STAR-K

# SUMMER TRAVEL

## WHEN DOES ONE PRAY WHEN THERE IS NO DAY

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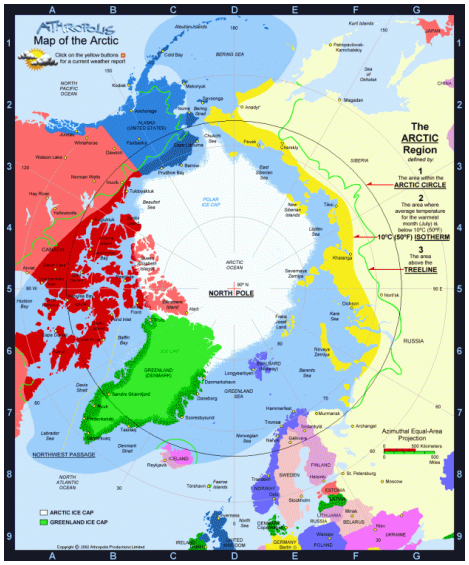
Refer to attached map




There was a time not long ago when kosher food was available only in major Jewish metropolitan areas. Finding kosher certified products on the road was a daunting task. “Kosher Tours” were limited to a few select areas. Today, the Star-K and other kosher symbols appear on thousands of food products. Kosher food is available from Fairbanks to Fiji, and from New Zealand to Norway. Kosher tours are now available to Alaska and Antarctica. With so many north and south destinations easily accessible to kosher consumers, the observant Jew now faces an array of fascinating questions. In parts of Alaska, and other locations north of the Arctic Circle, there are periods of time during the summer when the sun never sets and during the winter when the sun never rises. When does Shabbos begin in the land of the midnight sun? Can one daven Shachris if the sun doesn’t rise? When does Shabbos start and end in Anchorage on a day that does not get dark? A similar question is, when does an astronaut daven and begin and end Shabbos in outer space? A description of the Arctic Circle is necessary to understand the halachos that relate to these unique circumstances.

### The Arctic Circle

The Arctic Circle (located at 66.56° N Latitude, see map) is an imaginary line that runs through Canada, Greenland, Scandinavia, Russia, and Alaska.[1]From this general area and northward, there are days in the summer when the sun does not set and days in the winter when the sun does not rise.[2] For example, in Longyearbyen, the northernmost town in the world located on the Svalbard Islands north of Norway,[3] the sun remains above the horizon from April 20 through August 25. During this time the midnight sun is visible for over four months. Between October 27 and February 15, the sun never peaks above the horizon.[4] In Alert, Nunavut in Canada,[5] the sun does not set for almost five months of the year. At the North Pole, the sun rises in March and stays up for six months until it sets in September, when it remains below the horizon for six months. At the South Pole[6], the sun also stays up for six months (September through March) and stays below the horizon for six months (March through September).

***Shabbos* and *Tefilla* –** There are various opinions regarding what to do in such locations:

**A.** The *Minchas Elazar* [7] questions whether a person's *Shabbos* in the Arctic Circle lasts until the next sunset, which could be s everal months later. For example, if a person arrives on Friday, May 15th and the sun sets late that evening, and then rises early the next morning and does not set for two months, it may be a very long *Shabbos* until after the sun sets again in July! Because of this, as well as other doubts regarding times for *davening*, it is advisable[8] that one should not live in or visit these locations during the months when the sun is always up or down.[9]

**B.** The *Tiferes Yisroel* [10] states that at the North Pole, one should use the times for *Shabbos* and *davening* based on the location from where he came.[11] For example, if one goes from Baltimore to the North Pole, he begins and ends *Shabbos* and *davens* at the same time residents in Baltimore begin and end *Shabbos* and *daven*.

**C.** According to the *Ben Ish Chai* [12], when the sun is above the horizon for 24 hours, or it is completely dark for 24 hours, 6:00 a.m. is considered sunrise and 6:00 p.m. is considered sunset.[13] In the "morning", one wears *tallis* and *tefillin*, *davens Shachris* and performs most day *mitzvos*. *Shabbos* begins 18 minutes before 6:00 p.m. on Friday. *Shabbos* ends on Saturday at 7:12 p.m., 72 minutes after the "replacement sunset" of 6:00 p.m. At this time, one could say the evening *Shema*.

