Research Trends and Critical Issues in Islamic Ecotheology Learning: A Bibliometric Study (2020–2025)

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ABSTRACT

This research is motivated by the increasing global environmental crisis and the urgency of Islamic education in building ecological awareness based on theological values. Islamic Ecotheology Learning is seen as a strategic approach that integrates the values of monotheism, caliphate, trust, and sustainability in educational practices. The purpose of this research is to investigate trends, publication sources, research actors, emerging issues, and opportunities for developing Islamic Ecotheology Learning studies in the 2020–2025 period. The research was conducted in January 2026 with a quantitative approach through bibliometric analysis methods. Primary data in the form of 808 scientific publications obtained from Google Scholar using the Publish or Perish application, then selected into 83 relevant publications. Data analysis was carried out descriptively qualitatively with the support of Vosviewer for mapping keywords and theme networks. Results show five main findings: (1) publication trends increased significantly in 2023–2025; (2) sources are dominated by journal articles and seminar proceedings; (3) the focus shifts from normative-theoretical to applicative and contextual; (4) dominant issues include ecotheological values, Islamic Religious Education, the caliphate, sustainability, environmental crisis, and eco-Islamic boarding schools; and (5) opportunities emerge for developing community-based ecotheological learning models. Limitations lie in the lack of international sources indexed by Scopus and cross-country networks. This research recommends expanding international databases and developing integrative, contextual models.

Keywords: Islamic Ecotheology, Islamic Education, Bibliometric Analysis, Ecological Awareness

INTRODUCTION

Religion has been a guide and light for life from the time of eternity until the end of the world. No matter how much humans get rid of the spiritual dimension, they will still return to the One, feel, and appreciate its existence. To save human life in the world, a Guide was sent who guided him to stick to the One, namely Allahu

Rabbul'alamin, namely the Prophet & Apostle, so that this religious message that was received by the Last Prophet, namely His Majesty the Prophet Muhammad Shalaullahu'alaihi wassalam, was first received by him was the word of Allah Ta'ala Surah Al-Alaq verses 1-5 with the following words:

اِقْرَأْ بِاسْمِ رَبِّكَ الَّذِيْ خَلَقَ ۚ خَلَقَ الْاِنْسَانَ مِنْ عَلَقٍ ۚ اِقْرَأْ وَرَبُّكَ الْاَكْرَمُ ۙ الَّذِيْ عَلَّمَ بِالْقَلَمِ ۙ عَلَّمَ الْاِنْسَانَ مَا لَمْ يَعْلَمْ

> *"Read in the name of your Lord who created. Created man from a clinging substance. Read, and your Lord is the most Generous. Who taught by the pen. Taught man that which he knew not." (Qur'an, Al-'Alaq 96:1–5, Sahih International)*

Surah Al-Alaq verses 1-5 are full and rich in meaning regarding education and teaching, where the first revelation received by the Prophet emphasized that humans, since their initial creation, are creatures who learn (learners), so that whenever and whatever activity they do, they are always oriented towards educating themselves, especially so that they do not become separated from their Lord (Masykur & Solekhah, 2021). Based on Surah Al-Alaq verses 1-5, it is understood that humans were created with the mission of becoming true learners through learning activities. Learning is defined linguistically as "teaching," which means "the process of imparting or guiding knowledge."(Hari Rajan et al., 2025; Izhar et al., 2023; Membrive et al., 2022; Sinkkonen & Tapani, 2024), in terms of learning, it is defined as a systematic series of communications between educators, students and learning resources to achieve the desired goals.(Huang et al., 2025; Irwanto, 2025)Gagné views learning as a series of experiences designed to influence the learning process of students (McNeill & Fitch, 2022), while Dimyati & Mudjiono view learning as a programmed activity through instructional design that makes students learn actively(Dimyati & Mudjiono, 2013)In conventional practice, learning consists of several forms, including lectures, question and answer sessions, guided discussions, demonstrations, and student-centered activities.(Bauermeister et al., 2024)Learning is composed of several components, including objectives, educators, students, teaching content, methods, media, and holistic evaluation, in order to achieve learning objectives (Nachtigall et al., 2022).

From an Islamic perspective, learning is understood as a process of ta'lim, tarbiyah, and ta'dib, which has the mission of guiding humans to develop holistically, integrating intellectual, spiritual, moral, and social dimensions in line with the main sources, namely the Qur'an and Sunnah (Hasanah et al., 2025; Isyraqi et al., 2024; Kosar Altinyelken & Kosar Altinyelken hkaltinyelken, 2021; Yulistiawati et al., 2025), In this way knowledge is not only understood cognitively but also practiced as proof of self-servation to Allah Ta'ala. Learning in Islam consists of several forms, including through ta'lim, which emphasizes the process of transferring knowledge and knowledge, tarbiyah with a focus on fostering and developing human nature, and ta'dib, which focuses on the formation of adab and noble morals (Muhammad Yahya Azzam et al., 2025; Sari, 2024; Sulwana et al., 2025; Wati et al., 2022)The Islamic learning process is supported by learning methods including role models (uswatun hasanah), habituation (ta'wid), dialogue (hiwar), and advice (mau'izah).(Musthofa &

Illahi, 2023; Shalahuddin et al., 2025)From both conventional and Islamic perspectives, learning has a direction (purpose). Conventional learning aims to direct the achievement of cognitive, practical, and attitudinal competencies that are measurable based on standards (Albina & Pratama, 2025; Tanjung & Albina, 2025), While learning in Islam aims to mastery of knowledge, practice, as well as strengthening the formation of the character of human beings who are faithful, knowledgeable, have morals and are competent to play the role of 'abdullah and khalifatullah on earth(Huda, 2024; Huda, Aghnia, et al., 2025; Huda, Rahmat, et al., 2025).

