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**REAPPRAISAL OF THE SEISMIC ACTIVITY IN CYPRUS: 1894-1991**

**Abstract.** The seismicity of Cyprus is re-assessed for the period 1890-1990 using a combination of macroseismic and instrumental data from which a considerable number of new events, not listed in existing catalogues, have been identified. It is found that the short-term seismic activity of the Cyprus area is associated with shallow events located mainly offshore, south of the 35th N parallel. Also that this activity is not uniform with time; three quarters of the total strain energy was released by 1930 and for the last four decades the area has been relatively quiescent.

## INTRODUCTION

The purpose of this paper is to reappraise the seismicity of Cyprus and to produce a homogeneous macroseismic and instrumental record of the earthquake activity for this century. The dataset used is a revised, up-to-date list of earthquakes which have occurred in the region of Cyprus during the last 100 years. No felt earthquake in the island for which we have found evidence has been excluded, while all instrumentally recorded events in the region of Cyprus (Fig. 1) taken between  $33.0^{\circ}$  to  $37^{\circ}$ N and  $31.0^{\circ}$  to  $35.5^{\circ}$ E, have been included. All data, both macroseismic and instrumental, have been re-examined and epicentral positions, focal depths and magnitudes have been re-assessed or calculated uniformly. The analysis of the data shows that activity is clustered and that intensities of shallow events in the region attenuate slower than in other parts of the Eastern Mediterranean.

## SOURCES OF MACROSEISMIC INFORMATION

The seismic history of Cyprus is imperfectly known and there is precious little published about the effects of earthquakes in the island during this century. A recent paper by Ambraseys and Adams (1992) presents a summary of the macroseismic information given below as well as a re-assessment of the instrumental data.

Better known works on the seismicity of Cyprus contain very little or no primary macroseismic information. Sieberg's (1932) catalogue, which ends with events for 1900, contains only two earthquakes for our period the effects of which are grossly exaggerated. The catalogue of Galanopoulos and Delibasis (1965), which ends with the year 1963, is devoid of macroseismic information and it is based solely on routinely determined instrumental epicentral locations reported by international agencies i.e. by ISS, USCGS, and BCIS. The same applies for the works of Solovieva (1976), and Neophytou (1979). A notable exception is the series of articles by Christofides (1969-1973) in which he published extracts from a substantial number

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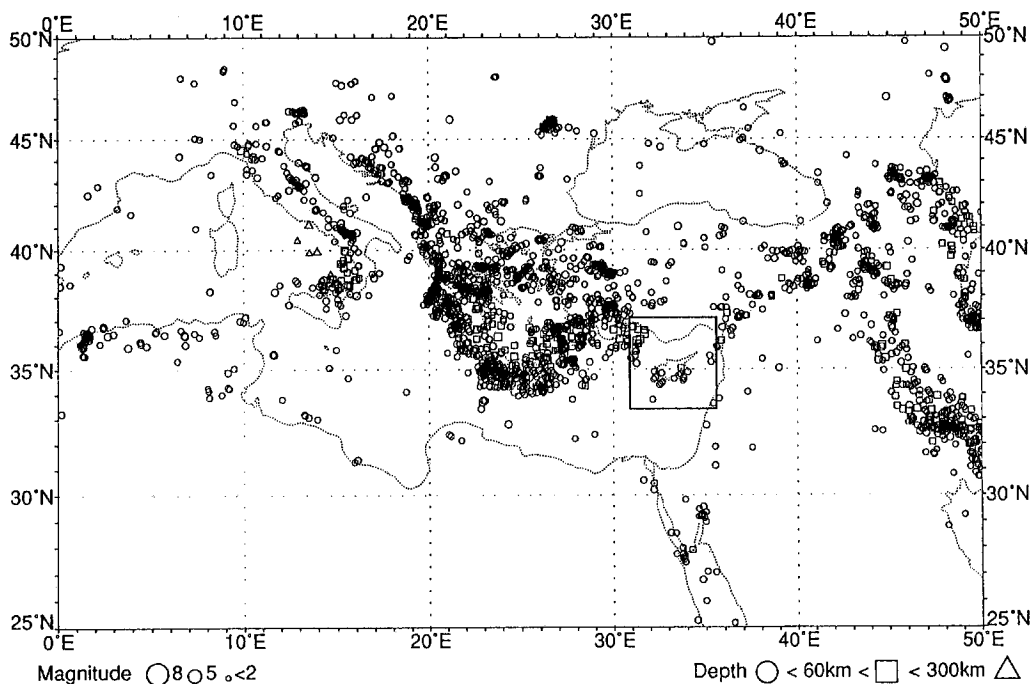


Fig. 1 - Events in ISC files for broad region around Cyprus, 1970-1990,  $M_s > 4.5$ .

of local newspapers relating to earthquakes. An almost equal volume of reports from the Cyprus, Greek, Turkish, Israeli and Egyptian press has been used in the preparation of the present work. Because of their large volume only a small number of these references are quoted in the description that follows of individual events.

A considerable amount of primary sources regarding macroseismic observations for Cyprus and neighbouring areas for the period before 1975 can be found also in the various bulletins and reports of the observatory of Ksara for the period 1911 to 1967. For some of the larger events the reports of Anonymous (1925), Hines (1953), Havouzari (1983), and Neophytou (1977, 1978), contain some additional macroseismic information relevant to the seismicity of the island. Published primary information for a few of the larger events is also given in Agamennone's (1900, 1904) detailed list of earthquakes for the year 1896, as well as in Bellamy's (1903) work which contains a brief note about a few events for the period 1900-2. The papers by Eginitis (1899), Aziz (1942), Pantazis (1969) and Rothe (1975) also contain some additional macroseismic information. For more recent events, felt reports can be found in the Seismological Bulletin of CSS (Cyprus Seismological Service) established in 1987, and published by the Geological Survey Department in Nicosia.

Macroseismic effects for some of the earthquakes that affected Cyprus as well as neighbouring countries can also be found in a number of publications such as Pinar and Lahn (1952), Ambraseys (1988), Bertoly (1927-9), Plassard (1956, 1960), Plassard and Kagoj (1968), Blankenhorn (1904), Koert (1925), Shalem (1953 a, b), Kallner Amiran (1951), Ariei et al. (1985), Striem (1986), as well as in the local press of neighbouring countries.

## MACROSEISMIC EFFECTS

For a better understanding of the seismicity of Cyprus and an appreciation of the value of macroseismic data we include in Appendix 1 a summary description of the reported felt effects of earthquakes in the island from 1890 through 1991. The compilation of data was accomplished in this study, and for the larger events location maps have been drawn showing the extent

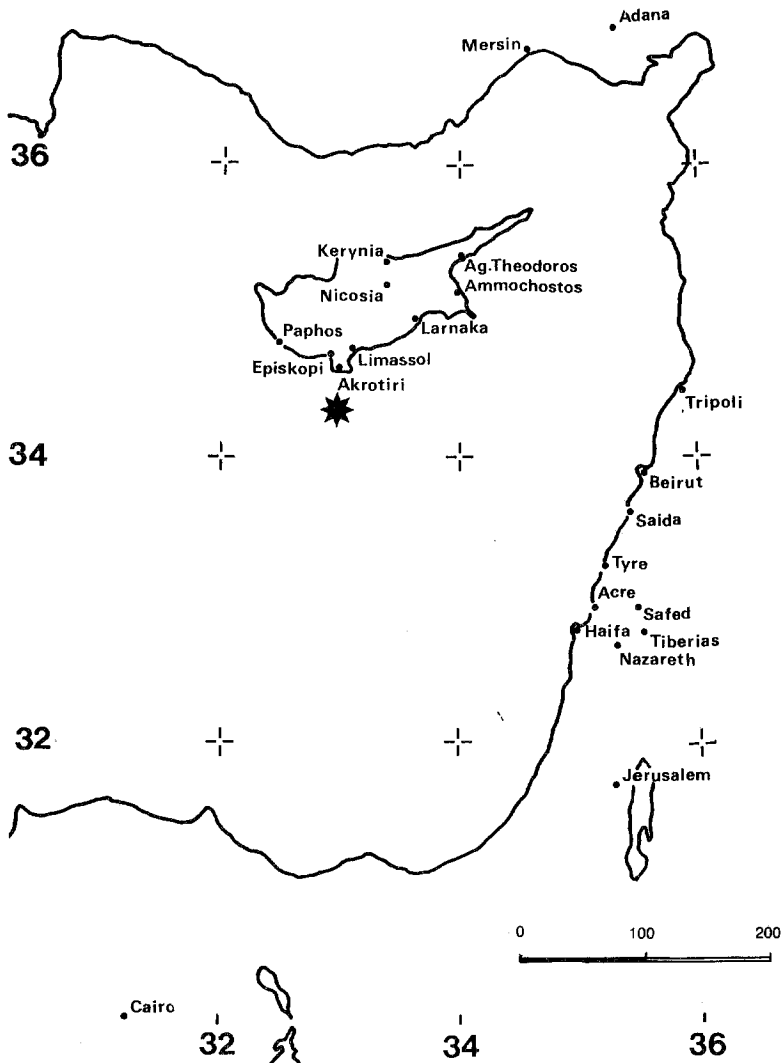


Fig. 2 - Map showing the area over which the earthquake of 29 June 1896 was felt. Star shows adopted location of epicentre. Scale 200 km.

over which these shock were felt (Figs. 2-12). Appendix 1 includes references to published works and books; references to press reports, seismic station bulletins and unpublished material, with very few exceptions, because of their large volume, are not listed. The localities mentioned in Appendix 1 can be found in maps 1:50,000 (edition 6-GSGS, Series K711, 1962).