**D.** The *Moadim U'Zmanim* [14] introduces a novel approach to deal with this problem. In the summer, when the sun does not set, each new *halachic* day begins and ends when the sun is at its lowest point in the sky, usually around midnight.[15] This is when *Shabbos* would begin on Friday and end on Saturday night. One could only fulfill *mitzvos* that are performed during the day (e.g. *Shachris*).[16] One could not fulfill most *mitzvos* that may only be performed at night (e.g. reading the *Shema* of night).[17] In the winter, when the sun is below the horizon, the new *halachic* day begins when the sun is closest to the horizon (usually around noon).[18] In Polar regions, on a day in the winter when it remains completely dark with no sunlight for 24 hours,[19] one could perform night *mitzvos* but not day *mitzvos* (e.g. *Shachris*) since there is no daylight. These opinions address "extreme" locations, places that have days in the year without sunlight or without sunset.[20] There are also regions that do not have the distinct day and night to which we are accustomed, but do have some measure of light during the prolonged winter, and do experience sunset during summer. These areas are also of *halachic* concern because they do not experience a sunrise or a complete darkness during periods of the year.

**The *Halacha*** – Because of the various opinions, one should discuss the *halacha* with his *rav.* (Refer to attached map) The following guidelines were written with the input of Rabbi Moshe Heinemann, *shlit"a*, Rabbinic Administrator of the Star-K: [Note: Specific times listed are approximate and for purposes of example. There are numerous other examples beyond the scope of this article. Anyone visiting these regions must calculate specific times with his *rav*.]

**Summer – Below the Arctic Circle** – The most frequent question arises when people visit or live in Anchorage, Alaska; Stockholm, Sweden; or Oslo, Norway in the summer. Unlike the areas previously addressed, these locations are below the Arctic Circle (below the Arctic Circle means south of the Arctic Circle; above the Arctic Circle means north of the Arctic Circle closer to the North Pole) and experience sunrise and sunset 365 days a year. However, during part of the summer it never gets fully dark. When can one *daven Maariv* and when is *Shabbos* over during this time of the year? One may *daven Maariv* and begin *Shabbos* after *plag hamincha* (one and one quarter *halachic* hours before sunset) but he should repeat *Shema* just prior to *chatzos halayla* (the darkest period of time). *Shabbos* ends shortly after that, at *chatzos halayla*.[21] For example, on June 22 in Anchorage, Alaska, the sun sets at 11:43 p.m. and rises at 4:20 a.m. One may *daven Maariv* and begin *Shabbos* after 9:42 p.m. (*plag hamincha*). One should repeat *Shema* at 1:55 a.m., prior to *chatzos halayla*.[22] *Shabbos* ends at 2:02 a.m. Sunday (*chatzos halayla*).[23] One may recite the complete *havdalah* after *chatzos halayla*. Alternatively, one may recite *havdalah* upon arising Sunday morning (only the *brochos* of *Borei Pri Hagafen* and *Hamavdil*).[24]

**Winter – Below the Arctic Circle** – These areas experience very short days. However, twilight is exceptionally long and one waits longer[25] than in our area to end *Shabbos* in order to ensure the stars are visible. For example, in Anchorage on December 18, the sun rises at 10:12 a.m. and sets at 3:40 p.m. One must wait 1 hour and 29 minutes after sunset and end *Shabbos* at 5:09 p.m. The day is so short that one may not begin *Shachris* until 9:00 a.m., and *Shabbos* begins at 3:22 p.m.