The learning process undertaken by individuals is expected to foster self-awareness of the importance of optimally developing the innate potential bestowed by God and realizing their role on earth. Humans' many roles on earth include serving as khalifah fil ardi, the world's caliph, carrying out the mandate of God's representatives to develop its civilization, and being responsible for managing the earth to achieve balance between nature and humanity (Fazlhashemi, 2025; Sabir et al., 2025; Welch & Rahman, 2024). Contrary to the desired expectations, entering an increasingly sophisticated era with technological advances such as artificial intelligence, environmentally friendly electrical technology, and the digital era, in fact, the preservation of nature and the environment speaks differently. It is noted that several problems have emerged related to the preservation of nature and the role of humans in this damage, including: (1) Excessive exploitation of natural resources, (2) Low ecological awareness, (3) Environmental destruction as a result of industrial and technological activities, (4) Low internalization of Islamic values about the environment, and (5) Low shared responsibility and environmental policies.(Atmaja et al., 2025; Kratz & McEwan, 2025; Osman et al., 2025; Reyes-García et al., 2025; Setiawan et al., 2025).

Given these various problems, concrete and collaborative solutions are needed to preserve the natural ecosystem as a habitat for human life and a mandate from God Almighty. Several studies have examined the importance of ecotheological learning design as a solution to address environmental damage, incorporating it into education and learning. First, Khafidhoh(2025)Examining the research trends of ecological interpretation in the Islamic context using quantitative bibliometric analysis methods with Vos Viewer and RStudio analysis tools on primary data sources from Scopus during the period 2014-2024 revealed that the issue of "Ecological Interpretation" has increased, the main focus of the issue is related to the interpretation of the verses of the Qur'an related to natural issues, ecological ethics, conservation, and sustainability. Second, Joni Hernedi. et al.(2025)examined research related to Islamic theology using a bibliometric analysis approach to Scopus publications during 2003-2023, finding that issues related to Islamic theology have increased, there is international collaboration between researchers and institutions, and contemporary issues related to Islamic theology include ethics, social studies, and environmental studies. Third, Illyani Ibrahmi et al.(2024)examines the issue of environmental conservation from an Islamic perspective using bibliometric analysis methods from the Scopus database on 451 scientific publications during the period 1980-2023, finding 3 main research schools related to environmental conservation in an Islamic context, including studies on

environmental protection and sustainable development, economic protection, and environmental issues that are closely related to socio-economic and religious aspects.

Based on several previous studies, the research to be conducted has similarities in the type of research method used, namely bibliometric analysis with the difference in the database used, namely Google Scholar, the range of years of scientific publications analyzed is from 2020-2025 (the last 5 years), with the focus of the issues studied being related to Islamic ecotheology learning as a novelty offered in this research. The research conducted is guided by several problem formulations, including: (1) What are the research trends regarding Islamic Ecotheology Learning in 2020-2025?, (2) What are the sources of research publications regarding Islamic Ecotheology Learning in 2020-2025?, (3) Who are the Researchers regarding Islamic Ecotheology Learning in 2020-2025?, (4) What are the Developing Issues regarding Islamic Ecotheology Learning in 2020-2025?, and (5) What are the Latest Issues that can be Developed regarding Islamic Ecotheology Learning in the Future?. The research conducted was to examine developments regarding the issue of Islamic ecotheology learning from 2020-2025 (the last 5 years) and identify issues that can be explored and developed in future studies.

LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

Islamic Ecotheology: Theological Foundations

Islamic ecotheology develops from the integration of Islamic theology, ethics, and ecological responsibility. Within the Islamic theological framework, humans are positioned as *khalīfah fī al-arḍ* (vicegerents on earth) entrusted with the *amānah* (divine trust) to maintain balance (*mīzān*) and prevent corruption (*fasād*) on earth. This principle indicates that environmental preservation is not merely a social obligation but a manifestation of faith and spiritual accountability.

Previous studies demonstrate that Islamic ecotheology is rooted in the concept of *tawḥīd*, which affirms the unity of creation and the interconnected relationship between God, humanity, and nature (Ibrahim et al., 2024; Khafidhoh, 2025). In this perspective, nature is understood as *āyāt* (signs of God) that must be respected and protected. Furthermore, the development of *fiqh al-bi'ah* (Islamic environmental jurisprudence) reinforces the normative foundation of Islamic responses to contemporary ecological crises (Ibrahim et al., 2024).

Contemporary studies in Islamic theology also reveal a shift toward more contextual and responsive approaches to global issues, including environmental crises (Harnedi et al., 2025). Thus, Islamic ecotheology is not limited to doctrinal discourse but functions as an applied theological framework addressing modern ecological challenges.

Islamic Education and Ecological Awareness

Islamic education aims to develop holistic individuals by integrating cognitive, spiritual, moral, and social dimensions. In this context, ecological values can be

internalized through Islamic Religious Education (IRE) grounded in theological principles (Laksono, 2022).

Research on the integration of ecotheology into education indicates that environmentally oriented learning within IRE enhances students' ecological awareness at both affective and behavioral levels (Laksono, 2022). The implementation of sustainability practices in Islamic educational institutions, such as eco-pesantren initiatives, demonstrates how theological values are translated into practical actions including waste management, water conservation, and reforestation activities (Gunagraha et al., 2025).

These findings affirm that Islamic education serves as a strategic medium for transforming ecotheological values into sustainable ecological behavior. Therefore, the integration of theology and pedagogy becomes central to fostering faith-based environmental responsibility.

Bibliometric Studies in Islamic Ecotheology and Education

Bibliometric approaches have been employed to map developments in Islamic theological studies (Harnedi et al., 2025), environmental conservation from Islamic perspectives (Ibrahim et al., 2024), and ecological interpretations within Islamic discourse (Khafidhoh, 2025). These studies reveal a growing body of international publications addressing environmental issues within Islamic scholarship, particularly in indexed academic journals.

Bibliometric analysis enables the identification of publication trends, thematic clusters, author productivity, and collaboration networks. However, based on the review of these studies, specific bibliometric mapping focusing on Islamic Ecotheology Learning as a pedagogical construct remains limited. Most prior research concentrates on theological interpretations or environmental conservation rather than structured learning processes within Islamic educational systems. Accordingly, a research gap exists in systematically mapping the development of Islamic ecotheology learning scholarship, particularly within the 2020–2025 period.

