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A Digital Georeferenced Reconstruction of al-Biruni's Map from The Mas'ud Canon

Keywords: al-Biruni, ancient geography, GIS analysis, historical cartography, georeferencing

Summary: Abu Rayhan al-Biruni was a prominent Central Asian scientist from the Kingdom of Khwarazm. In the fifth volume of his 11-volume *Al-Qānūn al-Mas'ūdi* (“The Mas'ud Canon”) written in the first half of the 11th century AD and dedicated to Mas'ud of Ghazni, al-Biruni provided the coordinates of 600 geographic objects of that time, such as cities, islands, peninsulas, mountains, etc. In this paper, we present a new digital georeferenced reconstruction of al-Biruni's map based on The Mas'ud Canon's data. This work is intended for an audience interested in historical cartographic heritage. Our novel results are part of the output of our broader research effort aimed at placing our multi-year Universe of Ptolemy project in the context of other historical cartographic sources to improve the readers' understanding of how geography developed as a field of science.

Introduction

Abu Rayhan al-Biruni is a famous eleventh century scientist and historian who was born in the medieval Central Asian Kingdom of Khwarazm in 973 AD. His 11-volume *Al-Qānūn al-Mas'ūdi* (“The Mas'ud Canon” latinized as *Codex Masudicus*) was dedicated to his benefactor Mas'ud of Ghazni, a son of Sultan Mahmud of Ghazni. In 1017, Mahmud of Ghazni captured Khwarazm and took most of the city's scholars, including al-Biruni, to Ghazni, the capital of the Ghaznavid dynasty located in the present-day Afghanistan. For his achievements in Geography, al-Biruni is called the “father of modern geodesy.” In the fifth volume of The Mas'ud Canon completed around 1037, al-Biruni supplied the coordinates of ~600 geographic objects of his time, including cities, islands, peninsulas, mountains, confluences of rivers, caravan stations in the desert, etc. Alternative names of the objects (e.g., Persian vs. Arabic, or new vs. old) were often provided, along with brief, but informative descriptions that proved helpful in the identification of the objects. All objects were located in the “Old World” (Africa, Asia, and Europe) and listed according to the Earth's division into the *climes* (Greek κλίματα), south to north, and then west to east within each horizontal stripe corresponding to a clime. This was done for the convenience of a medieval map maker, given that the top of the Arabic map was its south and the writing was done right-to-left, so the ink wouldn't smudge as the objects were being placed on the map's parchment in this order.

In this paper, we present a new digital georeferenced reconstruction of al-Biruni's map based on the data from the fifth volume of The Mas'ud Canon found in its Russian translation (Al-Biruni 1973) and cross-checked against a later version (Bulgakov & Kamoliddin 2023). The work is intended for a broad audience interested in the historical cartographic heritage of the human civilization. We use the object classification introduced in our article on Claudius Ptolemy's Arabia (Abshire et al. 2020) and divide al-Biruni's objects into four categories: *known* objects, *tentatively identified* objects, *unknown* objects (placed approximately), and *duplicates*. A review of other scientific literature relevant to the GIS analysis and visualization of al-Biruni's data is provided in the next section of our paper. The third section of the paper describes our main methodology, along with a

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discussion of some certain identifications. Tentative identifications are discussed in Section 4. Our digital reconstruction of al-Biruni's map is presented in the fifth section of the paper. In the final section of the paper, we present conclusions and discuss our future research plans.

Literature Review

The Mas'ud Canon was first printed in Arabic in Hyderabad, India (Al-Biruni 1954). The publication came with a review of seven old manuscripts of al-Biruni's *magnum opus* that were extant at the time and served as sources. The best available translation of The Mas'ud Canon into a modern European language is the Russian translation by Bulgakov, Rozenfeld, and Rozhanskaya (Al-Biruni 1973). The translation includes extensive comments that identify or describe many of the objects listed. We have translated the database into English and introduced a simple ID system by enumerating the entries from 0 to 602. We have incorporated some of the refinements of the text and considered the updated comments found in a revised version (Bulgakov & Kamoliddin 2023).

The sources that we have used to improve the identification of al-Biruni's objects and locate their modern coordinates are too numerous to list all of them here. For identification of caravan stations in the Sinai desert, a voluminous monograph by Verreth (2006) proved invaluable. We found useful maps and descriptions of archaeological sites of Central Asia in (Rtveladze & Sagdullayev 1986). Representative coordinates of many relevant ancient objects located within the territory of the Roman Empire and on its outskirts can be found in the online Digital Atlas of the Roman Empire (DARE) by Åhlfeldt (2020). Luthfi (2016) published a good source on the medieval sites in Indonesia. Al-Biruni's own *Kitāb al-Hind* (Al-Biruni 1910) is of great help with identification of his objects in India and elsewhere. Cunningham was rightfully called the father of Indian archaeology and provided numerous relevant identifications of medieval archaeological sites (Cunningham 1871). Adamo and Al-Ansari (2020) provided a lot of useful information and reconstruction maps of medieval Iraq. We consulted with the reconstruction maps of the medieval Middle East by Le Strange (1905). An article by Jelodar and Mortezaei (2013) contained a satellite image that helped determine the coordinates of al-Biruni's Mahruban (ID 171).

A lot of relevant contextual information is found in the books written by medieval Arab and Persian authors, such as Ibn Haukal's *Šūrat al-'Arḍ* ("The Face of the Earth") (Ibn Haukal 1873), Al-Istakhri's *Masālik al-Mamālik* ("Routes of the Realms") and *Šuwar al-'Aqālīm* ("Pictures of the Regions") (Al-Istakhri 1927), Ibn Khordadbeh's *Kitāb al Masālik w'al Mamālik* ("The Book of Roads and Kingdoms") (Ibn Hordadbeh 1865), Al-Ya'qūbī's *Kitāb al-Buldan* ("Book of the Countries") (Al-Ya'qūbī 1892), Hisham ibn al-Kalbi's *Kitāb al-Aṣnām* ("The Book of Idols") (Al-Kalbi 1952), Al-Tabari's *Tarikh al-Rusul wa al-Muluk* ("History of the Prophets and Kings") (Al-Tabari 1985-2007), and *Kitāb Šūrat al-Arḍ* ("Book of the Description of the Earth") by al-Khwarizmi (1926). We have also consulted with Konrad Miller's reconstruction of *Tabula Rogeriana*, a famous world map by Muhammad al-Idrisi dated 1154 AD (Miller 1929).

This study being part of our multi-year project involving digital reconstruction and georeferencing of the maps from Claudius Ptolemy's *Geography* (Stückelberger & Grasshoff 2006), we were able to reuse the modern coordinates of ancient objects previously determined and published in our works on Ptolemy's Taprobane and India before the Ganges (Abshire et al. 2016), the Fertile Crescent including Judaea Palestina, Syria, Mesopotamia, and Babylonia (Abshire et al. 2017), India beyond the Ganges, Serike and Sinae (Gusev & Stafeyev 2018), West Africa (Filatova et al. 2019), Arabia (Abshire et al. 2020), and East Africa (Gusev & Stafeyev 2023). Our new results add more context to that supplied and analyzed in (Gusev & Stafeyev 2022). The nature of al-Biruni's data

turned out to be so different from Ptolemy's that a different, new methodology had to be developed and applied to this material. The methodology is explained in the next section of this paper. Meanwhile, the literature reviews included in our earlier papers referenced in this section supply many references to other works related to GIS analysis of ancient maps.

Methodology

The map reconstruction process started similarly to the procedure described by Filatova et al. (2019), the first step being to identify and georeference as many locations as possible, in anticipation that they would serve us as reference points for approximate placement of the objects that cannot be identified. It turned out that the Russian translators had adequately identified, i.e., provided modern or recent names and/or sufficient descriptions, directions, and sometimes even modern coordinates to find 348 objects out of 603 listed with coordinates by al-Biruni. At the same processing step, we have identified 4 pairs of known or likely duplicates in al-Biruni's dataset. They are listed in Table 1 of Appendix A. With our prior background of having worked with Ptolemy's *Geography* and other ancient sources for over 20 years, we would have been able to easily identify 140 out of those 348 objects on our own, just given their names and al-Biruni's imperfect coordinates comparable in quality to those of Claudius Ptolemy. We believe that any person with good general knowledge of school geography and history would have trivially recognized some of those places, such as Aden and Sanaa in Yemen, Mecca and Medina in Saudi Arabia, Tunis in Tunisia, Alexandria in Egypt, Baghdad in Iraq, Gaza in Palestine, Damascus in Syria, Shiraz and Isfahan (Isfahan) in Iran, Kabul in Afghanistan, Ishbiliya and Kurtuba (Seville and Córdoba) in Spain, Efes (Ephesus) and Tarsus in Turkey, Beirut in Lebanon, Great Rumiya (Rome) and the island of Sikiliya (Sicily) in Italy, Afinas (Athens) in Greece, Bukhara and Samarkand in Uzbekistan, Osh in Kyrgyzstan, etc. The translators provided enough information to prevent us from confusing al-Biruni's Dunkula with the modern Dongola in Sudan. Old Dongola is located 80 kilometers away, on the opposite, east bank of the Nile. Likewise, al-Biruni's Al Jurjaniya (Gurganj) corresponds to Konye-Urgench ("Old Gurganj") and not to the modern city of Urgench founded in the 19th century 150 kilometers away from the old site.

In addition to the 348 identifications made by the translators, our experience and knowledge allowed us to quickly identify and locate 17 more objects, such as Sufara (Ptol. *Suppara*, modern Nala Sopara) in India, Tanas (Ténès Lahdar, or Vieux Ténès, not the modern Ténès) in Algeria, Nahr al-Malik (Ptol. *Naarda*, the ancient Nehardea ruins) in Iraq, the island of Tinnis (Ptol. *Tanis*, Tanis archaeological site, Tall Şān al Ḥajar) in Egypt, Aylat al-Maskh (Ptol. *Elana*, Ailan archaeological site in Aqaba, not the modern Israeli port of Eilat) in Jordan, and Kilikiya (Ptol. *Korykos*, modern Kızılkalesi) in Turkey. With $365/599 \approx 61\%$ of the objects known, we proceeded to perform simple name searches in Google Earth and Google. The searches were followed up by quick verification checks and yielded 123 more identifications. This series of searches and checks let us, just to give a few examples, identify al-Biruni's Hadramaut as the modern Shibam Hadramawt in Yemen, Ghana as the ruins of Koumbi Saleh in Mauritania, Sandan as the modern Sanjan in India, At-Tiz as the modern Tis in Iran, Kanbala from the "land of al-budhi" as the ruins of Kot Bala in Pakistan, Bari as the modern city of Bari in the state of Rajasthan in India, Zawilah "on the border of the land of the Sudanese, the gate of the slave trade" as the modern Zawilah in Libya, An-Nahrawan as the modern Nahrawan in Iraq, Ar-Ramla as the modern Ramla in Israel (not Ramallah in Palestine), and Khisn at-Tak as the Sar-o-Tar archaeological site in Afghanistan. While it was indicated by the translators that al-Biruni's Dudahi corresponds to a modern town called Dudhai, we found several

towns by that name to pick from and selected one in the mountains of Uttar Pradesh that boasts old temples and a rock-cut idol of Narasimha. By the end of Step 1, we had $488/599 \approx 81\%$ of the objects known. This number far exceeded $119/451 \approx 26\%$ for Ptolemy's Taprobane and India before the Ganges (Abshire et al. 2016) and $127/332 \approx 38\%$ for Ptolemy's Arabia (Abshire et al. 2020). Our digital reconstruction of Ptolemy's Fertile Crescent (Abshire et al. 2017) was based on $8/33 \approx 24\%$ of the objects known in Babylonia, $29/79 \approx 37\%$ of the objects known in Mesopotamia, $99/162 \approx 61\%$ of the objects known in Syria, and $33/44 \approx 75\%$ of the objects known in Judaea Palestina, which was studied extensively by archaeologists. In Ptolemy's West Africa (Filatova et al. 2019), the percentage of known objects was $273/567 \approx 48\%$ ($273/509 \approx 54\%$ without the 58 duplicates), whereas in his East Africa (Gusev & Stafeyev 2023) it was $251/425 \approx 59\%$ ($251/406 \approx 62\%$ without the 19 duplicates).

The second step of the original process was to place approximately the objects that could not be directly identified and georeferenced, and the third step involved tentative or certain identification of some of the objects that were placed approximately on the previous step. If the number of objects identified with certainty (known) grew after the third step, then the second step might be revisited if there were objects left to be placed approximately. We observed that al-Biruni tends to trace trade routes and sometimes the shorelines, while grouping the objects by provinces (regions) within the climes, so we deviated from the old approach and did not apply either triangulation or flocking with Bayesian correction (Abshire et al. 2020). Instead, we used a simplified version of the method of azimuths (Manoledakis & Livieratos 2006) and provisionally placed the unknown objects according to their relative positioning against the previous and/or next known object on al-Biruni's list (rather than use three nearby points). Meanwhile, we made sure that the reference points were within the same province or on a trade route or shoreline that was being traced. In other words, we did not employ any complex mathematical adjustments of coordinates this time. Having studied a series of medieval databases and maps (Gusev & Stafeyev 2022), we realized that it is often easier to find a match in the sources than to deal with a series of poor-quality coordinates. Thanks to the great percentage of the objects being already known after Step 1, none of the provisional placements of objects survived on the final map after a thorough investigation. Table 2 of Appendix A lists known and tentative locations in The Mas'ud Canon after Step 3. The 42 tentative identifications are accompanied by question marks. Some of them will be discussed in the next section.