**Winter – Above the Arctic Circle at Locations with Sunlight –** Almost all inhabited locations above the Arctic Circle, where the sun does not rise in the winter, experience a period of sunlight around noon.[26] One may perform day *mitzvos* during a segment of this period of sunlight.[27] In these locations, one may *daven Shachris* and perform most daytime *mitzvos* (e.g. *Hallel*) after there is enough light to distinguish between the colors of *tchailes* (blue/ green) and white[28], until *chatzos hayom* (when the sunlight begins to decrease). One should *daven Mincha* a half hour after *chatzos hayom*. When the stars come out, *Shabbos* ends and one may *daven Maariv*. Twilight (i.e. the time when the sun is below the horizon but there is still sunlight) is longer than what we are accustomed to.[29] For example, in Barrow located at the northern tip of Alaska, on December 1 the sun does not rise. However, at 1:15 p.m. there is the most sunlight of the day [30] (theoretical *chatzos hayom*). Therefore, one may *daven Shachris* and perform daytime *mitzvos* between 10:40 a.m. and 1:15 p.m.[31] (during these pre-dawn light conditions) and *daven Mincha* at 1:45 p.m. (1/2 hour after *chatzos* during the post sunset conditions). *Shabbos* ends at 4:23 p.m. when the stars come out.

**Winter in Completely Dark Locations & Summer North of the Arctic Circle –** Unusual and difficult questions arise when someone travels to these areas. As previously addressed, there is a dispute as to when *Shabbos* begins and ends in these locations. Ideally, due to the various doubts, one should avoid living in or visiting these problem areas. However, if one must visit these locations,[32] the following *halachos* apply:

**1. Winter – In Completely Dark Locations[33] –** One begins and ends *Shabbos* at the time indicated by the stricter opinions. This means that one begins *Shabbos* before *chatzos hayom* on Friday.[34] *Shabbos* ends 72 minutes after the "6:00 p.m. *shkia*"[35] Saturday. One *davens Maariv* and recites the evening *Shema* between 7:00 p.m. and midnight.[36] After 6 a.m. and when it is morning in the location where one comes from, one would say *K'rias Shema* without *brachos* and *Shachris Shemona Esrai*, "*Al tnai*."[37]

**2. Summer – North of the Arctic Circle –** When the sun remains above the horizon for 24 hours, one begins and ends *Shabbos* at the time indicated by the stricter opinions. This means that one begins *Shabbos* before 6:00 p.m. on Friday.[38] *Shabbos* ends around midnight [39] (30 hours after it began). For example, if someone from Baltimore travels north to Pond Inlet, Nunavut in Canada [40] on June 28, *Shabbos* begins on Friday at 6:42 p.m.[41] *Shabbos* ends at 1:15 a.m. early Sunday morning[42], or whenever the place he comes from finishes *Shabbos*, whichever is later. One should wait until 2 1/2 hours before "*chatzos halayla*" (when the sun is at the lowest point) Friday night to recite *kiddush*.[43] One *davens* daytime *tefillos* at the same time as the *kehilla* from which he came, and it is preferable that he also wait to fulfill the other opinions. For example, if one travels from Baltimore to Pond Inlet on June 28, when the sun does not set, one *davens Shachris* between 7:15 a.m.[44] and 9:15 a.m.[45] (being careful to recite *Shema* before 7:15 a.m.)[46], and *davens Mincha* after 2:15p.m.[47] One *davens Maariv* on weeknights and recites Friday night *kiddush* after 10:45 p.m.[48] Depending on where one came from, one may have to wait until *Shabbos* morning to recite the Friday night *kiddush*.[49]

## Outer Space

It is clear from the above that the calculation of *davening* times and when *Shabbos* begins and ends would be complicated for Jewish astronauts in outer space. Therefore, a *rav* should be consulted. Ideally, one should not travel to outer space. If one must go, an astronaut would follow the opinion of the *Tiferes Yisroel* for *davening*, and according to some opinions keeps *Shabbos* anytime it is *Shabbos* anywhere on Earth. [50] If this is too difficult, one could rely on the *Tiferes Yisroel* for *Shabbos*. If one orbits the earth and stays above the area that is between 45°N and 45°S, one would *daven* each *tefilla* once per day (despite the continuous sunrise and sunset). One would keep *Shabbos* when it is *Shabbos* directly below the rocket on earth. Depending on the season and location, *Shabbos* could be as early as 2:00 a.m. Friday Universal Time and as late as Sunday 12:30 p.m. Universal Time. *V'tzarich iyun*.