Conceptual Framework

Drawing on the reviewed literature, this study proposes a conceptual framework that integrates three core constructs: (1) Islamic theological foundations, (2) ecotheological educational integration, and (3) bibliometric knowledge mapping.

Islamic theological foundations represent the normative and ethical basis of environmental responsibility, grounded in the principles of *tawḥīd* (unity of creation), *khalīfah* (stewardship), *amānah* (moral trust), and *mīzān* (balance) as discussed by Ibrahim et al. (2024), Khafidhoh (2025), and Harnedi et al. (2025). These principles frame ecological care as an expression of faith and theological accountability.

Ecotheological educational integration refers to the operationalization of these theological values within Islamic education. As indicated by Laksono (2022) and Gunagraha et al. (2025), this construct encompasses curriculum integration in Islamic Religious Education (IRE), contextual pedagogical strategies, institutional

sustainability practices such as eco-pesantren models, and the internalization of ecological ethics into students' behavior. This dimension translates theological concepts into structured learning processes and lived educational practices.

Bibliometric knowledge mapping functions as the analytical lens through which the development of Islamic ecotheology learning is examined. Following the approaches of Harnedi et al. (2025), Ibrahim et al. (2024), and Khafidhoh (2025), bibliometric analysis enables the identification of publication trends, thematic clusters, scholarly productivity, and collaboration networks within the 2020–2025 period.

This framework positions Islamic ecotheology learning not merely as a doctrinal discourse but as an evolving academic and pedagogical construct shaped by theological principles, educational implementation, and scholarly development. Rather than treating ecotheology as a static concept, the framework conceptualizes it as a dynamic knowledge system in which religious values, educational practice, and research trends interact to produce faith-based ecological awareness and sustainable behavior.

METHODOLOGY

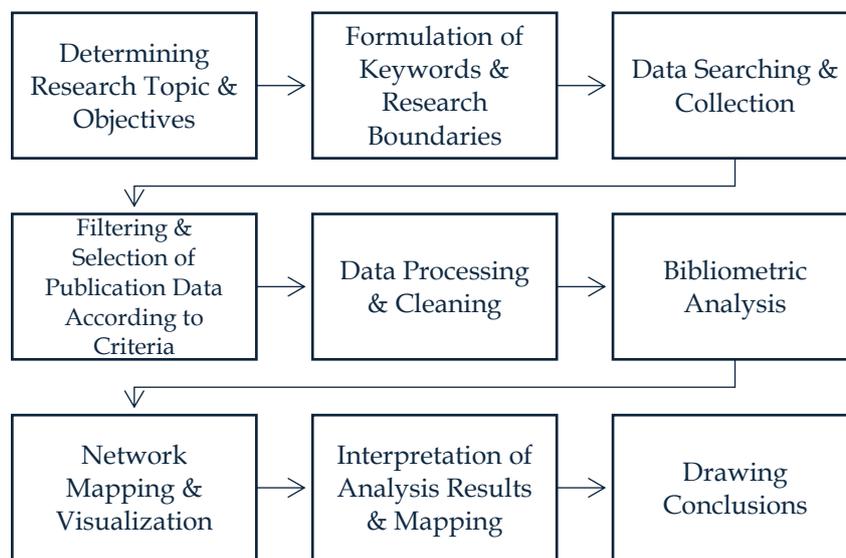## Research Design and Approach

The research was conducted in January 2026 using a quantitative approach. Research with a quantitative approach is a scientific approach that focuses on objective measurements of social or natural phenomena through numerical data analyzed using both descriptive and inferential statistical techniques to test hypotheses or answer research questions systematically and measurably.(Ioannidis & Maniadis, 2023; Winkler & Wofford, 2024)The object of this study is the development of scientific publications on Islamic ecotheology learning. The objective of the quantitative approach is to explore patterns, relationships, influences, or significance between variables, test theories, and reveal findings that are predictive and can be used as a basis for scientific decision-making.(Palanisamy et al., 2025; Yiduo & Jichang, 2024). In the context of this research, the goal is to predict the opportunities for trends that can be developed in the future from issues related to Islamic ecotheology learning.

Specifically, the research method used is bibliometric research. The bibliometric method is a quantitative approach that analyzes scientific publication data to map research trends, citation patterns, author collaborations, and the development of study themes (Öztürk et al., 2024; Stefanis et al., 2025)The method chosen in this study is to examine the issue of Islamic ecotheology learning, to what extent the research has resulted in it, and to what opportunities can be developed in the future based on the research findings.

The primary data used in this study were 808 published scientific articles with the keyword "Islamic Ecotheology Learning" from the Google Scholar database using the Publish or Perish application. Secondary data were sourced from books, journal articles & proceedings, papers, theses, dissertations, research reports, and valid

internet sources as supporting materials. After the data was obtained, it was analyzed using descriptive qualitative analysis techniques, namely verbal analysis with word descriptions to reveal the data in depth. (Engstrom et al., 2024; Furidha & Sidoarjo, 2023).

In addition, this study also used several applications as analysis tools, including Google Scholar, Publish or Perish, and Vos Viewer. Google Scholar is a digital tool used to search for academic papers across various disciplines (Rahman et al., 2024), the Publish or Perish application is used to process and analyze citation data from Google Scholar(Salem & Shahimi, 2025), while Vos Viewer is an infographic tool that functions to map relationships between publications, researchers, institutions and keywords that help researchers understand the structure, trends and clusters of research themes (Adithya et al., 2025). In more detail, the research flow using this bibliometric research method can be seen in the following image:

Determining Research Topic & Objectives → Formulation of Keywords & Research Boundaries → Data Searching & Collection

Filtering & Selection of Publication Data According to Criteria → Data Processing & Cleaning → Bibliometric Analysis

Network Mapping & Visualization → Interpretation of Analysis Results & Mapping → Drawing Conclusions

**Figure 1.** Research Flow with Bibliometric Research Method (Mangubat & Saeedi, 2025)

RESULTS

Research Trends on Islamic Ecotheology Learning 2020-2025

The first research finding is regarding the development of research on Islamic ecotheology learning from scientific publications in the Google Scholar database through the Publish or Perish application version 8.19. The search begins by using the application with the specifications for using the database used being Google Scholar, the next step is to enter the keyword "Islamic Ecotheology Learning" in the application menu, then determine the publication time range, namely from 2020-2025 with the results that were successfully identified automatically by the application were 808 scientific publication articles related to the topic.

