length and timing of the "dry season" and "wet season" vary substantially from region to region, which point I noted in my paper on "seasonality" but did not emphasize sufficiently. Much depends on specific local meteorological and topographic conditions. Generalizing for the entire area can introduce errors when comparison is made with *Book of Mormon* events.

Particularly, in the region I recognize as the probable location of Bountiful—southernmost Veracruz and extreme western Tabasco states in the Isthmus of Tehuantepec—rains during the North American winter months are caused by massive incursions into Mesoamerica of cold air masses from higher latitudes. These result from the polar air masses that sweep southward through the Mississippi River valley, then out across the Gulf of Mexico

---

where additional moisture is picked up. When this air reaches southern Mexico, it is funnelled by the mountains on either side of the saddle-shaped isthmus so that it pours across that pass thus formed—the “bottom” of the Gulf of Mexico—out over the Pacific Ocean. On its way south up the Gulf Coast side, this air is orographically lifted by the mountains, causing it to drop much of its moisture on southern Veracruz, Tabasco, Campeche and northern Chiapas. (As it descends down the Pacific slope, the consequent warming produces strong, dry winds along the Pacific coast of the isthmus, which means that agriculture along that strip is always a doubtful business.) The rains produced by these “northers” in December through February mean that on the Gulf side of the isthmus “the so-called dry season is not very dry.”<sup>19</sup> Only March, April and early May have low rainfall. For instance, at Santa Maria Chimalapa, up in the mountainous spine of the isthmus, rain due to northers recurs with some frequency through early February and irregularly up to another month after that.<sup>20</sup> However, along the band of sand dunes “down by the seashore” (Alma 51:25) adjacent to the Gulf Coast (“the beach” of Alma 51:32), travel is usually feasible by February.<sup>21</sup>

Western highland Guatemala, which I consider part of the land of Nephi from which Lamanite soldiers would have been drawn, differs. Most of the northers are blocked by intervening high elevations; consequently, dry conditions develop months earlier than in the isthmus zone. The dry season in Guatemala begins in November; in late December the harvest begins and continues through the middle of February.<sup>22</sup> But again, local factors make a big difference; the dry season lasts substantially longer along the very coast, and also back in the highlands, than in the

---

intermediate zone—the foothills facing the Pacific Ocean.<sup>23</sup> Amalickiah’s armies were recruited from “the land of Nephi,” and he would have had to adapt his plans to the agricultural schedule of the Lamanite peasants who formed the “wonderfully great army” that he dispatched to attack the city of Moroni on the east sea (Alma 51:9, 11-12, 22-28). A plausible schedule would have been: (1) much of the harvest already gathered before the men departed from their home areas in the highlands (January?); (2) weeks of movement to a staging area (Antionum?) near Moroni on the east sea;<sup>24</sup> (3) one or two weeks to conquer the settlements near the seacoast, from Moroni to near Bountiful (see Alma 51:23-28). Given the dates for the harvest on the one hand and the dry period when military operations in the field could be reliably scheduled on the other hand, for both my land of Nephi (highland Guatemala) and the Moroni-Bountiful area (Gulf Coast), I believe that logistics, weather, trail conditions, etc., would not permit an attack on Moroni to be launched before mid-February.<sup>25</sup> Spackman’s date of February 25 for the new year’s day reported in Alma 52:1 is reasonable, as I now understand natural conditions in both contemporary Middle America and *Book of Mormon* lands. On the contrary, my earlier proposal for a date around the winter solstice now seems too early on climatic grounds. The correlation between the Nephite months and our current months which I proposed in *Rediscovering the Book of Mormon* thus needs to be revised by about two months.



