

# DETERMINING PRAYER TIMES IN MIDNIGHT SUN COUNTRIES

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## **Abstract**

The phenomenon of the midnight sun presents unique challenges for people living in countries that experience prolonged daylight. One issue in these regions is the application of *ihtiyāt* (precautionary measures) in religious practices, such as determining prayer times and fasting hours according to Islamic teachings. This article explores the socio-religious implications of time management in countries experiencing the midnight sun phenomenon, focusing on its impact on Muslim communities. Through qualitative analysis of literature, case studies, and religious texts, this research examines the challenges faced by Muslims in fulfilling religious obligations amidst extended daylight hours. The study also investigates the responses and adaptations made by religious authorities and community members to address the scheduling of prayer times in countries with midnight sun. This research contributes to a deeper understanding of the intersection between natural phenomena, cultural traditions, and religious practices by highlighting this rarely discussed aspect of religious observance in regions with unique daylight patterns.

**Keywords:** *Prayer Times, Midnight Sun, Socio-Religious*

## **Abstrak**

Fenomena matahari tengah malam menghadirkan tantangan unik bagi masyarakat di negara yang mengalami siang hari yang berkepanjangan. Salah satu masalah yang muncul di wilayah ini adalah penerapan *ihtiyāt* (langkah kehati-hatian) dalam praktik keagamaan, seperti menentukan waktu salat dan jam puasa sesuai ajaran Islam. Artikel ini mengeksplorasi implikasi sosio-religius dari manajemen waktu di negara-negara yang mengalami fenomena matahari tengah malam, dengan fokus pada dampaknya bagi komunitas Muslim. Melalui analisis kualitatif terhadap literatur, studi kasus, dan teks-teks keagamaan, penelitian ini mengkaji tantangan yang dihadapi umat Muslim dalam menjalankan kewajiban agama di tengah jam siang yang panjang. Penelitian ini juga meneliti tanggapan dan adaptasi yang dilakukan oleh otoritas keagamaan dan anggota komunitas untuk mengatasi masalah penjadwalan salat di negara-negara yang mengalami fenomena matahari tengah malam. Dengan mengungkap aspek yang jarang dibahas dari pengamalan agama di wilayah dengan pola siang hari yang unik, penelitian ini berkontribusi pada pemahaman yang lebih mendalam tentang persimpangan antara fenomena alam, tradisi budaya, dan praktik keagamaan.

**Kata Kunci:** *Waktu Salat, Matahari Tengah Malam, Sosial Keagamaan*

## A. Introduction

Prayer is an obligatory act of worship or prayer for every Muslim. In practice, prayer must be done appropriately. Prayer has legal conditions that need to be fulfilled so that the prayer is valid in the eyes of Allah SWT. Prayer is a form of worship that every Muslim and Mukalaf must perform with the requirements of harmony and specific readings. Prayer is an obligation commanded by Allah SWT. Besides human needs, prayer is also a communication between a servant and his God. According to Abdul Aziz Muhammad Azzam and Abdul Wahhab Sayyed Hawwas, prayer manifests devotion and one's needs to Allah SWT.

Apart from regulating planting, harvesting, the calendar, and determining the direction of the Qibla, astronomy also calculates prayer times. Based on its initial teachings, astronomy calculates prayer times by using the distance between the sun, moon, and Earth. According to Muhyiddin Khazin, the prayer times determined by the Koran and hadith are based on natural phenomena. Therefore, Muslims now need astronomy to know the correct prayer times. The method used to find prayer times was initially using a stick.<sup>1</sup> The Earth, which rotates around the sun, also has a fixed schedule, so it is easy to determine a fixed prayer schedule every year.

Every prayer time, there is always time for intimacy. In religious practice, *iḥtiyāṭ* is often applied in matters related to worship, such as determining the direction of the Qibla, the start of prayer times, etc. In the context of prayer times, *ikhtiyat* refers to the principle of being careful in determining the right time to perform prayers on time and only delaying its implementation with an apparent reason. It is hoped that applying the principle of *iḥtiyāṭ* during prayer times can make Muslims severe and responsible in carrying out prayers and maintaining obedience to the commands of Allah SWT. This principle can also help Muslims increase spiritual awareness and live lives based on the teachings of the Islamic religion with great care.<sup>2</sup>

Accuracy in determining is necessary because it is a time benchmark for a place in the prayer schedule for Muslims. *Iḥtiyāṭ* time exists to ensure the prayer times of

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<sup>1</sup> Muhyiddin Khazin, *Ilmu Falak dalam Teori dan Praktek* (Yogyakarta: Buana Pustaka, 2004).