In the next stage, the researcher stored the data of 808 published articles in APA Reference format, which was then examined by the researcher himself by matching

the criteria regarding the issue of "Islamic Ecotheological Learning." The dimensions of Islamic ecotheological learning itself consist of several parts, including awareness of faith, values , and morals towards nature, Islamic-based ecological literacy, inner sensitivity, practices and habits, context and community, and learning strategies (Solichin, 2017). From several dimensions of Islamic ecotheological learning, the researcher examined the relevant articles one by one, so that from 808 published articles, 83 relevant publications were filtered as follows:
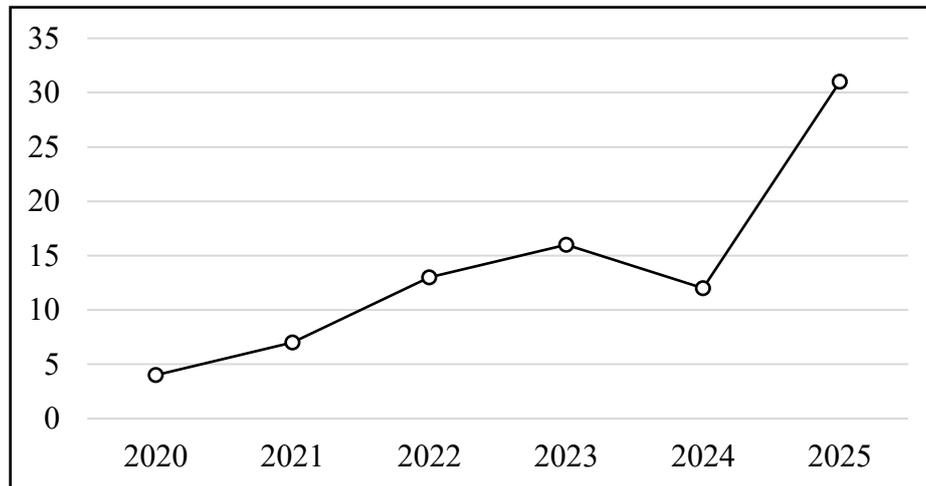
Figure 2. Research Trends on Islamic Ecotheology Learning 2020-2025

From the graph in Figure 2 above, it is known that the publication trend regarding the issue of Islamic Ecotheology Learning from 808 selected articles resulted in clean data of 83 publications that met the criteria with details: 4 publications produced in 2020, 7 publications in 2021, 9 publications in 2022, 14 publications in 2023, 11 publications in 2024, and 32 publications in 2025. In percentage terms, of the 808 initial records, 83 publications (10.3%) met the inclusion criteria and there was a reduction of 89.7% of selected article publications.

From a quantitative perspective, in 2025, there were 32 scientific publications related to the issue of Islamic ecotheology learning, which can be said to be the most compared to previous years. This is because, if we look at the current phenomenon, there has been a real increase in environmental damage.(Kumar et al., 2025). Real evidence of ecological disasters in the Aceh, Padang, and Sulawesi regions is suspected to be due to the impact of deforestation, land conversion, and excessive exploitation of natural resources (Nole et al., 2025). Other real phenomena, such as floods, landslides, and ecosystem degradation, indicate that the environmental crisis is occurring as a result of the moral and spiritual crisis of humans in understanding their relationship with nature.(Hia, 2018). Islamic ecotheology is present as a theological, ethical, and pedagogical framework as an affirmation of the role of humans as caliphs, namely fulfilling Allah's mandate to maintain the balance of the earth, which can be internalized through media channels, one of which is education.(Nur et al., 2025). The most likely thing to be applied in the educational realm regarding ecological awareness is through the design of ecotheological learning as a real framework for the future.

Research Publication Sources on Islamic Ecotheology Learning 2020-2025

The second research finding is an effort to investigate the sources of research publications on the issue of Islamic ecotheological learning in 2020-2025 from the Google Scholar database of 83 published articles that have been cleaned by the researcher himself, with the following results:
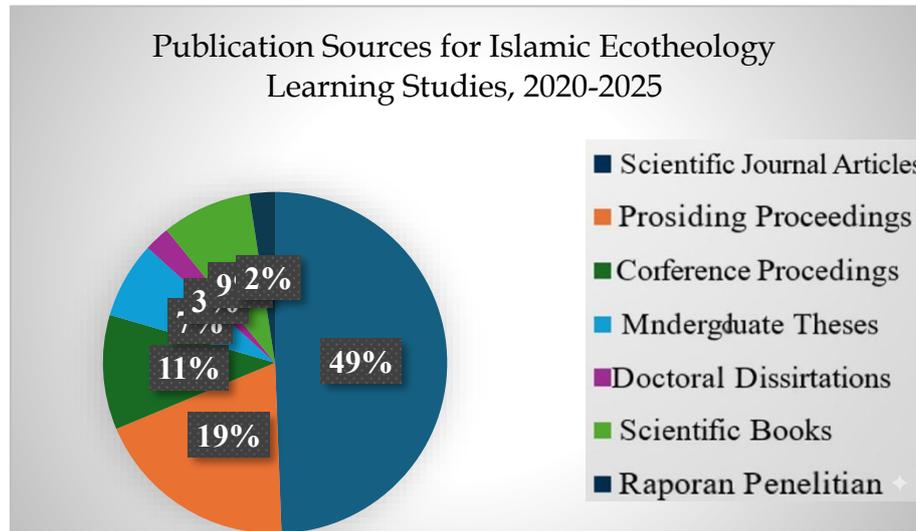
**Figure 3.** Research Publication Sources on Islamic Ecotheology Learning 2020-2025