On Step 3, the last step of the map reconstruction process, we made 69 non-trivial certain identifications and brought the percentage of the known objects to $557/599 \approx 93\%$. The non-trivial identifications required a study of sources on medieval China and Indonesia, recognition that al-Biruni had confused the mouth of the Ganges with the mouth of Gangavalli River in India, studying history and geography of the Kingdom of Malwa of King Bhoja (reigned c. 1010–1055), tracing the trade routes from Gaza to Al Farama (Tell Farama ruins in Egypt) across the Sinai Desert, from Fayd in Saudi Arabia to Kufa in Iraq and from Baghdad to Qasr-e Shirin in Iran, locating old ports along the Iranian shores, finding a watering hole on Chenab River just north from the Mau town of Zuttes (Majwal, near Zinda), learning medieval history of towns once controlled by the Spanish Umayyads (711–1031), linking toponyms from The Mas'ud Canon to archaeological sites in Armenia and Turkey, figuring out just what al-Biruni meant by Inner Tibet and Outer Tibet, and more. Let's consider a few examples of the resulting non-trivial certain identifications.

Firstly, we'd like to mention the pair of cities named Khantu (ID 23) and Sila (ID 24). It would seem obvious that Khantu described as "one of the ports of China and the place where its rivers flow into the sea" and shown as the southmost of such ports is Guangzhou, the city formerly known as Canton. However, the Russian translators mistakenly decided that Guangzhou was al-Biruni's

Khanfu (ID 57). Having looked at the placement of Khanfu westward from Khanju (ID 58), which the translators correctly identified as the modern Hangzhou, we had to conclude that Khanfu described as “one of the ports of China on the river” was Hankou, now part of Wuhan. Then al-Biruni’s placement of Sila to the southeast of Khantu “in the uppermost [i.e., southernmost] parts of China in the East” with the clarification that “rarely does anyone travel there by sea” brought us to the Municipality of Jolo, the capital of the Sulu province of the Philippines in the Sulu Sea. Saleeby (1908) further explains that “Joló” was the historical Spanish spelling of the word “Sulu”, which the early Spaniards historically spelled as “Xoló” and pronounced the ‘X’ as ‘j’ (“sh”).

Secondly, once we realized that the coordinates of al-Biruni’s Gangasayara (ID 49, the modern Gangasagar) were wrong due to the aforementioned confusion between the mouths of the Ganges and Gangavalli River, it became possible to look at the relative positioning of Saymur (Chaymur) (ID 45) and Jayval (ID 48) to the known Sufara and Sandan, recognize Saymur (Chaymur) as the modern Jaymala Nagar in Old Sangvi and identify Jayval as the modern Dabhol. The latter port should not be confused with al-Biruni’s Ad-Daybul (ID 86) that we take to be the ruins near Dhabeji also known as Banbhore or Bhambore (Ptolemy’s *Barbarei*). These two ports can be distinguished from each other by their respective latitudes.

Thirdly, Arma’il (ID 84) being placed between the previously identified At-Tiz and Kanbala and described by Yaqut al-Hamawi as located between Ad-Daybul and Makran half a farsakh (parasang), that is to say, 2.4 to 2.8 km, from the seashore (Al-Biruni 1973) lets us recognize it in the present day Ormara located on a peninsula that sticks out into the sea and looks like it used to be an island. (At-Tiz was the capital of Makran, according to al-Biruni.)

Fourthly, it took some reading on the history of Tatars in the Russian city of Kaluga to adopt the location where Ugra River joins Oka River just above Kaluga as al-Biruni’s Unkra (Ungra). Fundamentally, either Kaluga didn’t exist in al-Biruni’s time, or it was a Tatar town, so the land of the sakaliba (Slavs) began at the Ugra River. The Great Stand on the Ugra River eventually ended nominal Tatar suzerainty over Russia in 1480. We adopted the coordinates of the modern Vesye-gonsk near Volga River to mark the land of the Isu people (Ves’) called Visu by Ibn Fadlan (1823). Finally, in Spain and Portugal, it took an effort to confirm Gafiq as the modern Belalcázar and recognize Ukhshunaba as Lisbon (Idrisi’s *Ashbuna*, Ptolemy’s *Olissippo*), Turjala as Tordesillas, Larida (Lerida) as Lleida (Lérida), and Bajjana as Pechina — not Baza (Roman *Basti*) and not Baeza (Roman *Beatia*).

Tentative Identifications

None of al-Biruni’s objects were skipped in Table 2 of Appendix A (left unknown), in a deviation from what we did in our publications on Ptolemy’s *Geography*. However, we must point out three important exceptions. Firstly, Sakavand Fortress “in the Lahukar *rustak* (region)” (ID 508) de facto remained unknown in the following sense. Its approximate placement relative to the known Kabul Fortress (ID 507) pointed to a location near the modern Honi Saidan in Afghanistan, but we were unable to find remnants of a fort there using Google Earth. This is not to say that there weren’t any. Meanwhile, we took the next object on the list (Rabat Kindi, ID 509) to be a misplaced Rawalpindi in Pakistan, given that we found Lauhawara Fortress (the old fort of Lahore that was destroyed by Mahmud of Ghazni, not the new Lahore Fort that was built later) soon afterwards (ID 512), and al-Biruni’s Dunpur (ancient Adinapur, ID 511) is located enroute to Rawalpindi and Lahore. This gave us the idea that the heretofore unknown Lahukar *rustak* might be a corruption of Lauhawara (Lahore) region, but we failed to find a suitable fortress in the vicinity of Lahore. Furthermore, there

exists an archaeological site called Sakavand (Eshaqvand) in Iran featuring three ancient rock tombs (lon=47.4327, lat=34.2306), but we don't see a fortress there, either, while al-Biruni's coordinates of Sakavand would have to be badly corrupted for this potential identification to be correct.

Secondly, in Table 2 of Appendix A we state that approximate coordinates were provided for Samandar (ID 580). It is believed that the ruins of this Khazar town are located south of the mouth of Sulak River near the shore of the Caspian Sea, but it so happens that several archaeological sites fit this description. We point at one of the promising locations.

Thirdly, the Russian translators found seven Arabic toponyms unreadable, so our tentative identifications for those places are based nearly solely on their relative placement against the known objects. To give one example, we have conjectured that unreadable-5 (ID 567) might be referring to the modern Nookat, because there is a debate documented by the Russian translators as to whether Nukat (ID 568) corresponded to the modern Naukat or to a Sogd colony of Naviket in the Seven Rivers area. We noticed that al-Biruni sometimes grouped similarly named objects together, e.g., Khanfu (ID 57) and Khanju (ID 58), Tunis (ID 132) and Tanas (ID 133), As-Sus (ID 162) and Tuster (Shushter) (ID 163), Taksin (ID 292) and Hatunsin (ID 293), Shimshat (ID 349) and Sumaysat (ID 350), Namisha (ID 427) and Tamis (Tamisha) (ID 428), Al Washjird (ID 488) and Al Vakhsh (ID 489), etc. We suspect that this was another such pair of similarly named towns, as al-Biruni can be expected to have known both Nukat (Naukat) and Naviket (Nookat).

One example of three related tentative identifications is Hatunsin (ID 293, "a woman's grave"), Akhma, the capital of Hotan (ID 595), and unreadable-7 (ID 596). We were tempted to place Hatunsin at Loulan in Tibet, where a well-preserved body of a woman known as the Beauty of Loulan was discovered by archaeologists in 1980. We also considered the possibility that Hatunsin was located to the east from Taksin (Takasindu in Nepal) as al-Biruni's coordinates indicated. In either case, Akhma would represent the city of Hotan. Instead, we tentatively identified Hatunsin as Hotan and placed Akhma further north in the Hotan River valley, near Lake Aiximan. Alternatively, Akhma might be located near Aksu, but then it would be hard to place unreadable-7.

The Reconstruction Map

Figures 1-5 visualize our digital reconstruction map of al-Biruni's geography according to The Mas'ud Canon. The map was made using ESRI's ArcGIS. Figure 1 is an overall view of al-Biruni's world map with the emphasis on the remote locations known to traders and seafarers. Figure 2 offers a detailed view of the Fertile Crescent, Iran, Asia Minor, and the Caucasus. Figure 3 features Afghanistan, Middle Asia, Northern India, and the Tibet. Figure 4 focuses on Egypt, Arabia, and Southern Iran. Figure 5 concentrates on al-Biruni's India and Sri Lanka. We made the full version of the map available online (Gusev & Stafeyev 2024).

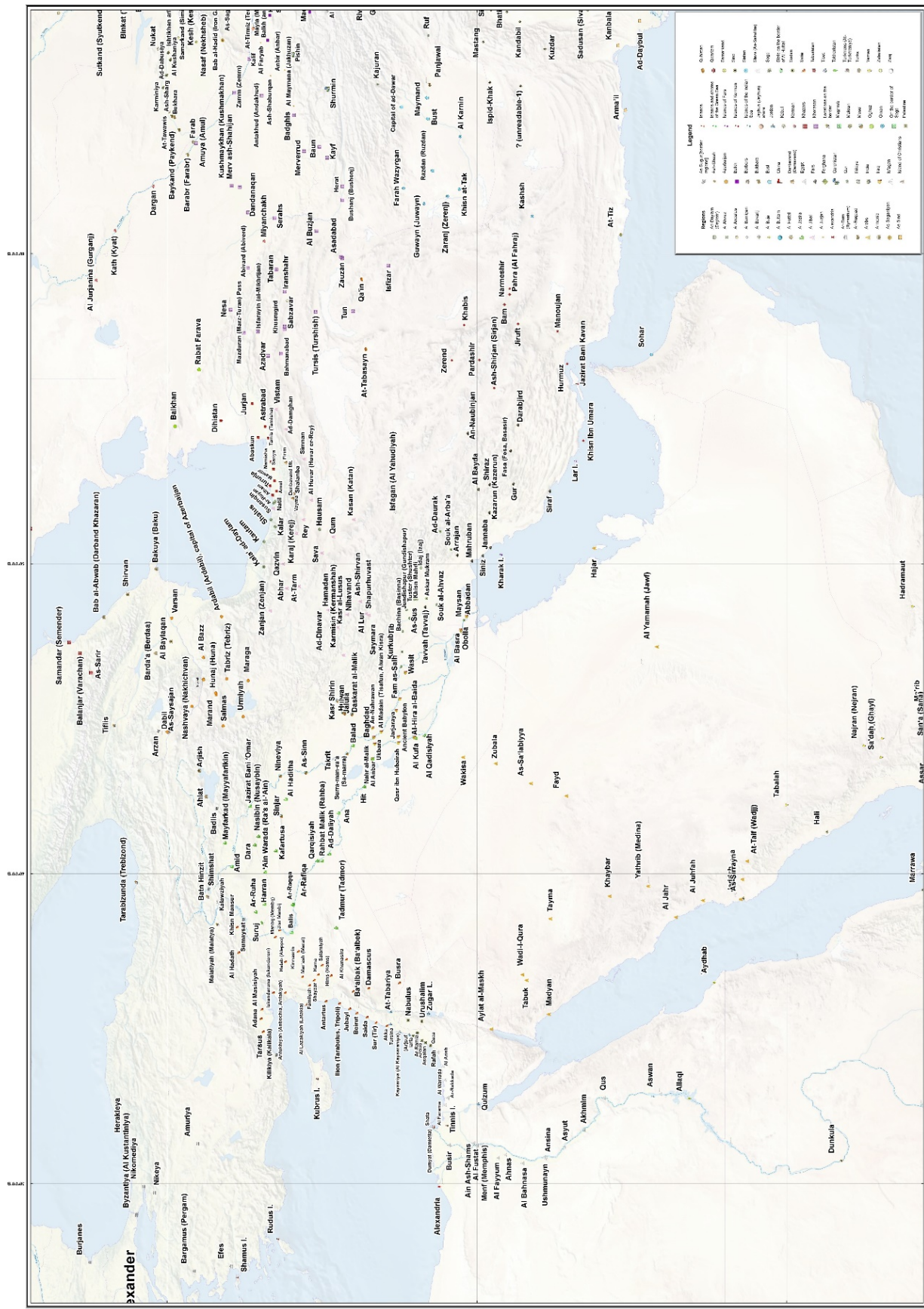


Figure 2: Digital reconstruction map of al-Biruni's geography according to The Mas'ud Canon: The Fertile Crescent, Iran, Asia Minor, and the Caucasus.