<sup>2</sup> A Frangky Soleiman, "Penentuan Awal Waktu Shalat," *Jurnal Ilmiah Al-Syir'ah* 9, no. 2 (2011): 1-14.

a city are evenly distributed from East to West. This time is maintained by adding two minutes after the sun begins to leave the meridian line. The *ikhtiyat* time at every prayer time is only found in Indonesia, and it is the same as *imsakiyah* time. If we go back to the initial understanding of the meaning of *iḥtiyāṭ* time, it is only a sign. A sign that a place has entered full prayer time.<sup>3</sup>

Determining the time of *iḥtiyāṭ* using the sun's position continues to be in contact with the geographical location of a place where the Muslim population lives. Moreover, adherents of the Islamic religion are increasingly widespread and almost evenly distributed worldwide. The problem with the geographical location of an area is such as an area that experiences midnight sun, namely an area that experiences sunlight for almost 24 hours. This time is unsuitable if you want to determine prayer times because it does not generally occur in the country. Midnight sun is a rare thing because it only happens in Scandinavian countries. These countries don't have nighttime. Compared with tropical countries, countries that experience midnight sun only have a sunset time of around 20-21 hours per day. This phenomenon, which rarely occurs in most countries, makes it possible for people to worry about carrying out their worship. This situation also definitely has different prayer time determinations and limits. Every prayer time is always accompanied by *iḥtiyāṭ*.<sup>4</sup>

## B. Method

This library-based study relies on literature sources such as books, journals, and scientific articles to gather data relevant to the research topic. The data collection involves systematically identifying and gathering these materials to ensure comprehensive subject coverage. After collecting the data, the researcher conducts a qualitative analysis, focusing on understanding the material's context, meaning, and interpretation. This process involves a deep engagement with the text,

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<sup>3</sup> Jayusman, "Urgensi Ihtiyath dalam Perhitungan Waktu Salat," *Al-'Adalah* 10, no. 3 (2012): 279-91.

<sup>4</sup> Era Zulfialina, "Study of Determining Prayer Maghrib Time in the Al-Falaqiyah Manuscript," *Al-Hilal: Journal of Islamic Astronomy* 5, no. 2 (June 1, 2023): 189-206, <https://doi.org/10.30603/am.v14i1.739>; Muhammad Himmatur Riza, Thomas Djamaluddin, and Ahmad Izzuddin, "Transformation of Prayer Time Schedules: From A Static-Passive to A Dynamic-Variative Perspective," *Ulul Albab: Jurnal Studi Dan Penelitian Hukum Islam* 6, no. 1 (2024): 39, <https://doi.org/10.30659/jua.v6i1.22826>.

considering the background, influences, and nuanced meanings that may take time to be apparent. The researcher interprets the material through various lenses, such as theoretical frameworks or cultural perspectives, to uncover underlying patterns, themes, and concepts.

Following the analysis, the findings are critically interpreted in light of the research question or hypothesis. The researcher synthesizes these insights, compares different interpretations, and draws informed conclusions contributing to a deeper understanding of the topic. These conclusions are not merely summaries but represent original insights or thought patterns that directly relate to the research focus. In summary, this library research study involves careful literature selection, detailed qualitative analysis, and thoughtful interpretation to uncover thought patterns that advance understanding of the research topic, ultimately contributing valuable insights to the field.

## C. Result and Discussion

### C.1. Determining *Iḥtiyāt* in Midnight Sun Countries

Determining prayer times in Muslim countries such as Southeast Asia usually has a time marker for either entering or ending it. This timing is the reason for writing this work, which is related to the time of *iḥtiyāt*. Saadoe'din Djambek uses a measurement of around two minutes, while the Directorate for the Development of Islamic Religious Courts also sets an *iḥtiyāt* of around two minutes unless the schedule in question is used by the surrounding area, which is more than 20 kilometers away.<sup>5</sup>

According to experts and professionals, the additional value of *iḥtiyāt* time of 2 minutes is considered sufficient to provide security against rounding of calculations. Apart from that, this two-minute duration can also reach between 27.5 kilometers and 55 kilometers, both to the west and to the east. *Iḥtiyāt* time is a word that is still unfamiliar to lay people. Therefore, *iḥtiyāt*

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<sup>5</sup> Imroatul Munfaridah, "Problematika dan Solusinya tentang Penentuan Waktu Shalat dan Puasa di Daerah Abnormal (Kutub)," *Journal Al-Syakhsiyah Journal of Law and Family Studies* 3, no. 1 (2021): 37–50; Muhajir, "Analisis Pemikiran Saadoe'ddin Djambek tentang Waktu Shalat di Daerah Abnormal (Kutub)," *Jurnal Studi Islam* 5, no. 2 (2018): 148–58.