#### SOURCES OF INSTRUMENTAL DATA

These sources are discussed by Ambraseys and Adams (1992). Instrumentally recorded epicentres, as reported by various seismological agencies during the period 1898-1992 have variable degrees of accuracy. Before 1956 there were few seismograph stations in operation in the Eastern Mediterranean region. The first instruments installed in the vicinity of Cyprus, were Milne undamped penduli with magnifications ranging from 10 to 20 and periods between 10 and 20 seconds. These instruments were installed in 1899 at Abbasia ( $5^{\circ}$  from Cyprus), at Helwan ( $5^{\circ}$ ) in 1904, and Beirut ( $2^{\circ}$ ) in 1904. Larger magnification instruments began

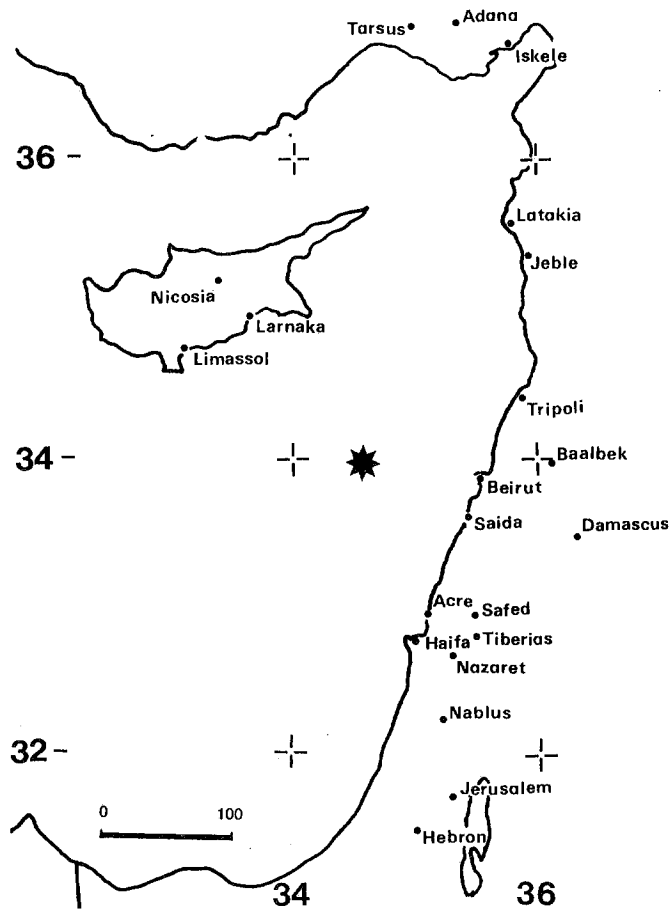


Fig. 3 - Felt area of the earthquake of 5 January 1900.

to operate at Athens ( $8^\circ$ ) in 1900, Tiflis ( $11^\circ$ ) 1900, Batum ( $9^\circ$ ) 1902, Borzom ( $11^\circ$ ) 1903, Belgrade ( $14^\circ$ ) 1904, Sofia ( $11^\circ$ ) 1905, Harpoot ( $6^\circ$ ) 1906, and Ksara ( $3^\circ$ ) in 1910. In the early part of the 1920s the simple Milne seismographs were progressively replaced by more advanced instruments with damping and higher sensitivity which allowed a better location and magnitude assessment. Data from these, as well as from more distant seismographic stations were used for the relocation and magnitude assessment of events in our study area.

The epicentral locations of events before the mid 1960s of all magnitudes calculated routinely have large errors as do smaller events after that period. Ambraseys and Adams (1992) re-calculated epicentral positions using macroseismic control and assessed focal depth using the phases reported in ISS/ISC. In this study the positions of an additional number of events have been re-assessed and their associated magnitudes computed uniformly using amplitudes and periods of surface waves.

For the earlier events, using a combination of macroseismic and instrumental techniques it has been possible to assess both their location and magnitude. It is the association of felt reports (Appendix 1) with instrumental data (Appendix 2) which provided the best guide for the identification of an event. From these appendices we notice that most of the felt earthquakes in the Cyprus area can be associated with events recorded by seismographic stations in the region. Even in the absence of detailed macroseismic data, amplitude and period information, or even the number of reporting seismograph stations, may be used to assess the relative magnitude of an event. Indeed, the magnitude of some of the earlier events, particularly of

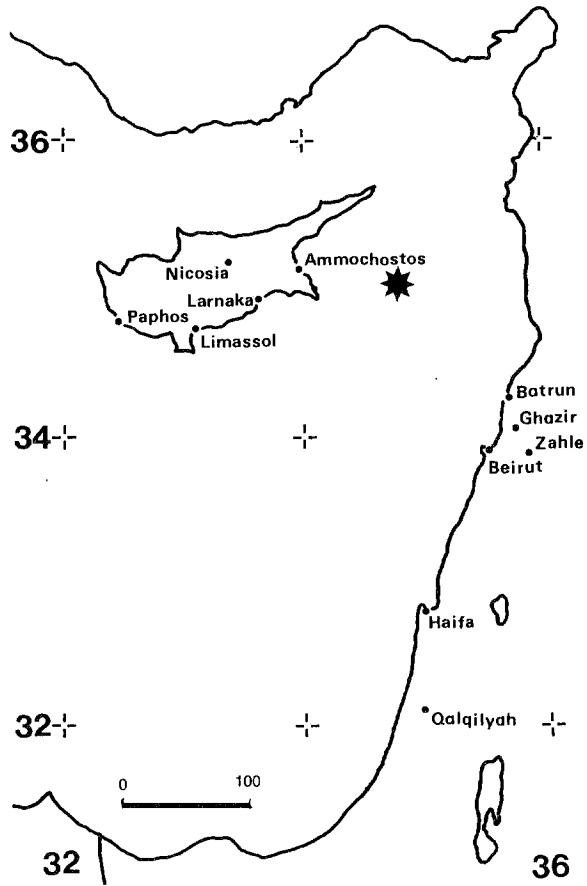


Fig. 4 - Felt area of the earthquake of 29 September 1918.

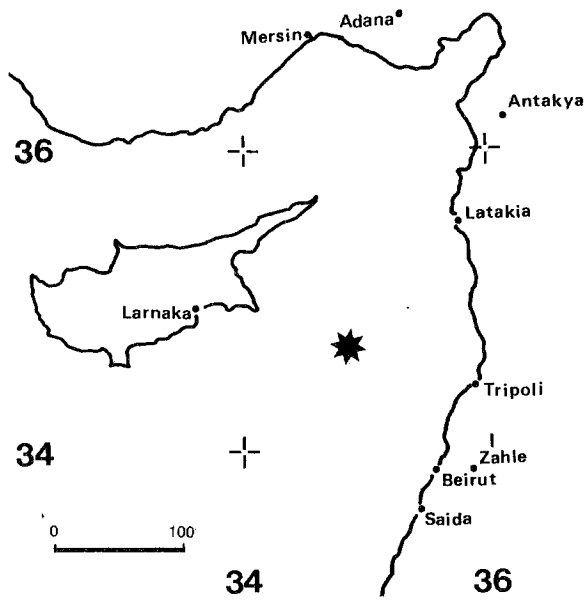


Fig. 5 - Felt area of the earthquake of 2 April 1922.

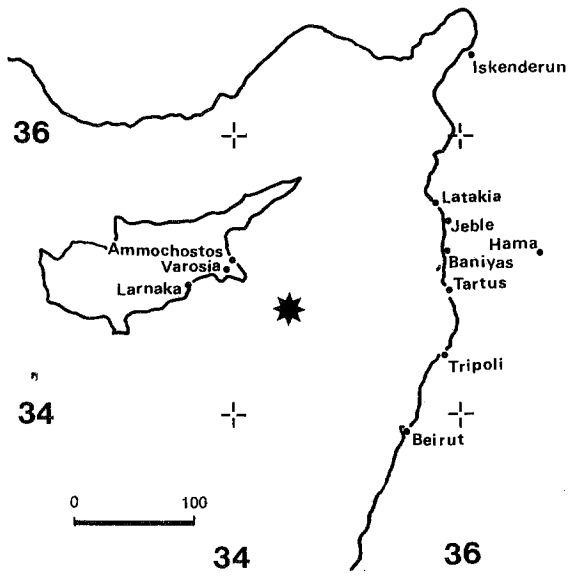


Fig. 6 - Felt area of the earthquake of 18 February 1924.

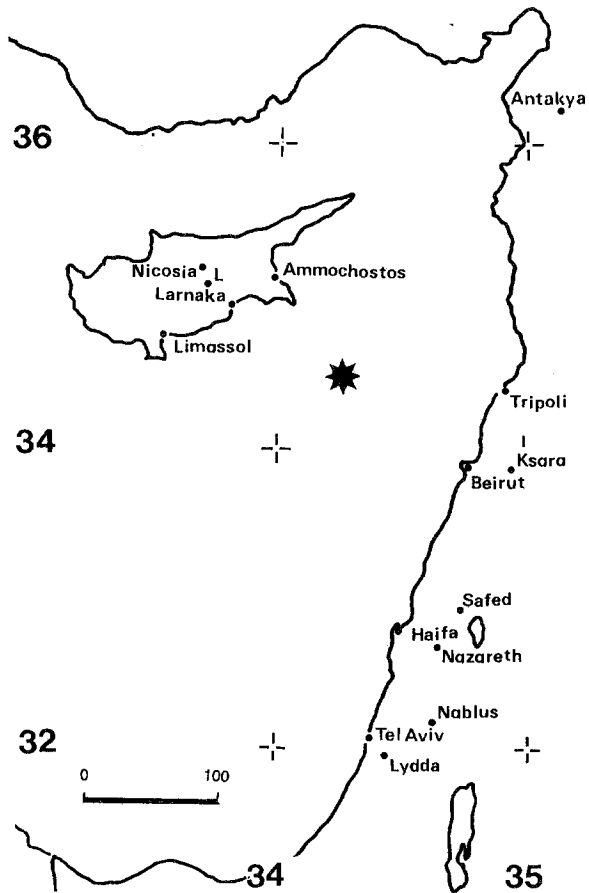


Fig. 7 - Felt area of the earthquake of 24 July 1940.