Based on Figure 3 above, it is known that the sources of scientific publications regarding Islamic Ecotheology Learning throughout 2020-2025 were identified as many as 7 sources, including scientific journal articles, seminar proceedings, theses, dissertations, scientific books, and research reports. Viewed from the percentage, publication sources in the form of scientific journal articles dominate with 49% or as many as 41 sources, followed in second place by seminar proceedings with a percentage of 19% or as many as 16 sources, third position is thesis with 11% or as many as 9 sources, fourth is thesis with 7% or as many as 6 sources, fifth is dissertation with 3% or as many as 3%, sixth is scientific books with 9% or as many as 7 sources, and seventh is scientific reports with 2% or as many as 2 sources.

Judging from the substance, the publication sources in the form of scientific journal articles and seminar proceedings emphasize the conceptual and implementative aspects of ecotheology learning, specifically in Islamic Religious Education learning through the integration of the values of khalifah fil ardhi, ecological mandate, and fiqh al-bi'ah into the curriculum of madrasas, Islamic boarding schools, and schools.(Taufikin, 2025)Publications at the undergraduate and graduate level generally focus on case studies of the application of environmental-based learning, strengthening environmental-conscious characters, and developing Adiwiyata-based learning models (eg) and Islamic ecopedagogy (Hajar, 2024), while at the dissertation and book level, there is a tendency to elaborate on philosophical, theological, and epistemological foundations as a framework for educational paradigms.(Syafaruddin, 2025)Meanwhile, when viewed chronologically, there has been a shift in themes from normative-theoretical studies in the early period (2020-2021) towards a more applied,

interdisciplinary, and responsive approach to the issue of the natural crisis, and in the 2023-2025 period, it became a period that signified the need to strengthen the position of ecotheological learning as a strategic field of study in the development of contemporary Islamic education (Rohman et al., 2024).

Researchers on Islamic Ecotheology Learning 2020-2025

The third finding of this study is the investigative efforts of researchers who studied the issue of Islamic Ecotheology Learning throughout 2020-2025 through a bibliometric analysis tool with the help of the Vos Viewer application, version 1.6.20, on 83 publications (clean data) related to the issue. The stages of the researchers' disclosure were carried out through several stages in the application, including: (1) create a map-based bibliographic data, (2) read data from reference manager files, (3) data source (read data from type RIS), (4) counting method, and (5) full counting maximum number of authors (25) - minimum number of documents of an author (5)(Hamdi et al., 2024). The data from the 77 saved publications were entered into the Vos Viewer application, which automatically detected four researchers related to the issue being studied, as follows:
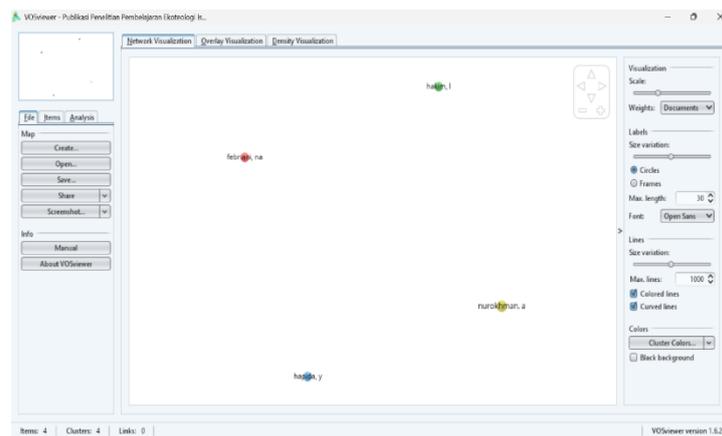
Figure 4. Researchers on Islamic Ecotheology Learning 2020-2025

The four researchers identified in detail regarding the issue of Islamic Ecotheology Learning in 2020-2025 include: (1) Prof. Nur Arfiyah Febriani, a Professor and academic from PTIQ University Jakarta with expertise in Gender and Quranic Interpretation, who has published 5 articles, (2) Dr. Drs. H. Lukman Hakim, M.Sc., an academic from Galunggung Law College (STH) with expertise in Law, who has published 5 publications, (3) Yustina Hapida, an academic from UIN Raden Fatah Palembang with expertise in Biology, who has published 5 articles, and (4) Amin Nurokhman, an academic from UIN Raden Fatah Palembang with expertise in Plant Physiology and Plant Tissue Culture, who has published 7 articles.

Developing Issues regarding Islamic Ecotheology Learning in 2020-2025

The fourth finding of this study is an effort to investigate the developing issues regarding Islamic Ecotheology Learning throughout 2020-2025 through the same method as the researchers' disclosure, namely the assistance of the Vos Viewer application with a slight difference in format for 83 article publications (clean data)

including the following stages: (1) selection of the type of data model with the selected data source being read data from reference manager files with the supported file type being in RIS format, (2) in the counting method section, Binary Counting was selected with a minimum number of occurrences of term of 4 so that automatically by the application the number of term be selected that appeared was 110 term items which were then automatically filtered again by the application by 60% so that a total of 66 selected term items appeared, and (3) then in the next stage before the item network was displayed, in the verify selected term table section as shown in Figure 5, a re-selection was carried out to review the alignment of the term items that appeared with the topic around Islamic Ecotheology Learning so that they were appropriate so that some irrelevant term items such as conjunctions, words descriptions, and other inappropriate words were not selected. Further results of the investigation process of the developing issues can be seen as follows:


Figure 5. Readjustment of term items with criteria that are appropriate to the topic of Islamic Ecotheology Learning
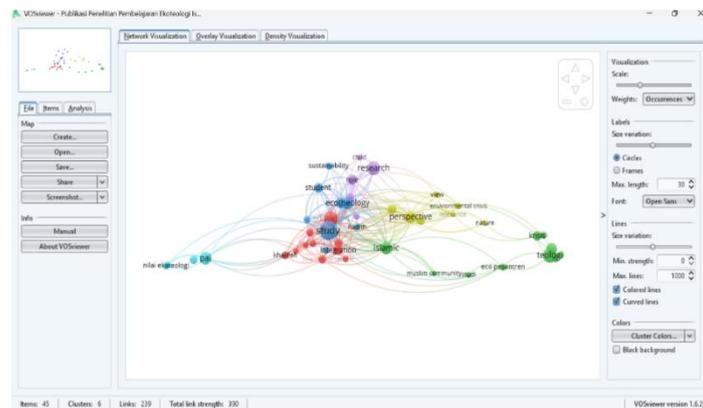
Figure 6. Forty-five (45) term items selected from 66 term items automatically by 60% by the application

Based on Figure 6 (Network Visualization mode), six thematic clusters structure the discourse on Islamic Ecotheology Learning (2020–2025): (1) education and implementation issues; (2) eco-theology and Islamic boarding school discourse; (3) Islamic education and sustainability; (4) environmental crisis and perspectives; (5) research and developmental roles; and (6) internalization of ecotheological values and case studies.

Then as many as A total of 390 co-occurrence links were identified among the selected terms to each other, then looking at the novelty with the Overlay Visualization display mode as in Figure 7, several topics that are often studied around the issue of Islamic Ecotheology Learning are starting to develop increasingly starting from 2025 as the yellow network thread includes: ecotheological values, challenges, concepts, eras, environmental crisis, and relevance are topics that are popular to study and are widely discussed.
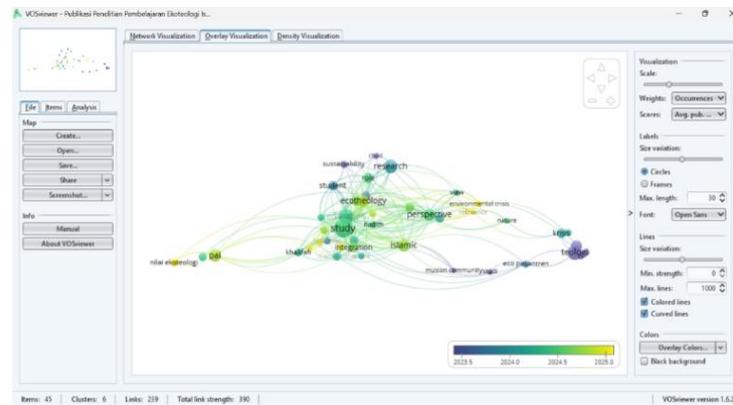
Figure 7. Topics that are often studied in relation to Islamic Ecotheology Learning Issues will begin to produce many publications in 2025

The fifth finding identifies emerging research issues in Islamic Ecotheology Learning through a bibliometric review using VOSviewer, particularly employing the Density Visualization mode (see Figure 8).
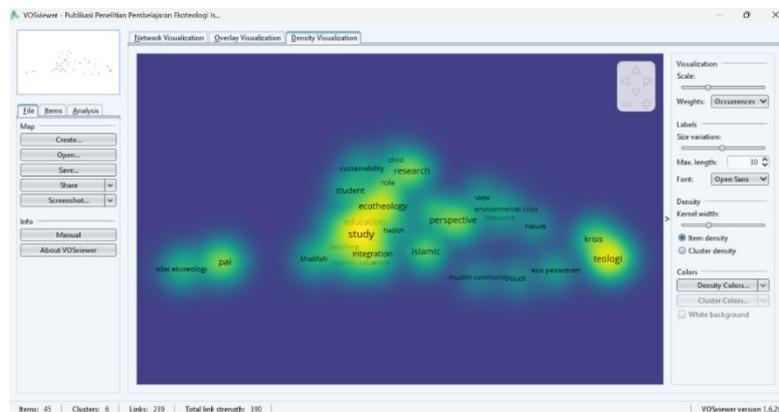
Figure 8. Latest Issues that can be Developed regarding Islamic Ecotheology Learning in the Future

Based on Figure 8 above, several terms in yellow are less bright and tend to be dim, including ecotheological values, case studies, PAI, caliph, challenge, student, concept, sustainability, hadith, child, role, research, Islamic teaching, perspective, Muslim community, environment, view, relevance, study, environmental crisis, nature, and eco pesantren which are strong topics to be developed further and become issues that are worthy of much discussion and discussion and also produce research publications.

The findings of a bibliometric review of Islamic ecotheology learning issues 2020–2025, such as ecotheological values, case studies, Islamic Religious Education (PAI), caliphs, hadiths, sustainability, Muslim communities, environmental crises, and eco-Islamic boarding schools, show that research is increasingly directed towards

integrating Islamic theological values with applicable environmental education practices. Studies such as ecotheology-based Islamic Religious Education emphasize that PAI can be a vehicle for fostering ecological awareness through internalizing the values of caliphs and mandates from the Qur'an and hadith, so that learning is not only cognitive but also affective and conative (daily practices) in preserving the environment (Laksono, 2022); Green Islam Education research: Ecopedagogy Learning Model develops an environmental fiqh-based learning model that is appropriate to the context of urban Islamic schools, combining the principles of khalifah, maslahah and hima to address the challenges of pollution and limited green space (Zaimina & Munib, 2025); the study of Ecotheology in the Perspective of Islamic Education emphasizes a holistic approach from philosophical to practical in the curriculum, which can be linked to the need for learning ecotheological values in all levels of Islamic education (Syafaruddin, 2025). The study of the Implementation of Islamic Education Ecotheology (case study of MI Mambaul Huda) shows how the internalization of environmentally friendly values in school life has a direct impact on student behavior, such as planting trees and waste management.(Gunagraha et al., 2025).