## Kosher Food

Once one has determined *halachic* times for areas above the Arctic Circle, one must locate kosher food. The Star-K has discovered that kosher food is available in the most remote geographic places. One can find kosher certified products near the beginning of the Trans-Alaskan Pipeline at the Prudhoe Bay General Store. The Food Services Supervisor at the U.S. South Pole Observatory informed us that Star-K certified products have reached the South Pole! A physicist at the National Oceanic and Atmospheric Administration (NOAA) in Barrow, Alaska reports that many kosher products are available there. Furthermore, many years ago, the Jewish station-head gathered nine other Jewish men to form a *minyan*. We hope these guidelines will serve a useful purpose for future Barrow and Arctic *minyanim*!

Refer to attached map

***The author wishes to thank Rabbi Eli Reidler and Dr. Yossi Scheller for their invaluable assistance.***

1. Another *halachic* issue that affects parts of Alaska is the International Dateline. For a full discussion, see Kashrus Kurrents "A Traveler's Guide to the International Dateline." For a discussion regarding *halachic* issues on cruise ships, see "Don't Miss the Boat: *Halachic* Guidelines of Kosher Cruises."

2. In the Southern Hemisphere, the seasons are opposite of ours. Summer begins in December and winter begins in June. Locations south of the Antarctic Circle (66.56°S) have 24 hours of sunlight days in their summer and 24 hour sunless days in their winters. Also, in this part of the world the sun appears in the northern sky during the course of the day (in the United States, it appears in the southern sky). It should be noted that almost the entire continent of Antarctica is south of the Antarctic Circle.

3. The Svalbard Islands include landmasses between 74° and 81° N, up to 9° south of the North Pole. Longyearbyen, with a population of over 1500 inhabitants, is located at 78° N.

4. Although the sun is below the horizon, it is close to the horizon at noon and light may be visible (similar to our experience immediately following sunset when the sun is below the horizon, yet there is still light). This will be addressed further.

5. Located at the northeastern tip of Ellesmere Island, 82.5° N and only 507 miles from the North Pole, Alert is home to a Canadian military station and is the northernmost permanently inhabited settlement in the world.

6.There is a permanent observatory at this location (90°S), where scientists reside and conduct research throughout the year.

7. *Chalek Daled* (4) *Siman* 42. Similarly, see *Hosafos Harad"al* on *Pirkei d'Reb Elazar* 52:1.

8. See *Tshuvos Zecher Simcha Siman* 30 in a *teshuva* written to his son in 1886 where the author, Rav Simcha Halevi Bamberger, advises not to go to such locations and questions, "Why should one put himself in a *safek* situation regarding S*hema,Tefillah*, and *Shabbos*?"

9. The *Mor U'Ktzia* 344 says that this case is comparable to one who is lost in the desert and is not sure when to observe *Shabbos* (see *Shulchan Aruch* [and *Shaarei Teshuva]* OC 344:1).

10. *Mishnayos Yachin U'Boaz – Brachos*: End of Chapter 1.

11. Others explain the *Tiferes Yisroel* means that each 24 hour period, starting with the time from where he left counts as day. For example, if he arrived at 6 p.m. Sunday, 24 hours later would be 6 p.m.Monday, and then four days later would be Shabbos (Friday evening).

12. *Teshuvos Rav Pa'alim – Sod Yesharim* 2:4. He bases his opinion on the *Divrei Yosef* and brings a proof from the flood during the days of *Noach*.

13.These times are based on natural/astronomical time. An adjustment for Standard Time (the time on clocks) may slightly change these times. This depends on the longitude and time zone of the location. Also, this method will work in most areas north of the Arctic Circle and south of the Antarctic Circle. It should be noted that at and close to the poles (90°), this way of calculating is not applicable, due to the way the sun rotates in these regions and the lack of time zones.

14. *Chalek Bais* (2) *Siman* 155 in the glosses. The *Sefer Bain Hashmoshos*, page 55, seems to agree with this opinion.