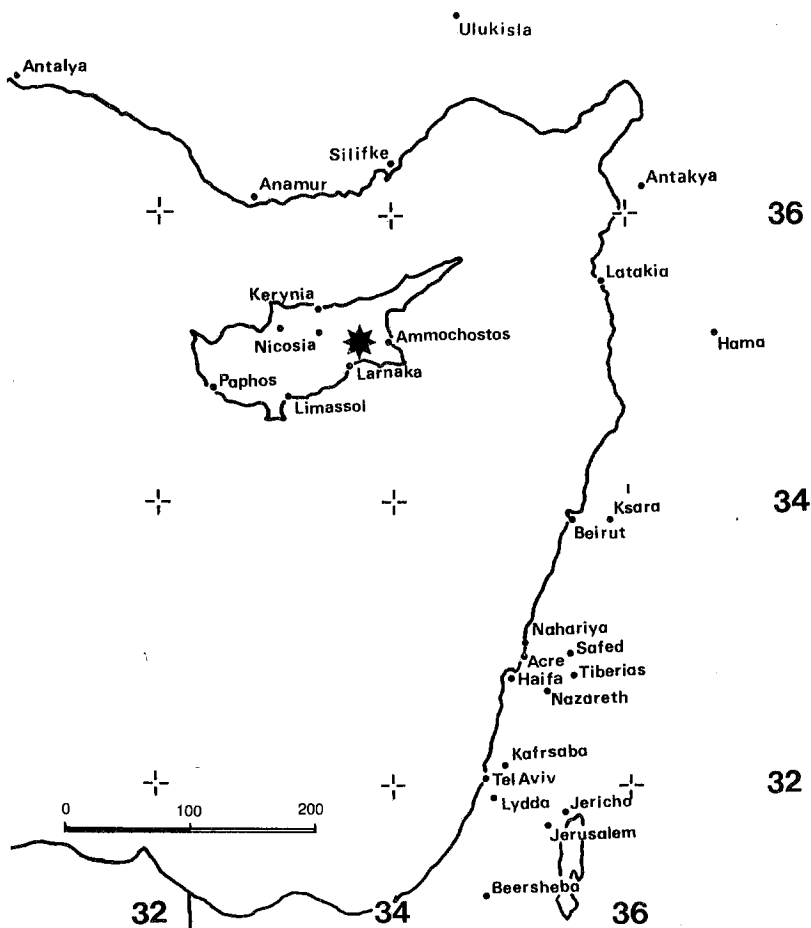


Fig. 8 - Felt area of the earthquake of 20 January 1941.

those with offshore epicentres, could not have been assessed solely from their felt effects.

Appendix 2 lists all earthquakes in the region of Cyprus ( $33.0^{\circ}$  to  $37.0^{\circ}$ N and  $31.0^{\circ}$  to  $35.5^{\circ}$ E) after 1890 of  $M_s$  or  $m_b$  equal to or greater than 3.0, including all identified felt shocks.

## DISCUSSION

The main purpose of this paper has been to produce a catalogue of earthquakes for the area of Cyprus. This reappraisal of macroseismic and early instrumental information of the last 100 years has been used to extend the length of the seismological record to give a more complete picture than can be obtained from a limited period of modern instrumental recording.

Appendices 1 and 2 list the macroseismic and instrumental characteristics of these events respectively. A number of earthquakes listed in other catalogues and databases have been omitted from these lists because we have established that they occurred outside the region, or because their magnitude or depth has been overestimated, while new events have been added.

Many of the shocks felt in Cyprus before 1960, for which we have insufficient instrumental data to relocate, and which are listed in Appendix 2, are in fact all local events, some of them aftershocks, that can be matched with small events recorded at one or two of the closest stations of Ksara and Helwan; they are of magnitude less than 4.0.

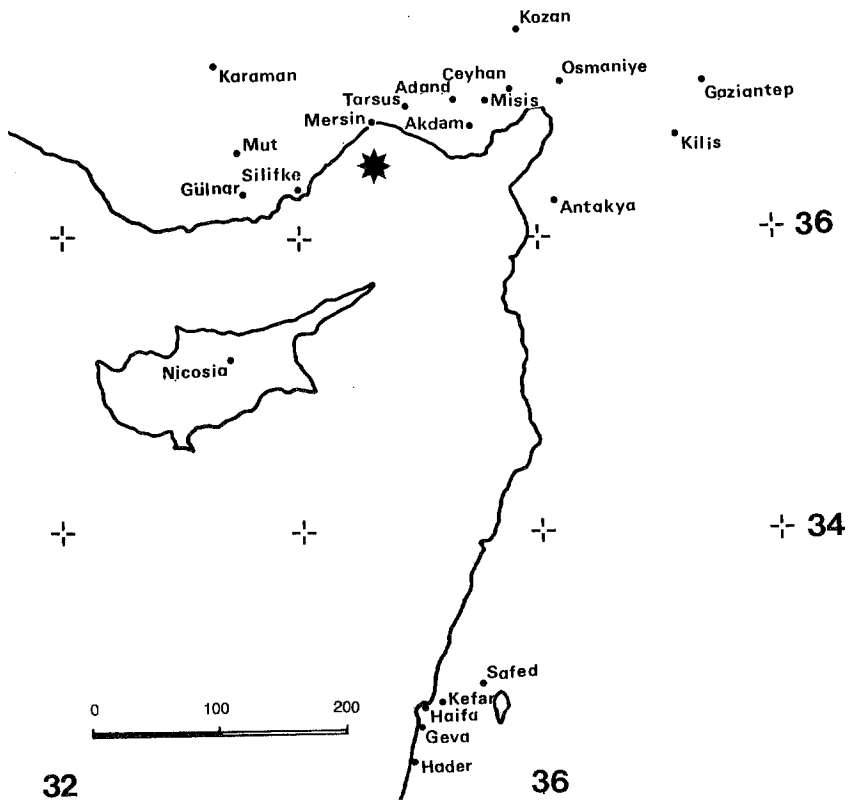


Fig. 9 - Felt area of the earthquake of 9 December 1947.

Fig. 13, which is based on the data in Appendices 1 and 2, shows the seismic activity in the region of Cyprus during the last 100 years, that is, the distribution of, chiefly shallow earthquakes of surface-wave magnitude equal to or greater than 3 in the region between  $34^{\circ}$ - $36^{\circ}$ N and  $32^{\circ}$ - $35^{\circ}$ E. It is perhaps of interest that gaps in seismicity occur at the sites of the larger events.

If we exclude foreshocks and aftershocks, we find that 74% of all felt earthquakes in Cyprus were reported from the Limassol district, 14% from the district of Paphos, and 6 percent from the districts of Nicosia, Larnaka and Ammochostos. Only one shock was reported from the Kerynia area. This distribution is in agreement with the instrumental activity shown in Fig. 13, which shows that the bulk of the activity associated with shallow events during this century took place south of the 35th parallel, partly on land and partly offshore.

From Figs. 2 to 12 we notice that shallow earthquakes originating in the Cyprus region are often felt at relatively large distances and that intensities associated with these events attenuate rather slowly to the south. Conversely, events nucleating outside the study area in the Eastern Mediterranean region are often felt strongly in Cyprus, some of the larger of them with damaging effects. This slow attenuation of intensity with distance seems to be a typical characteristic of shallow Eastern Mediterranean earthquakes, often misinterpreted as a feature of events of intermediate depth.

The data in Appendix 2 show that earthquakes in the Cyprus region, excluding foreshocks and aftershocks, occur at a rate given by the following recurrence relationship:

$$\log N = 2.5 - 0.64 M_s$$

where  $N$  is the number of earthquakes per year of magnitude equal to or greater than  $M_s$ . This linear distribution holds good for magnitudes up to about 6.0. However the data show



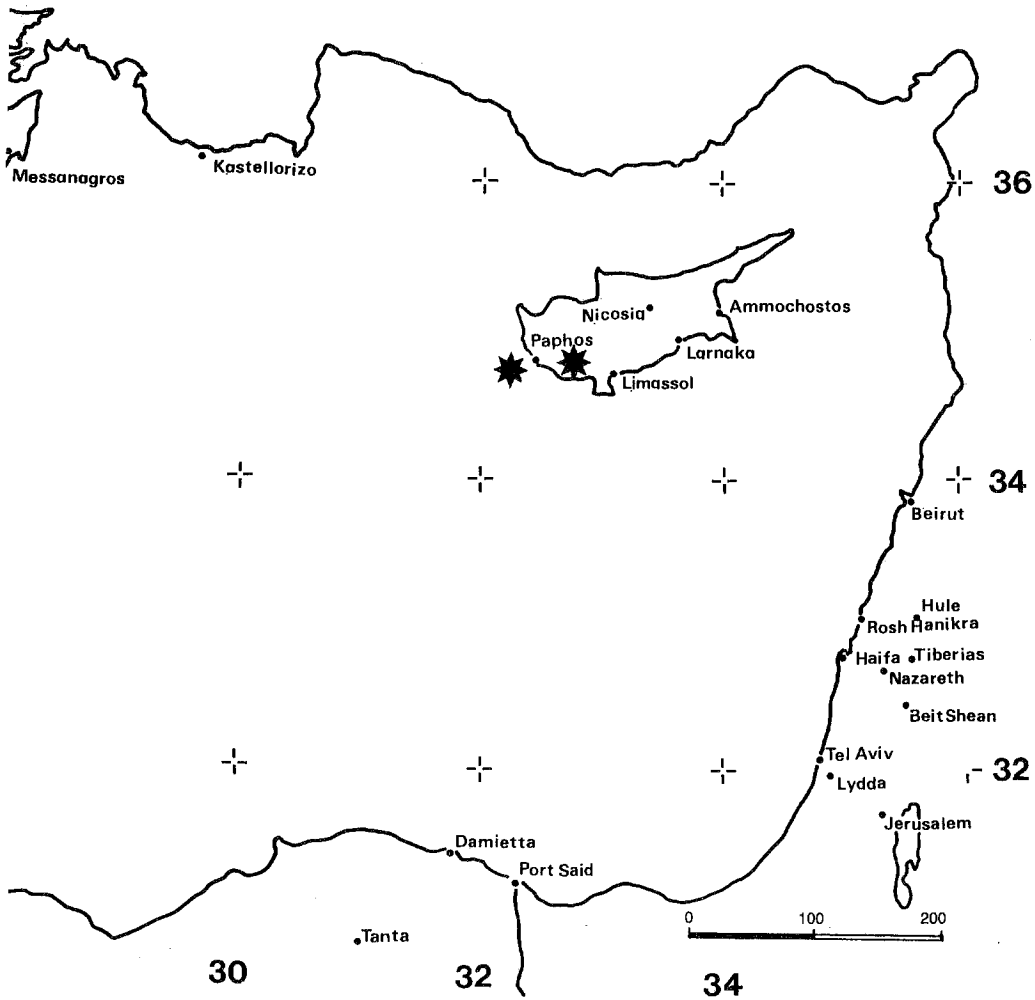


Fig. 10 - Felt area of the earthquakes of 10 September 1953.

that at its upper end the recurrence curve steepens.

The study region covers a relatively small area of only six square degrees and is situated in a complex zone of shortening between the African and Eurasian plates. It is bounded to the east by a major tectonic structure that runs throught the Bay of Iskenderun (which, however, has produced no significant activity in the last century) and to the west, between the Gulf of Antalia and Cyprus, it is bounded by gaps in 20th-century seismicity.

These features suggest that the activity of the Cyprus region is not uniform with time. From the data in Appendix 2 it can be shown that more than three quarters of the total seismic moment of the last 100 years was released in the first few decades of this century and that for the last 40 years the region has been, for all practical purposes, quiescent. Thus a hazard analysis based on the more reliable instrumental data of the 50-year period 1940-1990 would be sampling a record for a quiescent period in the seismic activity and produce unrepresentative results.