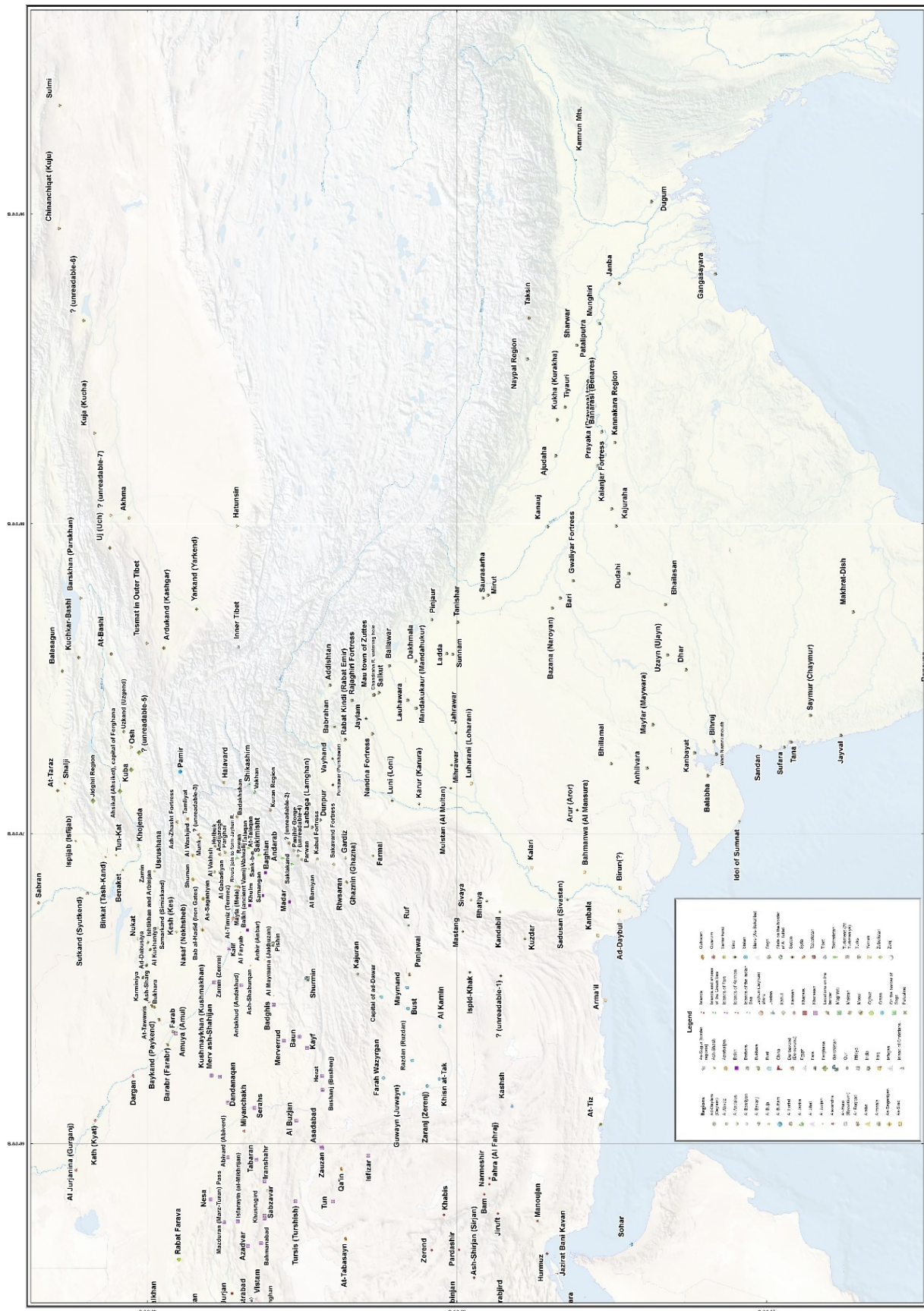


Figure 3: Digital reconstruction map of al-Biruni's geography according to The Mas'ud Canon: Afghanistan, Middle Asia, Northern India, and the Tibet.

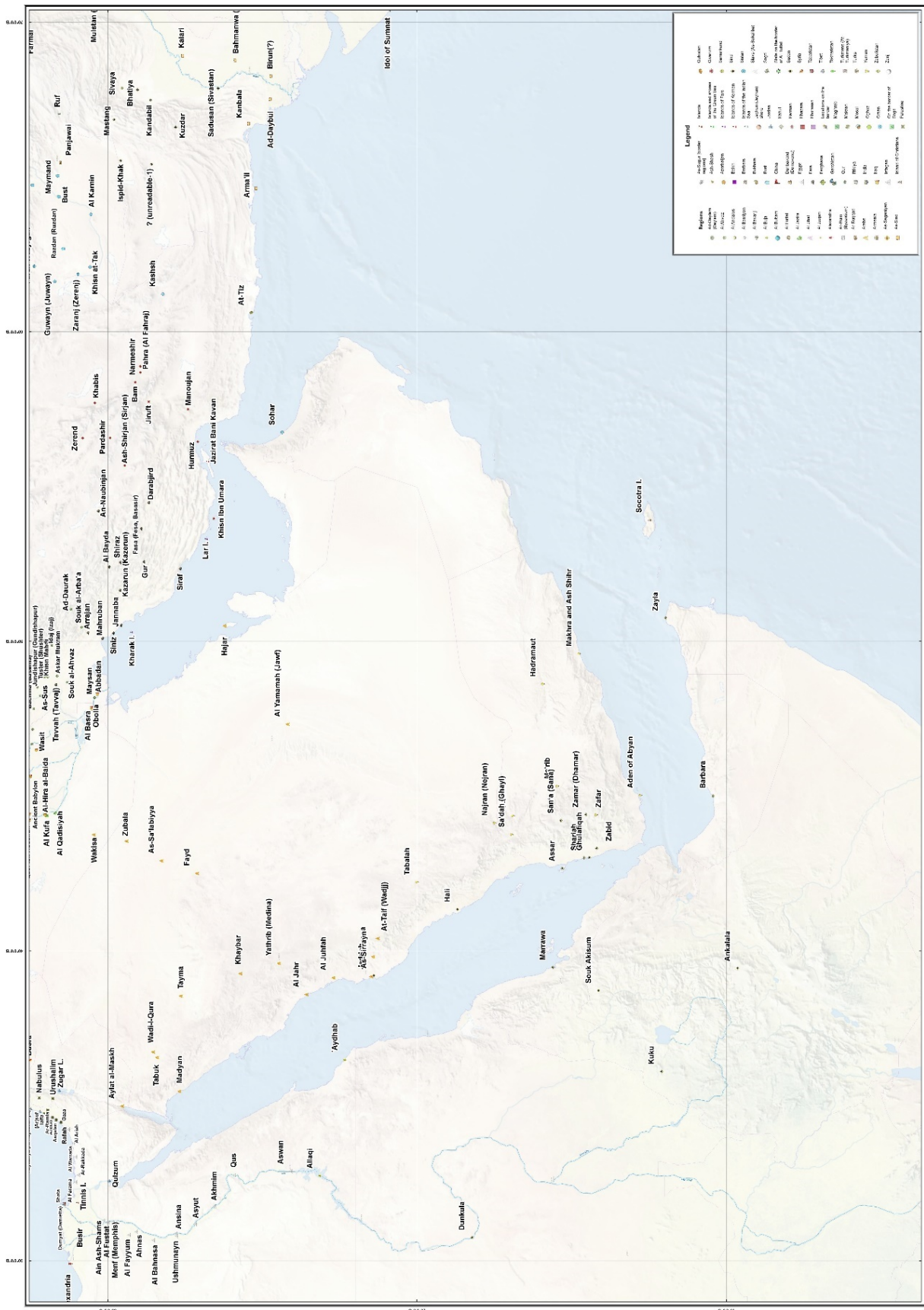


Figure 4: Digital reconstruction map of al-Biruni's geography according to The Mas'ud Canon: Egypt, Arabia, and Southern Iran.

achieve the goal of our research project, we used the modern GIS tools (ArcGIS and Google Earth), along with a novel methodology derived by modifying our previous technique developed and applied to study the classical *Geography* by Claudius Ptolemy. This result helps improve our understanding and visualize the picture of what the Orient was like in the Middle Ages, while adding illustrative material to the context of our prior work. The reconstruction may be improved by Arabists who would study the old manuscripts of The Mas‘ud Canon to decipher the heretofore unreadable toponyms. We believe that our work will attract the attention of a broad segment of the public interested in the cartographic heritage of humanity. We hope to inspire the archaeologists to explore such medieval sites known to al-Biruni as Lower Tahart in Algeria.

We expect that the experience and knowledge gained while working on this map will help in our future work on a new iteration of our digital reconstruction of Claudius Ptolemy’s Iran, Afghanistan, Baluchistan, and Central Asia. Tsorlini (2011) produced an excellent catalog that covers Ptolemy’s Mediterranean and Black Sea region, which we hope to translate into English and enhance to cover more territory.

References

Abshire, C., Gusev, D. A., Papapanagiotou I., and Stafeyev, S. K. (2016). A Mathematical Method for Visualizing Ptolemy’s India in Modern GIS Tools. *e-Perimtron* 11(1): 13–34.

Abshire, C., Gusev, D. A., and Stafeyev, S. K. (2017). The Fertile Crescent in Ptolemy’s “Geography”: A New Digital Reconstruction for Modern GIS Tools. In *Proceedings of the 12th ICA Conference on Digital Approaches to Cartographic Heritage* (pp. 152–167). Venice, Italy: International Cartographic Association.

Abshire, C., Gusev, D. A., Stafeyev, S. K., and Wang M. (2020). Enhanced Mathematical Method for Visualizing Ptolemy’s Arabia. *e-Perimtron* 15(1): 1–25.

Adamo, N., and Al-Ansari, N. (2020) Agriculture and Irrigation of Al-Sawad during the Early Islamic Period and Baghdad Irrigation: The Booming Period. *Journal of Earth Sciences and Geotechnical Engineering* 10(3): 159–181.

Åhlfeldt, J. (2020). *Digital Atlas of the Roman Empire*. In digital form, <https://imperium.ahlfeldt.se/>

Al-Biruni, A. R. (1910). *Alberuni's India: An Account of the Religion, Philosophy, Literature, Geography, Chronology, Astronomy, Customs, Laws and Astrology of India about A.D. 1030*, Edited by E. Sachau. London, UK: Kegan Paul, Trench, Trubner & Co.

Al-Biruni, A. R. (1954). *Al-Qānūnu’l-Mas‘ūdī (Canon Masudicus)*, Vol. 1 [in Arabic]. Hyderabad, India: The Dairatu'l-Ma'arif-il-Osmania.

Al-Biruni, A. R. (1973). *Selected Works*, Vol. 5, Part I, Translated into Russian by P. G. Bulgakov, B. A. Rozenfeld, and M. M. Rozhanskaya. Tashkent, Uzbekistan: FAN Publishers.

Al-Istakhri, Abu Ishaq Ibrahim ibn Muhammad (1927). *Viae Regnorum descriptio ditionis Moslemicae auctore Abū Ishāk al-Fārisi al-Istakhri*. In de Goeje, M. J., Noldeke, T. (eds.), *Bibliotheca Geographorum Arabicorum* [in Arabic and Latin], 2nd Ed., Vol. 1. Lugdunum Batavorum (Leiden, Netherlands): Brill.

Al-Kalbi, H. I. (1952). *The Book of Idols or The Kitāb al-Aṣnām*. Translated into English by N. A. Faris. Princeton, NJ: Princeton University Press.