15. This time is "theoretical" *chatzos halayla* (*halachic* midnight). He bases his opinion on the following astronomical fact: On any given day in Baltimore, or any city below the Arctic Circle, the sun appears in different parts of the sky. At *chatzos hayom* (*halachic* noon – halfway between sunrise and sunset), the sun is directly to the south and at its highest point for that day. At *chatzos halayla* the sun is at the greatest angle below the horizon (over the opposite side of where it appeared at *chatzos hayom*). North of the Arctic Circle, when the sun does not set, it does not remain in the same area of the sky all day. Rather, at times it is higher in the sky peaking at noon, and at times lower in the sky reaching its low point at midnight, at which time it once again begins to ascend. For example, in Longyearbyen in thesummer, the sun is 11° above the northern horizon at approximately midnight local time, "theoretical" *chatzos halayla*. We view this moment as if both sunset (when the sun reaches its lowest visible point) and sunrise (when the sun begins to ascend) occur. The old day ends and the new *halachic* day (e.g. *Shabbos*) begins.There is no night. How does one calculate theoretical *chatzos halayla* if the sun is up for 24 hours? One way is to see when the sun is due north, or when it is at the lowest point in the sky. Alternatively, one calculates *chatzos halayla* for any location directly south below the Arctic Circle. This time is also *chatzos halayla* for the location directly north above the Arctic Circle. For example, in the summer, theoretical *chatzos halayla* on Ward Hunt Island, Canada, located northwest of Alert, at 83.1° N (the northernmost point in North America and the starting point for many North Pole expeditions), occurs at the same moment that *chatzos halayla* occurs in Philadelphia (directly south). The same method is used for theoretical *chatzos hayom*.

16. Normally, one may recite *Shema* until the end of the 3rd"*halachic* hour" (*sha'os zmanios*). A "*halachic* hour" is 1/12 of the time from sunrise to sunset (according to the *Gr"a*). In the summer, if the day is 15 hours long, a "*halachic* hour" is 75 minutes long. In the winter, if the day is 9 hours long, a "*halachic* hour" is 45 minutes long. In Arctic regions, when the day is
24. hours long, each "*halachic* hour" is 2 hours long (1/12 of 24 hours). One says the morning *Shema* during the first six hours (three *halachic* hours) after *chatzos halayla*, and *davens Shachris* during the first eight hours after *chatzos halayla*. One *davens Mincha* after an hour has passed (one half of a *halachic* hour) following *chatzos hayom*.

17. The *Moadim U'Zmanim* says one should daven *Maariv* after *plag hamincha*, 2 1/2 hours before theoretical *chatzos halayla*. This is based on the fact that at any location one may *daven Maariv*, after *plag hamincha*, 1 1/4 *halachic* hours before the end of the day.

18. This time is "theoretical"*chatzos hayom*. In the winter, when it is completely dark for 24 hours, the sun's position is moving at different angles below the horizon. At theoretical *chatzos hayom,* the sun is closest to the horizon and then begins to descend moving further away from the horizon, similar to what occurs in our area after sunset. Hence, in the winter, theoretical *chatzos hayom* is considered sunset and marks the end and beginning of the new *halachic day* (e.g. *Shabbos* begins at *chatzos hayom* on Friday).

19. The sun remains more than 16.1° below the horizon.

20. For a full discussion of this topic and other opinions, see *Sefer Achuzas Sadeh* pgs. 105-109 and a detailed article by Rabbi J. David Bleich in *Tradition* 36:3 (Fall 2002) pgs. 60-102

21. At this time, the sunlight begins to increase. This moment is considered *tzais hakochavim* (ending *Shabbos*) and *alos hashachar* (dawn) of Sunday morning.

22. If this is too difficult, one should repeat *Shema* 72 minutes after sunset (12:55 a.m.).

23. The level of darkness is equivalent to that of Baltimore 27 minutes after sunset. At this time, the sunlight begins to increase. This moment is considered *tzais hakochavim* (ending *Shabbos*) and *alos hashachar* of Sunday morning.

24. Another option is to recite *havdalah* (only the brochos of *Borei Pri Hagafen* and *Hamavdil)* after sunset (in the example cited this occurs at 11:43 p.m.), or in difficult circumstances after *plag hamincha* (9:42 p.m.). However, if one recites *havdalah* at either of these times, one may not perform *melacha* until *Shabbos* is over (2:02 a.m.).