Preliminary results from a seismicity study of the region carried out for a period ten times

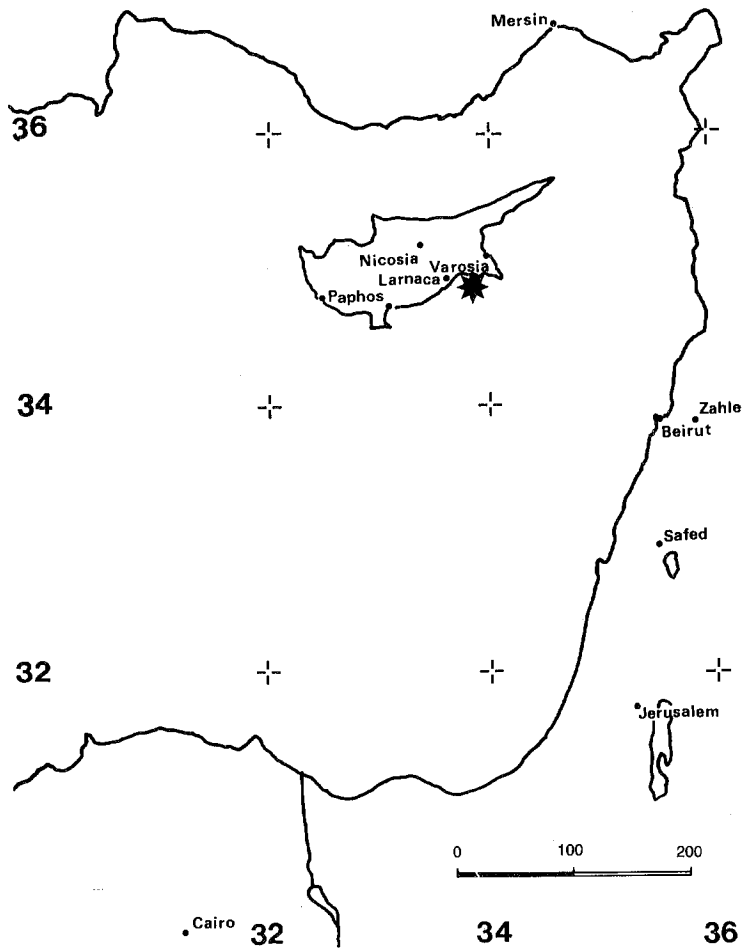


Fig. 11 - Felt area of the earthquake of 15 September 1961.

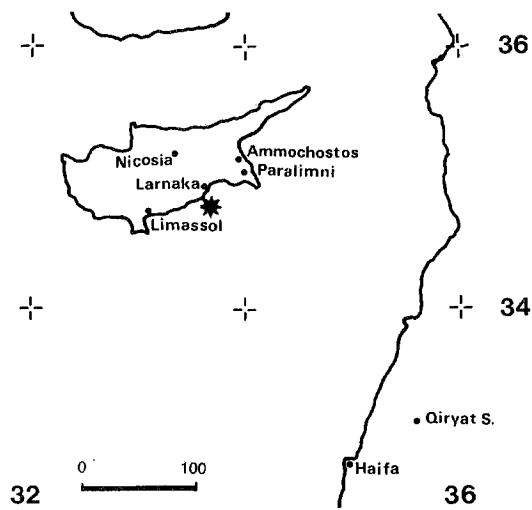


Fig. 12 - Felt area of the earthquake of 7 July 1986.

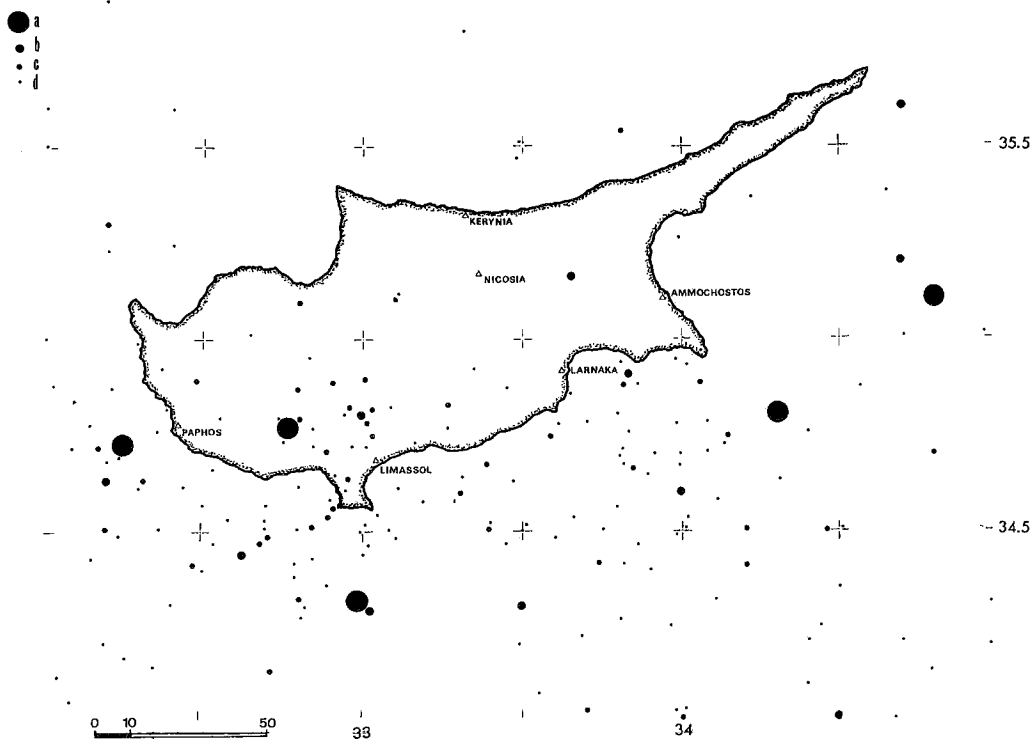


Fig. 13 - Seismicity of Cyprus region, 1890-1990,  $M_s > 3.0$ , reassessed in this paper for crustal events. a)  $M_s > 6.0$ ; b)  $6.0 \geq M_s > 5.0$ ; c)  $5.0 \geq M_s > 4.0$ ; d)  $4.0 \geq M_s > 3.0$ . With the exception of epicentres on land the location of all other c) and d) epicentres, before the 1970s, is approximate.

longer than presented here, also suggests that the long-term seismicity of this small region is clustered. Therefore, until we understand why this is so and how the regions of the Bay of Antalya, the Cyprus region and the Gulf of Iskenderun are genuinely different it would be imprudent to presume that the 20th century pattern of activity is a permanent feature.

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## Appendix 1

### Summary description of macroseismic effects

(References in italics are newspapers)

**1894 Jan 13** ( $M_s = 5.5$ , n). This earthquake was felt strongly in Kerynia and Nicosia, and was perceptible at Larnaca, Antakya and Aleppo in Syria (Agamennone, 1900; Christofidis, 1969-1973; Pinar and Lahn, 1952).

**1895 Nov 23**. An earthquake was felt at Nicosia, originating from Karamania (Saad, 1913; Christofidis, 1969-1973).

**1896 Feb 4**. There was an earthquake of long duration in Limassol. Probably this is the same shock which was felt strongly in Mersin and Adana (Christofidis, 1969-1973; Pinar and Lahn, 1952).

**1896 Mar 18**. A strong earthquake in Limassol caused considerable panic (Agamennone, 1900).

**1896 Mar, 19**. A light shock was felt in Limassol (Agamennone, 1900).

**1896 Mar 20**. Preceded by a foreshock there was a strong earthquake at Limassol which was also felt in Paphos (Agamennone, 1900).

**1896 Jun 22**. Many closely spaced shocks were reported from Limassol (Agamennone, 1900).

**1896 Jun 29** ( $M_s = 6.5$ , n; Fig. 2). This earthquake was preceded by a long sequence of foreshocks that begun in March, and was followed by many strong aftershocks that continued for several months. The earthquake was felt particularly strongly along the south coast of the island. It occurred late at night and lasted about 15 seconds. The shock was accompanied by light flashing in the sky above Akrotiri, seen by many people. At Akrotiri 13 houses collapsed and the rest were damaged; the crest of the minaret of the town was thrown down injuring a number of people. The shock caused cracks in the ground and the liquefaction of deposits along the southwest shore of Salt Lake. The ground motions were strong enough to cause sloshing of water from tanks. The church of the old monastery of St. Nicholas was damaged. The upper part of the light-house at Kourianos near Cape Gata was cracked and its cage was destroyed. At Episkopi 15 houses were ruined and a number of people were injured. At Aterinia the ground was badly cracked. West of Pissouri harbour the shock triggered rockfalls from the cliffs of Cape Aspro that fell into the sea. At Limassol the shock lasted about 12 seconds and caused great panic. All pendulum clocks stopped and people found it difficult to stand. Three or four old houses collapsed and a few dwellings and public buildings were damaged. Part of the Government House and of the Cend mosque, the Greek school, the belfries of the Catholic church and of the church of St. Napa, were all damaged to the extent that most of them had to be pulled down and rebuilt after the earthquake. The front of the hotel Troodos collapsed as well as a few farmhouses in the outskirts. In the harbour the sea became agitated and the shock was strongly felt on board ships in the Limassol roads. When aftershocks continued the town was evacuated, and the authorities and many of the inhabitants set up camps at Faliro and further inland, at Polemidhia. Telegraphic communications with the rest of the island were temporarily interrupted. At Monagrouli, Pareklisia, Korfi and Pissouri the shock caused widespread, minor damage. At Larnaca and Paphos the earthquake was strongly felt; it lasted 15 seconds and caused considerable panic but little or no damage. Pendulum clocks stopped and suspended lamps were set swinging. Many of the inhabitants of these towns abandoned their houses and camped in the open. In Nicosia everyone awoke and fled their houses. The shaking which lasted about 20 seconds, caused water to slosh out of fountains and tanks. The earthquake was strongly felt at Kerynia, Ammochostos (Famagusta), Ag. Theodoros and in their respective districts, where it caused some minor damage to old houses. The shock was reported as quite strong from Tripoli and Beirut where it awoke a few people, and it was felt at Mersin, Adana, Kilis (?), Saida, Tyre, Acre, Haifa, Safed, Tiberias, and Nazareth. It was perceptible as far as Jerusalem and Cairo. Much of the damage caused by this earthquake was progressive, the result of the many strong aftershocks that continued for four months. Modern writers (e.g. Sieberg, 1932) have exaggerated the effects of this event. The main shock and some of its aftershocks were recorded by primitive seismographs as far as Shide at a distance of  $31^\circ$  (Agamennone, 1900, 1904; Blankenhorn, 1904; BAAS, 1896, 1897; Christofidis, 1969-1973; Eginitis, 1899; Kallner Amiran, 1951; Pinar and Lahn, 1952; Sieberg, 1932).