- Al-Khwarizmi (1926). *Das Kitab Surat al Ard des Abu Ga'far Muhammad ibn Musa al Huwarizmi. Hrsg. nach dem handschriftlichen Unikum der Bibliothque de l'Universite et regiopale in Strassburg (cod. 4247)* von Hans von Mzik. Leipzig, Germany: BAHuG, III.
- Al-Tabari (1985-2007). *The History of al-Ṭabarī*, in 40 Volumes. New York, NY: SUNY Press.
- Al-Ya'qūbī (1892). *Kitab al-Buldan*. In de Goeje, M. J. (ed.), *Bibliotheca Geographorum Arabicorum* [in Arabic and Latin], Vol. 7. Lugdunum Batavorum (Leiden, Netherlands): Brill.
- Bulgakov, P.G., and Sh. S. Kamoliddin (2023). *Man, Earth, and the Universe in the Works of Abu Rayhan Biruni* [in Russian]. Tashkent, Uzbekistan: FAN ZIYOSI Publishers.
- Cunningham, A. (1871). *The Ancient Geography of India*. London: Trübner & Co.
- Filatova L. M., Gusev, D. A., and Stafeyev, S. K. (2019). Iterative Reconstruction of Ptolemy's West Africa Using Modern GIS Analysis. In *Proceedings of the 14th ICA Conference on Digital Approaches to Cartographic Heritage* (pp. 204–236). Thessaloniki, Greece: International Cartographic Association.
- Gusev, D. A., and Stafeyev, S. K. (2018). GIS Analysis and Digital Reconstruction of Ptolemy's India beyond the Ganges, Serike and Sinae. In *Proceedings of the 13th ICA Conference on Digital Approaches to Cartographic Heritage* (pp. 152–178). Madrid, Spain: International Cartographic Association.
- Gusev, D. A., and Stafeyev, S. K. (2022). Visualization and GIS Analysis of Ptolemy's One-Sided Globe in the Old and Modern Contexts. *e-Perimetron* 17(3): 111–129.
- Gusev, D. A., and Stafeyev, S. K. (2023). Claudius Ptolemy's East Africa Georeferenced and Visualized. *e-Perimetron* 18(4): 181–206.
- Gusev, D. A., and Stafeyev, S. K. (2024). *Al-Biruni's Geography According to The Mas'ud Canon* (map). In digital form, http://history-maps.ru/pictures/all_1/small_2344/
- Ibn Fadlan, A. (1823) *Ibn Foszlqn's und anderer Araber Berichte über die Russen älterer Zeit. Text und Übersetzung mit kritisch-philologischen Ammerkungen. Nebst drei Breilagen über sogenannte Russen-Stämme und Kiew, die Warenger und das Warenger-Meer, und das Land Wisu, ebenfalls nach arabischen Schriftstellern*, Translated into German by C. M. Frähn. Saint-Petersburg, Russia: aus der Buchdruckerei der Akademie.
- Ibn Haukal (1873). *Viae et regna, descriptio ditionis moslemicae auctore Abu'l-Kasim Ibn Haukal*. In de Goeje, M. J. (ed.), *Bibliotheca Geographorum Arabicorum* [in Arabic and Latin], Vol. 2. Lugdunum Batavorum (Leiden, Netherlands): Brill.
- Ibn Khordadbeh (1865). *Des routes et des Provinces*. Translated into French by C. B. de Meynard. Paris, France: Journal Asiatique.
- Jelodar, M. E. E., and Mortezaei, M. (2013). Re-Identifying the Location of Ancient Port of Mahruban on the Persian Gulf Based on Excavation and Written Evidence. *Journal of Archaeological Studies* 4(2): 13–31.
- Le Strange, G. (1905). *The Lands of the Eastern Caliphate: Mesopotamia, Persia, and Central Asia, from the Moslem Conquest to the Time of Timur*. New York, NY: Barnes & Noble, Inc.
- Luthfi, M. (2016). Indonesia in the Eyes of Medieval Arab Historians and Explorers. In *Proceedings of the 6th International Conference on Trends in Social Sciences and Humanities (TSSH 2016)* (pp. 54-58). Bangkok, Thailand: EAAMP.
- Manoledakis, M., and Livieratos, E. (2006). On the digital placement of Aegae, the first capital of ancient Macedonia, according to Ptolemy's *Geographia*. *e-Perimetron* 2 (1): 31–41.

Miller, K. (1929). *Reconstitution of the Map Tabula Rogeriana by Arab Geographer Al Idrisi*. Stuttgart, Germany: Konrad Miller. In digital form, https://commons.wikimedia.org/wiki/File:Tabula_Rogeriana_1929_copy_by_Konrad_Miller.jpg

Rtveladze E. and A. Sagdullayev (1986). *Monuments of the Past Centuries* [in Russian]. Tashkent, Uzbekistan: Uzbekistan Publishers.

Saleeby, N. M. (1908). *The History of Sulu*. Manila, The Philippines: Bureau of Public Printing.

Stückelberger A. and G. Grasshoff (2006). *Klaudios Ptolemaios: Handbuch der Geographie, Griechisch-Deutsch*. Basel: Schwabe Verlag.

Tsorlini, A. (2011). *Claudius Ptolemy “Geōgrafikē Yfēgēsis” (Geographia): digital analysis, evaluation, processing and mapping the coordinates of Greece, the Mediterranean and the Black Sea, based on 4 manuscripts and 15 printed editions, from Vaticanus Urbinas Gr. 82 (13th cent.) until today : the new Catalogue “GeoPtolemy-θ”*. Ph.D. thesis. Aristotle University of Thessaloniki: School of Rural and Surveying Engineering. In digital form, <http://digital.lib.auth.gr/record/128272>

Verreth, H. (2006). *The Northern Sinai from the 7th Century BC Till the 7th Century AD: A Guide to the Sources*, in two volumes. Leuven, Belgium: Katholieke Universiteit Leuven.

Appendix A. Tables of Duplicates and Identified Objects

Table 1. Known and likely duplicates in The Mas‘ud Canon by al-Biruni.

<i>al-Biruni ID 1</i>	<i>al-Biruni Name 1</i>	<i>Al-Biruni ID 2</i>	<i>al-Biruni Name 2</i>	<i>Modern Name(s)</i>
4	Lanka I., Dome of the Earth	17	Sankaladib (Sarandib) I.	Sri Lanka I.
206	Al Khunasira	341	Kinnasrin	<i>Al Qaryatayn?</i> / Khanasir
461	At-Talaqan	478	Talaqan	Taleqan, Taloqan
541	Barabr (Farabr)	584	Farab	<i>Arab?</i> / Farab, Farap

Table 2. Known and tentative locations in The Mas‘ud Canon by al-Biruni.

<i>al-Biruni ID</i>	<i>al-Biruni Name</i>	<i>Modern Name</i>	<i>Bir. Lon.</i>	<i>Bir. Lat.</i>	<i>Mod. Lon.</i>	<i>Mod. Lat.</i>
0	Sofala of Zanj	Nova Sofala	50	-2	34.7409	-20.0244
1	Kanbala, capital of Zanj, on an island	Mombasa	52	-3	39.6751	-4.0583
2	Zagava	<i>Zinocuva?</i>	56	-1	34.5658	-20.1261
3	Sarira I. [or town]	Seririt on Bali I.	140	-1	114.9331	-8.1936
4	Lanka I., Dome of the Earth	Sri Lanka I., Mt. Pidurutalagala	100.83	0	80.7737	7.0010
5	Tara	Batujaya, on the Citarum R.	190.83	0	107.1535	-6.0556
6	Jamkut	Jakarta	190	0	106.8486	-6.2082
7	Kuku	Cacuaha	30	5	36.1013	12.0940
8	Ankalala	Angolala, Āngolela	35	8	39.4321	9.6374
9	Marrawa	Massawa	40	10	39.4746	15.6082
10	Souk Akisum	Aksum, Axum	40	9	38.7192	14.1319
11	Barbara	Berbera	45	12	45.0198	10.4398
12	Zayla	Caluula	61	8	50.7568	11.9661
13	Socotra I.	Socotra I.	67.5	9	53.9167	12.4983
14	Aden of Abyan	Aden in Abyan governorate	66	11	45.0365	12.7791
15	Hadramaut	Shibam Hadramawt	71	12	48.6261	15.9266
16	Lankabalus I.	Great Nicobar I., <i>Laful?</i>	109	2	93.8722	7.1670

17	Sankaladib (Sarandib) I.	Sri Lanka I., Anuradhapura	120	10	80.4130	8.3121
18	Lamri I.	Sumatra I.	127	9	100.9020	0.0662
19	Kamrun Mts.	Assam (former Kamarupa)	125	10	91.7513	26.1845
20	Sayt-Band, Rama's Dam	Adam's Bridge, Rama's Bridge	119	9	79.5477	9.0910
21	Kikhkindh	Dambulla Rock	130	10	80.6467	7.8583
22	Kalah I.	Kedah (Sungai Batu archaeological site) in Malaysia	130	8	100.4541	5.6953
23	Khantu	Guangzhou	166	11	113.2497	23.1160
24	Sila	Jolo	170	5	121.0021	6.0521
25	Ghana	Koumbi Saleh,	25	13	-7.9686	15.7656
26	Jarmi	Germa, Jarmah	41.67	19.67	13.0632	26.5447
27	Dunkula	Old Dongola	53.67	14	30.7439	18.2230
28	Zabid	Zabid	63.33	14	43.3186	14.1930
29	Ghulafiqah	Ghulayfiqah	63.5	14.5	43.0194	14.4282
30	Assar	As-Salif	65.5	17.67	42.6709	15.3072
31	Sharjah	Shujayrah	65.67	17.5	43.0131	14.6045
32	Hali	Haly	66.33	18.83	41.3503	18.6949
33	As-Sirrayn	As Sororyah (As Surooriyah) district of Jeddah	66.67	20	39.2100	21.3946
34	Zamar (Dhamar)	Dhamar	66.83	14.33	44.4087	14.5456
35	San'a (Sana)	Sanaa	67	14.5	44.2149	15.3531
36	Najran (Nejran)	Najran	67	19.5	44.1319	17.4900
37	Sa'dah (Ghayl)	Sa'dah	67.33	13.5	43.7639	16.9402
38	Zafar	Zafar, Dhafar	67.5	13.5	44.4034	14.2117
39	Jurash	Jarashif	67.83	17	44.3667	16.9000
40	Makhra and Ash Shihr	Al Mukalla and Ash Shihr	68	17.33	49.6053	14.7600
41	Ma'rib	Ma'rib	68	14	45.3257	15.4620
42	Tabalah	Tabalah	68	20	42.2256	19.9965
43	Sohar	Sohar	74	19.75	56.7493	24.3621
44	Tana	Thana, Thane	104.08	19.33	72.9635	19.1969
45	Saymur (Chaymur)	Jaymala Nagar in Old Sangvi, Pune	104.33	19.25	73.8241	18.5704
46	Sandan	Sanjan	104.33	19.83	72.8177	20.1920
47	Sufara	Nala Sopara	104.92	19.58	72.8008	19.4158
48	Jayval	Dabhol	106.67	19	73.1799	17.5896
49	Gangasayara	Gangasagar	110	19.17	88.0737	21.6422
50	Janba	Jambad in Jharkhand	111.17	17	87.7653	24.7464
51	Apsur	<i>Thrissur?</i>	114.5	15.5	76.2147	10.5243
52	Banavas	Banavasi (Ptol. <i>Banauasei</i>)	117.5	17	75.0160	14.5377
53	Tanjavar	Thanjavur	115	15	79.1359	10.7912
54	Ramshir	Rameswaram	118	13	79.3175	9.2880
55	Mandrabatan	Chennai, former Madras	120	15	80.2478	13.0620
56	Shargur (Sanku)	Xanadu, Shangdu	155	15	116.1850	42.3581
57	Khanfu	Hankou, now part of Wuhan	160	14	114.2889	30.5947
58	Khanju	Hangzhou	162	13	120.1552	30.2742
59	Aoudaghost	Tegdaoust	15	26	-10.4103	17.4243
60	Susa (as-Sus)	Oued Sous (Ptol. <i>Subus R.</i>)	5.5	22	-9.6043	30.3643
61	Ansina	Ash Shaykh 'Ibādah (Ptol. <i>Antinoopolis</i>)	55	26	30.8793	27.8081
62	Ahnas	Ihnasya al Madinah (Ptol. <i>Heracleopolis Megale</i>)	55	27.17	30.9346	29.0855
63	Al Bahnasa	Al Bahnasa (near Ptol. <i>Oxyrhynchos</i>)	55	27.33	30.6593	28.5354
64	Qus	Qus (Ptol. <i>Apollonopolis Mikra</i>)	55.5	24.5	32.7628	25.9154
65	Akhmim	Akhmim (Ptol. <i>Panopolis</i>)	55.5	27.08	31.7456	26.5621
66	Aswan	Aswan (Ptol. <i>Syene</i>)	56	22.5	32.8908	24.0811
67	Ushmunayn	Tall al Ashmūnayn (Ptol. <i>Hermopolis Megale</i>)	56.33	26	30.8034	27.7813