# Notes To Chapter 7

- <sup>1</sup> The actual length of the solar year varies periodically between 365.242120 and 365.242877 days according to Leroy E. Doggett and George H. Kaplan, "Calendar Accuracy," *Sky and Telescope* 65 (1983), pages 205-6. Astronomically, the solar year's average length over a five-million-year period is about half a minute shorter than our Gregorian year.
- <sup>2</sup> Charles Kolb's comment in Michel Graulich, "The Metaphor of the Day in Ancient Mexican Myth and Ritual," *Current Anthropology* 22 (1981), page 53. Pages 51-59 present information on the hotly debated subject of whether Mesoamerican calendars included intercalation mechanisms. Victoria Bricker in "The Origin of the Maya Solar Calendar," *Current Anthropology* 23 (1982), pages 101-3, has proposed that the southern Mesoamerican calendar did not adjust to keep seasons and calendar days in agreement. From a *Book of Mormon* point of view, it may be of interest that she calculates that the Maya solar calendar was first used "around 550 B.C.," at which time the seasons and the solar year would have been in full coordination. At that time 06 Pop, first day of the first month of the Maya year, fell at the winter solstice. Of course Lehi's party reached their land of promise, probably in southern Mesoamerica, around 575 B.C., although we do not know what relation his descendants may have had to the bearers of higher Maya culture.
- <sup>3</sup> Useful basic sources include Jack Finegan, *Handbook of Biblical Chronology: Principles of Time Reckoning in the Ancient World and Problems of Chronology in the Bible*, Princeton: Princeton University Press, 1964; and Julian Morgenstern's trilogy, "The Three Calendars of Ancient Israel," *Hebrew Union College Annual* 2 (1924), pages 13-78; "Additional Notes on 'The Three Calendars of Ancient Israel,'" *Hebrew Union College Annual* 3 (1926), pages 77-107; and "Supplementary Studies in the Calendars of Ancient Israel," *Hebrew Union College Annual* 10 (1935), pages 1-149. A similarity may have prevailed between the Near East and Mesoamerica in beliefs and customs regarding the beginning of the new year. The unlucky or "useless" days of the Aztecs and Maya immediately preceding the new year were a time of psychological tension and ritual uncertainty in the face of a possibility that the hoped-for renewal of the world at the moment of initiation of the new time period somehow might fail to take place (see, for example, George C. Vaillant, *The Aztecs of Mexico*, Harmondsworth, England: Penguin, 1950). The similar five-day period in Egypt had some of the same connotations. Julian
-

Morgenstern, in his *The Fire upon the Altar*, Chicago: Quadrangle, 1963, pages 6-49, argues passionately, if not with complete persuasiveness, that similar beliefs and practices surrounded the Israelite new year celebration at the fall (changed later to the spring) equinox.

<sup>4</sup> Morgenstern's "Supplementary Studies," page 3.

<sup>5</sup> Morgenstern's "Supplementary Studies," page 3.

<sup>6</sup> Morgenstern's "Supplementary Studies," page 7.

<sup>7</sup> See my "The 'Brass Plates' and Biblical Scholarship," Chapter 2 in this volume, originally published in *Dialogue* 10 (1977), page 34; also available as a FARMS Reprint, SOR-77.

<sup>8</sup> Morgenstern's "Additional Notes," page 101.

<sup>9</sup> I consider it obvious that, at the very least, two calendars were in use among the Nephites, if only because the lunar system indicated for the people of Zarahemla would not have disappeared, considering how numerous they were in the Nephite-ruled society. We should also expect that at the least the Israelite immigrants would adapt or borrow, as did the Elephantine group in Egypt, a local, ecologically suited system of reckoning to govern their agricultural cycle. After all, whoever made them acquainted with native American maize (see Mosiah 7:22; 9:9,14) could not have made the transfer of the plant and the essential cultural knowledge of its husbandry without also sharing an appropriate calendar with the newcomers (on maize transmission, see my *An Ancient American Setting for the Book of Mormon*, Salt Lake City: Deseret Book and FARMS, 1985, pages 139-40). Mesoamerica is, of course, famous for the number, variety and complex articulation of its calendrical systems (see, for example, Linton Satterthwaite, "Calendrics of the Maya Lowlands," in *Handbook of Middle American Indians*, 16 volumes, edited by Gordon R. Willey et al., Austin: University of Texas Press, 1965, 3:603-31).

<sup>10</sup> Ralph L. Roys, "Lowland Maya Native Society at Spanish Contact," in *Handbook of Middle American Indians*, 3:671.

<sup>11</sup> A good source showing the time depth of solstitial reckoning is Vincent H. Malmström, "A Reconstruction of the Chronology of Mesoamerican Calendrical Systems," *Journal for the History of Astronomy* 9 (1978), pages 105-16.