**1896 Jul 3** ( $M_s = 5.2$ , n). A strong aftershock caused some additional damage to houses and buildings in Limassol and in the surroundings. As a result of the continuing seismic activity a number of houses were evacuated and later pulled down (Agamennone, 1900, 1904; Blankenhorn, 1904; BAAS, 1896, 1897; Christofidis, 1969-1973; Eginitis, 1899; Kallner Amiran, 1951; Pinar and Lahn, 1952; Sieberg, 1932).

**1896 Jul 13**. A very strong aftershock added to the damage already caused to the region of Akrotiri (Agamennone, 1900, 1904; Blankenhorn, 1904; BAAS, 1896, 1897; Christofidis, 1969-1973; Eginitis, 1899; Kallner Amiran, 1951; Pinar and Lahn, 1952; Sieberg, 1932).

**1896 Aug 27**. A strong aftershock obliged people in the Limassol area to remain in camps. It caused some minor damage in the Limassol area and interrupted again the telegraphic communications with the interior (Agamennone, 1900, 1904; Blankenhorn, 1904; BAAS, 1896, 1897; Christofidis, 1969-1973; Eginitis, 1899; Kallner Amiran, 1951; Pinar and Lahn, 1952; Sieberg, 1932).

**1896 Sep 28**. Strong aftershock causing panic in Limassol and deterring many of the people from returning

to their houses. A number of public buildings were evacuated. Aftershocks continued to be felt well into January 1897 (Agamennone, 1900, 1904; Blankenhorn, 1904; BAAS, 1896, 1897; Christofidis, 1969-1973; Eginitis, 1899; Kallner Amiran, 1951; Pinar and Lahn, 1952; Sieberg, 1932).

**1897 Jul 26.** A violent shock was felt in the northeast part of Cyprus. It caused some damage in the region of Komi Kebir and Malounda where the bridge near the latter was cracked. The shock was felt at Mersin and Adana (Agamennone, 1904; Christofidis, 1969-1973).

**1898 Sep 21.** A series of light shocks was felt in Limassol and its district (Christofidis, 1969-1973).

**1900 Jan 5 ( $M_s = 5.7$ , n, Fig. 3).** Very early in the morning a strong earthquake was felt throughout Cyprus which lasted for about 15 seconds. It caused some panic and minor damage to a few houses, chiefly in villages in the Mesaoria valley. In Nicosia the only buildings that suffered were an old mosque and two houses which were cracked beyond repair. In Larnaka, Limassol, Nazareth and Safed the shock was strong enough to awake a few people. It lasted 10 to 15 seconds and it was rather strong in the district of Tarsus, Beirut and Saida. It was felt in Adana, Iskele, Latakia, Tripoli, Baalbek, Damascus, Nazareth, Acre, Haifa, Carmel, and it was perceptible in Nablus, Jerusalem and Hebron. Existing catalogues (e.g. Sieberg, 1932; Galanopoulos and Delibasis, 1965; Christofidis, 1970) grossly overestimate the effects of this earthquake in Cyprus (Ambraseys and Adams, 1993; Bellamy, 1903; Blankenhorn, 1904).

**1900 Mar 3.** Probably an aftershock of the earthquake of January 5, was strongly felt in the southeast part of Cyprus, particularly at Larnaka where it caused some panic. The shock was recorded at Helwan (Ambraseys and Adams, 1993; Bellamy, 1903; Blankenhorn, 1904).

**1901 Feb 28.** An earthquake caused some damage in the region between Adana and Silifke. In Adana part of the barracks collapsed (*Stambul*, 1901.3.4).

**1902 Jan 17.** Three slight shocks were felt in Nicosia (Bellamy, 1903).

**1902 Mar 14.** A rather strong shock was felt in Limassol and Larnaka (Christofidis, 1969-1973).

**1903 Apr 23.** A strong shock was felt at Adana (*Stambul*, 1903.4.25; *Levant Herald*, 1903.4.28).

**1903 Aug 27 ( $M_s = 4.9$ , n)** This event was widely felt in Cyprus, causing some damage in Limassol and panic in Nicosia. Strongly felt in villages on the Troodos mountain and followed by a few aftershocks (Ambraseys and Adams 1993; *Levant Herald*, 1903.9.11).

**1904 Feb 7.** Strong earthquake felt in Nicosia, Larnaka and Limassol, followed by an aftershock. It caused no damage or great concern (Christofidis, 1969-1973).

**1904 May 14.** A strong shock, lasting 3 seconds was felt at Larnaka (Christofidis, 1969-1973).

**1906 Feb 23 ( $M_s = 5.3$ , n).** The earthquake was felt throughout the island. In Limassol and Kolossi, 10 km to the west of the town, it caused damage to private and public buildings amounting to £ 3000; the belfry of the church of St Napa was caused to lean over and a few old houses were ruined. In Larnaka the shock caused panic and it was strongly felt in Nicosia. It was perceptible at al-Bassan south of Beirut. The earthquake was widely recorded by seismographs in Europe. Sieberg (1932) and after him later writers, wrongly date this event on 1 March (Arieh, 1985; Ambraseys and Adams, 1993; Christofidis, 1969-1973).

**1907 Apr 13.** A light shock was felt in Larnaka (Christofidis, 1969-1973).

**1909 Nov 15.** Two light shocks spaced 3.5 hours apart, were felt in Limassol (Christofidis, 1969-1973).

**1912 Jan 12.** A shock was felt in Nicosia (Christofidis, 1969-1973).

**1916 Feb, 19.** A foreshock of the following earthquake was felt in Limassol (Christofidis, 1969-1973).

**1916 Feb 22.** A strong and prolonged shock awakened people in Limassol where it caused panic but no damage. The shock was also felt in Nicosia (Christofidis, 1969-1973).

**1917 Feb 15.** Awakened people in Limassol, and caused some panic. Not reported from other parts of the island (Christofidis, 1969-1973).

**1917 Jul 10.** Rather strong shock was felt at Limassol (Christofidis, 1969-1973).

**1917 Sep 17.** Felt in Limassol but did not awake sleepers (Christofidis, 1969-1973).

**1918 Jul 16.** This was a relatively large magnitude earthquake of intermediate depth with an epicentre about 700 km west of Cyprus. It was felt at Limassol rather strongly (Critikos, 1926; Christofidis, 1969-1973).

**1918 Jul 17.** An earthquake was felt in Limassol (Critikos, 1926; Christofidis, 1969-1973).

**1918 Sep 29 ( $M_s = 6.3$ , n, Fig. 4).** This earthquake was felt throughout the island. The shock was strong in the districts of Larnaka and Ammochostos, particularly at Ormithia, Liopetri and Derinia where there was considerable damage. The shock was widely felt in Nicosia, Limassol, Paphos and their respective districts. It was stronger in the Batrun area in the Lebanon; at Ghazir the shock caused the collapse of a bell-tower and some minor damage to villages around Beirut. The shock was felt in Haifa and it was perceptible as far south as Qalqilyah. The position given was established from the readings at 23 seismograph stations (Ambraseys and Adams, 1993; Amiran, 1951; Christofidis, 1969-1973; Koert, 1925; Plassard and Kogoj; 1968; *Sabah*, 1918.10.10-11.5; *Tanin*, 1918.10.5).

**1919 Aug 19 ( $M_s = 5.4$ , n).** The shock was felt in Lebanon. No macroseismic information from Cyprus has been found for this medium magnitude earthquake, which was re-located instrumentally between Cyprus and the Syrian coast, close to the large earthquake in 1918. The position is poorly determined (Ambraseys and Adams, 1993; Plassard, 1960).

**1920 Sep 20.** In Paphos a strong earthquake. In Limassol it was less intense but awoke most of the people in the town (Christofidis, 1969-1973).

**1921 Feb 5. ( $M_s = 4.8$ , n).** The slight earthquake reported from the region of Kokkinochoria of Ammochostos, originated offshore Antioch where it was strongly felt. It was less intense at Alexandretta and it was barely felt at Aleppo and Hama. There are no instrumental readings, except from Ksara (Ambraseys and Adams, 1993; Plassard, 1960).

**1921 Apr 20 ( $M_s = 5.3$ , n).** A rather strong earthquake was felt in the town and district of Larnaka. The shock was felt throughout the island but caused no damage or great concern. The ISS epicentre is on the island, a few kilometres from Nicosia, a location which is not supported by macroseismic evidence. Our instrumental solution which is poorly controlled suggests a position a long way east, almost on the coast of Lebanon where the shock was barely perceptible. For a fixed depth at 10 km we have adopted a solution at  $34.6^\circ\text{N}$ ,  $34.0^\circ\text{E}$  (Ambraseys and Adams, 1993; *Ikdam*, 1921.4.26; *Peyam*, 1921.4.28).

**1921 Oct 5 ( $M_s = 4.5$ , n).** The shock was perceptible in the Lebanon and was located by Ksara in the Gulf of Iskenderun, a position in need of authentication. We have no felt reports from Cyprus (Ambraseys and Adams, 1993; Plassard, 1960).

**1921 Dec 30.** An earthquake shock was felt in Limassol; it caused some concern (Christofidis, 1969-1973).

**1922 Apr 2 ( $M_s = 4.7$ , n, Fig. 5).** An earthquake with an offshore epicentre between Cyprus and Lebanon was felt in Larnaka. The shock was much stronger in the region of Tripoli and Beirut where it woke a few people. It was reported also from Latakia, Adana and Mersin (Ambraseys and Adams, 1993; Plassard, 1960).

**1922 Jun 9.** Preceded on 4 June by a slight shock, two strong shocks, two hours apart, caused some concern, in Limassol (Christofidis, 1969-1973).

**1923 Jun 22.** A series of shocks were felt in Limassol during the period 22-30 June (Anonymous, 1925; Plassard, 1960).

**1923 Sep 3.** Rather strong shocks in Limassol continued intermittently throughout the month, causing some concern. The shock of 26 September caused great panic and forced the inhabitants to camp in the open (Anonymous, 1925; Christofidis, 1969-1973).