68	Allaqi	Naj' Maḥaṭṭat al 'Allāqī (flooded)	55	27	32.7496	23.1328
69	'Aydhab	'Aydhab	58	21	36.4903	22.3308
70	Tayma	Tayma	58.5	26	38.5564	27.6342
71	Tabuk	Tabuk	58.5	21	36.5712	28.3990
72	Wadi-l-Qura	Wadi Al Qurayn	59	21	36.7485	28.5321
73	Al Juhfah	Al Juhfah, Al Jehfa, Bi'r al Jafā	65	22.25	39.1462	22.7014
74	Jeddah	Jeddah (Al Balad)	66.5	21.75	39.1850	21.4818
75	Mecca	Mecca	67	21.33	39.8250	21.4234
76	At-Taif (Wadjj)	Taif, Ta'if	67.33	21	40.4157	21.2700
77	Al Jahr	Ar Rayis, Rayyis	67.33	23.83	38.6051	23.5773
78	Yathrib (Medina)	Medina, Madinah	67.5	24	39.6106	24.4682
79	Khaybar	Khaybar	67.5	24.33	39.2803	25.7134
80	Fayd	Fayd	68.17	26.83	42.5180	27.1136
81	Al Yamamah (Jawf)	Al Yamamah	71.75	21.5	47.3341	24.1867
82	Hajar	Al Hajar, Al Hajjar	73	24.25	50.5120	26.2151
83	At-Tiz	Tis, Ṭis	93	26.25	60.6209	25.3567
84	Arma'il	Ormara	92.25	25.75	64.6362	25.2101
85	Kanbala	Kot Bala, Balakot	92.33	25	66.7273	25.4473
86	Ad-Daybul	Banbhore, Bhambore (Ptol. <i>Barbarei</i>) ruins near Dhabeji	92.5	24.17	67.5217	24.7523
87	Luharani (Loharani)	Lodhran	99.42	29.67	71.6300	29.5370
88	Birun(?)	<i>Mirpur Bathoro?</i>	94.5	29.75	68.2600	24.7283
89	Bahmanwa (Al Mansura)	Brahminabad (Mansoura)	95	26.67	68.7766	25.8816
90	Kalari	Kalri in Sindh	95.5	27	68.9178	27.5858
91	Idol of Sumnat	Somnath	97.17	22.25	70.4014	20.8879
92	Bhillamal	Bhinmal	97.75	23.83	72.2702	25.0059
93	Anhilvara	Patan, Anahilavad	98.33	23.5	72.1210	23.8498
94	Balabha	Valabhipur	99	23.33	71.8793	21.8887
95	Kanbayat	Khambhat	99.33	22.33	72.6191	22.3173
96	Dhar	Dhar	100.25	24.33	75.2977	22.5937
97	Uzayn (Ujayn)	Ujjayn (Ptol. <i>Ozene</i>)	100.83	24	75.7764	23.1823
98	Wadi Namni mouth	Narmada R.	100.92	23.67	72.5747	21.6133
99	Bihruj	Bharuch (Ptol. <i>Barygaza</i>)	101.08	21.33	72.9805	21.6945
100	Bhaylasan	Bhopal	101.67	25	77.4029	23.2546
101	Makhrat-Dish	Malkhaid, Malkhed, Malkheda	101.92	22.25	77.1602	17.1948
102	Dudahi	Dudhai in Uttar Pradesh	102.17	25.67	78.4018	24.4336
103	Mayfar (Maywara)	Mewara in Rajasthan	102.17	24.33	73.5295	23.6617
104	Kalanjar Fortress	Kalinjar Fort	104	25.42	80.4854	24.9972
105	Mathura (Mahura)	Mathura	104	27	77.6797	27.4953
106	Kanauj	Kannauj	104.83	26.58	79.9187	27.0549
107	Bari	Bari in Rajasthan	105.83	26.5	77.6150	26.6500
108	Gwaliyar Fortress	Gwalior Fort	105.58	26.55	78.1696	26.2312
109	Bazana (Naroyan)	Bayana	106.17	24.58	77.2894	26.9070
110	Kuha (Kuraha)	Gorakhpur	106.67	26	83.3620	26.7550
111	Kajuraha	Khajuraho	106.83	24.67	79.9335	24.8481
112	Prayaka (Prayaga) tree	Akbar Fort in Prayagraj	106.33	25	81.8770	25.4294
113	Ajudaha	Ayodhya	106.33	25.83	82.2047	26.7991
114	Tiyauri	Deoria	106.5	23	83.7793	26.5016
115	Kannakara Region	Khantara in Uttar-Pradesh	107	22.33	82.6348	24.8857
116	Banarasi (Benares)	Varanasi	107.33	26.25	82.9739	25.3173
117	Sharwar	Sarwara in Bihar	107.83	24.25	85.7712	26.1139
118	Pataliputra	Patna (Ptol. <i>Palimbothra</i>)	108.33	22.5	85.1356	25.5940
119	Munghiri	Monghyr, Munger	109.17	22	86.4710	25.3810
120	Dugum	Dhaka (former Dacca)	110.83	22.67	90.4074	23.7101
121	Banju	Kaifeng (former Bianjing)	125	22	114.3073	34.7973

122	Kufu	Guangfu Ancient City	127	21	114.7247	36.7005
123	Utkin	Tucheng in Beijing	136.5	26	116.3478	39.9650
124	Kita	Bālín Zuǒ qí, Bairin Left Banner, former Shangjing (Huangdu)	148.67	21.67	119.3638	43.9613
125	Azila	Asilah	8.83	33.33	-6.0342	35.4651
126	Al Basra	Ceuta (Ptol. <i>Exilissa</i>)	10.67	32.83	-5.3167	35.8883
127	Sijilmasa	Sijilmasa, Sijilmassa	10.75	31.22	-4.2752	31.2851
128	Nakur	Douar Nekkour	13	31.33	-3.8373	35.1241
129	Zawilah	Zawilah, Zawila	19	30	15.1251	26.1616
130	Jazirat Bani Mazganna	<i>Qārat Darb Ghayzal near Maradah?</i> (Ptol. <i>Maranthis</i>)	23	31.67	19.2835	29.2664
131	Satif	Setif (Ptol. <i>Sitiphi colonia</i>)	27	31	5.4043	36.1920
132	Tunis	Tunis	29	32	10.1660	36.8190
133	Tanas	Ténès Lahdar, Vieux Ténès	24	31	1.3162	36.5007
134	Tabarka	Tabarka	27	33	8.7485	36.9562
135	Kairouan	Kairouan	31	31.67	10.0970	35.6770
136	Al Mahdiya	Mahdia	31.67	31.33	11.0622	35.5045
137	Tarabulus of Maghreb (Tripoli)	Tripoli in Libya	37.33	32.5	13.1758	32.8999
138	Barka	Barke (ruins)	42.75	32	20.8718	32.4996
139	Alexandria	Alexandria	52	31.3	29.9041	31.1946
140	Shata	Shata	53	29.83	31.8656	31.4122
141	Dumyat (Damietta)	Damietta	53.83	30.42	31.8133	31.4165
142	Al Qadisiyah	Al Qadisiyah, Al-Qadisiyyah	69.42	31.75	44.4709	31.6871
143	Al-Hirah al-Baida	Al-Hirah Archeological Site	69.42	31.83	44.3862	31.9796
144	Al Kufa	Kufa, Kufah	69.5	31.83	44.4009	32.0278
145	Ancient Babylon	Babylon	69.17	32	44.4212	32.5420
146	Qasr ibn Hubairah	<i>Al-Hindiya, Hindiya (former Tuwairij, Touirij)?</i>	69.67	33	44.2246	32.5417
147	Nahr al-Malik	Nehardea ruins	69.83	33.25	43.7150	33.3788
148	Ukbara	Abu Ghraib, Abu Ghurayb	69.83	33.5	44.1846	33.3053
149	Baghdad	Baghdad	70	33.42	44.3978	33.3340
150	Al Madain (Tisafun, Aiwān Kisra)	Al-Mada'in, Madain (Ctesiphon ruins, Taq Kisra)	70.33	33.17	44.5807	33.0936
151	An-Nahrawan	Nahrawan	70.33	33.42	44.7030	33.3770
152	Jarjaraya	Umm Jagair, Umm Chakāyir	70.5	33	45.2615	32.6146
153	Fam as-Salh	Nahr Ṣalīḥ	72	32.83	45.6409	32.4970
154	Wasit	Tall al Madfj, near Hawr as Sa'īdiyah	71.5	32.33	46.4920	32.3094
155	Obolla	At Tannumah in Basrah (former Al-Ubullah, Apologou)	74	31.25	47.8606	30.5267
156	Al Basra	Al Basrah al Qadimah in Basrah	74	31	47.8150	30.5029
157	Abbadan	Abadan	74.5	31	48.3040	30.3390
158	Kurkub	<i>Ali Al-Gharbi?</i>	74	33	46.6876	32.4611
159	At-Tib	At Tib	74.5	33.33	47.1600	32.4361
160	Maysan	<i>Khorranshahr?</i> (former Vahman-Ardashir, Bahmanshir, Bayan(?), Forat Meshan)	74	32.25	48.1841	30.4401
161	Bachina (Basinna)	<i>Dasht Abbas, Dasht-e Abbas?</i>	74.5	33.17	47.8236	32.4132
162	As-Sus	Shush (Ptol. <i>Susa</i>)	74.67	33	48.2469	32.1893
163	Tuster (Shushter)	Shushtar	76.33	31.5	48.8530	32.0507
164	Khisn Mahdi	Mehdiabad, Mehdi Abad	75.33	30.83	48.8552	31.9585
165	Souk al-Ahvaz	Ahvaz	75	32	48.6841	31.3189
166	Souk al-Arba'a	Suq in Kohgiluyeh and Boyer-Ahmad Province	75.83	31	50.4580	30.8578
167	Jundishapur (Gundishapur)	Gundeshapur ruins	75	33.33	48.5156	32.2890
168	Ad-Daurak	Durak in Chaharmahal and Bakhtiari Province	75.92	32.33	51.0377	31.2017

169	Askar Mukram	Band-e Qir	76	31.42	48.8839	31.6511
170	Idaj (Izaj)	Izeh	76.83	31.67	49.8701	31.8240
171	Mahruban	Ruins near Emāmzādeh ‘Abdollah	76.33	30	50.0923	30.1802
172	Siniz	Ruins near Imam Hassan	76.75	32	50.2610	29.8303
173	Kazarun (Kazerun)	Kazerun	77	29.83	51.6477	29.6178
174	Jannaba	Bandar-e Genaveh	77.33	30	50.5172	29.5808
175	Arrajan	Arrajan archaeological site, near Rūstā-ye Arjān	77.33	31	50.2747	30.6539
176	Tavvah (Tavvaj)	Tavaheh, Sādāt-e Ṭavāheh	77.67	30.75	48.6000	31.6904
177	An-Naubinjan	Harabarjan, Havāvarjān	78.25	31	54.2052	30.3153
178	Gur	Firuzabad	78.5	31.5	52.5713	28.8443
179	Tinnis	Tanis Archaeological Site	54	30.33	31.8812	30.9778
180	Rafah	Rafah (Ptol. <i>Raphia</i>)	54.5	31.83	34.2402	31.2803
181	Ar-Rakkada	Raba, Rabaa (former el-Baqqara)	54.5	30.67	32.7697	30.9583
182	Al Warrada	Al-Rawda, Qaryat ar Rawḍah	54.5	31	33.3509	31.0401
183	Ain Ash-Shams	Ain Shams (Ptol. <i>Heliopolis</i>)	54.5	29.12	31.3075	30.1293
184	Al Arish	Arish (Ptol. <i>Rhinokorura</i>)	54.58	31.5	33.7969	31.1118
185	Al Farama	Tell Farama (Ptol. <i>Pelusium</i>)	54.58	30.33	32.5400	31.0424
186	Al Fustat	ruins near Baluza Fustat, Fostat, Foustat, Madīnat al Fuṣṭāṭ in Cairo	54.67	29.25	31.2387	30.0054
187	Menf (Memphis)	Mīt Ruhaynah	54.83	29.33	31.2520	29.8500
188	Al Fayyum	Al Fayyūm	54.83	23.5	30.8335	29.3223
189	Asyut	Asyut, Assiut	54.33	23.5	31.1836	27.1809
190	Busir	Abusir Bana (Ptol. <i>Busiris</i>)	54.33	29.5	31.2440	30.9153
191	Gaza	Gaza	54.83	32	34.4620	31.5040
192	Asqalan	Ashqelon (Ptol. <i>Ascalon</i>)	55.33	33	34.5477	31.6629
193	Ar-Ramla	Ramla	55.67	32.67	34.8625	31.9275
194	Azdud	Ashdod	55.75	32.58	34.6215	31.7804
195	Nabulus	Nablus	55.83	33.17	35.2629	32.2165
196	Urushalim	Jerusalem	56	33	35.2342	31.7767
197	Iaffa	Jaffa	56.33	33	34.7521	32.0537
198	Zugar L.	Dead Sea, Sea of Zo'ar	56.17	32.83	35.4898	31.5660
199	Qulzum	Qulzum (Ptol. <i>Klysmā</i>)	56.5	28.33	32.5740	29.9546
200	[Ar]suf	Apollonia-Arsuf	56.83	32.75	34.8066	32.1951
201	Tursina	<i>Usha?</i>	56	32	35.1467	32.7994
202	At-Tabariya	Tiberias	56.75	32	35.5427	32.7869
203	Kaysariya (Al Kaysaraniya)	Caesarea in Israel (Ancient <i>Caesarea Stratonis</i>)	58.33	32.83	34.8913	32.4988
204	Akka	Akko, Acre	59.33	33.33	35.0688	32.9215
205	Busra	Busra, Buṣrā ash Shām	59.33	31.5	36.4816	32.5175
206	Damascus	Damascus	60	33.5	36.3074	33.5114
207	Al Khunasira	<i>Al Qaryatayn?</i> (Ptol. <i>Goaria</i>)	60.5	33.58	37.2403	34.2285
208	Salamiyah	Salamiyah	62.75	33.5	37.0532	35.0111
209	Qarqisiyah	Circesium (al-Qarqisiya)	63	33.25	40.4300	35.1558
210	Rahbat Malik (Rahba)	Al-Rahba, Qal'at al-Rahba (former Rahbat Malik ibn Tawk)	67.25	33	40.4233	35.0049
211	Ad-Daliyah	Ad Duwayr, As Salhiyah	68	33.33	40.6488	34.7692
212	Aylat al-Maskh	Ailan (Ptol. <i>Elana</i>)	56.67	33.83	34.9989	29.5337
213	Madyan	<i>Al Muwaylih?</i> (Ptol. <i>Modiana</i>)	56.33	29	35.4764	27.6825
214	As-Sa'labiyya	Turabah, Turubah, Trubah, Turba, former al-Ta'labiyya	68.33	28.5	42.9243	28.2578
215	Zubala	Zubala, Zibālā, Zbala	68.83	29.33	43.5609	29.3923
216	Wakisa	Wakast, Waqīṣah	69	30.5	43.7667	30.4498
217	Ana	‘Anat al Qadīmāh, near Anah, at the mouth of Wādī ‘Anah	68.5	33.17	41.9730	34.4732