time can be understood in the sense of *imsakiyah* time. Both have the same meaning, namely time, which signifies something, is attached to prayer times, and applies to an area.<sup>6</sup>

*Imsakiyah* time is before dawn when Muslims are permitted to eat and drink before fasting during Ramadan. The concept of *imsak* time, which is no different abroad, remains relevant wherever Muslims live because it is based on the local dawn time in that region. *Imsakiyah* time is determined based on dawn, the beginning of dawn, or sunrise. This means that as dawn begins to break, the Ramadan fast starts, and Muslims are allowed to begin their fast. Because the time of dawn varies depending on geographic location and season, the time of *imsak* will also vary according to where a person lives, including abroad. Therefore, the concept of *imsak* time remains relevant wherever Muslims are.

*Ihtiyāt*, or precautionary measures, is a principle rooted in Islamic jurisprudence that emphasizes caution and careful consideration in the performance of religious duties. This principle is fundamental in situations where the timing of religious obligations, such as the five daily prayers (*ṣalah*) and fasting during Ramadan, may be unclear or uncertain due to natural phenomena or other external factors. The practice of *ikhtiyat* ensures that Muslims fulfill their religious duties in a manner that aligns with the teachings of Islam, even in challenging circumstances.<sup>7</sup>

Prayer times in Islam are determined by the position of the sun, which marks the various phases of the day: *Fajr* (dawn), *Dhuhr* (midday), *‘Asr* (afternoon), *Maghrib* (sunset), and *Isha* (night). These times are not arbitrary but based on specific astronomical calculations considering the geographical location and local time. In most parts of the world, the sun rises and sets at

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<sup>6</sup> Zulfiah, "Efektivitas Ihtiyath Awal Waktu Salat dalam Kajian dan Astronomi," *Elfalaky: Jurnal Ilmu Falak* 2, no. 1 (2018): 86–108.

<sup>7</sup> Riza, Djamaluddin, and Izzuddin, "Transformation of Prayer Time Schedules: From a Static-Passive to a Dynamic-Variative Perspective."

predictable times, making it relatively straightforward to determine the appropriate times for prayer.<sup>8</sup>

However, in regions near polar circles, such as parts of Scandinavia, Alaska, and Canada, the midnight sun occurs during summer. During this period, the sun remains visible for 24 hours, creating a unique challenge for Muslims in determining the correct prayer times. The lack of a clear sunset or sunrise can make observing the prescribed times for Salah and fasting difficult.

### C.2. Prayer Time in Midnight Sun Countries

Determining prayer times can be challenging in countries that experience the midnight sun phenomenon, where the sun never fully sets in summer. Usually, religious authorities or local official institutions issue particular guidelines for determining prayer times. This could involve using timing methods adapted to specific conditions, such as deciding prayer times based on sunset at the nearest place where the sun sets. This ensures that Muslims can perform prayers by the provisions of their religion, even in these unique conditions.<sup>9</sup> In northern Norway, Sweden, Finland, and parts of Alaska, the official institution that regulates prayer schedules is usually the local religious authority or a fatwa body appointed by the government. For example, in Norway, the Islamic Council Norway (IRN) plays a role in determining prayer schedules based on these unique conditions. In other countries experiencing similar phenomena, religious authorities or similar fatwa bodies will be responsible for deciding prayer schedules.

Determining the prayer schedule always adds *iḥtiyāt*, although scholars and scientists have yet to agree on the exact amount (minutes) of additional *iḥtiyāt* time. However, from the developing prayer time schedules, the additional *iḥtiyāt* time ranges from 2 to 5 minutes with a range of 27.5 kilometers to 55 kilometers and only applies to one area. For example, in the

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<sup>8</sup> Muhammad Rifqi Hasan, "Astronomical Interpretation of Early Prayer Times (Study of Differences in Determination of Early Prayer Times from the Text and Astronomical Perspective)," *Al-Hilal: Journal of Islamic Astronomy* 2, no. 2 (2020): 194–223.

<sup>9</sup> Muhajir, "Analisis Pemikiran Saadod'ddin Djambek tentang Waktu Shalat di Daerah Abnormal (Kutub)."

city of Oslo, Norway, the latitude on Saturday, April 6, has a prayer schedule with Fajr time 03:41 AM, Midday time 01:20 PM, Ashar time 04:55 PM, Maghrib time 08:12 PM and Isha time 10 47 PM.<sup>10</sup>

According to Oslo's case, the determination of these times would have considered the specific latitude (59.91° N) and the sun's position relative to the horizon. Given Oslo's northern latitude, the city experiences significant variations in daylight hours throughout the year, which poses unique challenges for determining accurate prayer times, especially during periods of prolonged daylight or twilight. Applying *iḥtiyāt* in this context ensures that the prayers are performed within the correct time frame, even if there are slight variations in the timing due to atmospheric conditions, the observer's exact location within the city, or minor discrepancies in the astronomical calculations.