<sup>12</sup> John L. Sorenson, "The Significance of the Chronological Discrepancy between Alma 53:22 and Alma 56:9," available as FARMS Reprint SOR-90b.

<sup>13</sup> *An Ancient American Setting*, pages 35, 241.

<sup>14</sup> Jorge Vivó Escoto, "Weather and Climate of Mexico and Central America," in *Handbook of Middle American Indians*, Robert C. West, editor, volume 1, Austin: University of Texas Press, 1964, pages 187-215. On rainfall in the Motozintla area, see Carlos Navarrete, *Un Reconocimiento de la Sierra Madre de Chiapas: Apuntes de un Diario de Campo*, Universidad Nacional Autónoma de México Centro de Estudios Mayas, Cuadernos 13, México, 1978.



- <sup>15</sup> Mesoamerican battles were sometimes scheduled for auspicious times, according to Michael D. Coe, "Skywatchers of Ancient Mexico," *Archaeoastronomy* 4/1 (1981), pages 39-40.
- <sup>16</sup> Finegan, *Handbook of Biblical Chronology*, pages 298-301.
- <sup>17</sup> In regard to the calendar in the new reckoning, 3 Nephi 8 forces me to reconsider a position I had previously taken. On the fourth day of the first month in the thirty-fourth year of the new era, the prophesied signs of the crucifixion began with the rise of a great storm and a "tempest" (3 Nephi 8:5-7). I suggested in *An Ancient American Setting*, page 322, that this referred to a tropical hurricane, but the season when hurricanes have occurred historically falls only between June and November. A hurricane would have been absolutely impossible, on natural principles, whether the old late-December new year had been referred to here or, as I now suppose, the new year fell over three months later. Rereading the text persuades me now that a hurricane probably was not referred to. The tempest, after all, arose abruptly, then ended after only three hours (see 3 Nephi 8:6, 19). This does not describe a typical hurricane coming out of the Caribbean. Something more like a set of super thunderstorms triggered by volcanism could account for the reported phenomena. Such thunderstorms would be quite possible in April.
- <sup>18</sup> Compare John L. Sorenson, "Seasons of War, Seasons of Peace in the Book of Mormon," in *Rediscovering the Book of Mormon*, Salt Lake City: Deseret Book and FARMS, 1991, pages 249-55.
- <sup>19</sup> Randall P. Spackman, *Introduction to Book of Mormon Chronology: The Primary Prophecies, Calendars, and Dates*, Provo, Utah: FARMS, 1993, page 30.
- <sup>20</sup> Michael D. Coe, "Photogrammetry and the Ecology of Olmec Civilization," paper read at Working Conference on Aerial Photography and Anthropology, Cambridge, Massachusetts, 10-12 May 1969, page 8.
- <sup>21</sup> Carlos Muñoz Muñoz, *Crónica de Santa María Chimalapa: en las selvas del Istmo de Tehuantepec*, San Luis Potosí: Ediciones Molina, 1977, pages 30-46, 59-74.
- <sup>22</sup> Robert C. West and John P. Augelli, *Middle America: Its Lands and Peoples*, 2nd edition, Englewood Cliffs, NJ: Prentice-Hall, 1976, page 43, figure 2.18; Jorge A. Vivó Escoto, "Weather and Climate of Mexico and Central America," in *Handbook of Middle American Indians*, volume 1, *Natural Environment and Early Cultures*, edited by R.C. West, Austin: University of Texas Press, 1964, figure 3, page 193, pages 201-3, figure 14 and page 213. This was confirmed by my personal experience with travel in the area between January and April.
- <sup>23</sup> Charles Wagley, "The Social and Religious Life of a Guatemalan Village," *American Anthropological Association Memoir* 41 (1949), pages 110-118.
- <sup>24</sup> Gareth W. Lowe, Thomas A. Lee, Jr., and Eduardo Martinez Espinosa, "Izapa: An Introduction to the Ruins and Monuments," *BYU New World Archaeological Foundation Papers* 31 (1982), pages 55, 61.
- <sup>25</sup> On how we know this from the *Book of Mormon* text, see my *The Geography of Book*
-

*of Mormon Events*, revised edition, 1992, page 266.

<sup>26</sup> I may, of course, be reasoning circularly between the two sets of data, but being aware of that danger, I still believe that the conclusion seems right.