More practically, Islamic ecotheological learning with the identified renewable issues can be applied in the field through the Eco-Pedagogical Curriculum Integrative Model where the theological basis is the integration of the values of monotheism, caliphate, trustworthiness, and fiqh al-bi'ah into the Islamic Religious Education curriculum competencies; participatory learning methods as the method; community collaboration as its support, and continuous evaluation as its measurable monitoring. The application of the ecotheological learning model with Islamic characteristics can be applied according to the following flow:

Figure 8. Implementation of the Ecotheology Learning Model with Islamic Characteristics

DISCUSSION

The bibliometric mapping of Islamic ecotheology learning between 2020 and 2025 reveals not only quantitative growth but a significant epistemic shift in the positioning of Islamic education within global sustainability discourse. The upward trajectory of publications confirms that ecological concerns are increasingly interpreted through Islamic theological and pedagogical frameworks. This pattern parallels broader bibliometric expansions observed in sustainability-related domains (Adithya et al., 2025; Salem & Shahimi, 2025), suggesting that Islamic ecotheology learning is part of a wider intellectual movement integrating ethics, education, and sustainable development.

Conceptually, Islamic ecotheology learning is anchored in theological constructs such as *tawhid*, *khalifah*, and *amanah*, which frame environmental stewardship as a moral and spiritual obligation. Fazlhashemi (2025) situates Islamic ecotheology within a theological narrative of divine unity and moral accountability, emphasizing that

ecological responsibility emerges from ontological coherence between God, humanity, and nature. Similarly, Welch and Rahman (2024) argue that Islamic engagements with nature are inseparable from theological anthropology, where humans function as trustees rather than exploiters of creation. The bibliometric dominance of terms linking Islam, education, sustainability, and environment suggests that this theological grounding is increasingly translated into pedagogical discourse.

However, the structural configuration of keyword networks indicates a consolidative rather than fully mature field. As outlined in methodological frameworks for bibliometric research (Öztürk et al., 2024; Stefanis et al., 2025), a mature domain typically demonstrates dense interconnections among conceptual clusters. In contrast, Islamic ecotheology learning exhibits thematic segmentation: theological analyses, curriculum integration studies, and pedagogical innovations often develop in parallel. For example, conceptual explorations of ecological Qur'anic interpretation (Khafidhoh, 2025; Nur et al., 2025) do not always intersect directly with empirical curriculum integration models (Rohman et al., 2024; Taufikin, 2025; Zaimina & Munib, 2025). This fragmentation suggests that theoretical synthesis remains an urgent agenda.

From an educational theory perspective, the field intersects with foundational Islamic educational constructs such as *tarbiyah*, *ta'lim*, and *ta'dib* (Wati et al., 2022; Sari, 2024; Sulwana et al., 2025). These concepts offer a normative scaffold for character formation, yet their operationalization within environmental pedagogy remains uneven. While several studies propose eco-theological curriculum integration (Laksono, 2022; Gunagraha et al., 2025), few articulate explicit instructional design models grounded in contemporary learning theory. Integrating frameworks such as authentic learning (Nachtigall et al., 2022), self-regulated learning (Sinkkonen & Tapani, 2024), or Gagné's instructional events in microlearning contexts (McNeill & Fitch, 2022) could strengthen the pedagogical architecture of Islamic ecotheology learning.

Methodologically, the predominance of qualitative and conceptual approaches aligns with broader patterns in Islamic education research (Furidha & Sidoarjo, 2023). While such approaches deepen normative understanding, they limit the ability to measure behavioral transformation. Empirical environmental psychology research demonstrates that nature exposure and eco-anxiety significantly influence pro-environmental behavior (Kratz & McEwan, 2025), and systematic reviews on religion-environment relationships indicate complex mediating variables between belief and action (Sabir et al., 2025). Islamic ecotheology learning would benefit from adopting mixed-method and quantitative frameworks (Yiduo & Jichang, 2024; Winkler & Wofford, 2024) to evaluate whether theological internalization translates into measurable ecological practices among learners.

The growth of Islamic ecotheology scholarship must also be contextualized within intensifying global environmental crises. Studies on biodiversity loss (Kumar et al., 2025), environmental degradation drivers (Osman et al., 2025), and subsidy-related ecological decline (Reyes-García et al., 2025) underscore the structural nature of

sustainability challenges. In this context, Islamic ecotheology learning positions itself not merely as moral exhortation but as an ethical counter-narrative to exploitative development paradigms. Hia (2018) identifies a crisis of spirituality underlying modern scientific paradigms; Islamic ecotheology may thus function as a re-sacralization of environmental ethics, reintroducing metaphysical accountability into sustainability discourse.

When compared to global ecotheology trends, Islamic ecotheology learning demonstrates both convergence and contextual specificity. Globally, ecotheology across religious traditions increasingly links doctrine with climate justice and activism. However, Islamic scholarship shows a distinctive emphasis on formal and non-formal educational reform. Curriculum transformation efforts (Isyraqi et al., 2024; Sinta et al., 2024) and leadership reinterpretations grounded in Qur'anic ethics (Pranoto et al., 2025a; 2025b) illustrate a pedagogical strategy aimed at embedding ecological consciousness within character education systems. This education-centered orientation differentiates Islamic ecotheology learning from activism-centered models more common in Western ecotheological movements.

Nevertheless, bibliometric concentration within specific geographical regions suggests limited transnational integration. Comparative bibliometric analyses in related Islamic domains (Harnedi et al., 2025; Hasanah et al., 2025) demonstrate that network density often correlates with international collaboration. Expanding cross-regional partnerships could enhance citation connectivity and theoretical diffusion, preventing intellectual insularity.

Importantly, the science of learning literature (Huang et al., 2025; Hari Rajan et al., 2025) emphasizes that sustainable behavioral change requires cognitive, affective, and contextual reinforcement. Islamic ecotheology learning possesses unique potential in this regard because it integrates metaphysical belief systems with moral habituation. However, without rigorous impact evaluation and clearly articulated learning objectives (Albina & Pratama, 2025; Tanjung & Albina, 2025), the transformative claims of eco-theological pedagogy remain aspirational.