218	Hit	Hit (Ptol. <i>Idicara</i>), at the mouth of Wādī 'Īdī	69	32.5	42.8235	33.6439
219	Al Anbar	Ancient Anbar ruins	69.83	32.75	43.7167	33.3750
220	Darabjird	Darabgerd old city	79	32	54.4784	28.6904
221	Shiraz	Shiraz	78.58	29.58	52.5491	29.6079
222	Al Bayda	Beyza, Tall-e Beyzā	78.67	30	52.4013	29.9721
223	Fasa (Fesa, Basasir)	Fasa	78.83	32.33	53.6400	28.9330
224	Siraf	Siraf	79.5	29.5	52.3433	27.6665
225	Kharak I.	Khark I.	77.17	29.5	50.3037	29.2320
226	Lar I.	Lavan I., Lazeh, Laz	80	28	53.3184	26.8213
227	Jazirat Bani Kavan	Qeshm I., <i>Khowr Kharān?</i>	82.33	27.67	55.8155	26.7726
228	Ash-Shirjan (Sirjan)	Sirjan	83	32.5	55.6803	29.4495
229	Jiruft	Jiroft	83	31.75	57.7447	28.6797
230	Pardashir	Bardsir	83.17	32.67	56.5763	29.9275
231	Khabis	Shahdad, former Khabis	83.33	33	57.7060	30.4180
232	Bam	Bam	83.5	33	58.3687	29.1148
233	Zerend	Zarand	83.67	33	56.5690	30.8150
234	Narmeshir	Narmashir	83.83	32.17	58.6940	28.9511
235	Khishn Ibn Umara	<i>Harireh on Kish I.?</i>	84.05	30.33	53.9753	26.5655
236	Manoujan	Manoujan	84.5	32.67	57.5050	27.4030
237	Hurmuz	Hormoz on Hormuz I.	85	32.5	56.4526	27.0944
238	Pahra (Al Fahraj)	Fahraj	85	33.33	58.8850	28.9459
239	Isfagan (Al Yahudiyah)	Isfahan	77.33	32.5	51.6747	32.6544
240	Qa'in	Qaen	87.58	33.58	59.1844	33.7265
241	At-Tabasayn	Tabas	76.75	33.08	56.9281	33.5962
242	Kashsh	Khash	89	29.5	61.2158	28.2210
243	Guwayn (Juwayn)	Lāsh-e Juwayn	89.33	31.17	61.6240	31.7136
244	Farah Wazyrgan	Farah	89	31.5	62.1163	32.3744
245	Zaranj (Zerenj)	Zaranj	89.5	30.2	61.8603	30.9594
246	Khishn at-Tak	Shahr-i Gholghola, Sar-o-Tar	89.5	30.67	62.0903	30.5768
247	Al Karnin	<i>Khannesin, Khān Neshīn?</i>	89.83	31	63.7887	30.5477
248	Kajuran	Kajran, Kijran, Kajiran	89	33	65.4731	33.2035
249	Ruf	Maruf	90	33.5	67.0450	31.5640
250	Capital of ad-Dawar	Musa Qala, Mūsá Qal'ah, former capital of Zamindawar	90.17	33.5	64.7448	32.4456
251	Bust	Lashkargah, Lashkar Gah, former Bost	91.63	32.25	64.3714	31.5931
252	Razdan (Ruzdan)	<i>Loy Radzay, Luy Radzay, Lōy Rāzay?</i>	91.75	30.33	62.6908	31.4459
253	Maymand	Maiwand	92.67	33.33	65.0452	31.6218
254	Panjawai	Panjwai, Bāzār-e Panjwā'ī	93	32.83	65.4604	31.5432
255	Riwsaran	Rawdza, Rawza, Rowzāh, Rauza	94.5	33.33	68.4539	33.5817
256	Ghaznin (Ghazna)	Ghazni	94.33	33.58	68.4243	33.5580
257	Gardiz	Gardez	94.42	33.33	69.2259	33.5972
258	Farmal	Barmal district	94.58	32.92	69.2824	32.7153
259	Sivaya	Sibi	94.5	32.33	67.8720	29.5470
260	Mastang	Mastung	95	32.67	66.8455	29.7996
261	? (unreadable-1)	<i>Kharan?</i>	93.67	31	65.4146	28.5834
262	Ispid-Khak	Essa Chah, Isa Chah	93.92	32	65.5293	29.5849
263	Kuzdar	Khuzdar	94.08	30.58	66.6101	27.8103
264	Sadusan (Sivastan)	Sehwan	94.83	28.17	67.8609	26.4334
265	Arur (Aror)	Indaror	95.25	28.17	70.7652	26.1145
266	Kandabil	Gandava, Gandawah	96	28	67.4856	28.6131
267	Bhatiya	Bhag, Bhag Nari	96	28.67	67.8170	29.0390
268	Mihrawar	<i>Adda Wihian Wala, Wihiamwala, Wajhianwala, Bajhianwala?</i>	96.42	29.83	72.2166	30.1805
269	Mulstan (Al Multan)	Multan	96.25	29.67	71.4717	30.1932

270	Jahrawar	Rojhanwali near Bahawalnagar	96.67	29.83	73.2529	30.0293
271	Karur (Karura)	Karor, Karor Lal Esan	95.25	31	70.9513	31.2231
272	Luni (Loni)	<i>Lar?</i>	95.17	32.08	71.0697	32.0908
273	Pursawar (Purshawar)	Peshawar	97.08	33.42	71.5784	34.0077
274	Vayhand	Hund	97.83	33.33	72.4321	34.0159
275	Babrahan	Bhurban	98	33.58	73.4531	33.9544
276	Jaylam	Jhelum	98.33	33.25	73.721	32.934
277	Nandna Fortress	Nandna Fort	98.17	33.17	73.2296	32.7260
278	Chandhra R. watering hole	Chenab R.	98.83	32.67	74.4725	32.6784
279	Mau town of Zuttas	Majwal, near Zinda	98.83	32.5	74.5018	32.6643
280	Salkut	Sialkot	99	33	74.5534	32.5160
281	Rajaghiri Fortress	Rajouri, Rajaori	99.25	33.33	74.3092	33.3752
282	Mandakukaur (Mandahukur)	Manga	99.42	31.83	74.0531	31.3066
283	Ladda	Ladda	99.67	32.58	75.8248	30.3165
284	Ballawar	Ballawar, Balāwar	100	31.92	75.4223	32.1707
285	Sunnam	Sunam	100.42	30.5	75.7994	30.1288
286	Dakhmala	<i>Jalandhar?</i>	100.92	31.17	75.5790	31.3246
287	Pinjaur	Pinjore, Pinjaur	101.67	30.08	76.9149	30.7993
288	Mirut	Meerut	102.17	28.83	77.7058	28.9789
289	Saurasarha	<i>Sardhana?</i>	102.33	29	77.6143	29.1455
290	Tanishar	Thanesar	104.42	30.17	76.8321	29.9730
291	Naypal Region	Nepal	120	32	85.3240	27.7172
292	Taksin	Takasindu in Nepal	120.25	32.83	86.6410	27.6731
293	Hatunsin	<i>Hotan?</i>	129.67	31.83	79.9353	37.1068
294	Qulumriya	Santarém	4	35.33	-8.6831	39.2344
295	Ukshunaba	Lisbon (Idrisi's <i>Ashbuna</i>)	7.5	35	-9.1324	38.7104
296	Gafiq	Belalcázar	7.5	35.33	-5.1665	38.5755
297	Ishbiliya	Seville	8	34.67	-5.9899	37.3843
298	Kurtuba	Córdoba	8.67	35	-4.7794	37.8879
299	Shaduna	Medina Sidonia	8.83	34.5	-5.9272	36.4568
300	Turjala	Tordesillas	9	36.67	-5.0015	41.5020
301	Jabal Tariq	Gibraltar	9.5	34.33	-5.3460	36.1340
302	Marida	Mérida	10	38	-6.3444	38.9165
303	Malaka	Málaga	10.33	34	-4.4216	36.7202
304	Tulaytula	Toledo	10.33	35.5	-4.0252	39.8585
305	Sarakusa	Zaragoza	12	36	-0.8775	41.6522
306	Bajjana	Pechina	12.67	34	-2.4403	36.9164
307	Mursiya	Murcia	12.83	34.33	-1.1283	37.9838
308	Balansiya	Valencia	14	34.67	-0.3798	39.4737
309	Wadi-l-Hijara	Guadalajara	15	36.67	-3.1647	40.6305
310	Tartusha	Tortosa	18.5	35	0.5216	40.8125
311	Larida (Lerida)	Lleida	20	37.5	0.6221	41.6166
312	Fas	Fes	8	35.58	-5.0004	34.0329
313	Lower Tahart	Torrigh	19.83	34.92	1.2792	35.4515
314	Upper Tahart	Tiaret	20	33.83	1.3169	35.3710
315	Amuriya	Amorion, Amurium ruins	33	38	31.2950	39.0225
316	Efes	Ephesus, Ephesos ruins	39.17	37.83	27.3410	37.9392
317	Sikiliya I.	Sicily I.	35	37	14.5069	37.5560
318	Shamus I.	Samos I.	42.67	38.17	26.9787	37.7536
319	Akritush I.	Crete I.	45	36.5	24.8211	35.2280
320	Rodus I. (Ρόδος)	Rhodes I., Rodos I.	51.67	36	28.2222	36.4420
321	Kubrus I.	Cyprus I.	53	34	33.3852	35.1650
322	Tarsus	Tarsus	58	36.25	34.9040	36.9190
323	Al Lazakiyah (Latakia)	Latakia (Ptol. <i>Laodicea</i>)	58.67	38.83	35.7821	35.5139
324	Adana	Adana	58.92	35.25	35.3253	36.9861

325	Ilion (Tarabulus, Tripoli)	Al Mina near Tripoli in Lebanon (Ptol. <i>Tripolis</i>)	59	35	35.8123	34.4508
326	Sur (Tir)	Tyre	59.25	33.67	35.1959	33.2693
327	Saida	Sidon, Saida	59.33	33.75	35.3708	33.5603
328	Beirut	Beirut	59.5	34	35.5018	33.8938
329	Famiyah	Afamiyah (Ptol. <i>Apamea</i>)	59.58	34.75	36.4018	35.4201
330	Al Masisiyah	Yakapınar, Eski Misis (Ptol. <i>Mopsuestia</i>)	59.67	36	35.6239	36.9578
331	Jubayl	Jbeil, Jbail, Byblos	60	34	35.6457	34.1190
332	Iskandaruna (Iskandarun)	Iskenderun	60.33	34	36.1679	36.5887
333	Antartus	Tartus	60.5	33.83	35.8864	34.8887
334	Hims (Homs)	Homs	61	33.67	36.7144	34.7234
335	Antukhiyah (Antiochia, Antakiyah)	Antakya	61.58	34.17	36.1653	36.2008
336	Khisn Mansur	Adıyaman, Semsûr (former Khisn-i-Mansur)	62	38.5	38.2759	37.7592
337	Al Hadath	Abbasiye, former Hadath, Al-Hadath al-Hamrâ'	62.5	37.5	37.4600	37.7070
338	Mar'ash (Marat)	Maarat al-Numan, Ma'arrat an Nu'mân, al-Ma'arra	62.33	37	36.6769	35.6481
339	Ba'albak (Ba'albek)	Baalbek	62.33	34.5	36.2037	34.0067
340	Hama	Hama, Ḥamāh	62.67	36	36.7494	35.1362
341	Shayzar	Shayzar, Shaizar	62.83	35.25	36.5666	35.2662
342	Kinnasrin	Khanasir	63	34.33	37.4974	35.7768
343	Halab (Aleppo)	Aleppo	63	34.5	37.1620	36.1995
344	Manbij (Membij)	Manbij	63.75	35.5	37.9575	36.5254
345	Jisr Manbij	<i>Jenf'al Aḥmar, Janfal Aḥmar?</i>	64.5	36.25	38.1833	36.3833
346	Kilikiya (Kalikala)	Corycus, Kızkalesi, former Ghorgos (Ptol. <i>Korykos</i>)	63.33	38	34.1508	36.4637
347	Badlis	Bitlis	65	38	42.1078	38.4010
348	Arzan	Arzni	66	34.25	44.5984	40.2968
349	Shimshat	Arsamosata, Haraba	52.67	38.75	39.5109	38.6609
350	Sumaysat	Samosata (flooded), near Samsat in Turkey	52.67	36.33	38.5216	37.5413
351	As-Saysajan	Artashat (Ptol. <i>Artaxata</i>)	62	38.17	44.5630	39.9570
352	Dabil	Dvin archaeological site	72.33	38	44.5783	40.0044
353	Nashvaya (Nakhichvan)	Nakhichevan, Naxçıvan, Nakhchivan (Ptol. <i>Naxuana</i>)	72.83	38.5	45.4045	39.2064
354	Urmiyah	Urmia, Orūmīyeh	73	37	45.0752	37.5512
355	Ardabil (Ardebil), capital of Azerbaijan	Ardabil	73	38	48.2933	38.2498
356	Marand	Marand	73	37.83	45.7818	38.4239
357	Miyanj	Miane, Mīāneh	73.17	37.92	46.2349	38.8278
358	Salmas	Salmas	73.17	38.5	44.7730	38.1950
359	Tabriz (Tebriz)	Tabriz	73.17	37.5	46.2901	38.0810
360	Maraga	Maragheh	73.33	37.42	46.2392	37.3902
361	Al Bazz	Babak Fort	73.33	34.67	46.9810	38.8371
362	Hunaj (Huna)	Hejavan, Hūjqān	73.33	37.33	45.8351	38.4401
363	Harran	Harran	57	36	39.0312	36.8647
364	Ar-Ruha	Şanlıurfa (Ptol. <i>Edessa</i>)	57.17	36.33	38.7837	37.1455
365	Balis	Tell Meskene (Ptol. <i>Barbalis-sos</i>)	56.83	37.92	38.1130	35.9865
366	Jazirat Bani 'Omar	Cizre	56	36	42.1931	37.3287
367	'Ain Warada (Ra's al-'Ain)	Tell Fecheriye (Ptol. <i>Rhesaina, Sacane</i>) near Ra's al-'Ayn	56.33	36	40.0701	36.8419
368	Kafartusa	Tell al-Hassaka archaeological site in Al-Hasakah	57.5	36.5	40.7514	36.4988
369	Amid	Diyarbakır (Ptol. <i>Ammaea</i>)	57.5	37.75	40.2408	37.9155
370	Dara	Dara antique city	57.67	36.5	40.9419	37.1779