Adding *iḥtiyāt* time stems from religious, scientific, and practical considerations. From a spiritual perspective, Islam emphasizes the precision of religious observance, and *iḥtiyāt* reflects the desire to ensure that the obligations are met with due care. Scientifically, *iḥtiyāt* accounts for the inherent limitations of astronomical calculations. Even with modern technology, factors such as atmospheric refraction (the bending of light as it passes through the Earth's atmosphere) can slightly alter the observed time of sunrise, sunset, and other solar events. This can lead to minor discrepancies in the calculated prayer times, especially in regions with extreme latitudes or unusual atmospheric conditions. Practically, the addition of *iḥtiyāt* time provides a buffer that helps accommodate slight variations in local timekeeping devices, differences in the precision of clocks or watches, and the personal judgment of when precisely the sun crosses a certain threshold in the sky.<sup>11</sup>

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<sup>10</sup> "Prayer Times," [://www.islamicfinder.org/world/norway/3143244/oslo-prayer-times/?language=id](http://www.islamicfinder.org/world/norway/3143244/oslo-prayer-times/?language=id), 2024.

<sup>11</sup> Muhammad Farid Azmi, Ahmad Adib Rofiuddin, and Ahmad Ainul Yaqin, "Prediksi Pergerakan Bayangan Bumi Saat Terjadi Gerhana Bulan Menggunakan Ephemeris Hisab Rukyat," *Al-Marshad: Jurnal Astronomi Islam dan Ilmu-Ilmu Berkaitan*, 2018.

The variation in *iḥtiyāt* time across different regions and among other scholars reflects the flexibility inherent in Islamic jurisprudence. This flexibility is essential given the global nature of the Muslim community and the diverse environmental conditions under which Muslims live. In regions closer to the equator, where the sun's motion is more consistent throughout the year, the need for *iḥtiyāt* might be minimal. However, in areas such as Oslo, where the sun's behavior is less predictable, *iḥtiyāt* becomes more critical to ensure that prayers are performed at the appropriate times. The differing opinions on the amount of *iḥtiyāt* time to be added highlight the balance between scientific precision and religious caution. Some scholars advocate for a minimal *iḥtiyāt* time of around 2 minutes, corresponding to the potential observational error margin. Others recommend a more extended period, such as 5 minutes, to account for more significant discrepancies and to err on the side of caution.<sup>12</sup>

This proves that the time of *iḥtiyāt* does not influence the determination of complex prayer schedules, but only influences regional borders. Seven countries experience Midnight Sun and are very extensive; therefore, Scandinavia is the center of all these countries. Scandinavia consists of Denmark, Norway, and Sweden, so Vilhelmina is the middle point between the three.

#### D. Conclusion

The concept of *iḥtiyāt* time is an important precautionary measure in Islamic practice, used to ensure that prayers are performed within the correct timeframe. This time is added to prayer time calculations to provide a buffer, ensuring adherence to religious obligations. In regions experiencing the midnight sun, where the sun does not fully set during the summer months, determining prayer times becomes challenging. Traditional methods of relying on the sun's position could be more practical in these continuous daylight

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<sup>12</sup> Ahmad Izzuddin, *Ilmu Falak Praktis* (Semarang: Pustaka Rizki Putra, 2012); Slamet Hambali, *Almanak Sepanjang Masa: Sejarah Sistem Penanggalan Masehi, Hijriah dan Jawa* (Semarang: Program Pascasarjana IAIN Walisongo, 2011).



conditions. However, applying *iḥtiyāt* time remains effective in these areas, serving as a guideline to help Muslims fulfill their religious duties.

Modern technology has significantly improved the accuracy of prayer time calculations. Applications and digital tools can now provide precise prayer schedules based on geographical location and environmental conditions, including the midnight sun phenomenon. These tools are essential for ensuring accurate prayer times in challenging environments. Local religious authorities or official institutions in regions affected by the midnight sun often issue specific guidelines to help determine prayer times. These guidelines may include using prayer times from nearby cities with more conventional daylight patterns or following a fixed schedule. This ensures Muslims can practice their faith correctly despite unusual natural conditions. In summary, while the midnight sun poses a unique challenge, *iḥtiyāt* time and modern technology allow for accurate prayer time determination. Religious authorities provide necessary guidelines, ensuring Muslims in these regions can observe their prayers correctly and effectively maintain their spiritual practices.

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