**1923 Oct 6.** The shock was strongly felt in central Cyprus and it was perceived at Limassol (Anonymous, 1925).

**1923 Nov 10.** Another shock was felt throughout the island (Anonymous, 1925).

**1924 Feb 18 ( $M_s = 6.0$ , n, Fig. 6).** The shock was very strongly felt, chiefly in southeast Cyprus and along the coast between Latakia and Beirut. In the district of Ammochostos it lasted 8 seconds and caused panic and some minor damage at Varosia. It was also felt at Larnaka but not so strongly further west. The earthquake was not felt very far into Lebanon or Syria, but there is some evidence that it was strongly felt in Turkey and Israel. There is good agreement between felt and instrumental positions (Ambraseys and Adams, 1993; Anonymous, 1925; Plassard, 1960; Plassard and Kogoj, 1968).

**1924 Jun 9 ( $M_s = 4.6$ , n).** A local earthquake in the southwestern part of the Mesaoria valley was strong enough to awake people in Nicosia and cause general panic. There was some damage in Peristerona, Agrokippia and Kato Moni, but details are lacking. The shock was felt throughout the districts of Nicosia and Limassol. The position is well determined macroseismically; the instrumental readings are poor (Ambraseys and Adams, 1993; Anonymous, 1925; Plassard, 1960).

**1924 Sep 10 ( $M_b = 6.0$ , i)** This earthquake had an epicentre in the region of Antalya. It was perceptible in Nicosia and in the north part of the island. The instrumental and felt positions agree well and the intermediate



depth is to be preferred. The ISS position is misplaced to the east near Mersin (Ambraseys and Adams, 1993; Anonymous, 1925).

**1924 Nov 9.** A shock was felt in Larnaka and further inland (Anonymous, 1925).

**1925 Oct 6.** A strong and prolonged shock caused some panic in Limassol. It was felt in Nicosia but not in Paphos (Anonymous, 1925).

**1926 Mar 18.** A destructive earthquake in Fetiye on the west coast of Antalya was felt in Cyprus. It caused panic in Limassol, 300 km from the epicentre, and it was very strong in Nicosia (Critikos, 1926; *Cumhuriyet*, 1926.3.19-25; Christofidis, 1969-1973).

**1926 Jun 26.** A large earthquake in the region of Rhodes was strongly felt throughout Cyprus, 550 km from the epicentre. In Limassol and Larnaka slow ground movements lasted for about 20 seconds and caused panic but no damage (Christofidis, 1969-1973; Pinar and Lahn, 1952).

**1926 Jul 3.** A sharp shock was felt in Nicosia which lasted a few seconds and caused some alarm (Christofidis, 1969-1973).

**1926 Aug 8.** A strong shock was felt at Limassol. On 25 September there was a stronger shock which caused some panic in the town (Christofidis 1969-1973).

**1926 Nov 17.** Preceded on 16 November by a foreshock, a stronger earthquake in Limassol caused some concern; it was followed by lighter shocks that continued up to the 24 November (Plassard, 1960; Christofidis, 1969-1973).

**1927 Feb 25.** A light shock in Limassol, followed by another on the 1st of May (Christofidis, 1969-1973).

**1927 May 2 ( $M_s = 4.6$ , n).** A rather strong earthquake was felt at Limassol which was perceptible in Ksara. Aftershocks were felt on 3 May, and 2 July. The earthquake was poorly recorded and we adopt Ksara's position (Ambraseys and Adams, 1993; Plassard, 1960).

**1927 Jun 5 ( $M = 6.0$ , i).** A relatively large, intermediate depth earthquake in the Gulf of Antalya was felt in Nicosia and different parts of Cyprus; it was reported from a few places as far as Ksara. The position and depth are well determined instrumentally. Gutenberg and Richter's (1948) suggested depth of 120 km is too great (Ambraseys and Adams, 1993).

**1927 Jul 22 ( $M_s = 4.7$ , n).** An earthquake in Limassol caused some panic; the shock was felt in Cairo and it was followed by a few aftershocks (Ambraseys and Adams, 1993; Plassard, 1960).

**1927 Nov 10.** A strong shock in Limassol caused some panic (Christofidis 1969-1973).

**1927 Dec 12 ( $M_s = 5.0$ , n).** Preceded by a damaging foreshock ten hours earlier, an earthquake in the Limassol district caused great panic and widespread minor damage chiefly to the north of Limassol at Kilani, Parapedi and Monagri. The main shock, which was recorded by a seismoscope in operation at the Government Hospital in Limassol, lasted about ten seconds. It caused the interruption of telegraph communications with the rest of the island and led to the partial evacuation of government buildings. In Limassol the church of Ag.Napa, the bell-tower of Ag.Triada, the police station, the telegraph and land offices and many school buildings were damaged. At Kolossi a few old houses were ruined without casualties and the bellfry of the church was shattered. Many houses were also damaged at Episkopi. The shock was felt throughout the district of Limassol as far as Lefka, Amiantos and Larnaka. The earthquake was followed by many strong aftershocks that continued to be felt in the district well into the following year. The earthquake was not well recorded instrumentally (Ambraseys and Adams 1993; Bertoly, 1927-9; Christofidis, 1969-1973; Plassard, 1960).

**1927 Dec 13 ( $M_s = 4.8$ , n).** This was the strongest aftershock of the earthquake of December 12, and caused some damage in the region between Amiantos and Kolossi (Ambraseys and Adams 1993; Bertoly, 1927-9; Christofidis, 1969-1973; Plassard, 1960).

**1927 Dec 18.** A rather strong aftershock of three second's duration was felt in Limassol. Numerous aftershocks continued up to the end of January, 1928, causing great concern in the region of Limassol, Korfi and Episkopie (Ambraseys and Adams 1993; Bertoly, 1927-9; Christofidis, 1969-1973; Plassard, 1960).

**1928 Feb 9.** This earthquake had an offshore epicentre SE of Cyprus; it was slightly felt at Tripoli and Beskinta north of Zahle, but apparently not in Cyprus (Bertoly, 1927-9).

**1928 Feb 20.** A slight shock was felt in Limassol; it was followed by many aftershocks the following day (Christofidis, 1969-1973).

**1928 Apr 4.** Preceded by a foreshock on 2 April in Limassol, a strong earthquake was felt throughout the

district of Limassol and it was perceptible at Paphos (Christofidis, 1969-1973).

**1928 Oct 4.** A slight shock was felt in Limassol. It was followed by an aftershock on the 5th (Christofidis, 1969-1973).

**1929 May 20.** Two light shocks were felt at Limassol (Christofidis, 1969-1973).

**1929 Aug 4 ( $M_B=5.4$ ).** An earthquake with an offshore, intermediate-depth focus in the Gulf of Antalya was felt throughout Cyprus and as far as Cairo. It was well recorded (Ambraseys and Adams, 1993; Bertoly, 1927-9).

**1930 Feb 14.** A large, intermediate depth earthquake in Crete was perceptible throughout Cyprus, at an epicentral distance of 730 km (Critikos, 1932).

**1930 May 9 ( $M_s=5.4$ , n).** A damaging earthquake in the district of Paphos in southwest Cyprus. In Paphos, particularly in the lower part of the town many houses, churches and schools were damaged. At Ktima the shock damaged newly built houses and caused the collapse of the bell-tower of the church of Ag. Theodoros. The old church of Pan. Chryseleousa at Emba was badly cracked and a few old houses were ruined. At Peyia many houses, the church and the school were cracked and partly collapsed without casualties. At Episkopi the shock triggered a large scale landslide which blocked the flow of Ezousas. Also the nearby village of Nata was involved in an incipient slide, and at Kambia much of the damage was due to slides and differential settlements of the ground. The shock was strongly felt at Amianton and Limassol and it was perceptible throughout the island but not in Syria and Turkey. It was followed by many damaging aftershocks. The earthquake was widely recorded, but with little control of depth (Ambraseys and Adams, 1993; *Chronos*, 1930.5.16-30; Christofidis, 1969-1973).

**1930 May 16.** An aftershock caused panic and additional damage in the district of Paphos, particularly at Ktima, and the collapse of a number of damaged houses (Ambraseys and Adams, 1993; *Chronos*: 1930.5.16-30; Christofidis, 1969-1973).

**1930 May 25.** Felt at Larnaka from an offshore epicentre (Ambraseys and Adams, 1993; *Chronos*, 1930.5.16-30; Christofidis, 1969-1973).

**1930 Jul 24.** More shocks felt in Paphos causing some concern (Christofidis 1969-1973).

**1930 Jul 25 ( $M_s=4.8$ , n).** Preceded by many foreshocks, reported chiefly from Limassol. The earthquake was very strongly felt in the southwest central part of the island in the Saittas area where it caused some minor damage. It was felt at Pedoulas, Platres, Amiabdos, Troodos, Perapedi, as far as Larnaka, Nicosia and Limassol. The main shock and its numerous aftershocks that continued to be felt for four months caused great panic but no damage. The position given is established by good macroseismic observations (Ambraseys and Adams, 1993; Critikos, 1932; Christofidis, 1969-1973).

**1930 Jul 26.** Continuing aftershocks felt throughout the Limassol district during the day. They caused no damage (Ambraseys and Adams, 1993; Critikos, 1932; Christofidis, 1969-1973).

**1930 Aug 1.** This aftershock was widely felt in the Limassol district, particularly in the Platres and Pedoulas area. It was also reported from Larnaka and Nicosia (Ambraseys and Adams, 1993; Critikos, 1932; Christofidis, 1969-1973).

**1930 Aug 13.** An aftershock felt throughout the Limassol district (Ambraseys and Adams, 1993; Critikos, 1932; Christofidis, 1969-1973).

**1930 Nov 16 ( $M_s=4.9$ , n).** The earthquake was felt throughout the island. It was particularly strong in Limassol where pendulum clocks stopped and in Larnaka where it caused some concern but no damage. A number of landslides that developed in the region of Pitsilias (34.90°N-33.03°E) and elsewhere in the districts of Limassol and Paphos early in 1931, were attributed to the seismic activity during this period. The earthquake was perceptible in Cairo, 500 km from the epicentre. The instrumental position is not well determined, but agrees well with the felt information (Ambraseys and Adams, 1993; Plassard, 1960; Christofidis, 1969-1973; *Chronos*: 1930.11.16-18).

**1931 Jan 4.** Felt at Limassol and followed by small aftershocks. On 11 February there was a stronger shock which caused some panic in Limassol, and it was followed by an aftershock on 16 February (Christofidis, 1969-1973).