25. Until the sun is 8.6° below the horizon. At this time, it is as dark as it is in New York in June, 50 minutes after sunset (see *Igros Moshe* OC 4:62).

26. These *halachos* apply in the winter to areas below 82.6° N, since even on December 21 complete darkness is only experienced in regions above 82.6°. Areas above this line are addressed in the next section.

27. This may be done for the following reason: *Halachically*, day begins at *alos hashachar*, dawn. In our area, dawn occurs 72 minutes before sunrise. When necessary, one may *daven Shacharis* and perform most daytime *mitzvos* beginning at this time. If one is in a location where the sun does not rise for 24 hours yet there is light, *halachically* there is *alos hashachar* light for several hours during the day. This "sunlight" is equivalent to the amount of light someone in Baltimore experiences before sunrise and constitutes day.

28. When the sun is 7° below the horizon. This time is called "*misheyakir*." If the sun does not get this high, various daytime *mitzvos* may be performed when the sun is 16.1° below the horizon and higher.

29. Twilight ends when the sun is 8.6° below the horizon.

30. Barrow is at 71° N.This sunlight (at theoretical *chatzos hayom*) is equivalent to the amount of light experienced in Baltimore 12 minutes after sunset.

31. Between *misheyakir* and *chatzos*.

32. It should be noted that flights from New York to the Far East may fly over Polar regions, and these *sheilos* regarding *davening* times may be relevant.

33. Presently, there are no permanently inhabited regions in the Northern Hemisphere where these *halachos* apply. According to most opinions, these *halachos* would apply in December in the area of the northernmost land in the world (e.g. Oodaaq Island, Greenland, 83° 41' N and other islands in this region). They would certainly apply in June to areas in parts of Antarctica.

34. Based on the opinion of the *Moadim U'Zmanim*.

35. At the theoretical *tzais hakochavim* of the *Ben Ish Chai*.

36. To fulfill the opinion of the Ben Ish Chai, one davens Maariv after 7:00 p.m. (an hour after theoretical shkia) and before midnight (chatzos halayla). These times are approximate. One may also be bound by the current time of the place where he came from.

37. This means one davens Shachris Shemona Esrai "on condition", stating,"If I can daven Shachris (i.e. the halacha is like the Tiferes Yisroel and Ben Ish Chai), this is my Shachris. If I cannot daven Shachris (in the dark, since the halacha is like the Moadim U'zmanim), this tefilla is a nedava (gift)." One can also daven Mincha "al tnai" when it is the zman of Mincha where one comes from and when it is between 12:30 p.m. – 6 p.m. [A tefillas nedava cannot be recited on Shabbos or Yom Tov, so one would not daven Shachris or Mincha Shemona Esrai (even al tnai) in a place where it is dark for 24 hours]. One cannot say Hallel with a bracha or perform a Milah on any day when it is dark for 24 hours.

38. Based on the opinion of the Ben Ish Chai.

39. At chatzos halayla early Sunday morning, when the sun is at its lowest point in the sky, based on the opinion of the Moadim U'Zmanim.

40. Located at 73° N, 78°W.Times indicated are Eastern Daylight Savings Time (DST – hence the times are one hour later than Eastern Standard Time).

41. Based on the opinion of the Ben Ish Chai [18 minutes before the Daylight Savings Time "shkia"]. One may have to start Shabbos earlier if it is Shabbos already in the location where he came from.

42. Based on the opinion of the Moadim U'Zmanim (an hour was added for Daylight Savings Time). An example where one follows the times of his community (based on the Tiferes Yisroel) is if one travels from Los Angeles northeast to Longyearbyen on June 28, Shabbos ends at 6:20 a.m. Sunday morning (at the moment Shabbos ends in Los Angeles).

43. To fulfill the opinion of the *Moadim U'Zmanim*, one waits until *plag hamincha* to recite *Kiddush* and begin *Shabbos*.
44. Based on the opinion of the *Ben Ish Chai*, who says in this location during DST, we consider 7:15 a.m. as sunrise.