In theoretical terms, Islamic ecotheology learning may be conceptualized as a faith-based transformative sustainability education paradigm grounded in tauhidic ontology and moral accountability. Its distinctive contribution lies in fusing transcendental ethics with ecological praxis. Yet the field must transition from discursive expansion to integrative consolidation. This requires methodological diversification, interdisciplinary synthesis, and empirically validated instructional models capable of demonstrating measurable environmental outcomes.

In conclusion, the bibliometric evidence confirms that Islamic ecotheology learning is evolving from a reactive theological discourse into an emergent interdisciplinary research field with increasing academic visibility. While normative foundations are robust and expanding, theoretical integration and empirical substantiation remain critical frontiers. Advancing the field demands not only conceptual refinement but also methodological rigor and global scholarly collaboration, ensuring that Islamic

ecotheology contributes substantively to contemporary sustainability education discourse.

IMPLICATIONS

Theoretical Implications

This study contributes to the theoretical development of Islamic Ecotheology Learning by positioning it as an integrative construct that connects Islamic theological principles, educational praxis, and scholarly knowledge production. The findings reinforce the argument that ecotheology in Islamic discourse is not merely a normative theological reflection but an operational pedagogical paradigm grounded in tawḥīd, khalīfah, amānah, and mīzān (Ibrahim et al., 2024; Khafidhoh, 2025; Harnedi et al., 2025).

By mapping publication trends and thematic clusters, this study also expands bibliometric applications within Islamic education research. It theoretically frames Islamic Ecotheology Learning as a dynamic knowledge system shaped by interdisciplinary interaction between theology, environmental ethics, and educational studies. Thus, the study strengthens the conceptual bridge between Islamic theological thought and sustainability-oriented education.

Practical and Policy Implications

Practically, the findings provide direction for integrating ecotheological values into Islamic Religious Education (IRE) curricula and institutional culture. The identified research clusters highlight the importance of curriculum integration, contextual pedagogy, and sustainability practices such as eco-pesantren models (Laksono, 2022; Gunagraha et al., 2025). Educational institutions may utilize these insights to design structured learning modules that internalize ecological ethics and promote sustainable behavior among students.

From a policy perspective, the study suggests the need for systematic support from educational authorities to incorporate faith-based environmental education within Islamic schooling systems. Policymakers may consider developing guidelines, teacher training programs, and sustainability standards aligned with Islamic theological values. Furthermore, the bibliometric mapping of emerging themes can inform future research agendas and institutional collaborations in advancing Islamic ecotheology-based education.

CONCLUSION

Based on the research conducted, it can be concluded that the research trend on Islamic Ecotheology Learning for the 2020–2025 period shows a significant increase, especially in 2023–2025. Of the total 808 initial publications identified through Google Scholar, only around 10.3% are truly relevant and meet the criteria for Islamic

ecotheology learning, indicating that this field of study is still relatively specific but is developing rapidly. This finding answers the first problem formulation that Islamic ecotheology learning is starting to receive serious attention, along with the increasing global environmental crisis and awareness of the importance of integrating Islamic theological values in education as an ethical and pedagogical solution.

Furthermore, this study found that the sources of publications and actors in Islamic ecotheological learning research are still dominated by scientific journal articles and seminar proceedings, with the largest contributions coming from a handful of researchers and specific institutions. This addresses the second and third research questions, namely that the Islamic ecotheological learning research ecosystem remains concentrated and requires expanded collaboration across disciplines and institutions. Substantially, these publications demonstrate a shift from normative-theoretical studies to a more applied, contextual, and responsive approach to issues of education, the environment, and sustainability.

Finally, this study confirms that emerging issues and potential future developments include ecotheological values, Islamic Religious Education (PAI), the caliphate, sustainability, hadith, environmental crisis, students, eco-Islamic boarding schools, and the Muslim community. These findings address the fourth and fifth research questions by demonstrating that Islamic ecotheological learning has significant potential for development as a transformative educational model that integrates theology, pedagogy, and concrete ecological action. Thus, Islamic ecotheological learning has the potential to become a strategic framework for building ecological awareness, religious character, and sustainable responsibility among students in the context of contemporary Islamic education.

LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

This study is limited by its reliance on bibliometric data sourced from Google Scholar within the 2020–2025 period. As such, the findings depend on database coverage, indexing accuracy, and metadata consistency, which may affect completeness and precision. Additionally, bibliometric analysis focuses on publication patterns and keyword relationships rather than examining the substantive depth or methodological quality of individual studies. Therefore, the results should be interpreted as a macro-level mapping of research trends rather than an evaluative assessment of content.

Future research may expand the scope by incorporating multiple databases such as Scopus or Web of Science to enhance comparative robustness. Mixed-method approaches combining bibliometric mapping with systematic literature review or content analysis would provide deeper conceptual insights. Furthermore, empirical studies investigating the implementation of Islamic Ecotheology Learning in diverse educational contexts are needed to bridge the gap between mapped research trends and real-world pedagogical practice. Longitudinal and cross-national studies could

also strengthen understanding of how ecotheological education contributes to sustainable behavior over time.

ETHICAL STATEMENT

This study utilized secondary bibliometric data obtained from publicly accessible academic publications. No direct human participants were involved. All data were analyzed solely for academic research purposes, and proper citation practices were maintained to ensure scholarly integrity.

CONFLICT OF INTEREST

The author declares that this research was conducted in the absence of any commercial, financial, institutional, or personal relationships that could be construed as a potential conflict of interest. No external funding, sponsorship, or affiliations influenced the design of the study, data collection, analysis, interpretation of results, or the writing of this manuscript. The author further confirms that all findings and conclusions presented in this article are based solely on academic considerations and scholarly integrity.

ACKNOWLEDGMENTS

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