**1931 Jul 21.** An earthquake was felt in the district of Limassol. It was particularly strong in the villages north of the town, and was followed by an aftershock on the 29th (Christofidis, 1969-1973).

**1931 Nov 8.** A strong earthquake in Limassol caused some concern. The shock was also felt slightly in Larnaka, and it was followed by a number of aftershocks up to 27 November (Christofidis, 1969-1973).

**1932 Jan 15.** This event was located instrumentally by Ksara southwest of Cyprus; it was felt slightly at Limassol from where another shock was reported on 3 May (Plassard, 1960).

**1932 Jun 3.** A series of tremors were felt in Paphos (Christofidis, 1969-1973).

**1932 Dec 26 ( $M_s=5.2$ , n).** This earthquake affected the Mut area in Turkey but details are lacking. We could find no evidence that it was felt in Cyprus and there is much uncertainty in the east-west position of the instrumental epicentre (Ambraseys and Adams, 1993).

**1933 Feb 28.** Preceded by a slight shock on 6 January, a strong earthquake caused some panic at Limassol (Christofidis, 1969-1973).

**1933 Jun 13 ( $M_s=4.3$ , n).** The shock was felt throughout the island, particularly in the region of Morphou as well as at Ambelaki and Lefka where it caused some damage. In Nicosia and Limassol it caused some concern. The earthquake was preceded and followed by many smaller shocks (Ambraseys and Adams, 1993; Plassard, 1960; Christofidis, (1969-1973).

**1933 Sep 14.** An earthquake shock was felt in Larnaka (Christofidis, 1969-1973).

**1933 Nov 4.** A slight shock was felt in Limassol (Christofidis, 1969-1973).

**1934 Feb 13.** Slightly felt at Limassol. More shocks were reported from the town on 7 August (Christofidis, 1969-1973).

**1934 Oct 2.** A strong earthquake in Limassol was also felt at Omodos, Platres and elsewhere in the district (Christofidis, 1969-1973).

**1934 Oct 21.** This earthquake was felt along the west coast of Cyprus, at Polis, Chrysochous, Paphos and Limassol and it was particularly strong in the district of Paphos (Christofidis, 1969-1973).

**1935 Jan 20.** Preceded by a foreshock, a strong earthquake in Limassol (Christofidis, 1969-1973).

**1935 Feb 25.** A large, intermediate depth earthquake in the Hellenic Arc was slightly felt at Limassol, at an epicentral distance of about 700 km (*Acropolis*, 1935.2.26; *Eleftheria*, 1935.2.27).

**1935 May 7.** Lightly felt at Limassol. More shocks followed on 23 May (Christofidis, 1969-1973).

**1936 Feb 17.** A strong shock was felt at Limassol. It was followed by a light shock on 22 April (Christofidis, 1969-1973).

**1936 Jun 12.** Two shocks were felt at Poli Chrysochous (Christofidis, 1969-1973).

**1936 Jun 14.** A shock in the Gulf of Iskenderun caused some damage at Dorytol, Payas and Altinozu. It is not certain that it was perceptible in Cyprus (Plassard, 1960; Pinar and Lahn, 1952).

**1936 Aug 4.** Felt strongly at Larnaka and Limassol, lasting a few seconds (Christofidis, 1969-1973).

**1936 Oct 28.** Felt in Limassol and Nicosia; rather strong (Christofidis 1969-1973).

**1937 Jan 25.** A shock was felt in Limassol (Christofidis, 1969-1973).

**1937 Apr 28 ( $M_B=5.4$ , i).** A sharp shock was felt in a few places in the Mesaoria valley particularly at Polis and Nicosia. Generally the earthquake was not felt elsewhere in Cyprus (Ambraseys and Adams, 1993; Christofidis, 1969-1973).

**1937 Jun 26 ( $M_B=4.7$ , n).** This was a damaging earthquake in southwest Cyprus. Houses were damaged and a few collapsed without casualties in the region between Pakhna, Platres and Pendalia. The churches of Timiou Stavrou at Omodos, of Panagia at Arsos, and Ag. Prodrumi at Salamiou were damaged seriously. Many houses were ruined at Kilinia, Ag. Ioannis and Ag. Nikolaos. A landslide was triggered northeast of Armino where there was also some damage. The shock was strongly felt and caused slight damage at Paphos, Ktima, and Moutoullas, and it was perceptible throughout Cyprus, at Limassol, Nicosia and Polis, but not in Ammochostos. The shock was not reported from outside the island. Instrumental readings confirm the macroseismic position (Ambraseys and Adams, 1993; Stahl, 1940; Christofidis, 1969-1973; *Kypriakos Logos*, 1937.6.28-30).

**1937 Jul 30.** An aftershock was felt throughout the epicentral area of the earthquake of 26 June, which was perceptible at Paphos (Ambraseys and Adams, 1993; Stahl, 1940; Christofidis, 1969-1973; *Kypriakos Logos*, 1937.6.28-30).

**1939 May 31.** A shock felt throughout the district of Ammochostos, particularly at Varosia (Christofidis, 1969-1973).

**1939 Dec 26.** The large Anatolian earthquake was felt in various parts of the island, at an epicentral distance of about 800 km (Ambraseys, 1988; *Eleftheria*, 1939.12.29).

**1940 Apr 17.** Felt throughout the southwest part of the island, the shock was particularly strong in the region

between Kithasi, Doros and Platres where it caused slight damage and considerable alarm. The shock was strong at Paphos, Nicosia and Limassol (REC, 1942; Plassard, 1960).

**1940 Jul 24 ( $M_s=4.9$ , n, Fig. 7).** The earthquake was felt in Cyprus, Syria, Lebanon and Palestine. In Cyprus it caused minor damage in the Mesaoria valley chiefly at Lakatamia and Pallouriotisa near Nicosia. It caused some panic in Ammochos Varosia, Nicosia, and Tripoli, and it was felt in Limassol, Antakya, Beirut and Safed. It was perceptible in Syria and as far south as Lydda (Ambraseys and Adams, 1993; REC, 1942; Plassard, 1960; *Kypriakos Fylax*, 1940.7.26-8; *Cumhuriyet*, 1940.7.26).

**1940 Aug 16 ( $M_s=5.3$ , n).** The shock felt at Limassol originated in the Gulf of Antalya 180 km away. An event of similar size occurred about two hours later, just to the west of the study area (Ambraseys and Adams, 1993; *Eleftheria*, 1940.8.17).

**1940 Aug 18.** A shock was felt in Limassol (Christofidis, 1969-1973).

**1941 Jan 19.** A slight shock felt in Morphou (Christofidis, 1969-1973).

**1941 Jan 20 ( $M_s=5.9$ , n, Fig. 8).** The shock was felt throughout Cyprus and over the greater part of the Eastern Mediterranean coast. It caused considerable damage in the district of Ammochostos in eastern Cyprus and it was preceded by luminous phenomena. Paralimni was almost totally destroyed. There were injuries to 24 people and animals were killed. Out of 550 houses, 37 collapsed 146 were damaged beyond repair and 245 were damaged to lesser degree. The old church of Panagia Palaea was also damaged. The total loss was estimated at £ 5000. In Ammochostos and Varosia almost all houses suffered some damage, including the Town Hall and the Municipal Market, but without casualties. The dome and bell-tower of the church of Ag.Nicholaos were seriously damaged. The mole at Ammochostos suffered seriously because of excessive settlements and the harbour services were disrupted for repairs. There was also damage at Limnia to houses and to the belfry of the church. Galatia suffered considerable damage. Prastio, Asha, Angastina, Yenagra and Sinda were damaged more than other places but there were no casualties. Damage to the villages of Agia Napa, Engomi, Stylos, and Lefkoniko was negligible. However, at Engomi the church of St. Barnabas suffered serious damage. In Nicosia the shocks lasted about 20 seconds and caused widespread but minor damage and only very few houses collapsed. The clock-tower of the Court House was shattered and the bell-towers structure of the churches of Pan.Trachona, Pallouriotissa, Ag.Antonios, Ag.Varvara at Kaimakli, and of Trypioti, as well as the Land Office building were seriously damaged. Also the bell-tower of the Metochi of Ag.Prokopiou, near Nicosia, partly collapsed. At Bellapais an old khan was ruined. In Larnaka a few old houses collapsed injuring a number of people and some houses suffered non-structural damage and the fall of parapets and walls. The shock caused the collapse of a part of the bell-tower of the cathedral of Sotiros and damaged bellfries and chimneys stacks. The earthquake was strongly felt, without damage, in Limassol, Paphos, Morphou, and Marathasa. At Kerynia a few old houses and a khan were badly cracked. In Anamour and Silifke some walls cracked but there was no damage elsewhere in Turkey. The shock was felt in southern Turkey, Syria, Lebanon and Palestine without causing any damage. It was particularly strong at Tel Aviv, and it was perceptible as far as Kirsehir in Turkey in the north, and at Beersheba in Israel in the south, at an epicentral distance of about 450 km. The earthquake was accompanied by a small seismic sea-wave on the coast of Israel, and it was followed by a few weak aftershocks. Press reports and some authors (Ismail, 1960; Pinar, 1952) suggest that the earthquake was also felt in Cairo and Izmir. However, the evidence is that the shock was in fact recorded instrumentally but not felt in Egypt, and that the shock felt in Izmir was from an altogether different, local event. The instrumental position determined by Ambraseys and Adams (1993) agrees well with the felt effects. The suggestion by Pasadena of an intermediate depth is not substantiated (Ambraseys and Adams, 1993; Aziz, 1942; REC, 1944; Kallner Amiran, 1951; Pinar and Lahn, 1952; Christofidis, 1969-1973; *Cumhuriyet*, 1941.1.20).

**1941 Jul 7.** Slight shocks were felt in Limassol (Christofidis, 1969-1973).

**1941 Sep 15.** A strong shock of short duration felt in the region between Kambia and Platres. It caused no damage (Christofidis, 1969-1973).

**1942 Jan 7.** An earthquake shock felt at Limassol. On 12 January it was followed by a strong shock which awoke a number of people at Limassol (Christofidis, 1969-1973).

**1942 Feb 25.** Felt in Limassol. A considerable number of other shocks accompanied by thundering sound, reported during the year from various coastal areas, were from naval exercises (Christofidis, 1969-1973).