371	Mayfarkad (Mayyafari-kin)	Silvan	57.75	38	41.0097	38.1439
372	Nasibin (Nusaybin)	Nusaybin (Ptol. <i>Nisibis</i>)	57.83	36.67	41.2173	37.0642
373	Balad	Balad in Iraq	58.42	35.5	44.1481	34.0078
374	Al Haditha	Tall ash-Sha'ir	59	35	42.4170	36.1780
375	Suruĵ	Suruĉ	62.83	36.58	38.4243	36.9751
376	Ar-Rafiqā	Rafqa in Ar-Raqqa	62.83	35.5	39.0225	35.9463
377	Ar-Raqqa	Ar-Raqqa	63.92	36.02	39.0122	35.9560
378	Tadmur (Tadmor)	Palmyra, Tadmor	63.25	34.67	38.2701	34.5532
379	Sinjar	Sinjar (Ptol. <i>Singara</i>)	63	35.83	41.8626	36.3213
380	Nineviya	Nineveh (Ptol. <i>Ninos</i>)	69	36	43.1526	36.3578
381	Takrit	Tikrit	69.42	35.5	43.6897	34.6036
382	As-Sinn	Qaryat as Safinah	69.5	36.67	43.2611	35.5256
383	Surra-man-ra'a (Samarra)	Samarra, Sāmarrā' in Iraq	69.75	34.2	43.8733	34.1988
384	Daskarat al-Malik	'Alī al Māliḥ, 'Ali al Malis	71	33.67	45.1438	34.0394
385	Jalula	Jalawla	71.17	33.83	45.1658	34.2737
386	Kasr Shirin	Kasr Şirin, Qasreshirin, Qaşr-e Şīrīn, Ghasre Shirin	71.5	33.67	45.5804	34.5160
387	Hulwan	Hulwan, Ḥulwān	72.25	34	45.2037	34.3320
388	Saymara	Seymareh Ancient City near Darreh Shahr	71.83	34.5	47.3675	33.1291
389	Ash-Shirvan	Shirvan in Lorestan	72	34.17	48.7970	33.7718
390	Karmisin (Kermanshah)	Kermanshah	74	34.67	47.0672	34.3168
391	Kasr al-Lusus	Kangāvar	74.5	34	47.9594	34.5019
392	Hamadan	Hamadan, Hamedan	75.33	34	48.5176	34.8036
393	Zanjan (Zenjan)	Zanjan	73	38.5	48.4957	36.6750
394	Abhar	Abhar	74	38	49.2180	36.1468
395	At-Tarm	Abgarm	74	37	49.2856	35.7565
396	Qazvin	Qazvin	75	37	50.0040	36.2670
397	Ad-Dinavar	Dinavar District	76	35.33	47.4416	34.5856
398	Nihavand	Nahavand	76.33	35.17	48.3680	34.1880
399	Al Lur	Lorestan Province of Iran	76.5	34	48.3988	33.5819
400	Shapurhuvast	Falak-ol-Aflak, Shapur Khast Castle in Khorramabad	76.5	35	48.3534	33.4837
401	Karaj (Kerej)	Karaj	76.67	34	50.9914	35.8325
402	Susanqin	Sisangan forest	76.83	35.17	51.7972	36.5830
403	Sava	Saveh	77	34	50.3631	35.0101
404	Qum	Qom	77	35.58	50.8763	34.6400
405	Kasan (Katan)	Kashan	77.33	35.67	51.4360	33.9840
406	Rey	Rey, Ray, Shahr-e Ray, former Rhages	78	35.58	51.4380	35.5970
407	Al Huvar (Huvar er-Rey)	<i>Eyvanekey, Eyvanki?</i>	78.67	34.33	52.0671	35.3464
408	Simnan	Semnan	79	35.67	53.3949	35.5763
409	Ad-Damghan	Damghan	79.5	36.33	54.3509	36.1665
410	Vistam	Bastam	79.92	36.67	55.0003	36.4844
411	Kautam	<i>Katalom, Ketalem?</i>	76	36.25	50.7184	36.8762
412	Hausam	Hoze Soltan Caravansary, Hoz Soltan Caravanserai	76.83	36.17	51.1118	35.0818
413	Shalus	Chalus in Mazandaran	76.92	36.92	51.4206	36.6548
414	Ar-Ruyan	Ruyan, Royan	76	36.17	51.9630	36.5688
415	Natil	Natal, Nätel	76.25	36.83	52.0226	36.5003
416	Kalar	Kelar ancient hill, near Kalār-dasht, Kelardasht in Mazandaran	77	36	51.2007	36.5187
417	Kala' ad-Daylam	Deylaman	77	35.83	49.9054	36.8889
418	Amul	Amol	77.17	36.58	52.3467	36.4704
419	Alham	Ahlam	77.17	37	52.2157	36.6017
420	Turunja	<i>Fereydunkenar, Fereydūn Kenār?</i>	77.5	36.92	52.5191	36.6847

421	Mamtir	Babol	77.83	36.83	52.6765	36.5386
422	Dunbavand Mt.	Damavand Mt.	77.5	36.33	52.1100	35.9550
423	Shalanba	Shangoldeh, Shangoleh	77.33	35.92	52.2576	35.9164
424	Vayma	Vana	77.58	36.42	52.2697	35.9252
425	Firim	Farim	77.67	36.5	53.2643	36.1780
426	Sariya	Sari	78	36.92	53.0586	36.5659
427	Namisha	Neka, former Naranj	78.33	37	53.2970	36.6497
428	Tamis (Tamisha)	Tamiša, Tammīsha archaeological site near Sar Kalāteh, Sarkālata	78.83	37	54.0608	36.7308
429	Abaskun	Gomishtappeh, Gomīshān	79.25	37.17	54.0770	37.0700
430	Astrabad	Gorgan, former Astarabad	79.33	37.08	54.4349	36.8384
431	Jurjan	Gonbad-e Kavus (Old Gorgan)	80.17	38.17	55.1690	37.2581
432	Dihistan	Dehistan, Dekhistan ruins, Mishrian, Mashhad-i Misrian	81.17	38.33	54.6250	38.2700
433	Bahmanabad	Bahmanabad in Razavi Khorasan	82.33	36	56.7967	36.3219
434	Isfarayin (al-Mikhrijan)	Esfarayen	82.42	36.25	57.5099	37.0784
435	Asadabad	Asadabad in Razavi Khorasan	83.33	37	59.9178	34.3861
436	Khusrugird	Khosrowjerd	83	36	57.5910	36.2196
437	Sabzavar	Sabzevar	82	36.08	57.6818	36.2124
438	Azadvar	Azadvar in Razavi Khorasan	82.25	36.33	56.7201	36.7451
439	Iranshahr	Neyshabur, Nishapur (former Abarshahr) in Razavi Khorasan	84	36.17	58.7943	36.2132
440	Tursis (Turshish)	Kondor	84.5	34.67	58.1508	35.2091
441	Tun	The Historic City of Toon near Ferdows	85.83	33.67	58.1578	34.0053
442	Zauzan	Zuzan in Razavi Khorasan	85.92	33.92	59.8769	34.3555
443	Al Buzjan	Bezhgān	85.17	35.33	60.7492	35.1808
444	Tabaran	Haruniyeh Dome in the ruins of Tabran	84.5	36.33	59.5069	36.4798
445	Mazduran (Marz-Turan) Pass	Qaleh Marz near Kūh-e Marz	85	36.58	57.4756	37.5286
446	Nesa	Old Nisa (Ptol. <i>Nisaia</i>) ruins near Bagyr	83.5	37.67	58.2105	37.9514
447	Abivard (Abiverd)	Abiverd ruins	84	37.42	59.5649	37.3925
448	Serahs	Serahs, Sarakhs	85	36.66	61.1660	36.5350
449	Dandanaqan	Dandanaqan ruins	86.33	37	61.3453	37.3919
450	Merv ash-Shahijan	Merv ruins (Ptol. <i>Antiocheia Margiane</i>)	86.5	37.67	62.1746	37.6642
451	Kushmaykhan (Kushmakhan)	Kushmeihan (Dinli Kishman) archaeological site	86.67	38	62.2092	37.9250
452	Merverrud	Marw al-Rudh ruins near Bala Murghab	87.67	37.5	63.3340	35.5835
453	Zamm (Zemm)	Kerki	88	37.67	65.2105	37.8356
454	Kalif	Kelif	90.25	37.5	66.3099	37.3610
455	Badghis	Bādghīsī	89.17	36.83	64.4922	35.9154
456	Baun	<i>Darah-ye Būm?</i>	89	36.5	63.4634	35.0863
457	Kayf	<i>Khwājah?</i>	89	35	63.1089	34.8411
458	Bushanj (Bushenj)	Zنده Jan, Zindah Jān, Fushanj, Pushang	87.58	34.67	61.7467	34.3425
459	Herat	Herat	88.67	34.5	62.1956	34.3431
460	Isfizar	Esfezar	89.33	33.67	59.6300	32.8639
461	Antakhud (Andakhud)	<i>Andkhoy?</i> in Afghanistan	88.67	36.5	65.1263	36.9515
462	At-Talaqan	Taleqan, Taloqan	88.42	37.25	69.5360	36.7341
463	Al Faryab	Daulatabad, Dowlatābād	89.33	36.75	66.8204	36.9877
464	Al Maymana (Jakhuzan)	Maymana	89.83	36	64.7755	35.9178
465	Ash-Shaburkan	Shibarghan, Sheberghan	90	36.75	65.7520	36.6650
466	Anbir (Anbar)	Sar-e Pul, Sar-e Pol	90.25	36.08	65.9317	36.2137
467	Sank-b-n	<i>Bu'in?</i>	92.67	35.75	69.0455	36.7061