45. *Sof zman tefilla* of the *Moadim U'Zmanim*. This time is four *halachic* hours after the beginning of the day, which was *chatzos halayla*.

46. Prior to *sof zman krias Shema* of the *Moadim U'Zmanim*. This time is three *halachic* hours into the day. 47 *Mincha gedola* according to the *Moadim U'Zmanim*. 1/2 a *halachic* hour after *chatzos hayom*.

48. *Plag hamincha* according to the *Moadim U'Zmanim*.

49. If someone from Los Angeles traveled to Longyearyen on June 1st, one would wait until 4 a.m. *Shabbos* morning to recite *Kiddush* (when it is 7 p.m. Friday in Los Angeles). If one travels west and crosses over many time zones, it is preferable to also fulfill the opinion of the *Moadim U'Zmanim* by waiting for the proper time to recite *kiddush* (after *plag hamincha*). For example, if someone from *Bnai Brak* travels to Barrow on June 1, according to the *Tiferes Yisroel*, *Shabbos* begins at 8:15 a.m. Friday, Barrow time, at the moment *Shabbos* begins in *Bnai Brak* (where it is already Friday evening). Nonetheless, one should preferably wait until 11:55 p.m. Friday night to recite *kiddush*, thus also fulfilling one's obligation according to the *Moadim U'Zmanim* [who says *Shabbos* begins at "*chatzos halayla*" which occurs on this day at 2:25 a.m. One may recite *Kiddush* at *plag hamincha* (11:55 p.m.), 2 1/2 hours (1 1/4 *halachic* hours) before *chatzos halayla*]. Determination of *davening* times to fulfill all opinions may be difficult, *v'tzarich iyun*.

50. The beginning and end of *Shabbos* on Earth depends on issues addressed in this article, as well as the location of the International Dateline. If one takes all opinions into account, it is theoretically *Shabbos* somewhere on Earth for almost three days. *Shabbos* begins at10:00 p.m.Thursday,Universal Time (also called Greenwich Mean Time – the time in London), at latitudes with total darkness & 145°W, the furthest point east in the world, using the International Dateline of the *Gesher Hachaim*. *Shabbos* ends at 4:00 p.m. Sunday, Universal Time, at latitudes with no sunset at 125° E, the furthest point west in the world using the International Dateline of the *Chazon Ish*.
Refer to attached map

## ***Glossary***

**Alos Hashachar** – Dawn.

**Brochos** – Blessings.

**Chatzos Halayla** – Midnight (halfway between sunset and sunrise).

**Chatzos Hayom** – Midday (halfway between sunrise and sunset).

**Daven, Davening** – Pray, Praying.

**Halacha, Halachic** – Jewish Law.**Halachic Hour** –

$^{1}/_{12}$ of the day.

**Hallel** – Special prayer of thanks recited on holidays.

**Havdalah** – Prayer recited following the Sabbath.

**Kehilla** – Jewish community.

**Kiddush** – Blessing recited on Sabbath with a cup of wine.

**Kosher**, **Kashrus** – Jewish dietary laws.

**Maariv** – Evening prayers.

**Melacha** – Work prohibited on the Sabbath.

**Milah** – Circumcision.

**Mincha Gedola** – Earliest time for afternoon prayers.

**Mincha** – Afternoon prayers.

**Mitzvah**, **Mitzvos** – Commandments Jews fulfill.

**Plag Hamincha** – 1¼ halachic hours prior to sunset.

**Rav** – Rabbi

**Shabbos**, **Sabbath** – Jewish day of rest. Begins before sunset on Friday and ends when stars come out on Saturday night.

**Shacharis** – Morning prayers.

**Shema** – Prayer recited in the morning and evening.

**Sof Zman Krias Shema** – Latest time for morning shema.

**Sof Zman Tefilla** – Latest time for morning prayers.

**Tallis** – Prayer shawl worn during morning prayers.

**Tefilla** – Prayer.

**Tefillin** – Phylacteries worn during morning prayers.

**Tzais Hakochavim** – When stars come out.

**V'tzarich Iyun** – This complicated issue requires further research and discussion beyond the scope of this article.

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