468	Pishin	<i>Firishqān?</i>	89	36.67	66.4373	35.9647
469	Shurmin	Ghalmin (Sar-e Ghalmin)	89.17	35.83	65.3168	34.8355
470	Balkh (ancient Vami)	Balkh (Ptol. <i>Bactra</i>)	91	36.68	66.9012	36.7675
471	Khulm	Khulm, Kholm	91.58	36.25	67.6991	36.6965
472	Samangan	Aybak, Aībak, Haibak, former Samangan	92.17	36	68.0155	36.2643
473	Baghlan	Baghlan	92.25	35.67	68.7483	36.1770
474	Madar	Madar, Madr	91.83	35.33	67.8119	35.3994
475	Rivers join to form Jayhun R.	Panj R. and Vakhsh R. join to form Amu Darya R.	92	36.8	68.3147	37.1108
476	Saklakand	<i>Sālang-e Shamālī?</i>	92.8	35.8	69.0253	35.3217
477	Walwalij	Kunduz	92.33	35.25	68.8684	36.7286
478	Rawan	Shāh Rawān, Sah Rawan	92.66	36	69.2169	37.0895
479	Talaqan	Taleqan, Taloqan	93	37	69.5360	36.7341
480	Sakimisht	Īshkamish, Ashkamesh	93.2	36.83	69.3235	36.3798
481	Andarab	Andarab, Banow	94.67	36	69.2127	35.6181
482	At-Tirmiz (Termez)	Tirmiz, Termez	91.25	37.58	67.2778	37.2232
483	Mayla (Mela)	Oxus Temple (Takhti Kuvad) in Teshiktosh	91.83	36.75	68.2820	37.0541
484	Al Qabadiyan	Qabodiyon, Qubodiyon	92.33	37.17	68.1864	37.4093
485	Bab al-Hadid	Iron Gates of Sogdiana	92.5	38.5	66.9069	38.2210
486	As-Saganiyan	Budrach ruins near Zakhartepa on Sangardakdaryo R.	92.67	37.83	67.9180	38.1958
487	Shuman	Hisor, Gissar, formerly Hisori Shodmon	92.83	38.33	68.5381	38.5264
488	Al Washjird	Ruins near Fayzobod	93	38.83	69.3156	38.5344
489	Al Vakhsh	Bokhtar, former Qurgontepa	92.33	37.67	68.7774	37.8365
490	Tamliyot	<i>Tavildara?</i>	93.67	38.67	70.4842	38.6953
491	Munk	Near Khonako, Khonakokh	93.83	38	69.8669	38.2882
492	Halavard	Kafir Qala, Boqev	94	38.5	71.6626	37.5293
493	? (unreadable-2)	<i>Kharo, Kharu?</i>	94.17	35.33	69.7000	35.4226
494	Hulbuk	Hulbuk, former Vose'	94.5	37.58	69.6053	37.8053
495	? (unreadable-3)	<i>Khovaling, Khoviling?</i>	94.5	38.17	69.9751	38.3413
496	Parghar	Parkhar, Farkhor	94.58	37.83	69.4034	37.4916
497	Andijaragh	<i>Toirsu, Tairsu?</i> , near the mouth of Tokhirob R., former Tairsu R.	94.67	37.25	69.3394	37.6608
498	Badakhshan	Fayzabad in Afghanistan	95.17	37	70.5551	37.1011
499	Kuran Region	Kuran wa Munjan	95.33	34.83	70.7725	36.0286
500	Vakhan	Wakhan, Vakhan	96	36.5	71.3516	36.5394
501	Shikashim	Ishkashim	96.33	37	71.5725	36.7071
502	Inner Tibet	Inner Tibet	94	37	76.0286	37.0620
503	Al Bamiyan	Bamyan, Bamian	92.83	34.25	67.8273	34.8215
504	Parwan	Charikar	94.17	34.58	69.1711	35.0129
505	? (unreadable-4)	<i>Golbahar, Gulbahar?</i>	94.25	34.67	69.2991	35.1336
506	Panjhir Gorge	Rukhah in Panjshir Valley	94.33	35	69.4686	35.2647
507	Kabul Fortress	Kabul Fortress, Bala Hissar	95.33	33.75	69.1915	34.5053
508	Sakavand Fortress	<i>Honi Saidan, Ōnī Sayyidān?</i>	94.5	33.67	69.0211	33.9769
509	Rabat Kindi (Rabat Emir)	Rawalpindi in Pakistan	95.83	33.67	73.0437	33.6060
510	Lanbaga (Lamghan)	Mehter Lam Baba Mazar, Mehtar Lām, Mitalram, Mihtarlam in Laghman province	96.17	33.83	70.2121	34.6673
511	Dunpur	Hadda archeological site near Jalalabad (ancient Nagarhara, Adinapur)	96.42	33.75	70.4433	34.4102
512	Lauhawara Fortress	Lahore	98.33	33.67	74.3164	31.5819
513	Addishtan	Srinagar	98.33	34.33	74.8055	34.0856
514	Great Rumiya	Rome	35.42	41.83	12.4843	41.8926

515	Afinas (Athens)	Athens	48	43	23.7266	37.9714
516	Macedonia – city of Alexander	Pella	49	40	22.5211	40.7547
517	Nikeya	Iznik (ancient Nicaea, Nicea)	50.5	43	29.7169	40.4265
518	Kalawziyah	Kalaba (former Claudiopolis, Ptol. <i>Klaudias</i> in Cappadocia, Ptol. ID 5.07.09.05)	52	39	39.0928	38.3698
519	Bargamus (Pergam)	Pergamon Ancient City near Bergama in Turkey	52.5	39.67	27.1841	39.1316
520	Batn Hinzit	Harpoot, Harput, Kharberd in Antzitone	61.67	39.75	39.2571	38.7036
521	Malatiyah (Malatya)	Arslantepi, Melid, Malatya	51	39	38.3611	38.3819
522	Tarabizunda (Trebizond)	Trabzon	56	40	39.7269	41.0050
523	Tiflis	Tbilisi	62	42	44.7831	41.7220
524	Barda'a (Berdaa)	Barda	63	43	47.1190	40.3830
525	Al Baylaqan	Orenqala ruins near Beylagan	64	39.83	47.4956	39.8875
526	Ahlat	Ahlat, ancient Calata (Ptol. <i>Kolsa</i>)	64.83	39.67	42.4944	38.7528
527	Bab al-Abwab (Darband Khazaran)	Derbent	66	41	48.2809	42.0541
528	Arjish	Erciş kalesi (Ptol. <i>Pherendis</i>)	66.33	40	43.3302	38.9725
529	Shirvan	Sarvan	67.5	40.83	49.0177	41.2834
530	Bakuya (Baku)	Baku	72	39	49.8338	40.3660
531	Varsan	Varxan	74.17	39.67	48.2475	39.8666
532	As-Sarir	Assab on Assabtyar R.	72	43	46.4996	42.4681
533	Bankhishlag	Shakpak-ata on Mangyshlak Peninsula	77	40	51.1397	44.4320
534	Balkhan	<i>Tasharvat?</i>	78	40	54.3681	39.7518
535	Rabat Farava	Gyzylarbat	85.75	39.42	56.2764	38.9771
536	Miyanchakh	Miana, Mäne	83.92	40.42	60.4057	36.8737
537	Al Jurjaniya (Gurganj)	Konye-Urgench	84.02	42.28	59.1463	42.2968
538	Kath (Kyat)	Beruniy	85	41.6	60.7523	41.6909
539	Sutkand (Syutkend)	Syutkent	84.33	43.17	68.0746	41.9378
540	Dargan	Darganata	86.4	40.5	62.1823	40.4537
541	Amuya (Amul)	Türkmenabat, former Char-dzhou	87.08	39.17	63.5779	39.0724
542	Barabr (Farabr)	<i>Arab?</i> in Turkmenistan	86.58	38.67	63.1970	39.3508
543	Baykand (Paykend)	Yangimazar, Yangimozor	86.83	39	63.9996	39.6223
544	Bukhara	Bukhara	87.5	39.33	64.4110	39.7778
545	At-Tawawis	<i>Galaasiya, Galaosiyi Shahri?</i>	87.83	39.5	64.4459	39.8570
546	Ash-Sharg	Shanba	87.92	39.58	64.5900	39.9565
547	Karminiya	Karmana	87.92	39.67	65.3688	40.1383
548	Ad-Dabusiya	Qala-i-Dabus, Dabusiya ruins	88	39.83	65.7659	40.0266
549	Al Kushaniya	<i>Kattakurgan, Kattaqo'rg'on Shahri?</i>	88.17	39.92	66.2655	39.9054
550	Ishtikhan and Arbinjan	Ishtixon Shahri, Ishtykhan	88.25	39.83	66.4974	39.9706
551	Nasaf (Nekhsheb)	Qarshi	88	39.67	65.7847	38.8612
552	Kesh (Kes)	Shahrisabz	88.17	39.83	66.8301	39.0601
553	Samarkand (Simizkand)	Samarkand (Ptol. <i>Indikomordana</i>)	88.33	40	66.9693	39.6485
554	Zamin	Zaamin	89	40.42	68.3935	39.9624
555	Khojenda	Khujand	90	40.83	69.6221	40.2824
556	Ushrushana	Bunjikat ruins near Shakhristan, Shakhriston	89.5	39.5	68.7991	39.7700
557	Pamir	Pamir Mts., Ismoil Somoni Peak coordinates adopted	92.58	41.17	72.0157	38.9431
558	Azh-Zhasht Fortress	Gharm, Rasht in Karotegin	93.42	40.33	70.3847	39.0370
559	Binkat (Tash-Kand)	Tashkent	89.17	42.5	69.2392	41.3369
560	Benaket	<i>Sirdaryo?</i>	89.83	41.17	68.8263	40.7752
561	Tun-Kat	<i>Tuyabuguz, Tuyabo'g'iz?</i>	89.17	43	69.3021	40.9993
562	Shalji	Sadyr-Kurgan	89.25	43.17	71.6168	42.6485

563	Ispijab (Isfijab)	<i>Sayram?</i>	89.33	43.33	69.7575	42.2992
564	Ahsikat (Ahsiket), capital of Ferghana	Axxa	92	42	71.3765	40.8904
565	Jidghil Region	Along Chatkal R.	92.17	42.5	71.0645	41.7617
566	Kuba	Kuva, Quva	92.25	43	72.0710	40.5240
567	? (unreadable-5)	<i>Nookat?</i>	93.83	42.5	72.6182	40.2656
568	Nukat	Naukat	91.42	44.25	66.6149	40.2967
569	? (unreadable-6)	<i>Karasahr, Karashar, Yanqi?</i>	103.17	43	86.5663	42.0617
570	Tusmat in Outer Tibet	Tugu Maiticun, Tugumaitixiang	110	39.17	76.1509	40.0141
571	Chinanchiqat (Kuju)	Gaochang (Karahodja)	111.33	42	89.5292	42.8528
572	Sulmi	Hami	113	43	93.5053	42.8326
573	Shanju	Shanzhou district of Sanmenxia	115.17	40.33	111.1039	34.7211
574	Kamchu (Kamju? Famju?)	<i>Changzhou?</i>	116.08	39	119.9529	31.7716
575	Burjanes	Bulgarians of Danube R., coordinates of Burgas adopted	40	45	27.4677	42.5054
576	Byzantiya (Al Kustantiniya)	Istanbul	49.83	45	28.9800	41.0085
577	Halkedon	Ancient Chalcedon	50.5	46	29.0291	40.9904
578	Nikomediya	İzmit (ancient <i>Nicomedia</i>)	51	44	29.9160	40.7624
579	Herakleya	Eregli in Zonguldak Province (ancient <i>Heraclea Pontica</i>)	53.42	46.58	31.4147	41.2847
580	Samandar (Semender)	Ruins south of the mouth of Sulak R., approximate coordinates provided	72.5	44.67	47.4746	43.1660
581	Balanjar (Varachan)	Buynaksk	73	44.83	47.1210	42.8290
582	Capital of the Khazars	Samosdelka (ruins of Itil, Atil)	75.33	46.5	47.8398	46.0240
583	Al-Karya al-Hadisa (Yangikent), Jand and Huwara	Kazaly, Kazalinsk	78.5	44	62.0999	45.7641
584	Sabran	Sawran, Sauran ruins	87	43.5	67.7686	43.5153
585	Farab	Farab, Farap	88.5	44	63.6115	39.1699
586	At-Taraz	Taraz	89.83	43.58	71.3950	42.8970
587	Osh	Osh	92.5	43.42	72.7984	40.5281
588	Uzkand (Uzgend)	Uzgen	92.83	44	73.2984	40.7675
589	Balasagun	Burana Tower	91.5	44.67	75.2502	42.7463
590	Kuchkar-Bashi	On Kochkor R. near Kochkor	92	46.33	75.6910	42.2194
591	Barskhan (Parskhan)	Barskoon	93	46.5	77.6039	42.1561
592	At-Bashi	At-Bashi, At Bashi	93.17	45	75.8050	41.1680
593	Ardukand (Kashgar)	Kashgar Old City in Kashgar	95.42	44	75.9926	39.4738
594	Yarkand (Yarkend)	Shache in Yarkant County	95.58	43.67	77.2497	38.4127
595	Uj (Uch)	Uqturpan	99.33	45	79.2245	41.2146
596	Akhma	<i>near Aiximan L.?</i>	100.67	43.5	80.1930	40.5870
597	? (unreadable-7)	<i>Aksu?</i>	101.67	44.92	80.2789	41.1834
598	Kuja (Kucha)	Kuqa	102.33	44.83	82.9322	41.7156
599	Unkra (Ungra)	Ugra R.	58	48.33	36.1064	54.5072
600	Suvar and Bulgar	Bolgar	70	49.5	49.0270	54.9870
601	Land of the Isu people	Ves' (Coordinates of the modern Vesyegonsk town in Tver Region adopted)	69	55	37.2590	58.6584
602	Woods of the Yury people	Yugra (Coordinates of the modern Yugra village in Volgda Region adopted)	63	67.5	43.5095	60.4221