**1942 May 8.** An earthquake shock was felt in Limassol (Christofidis, 1969-1973).

**1942 Aug 17.** A slight shock in Larnaka (Christofidis, 1969-1973).

**1943 Feb 23.** Strongly felt at Paralimni; it was sensible at Limassol (Christofidis, 1969-1973).

**1943 Mar 28.** Strong shock at Paphos of short duration, followed by an aftershock (Christofidis, 1969-1973).

**1943 Oct 16.** The shocks felt in Nicosia, Limassol and in other parts of the island were the far-field effects of an intermediate depth earthquake near Rhodes (Shebalin et al., 1974; *Eleftheria*, 1943.10.17).

**1944 Dec 20.** This is the only shock reported from Cyprus during the year and it was felt at Limassol (Christofidis, 1969-1973).

**1945 Mar 3.** A strong shock was felt at Limassol and vicinity, lasting two seconds. More shocks were reported from Limassol on 6 April and 29 November (Christofidis, 1969-1973).

**1946 Mar 21.** Slight shock felt at Limassol. Another occurred on 13 March (Christofidis, 1969-1973).

**1947 Jan 29.** A slight shock at Larnaka. It was followed by another on 26 May which was felt at Limassol (Christofidis, 1969-1973).

**1947 Jun 3.** An earthquake shock lasting five seconds was felt throughout the island. It was poorly recorded by stations in the Eastern Mediterranean region (Christofidis, 1969-1973).

**1947 Dec 9 ( $M_s = 5.4$ , n, Fig. 9).** The earthquake was felt throughout the island, waking people in Nicosia and in the district of Ammochostos. This shock, which had its epicentre in the Gulf of Iskenderun, caused some damage in the low-lying region of the Ceyhan delta. In the villages of Danismend, Kilise, Yenikoy and Akdam dozens of dwellings collapsed with casualties. In Adana the walls of some houses cracked but otherwise there was no damage. The shock was perceptible as far as Diyarbakir in Turkey and northern Israel (Ambraseys and Adams, 1993; Pinar and Lahn, 1952; REC, 1951; Kallner Amiran, 1951; *Eleftheria*, 1947.12.11; *Cumhuriyet*, 1947.12.10).

**1948 Jul 24.** A large, intermediate depth earthquake in the region of Crete was felt in Nicosia, Limassol and other parts of the island at a distance of about 780 km (Shebalin et al., 1987; Christofidis, 1969-1973).

**1948 Nov 8.** Strong earthquake felt in Limassol, followed by weaker shock the following day (Christofidis, 1969-1973).

**1949 Sep 13.** Preceded by a foreshock a strong earthquake caused panic in Limassol. The main shock and its aftershocks triggered rockfalls from the slopes of Alassa that blocked the road to Theletra. Here and elsewhere landslides were caused by the combined effects of the shocks and seasonal high water table (Christofidis, 1969-1973).

**1950 Feb 21.** A slight shock was felt in Limassol. Another shock was reported on 28 April (Christofidis, 1969-1973).

**1950 May 10.** A slight shock was felt in Paphos. Two more shocks were felt at Ktima on 2 August, and another strong earthquake in Limassol on 8 August (Christofidis, 1969-1973).

**1951 Jan 30.** This earthquake, which was felt at Limassol, awaking some of its inhabitants, originated in the Nile Delta, 300 km from the island. It was widely felt in Israel, Lebanon and Egypt (Kallner Amiran, 1951; Plassard, 1960; Shalem, 1952; Striem, 1986; *Eleftheria*, 1951.2.1).

**1951 Feb 12.** A shock was felt at Varosia. Eight hours later another shock was felt in Larnaka (Christofidis, 1969-1973).

**1951 Jun 25.** Shocks lasting 6 seconds were felt at Ktima (Christofidis, 1969-1973).

**1952 Oct 15 ( $M_s = 4.7$ , n).** Preceded by small foreshocks, the earthquake was felt in the south part of Cyprus. It caused some small damage in the region between Vavla, Arakapas and Limassol. In Limassol the shock lasted about 4 seconds and caused considerable panic. It set the bell of the Townhall ringing, stopped pendulum clocks and caused some damage to several buildings including the Police Station, the bellfries of the church of Ag. Napa and the Government Building. In Larnaka the earthquake caused some slight damage to a few buildings. It was felt throughout the district of Limassol, at Amiandos and Dhali. It was perceptible in Nicosia, but not in Paphos or Ammochostos. Small aftershocks continued for two days, reported chiefly from the Limassol-Vavla area (Ambraseys and Adams, 1993; Christofidis, 1969-1973).

**1952 Oct 22.** An earthquake centering between Misis and Ceyhan in Turkey caused considerable damage to villages in the alluvial plain of the Ceyhan river, affected the yield of spring water and triggered sporadic liquefaction. The shock was not felt in Cyprus (Pinar, 1953).

**1952 Dec 31.** A series of shocks were felt at Eptakomi. They continued intermittently for 24 hours (Christofidis, 1969-1973).

**1953 Jan 16.** Slight shocks reported from Limassol (Christofidis, 1969-1973).

**1953 Feb 1.** This shock, felt in Limassol and Cairo, originated from an intermediate depth about 180 km from the island (Christofidis, 1969-1973).

**1953 Jul 7.** A series of shocks were felt in Limassol. They continued intermittently for two days (Christofidis, 1969-1973).

**1953 Sep 10 ( $M_s=6.0$  and  $6.1$ , n, Fig. 10).** This was a destructive double earthquake in the district of Paphos in southwest Cyprus. It killed 40 and injured about 100 people making 4,000 homeless. In all 158 villages were damages including the town of Paphos. Much of the damage to villages in the Paphos area was due to incipient sliding and ground cracking, especially in soft marls or talus accumulations. Also large scale subsidence added to the damage even in areas far removed from the region of severe shaking. The villages of Stroumbi, Axylou, Kithasi, Lapithiou and Phasoula were totally destroyed. In Axylou not a single house was left standing and two people were killed. Three people were killed at Kithasi and one in Lapithiou. Stroumbi and its wine factory were totally ruined and 14 people lost their lives. In Paphos, with a population of 5,800, 171 houses were destroyed and 1,289 were damaged. The Commissioner's Office and Treasury, the District Court, the Land Registry Office, the Post Office and other Government offices, including the Town Hospital, were damaged and had to be evacuated. The churches of Ag.Theodoros and Ag.Kendeas were also damaged and their bell-towers collapsed. The water and electricity supplies in the town were unaffected. In the port area the Custom house was ruined and the warehouses were damaged. The lighthouse and the churches of Chrysopolitissa and Theoskepasti as well as the castle suffered serious damage. The total damage amounted to £ 850,000. The earthquake caused considerable damage to historical monuments. These included the Monastery of Khrysoroyiatissa, the Kouklia Manor, and the fort at Kato Paphos. In Limassol the shock caused great panic and cracking in some houses. In Nicosia people were awakened, the shock causing panic. In Kerynia, Larnaka and Ammochostos the shock was strongly felt without causing damage. Damage to roads was mainly due to slides and slumping, aggravated by the rains that followed the earthquake. A number of small bridges were also damaged due to movements of their abutments and from rockfalls. The shock triggered the liquefaction of beach deposits on the seashore, west of the jetty of Evdimou, near Pissouri, and Vassa in the Limassol district. The earthquake was associated with a small seismic sea wave along the coast of Paphos which caused no damage. The shock was strongly felt in Lebanon and in Beirut where it caused slight damage to a few houses. In Israel, north of Jerusalem, intensities varied between III and IV (MSK). The earthquake was also reported from many places in the Nile Delta north of Cairo, chiefly from Port Said and Damietta but not from Alexandria. It was reported rather strong from Kastellorizo and it was felt at Messanagros in the island of Rhodes with an intensity III. The earthquake was also felt in Turkey, but details are lacking. The total loss, including the relocation of villages away from active slides exceeded £ 2,000,000. Aftershocks continued for over a month. Previous catalogues list only the first shock, which is well determined by 198 arrival times at a position about 15 km off the southwest of the island with an error of about 5 km. The macroseismic evidence, however, suggests an epicentre well to the east, on land. Examination of later phases in the ISS showed phases reported from many stations about 10 s after the first arrival. These were variously identified as pP, P\*, PP or PcP according to distance. A location was determined from 25 readings, ranging in distance from  $6.9^\circ$  to  $101.5^\circ$ . This gave an origin time eight seconds later and a position about 50 km to the east of the initial shock, with errors of about 15 km. The second shock appears to be at least as large as the first and possibly larger, for many of the later phases are classified as impulsive arrivals in ISS, and at three stations it is the first arrival, with no phase reported from the first event. The surface-wave magnitude calculated would refer to the combined event (Ambraseys and Adams, 1993; Havouzari, 1983; REC, 1955; Pantazis, 1969; Shalem, 1953; Striem, 1986; *Cumhuriyet*, 1953.9.11).

**1953 Sep 12.** A strong aftershock caused additional damage in the district of Paphos where at Stroumbi and Ktima a number of houses already damaged by the main shock, collapsed. The shock was felt in Limassol and Platres (Ambraseys and Adams, 1993; Havouzari, 1983; REC, 1955; Pantazis, 1969; Shalem, 1953; Striem, 1986; *Cumhuriyet*, 1953.9.11).

**1953 Sep 13.** An aftershock felt in the Paphos region. It was not very widely felt (Ambraseys and Adams, 1993; Havouzari, 1983; REC, 1955; Pantazis, 1969; Shalem, 1953; Striem, 1986; *Cumhuriyet*, 1953.9.11).

**1953 Sep 14.** A violent aftershock caused additional damage in the Paphos area. It was strongly felt at Morphou, and Limassol but not in Nicosia. It was preceded and followed by many other shocks (Ambraseys and Adams, 1993; Havouzari, 1983; REC, 1955; Pantazis, 1969; Shalem, 1953; Striem, 1986; *Cumhuriyet*, 1953.9.11).

**1953 Sep 15.** Damaging aftershock at Ktima where many damaged houses were ruined and a few collapsed. Felt at Limassol and Morphou, but not in Nicosia. During the two following days the aftershock activity increased (Ambraseys and Adams, 1993; Havouzari, 1983; REC, 1955; Pantazis, 1969; Shalem, 1953; Striem, 1986; *Cumhuriyet*, 1953.9.11).

**1953 Sep 18 ( $m_b=5.5$ , n).** This destructive aftershock in the Paphos area added to the damage already sustained. The monastery of Chrysoroyatissas was again damaged and a number of houses not seriously affected by the main shock were ruined. The aftershock caused changes in the flow of spring water and triggered new slides at Vouni-Panagia. It was felt in Limassol, Morphou and Nicosia (Ambraseys and Adams, 1993; Havouzari, 1983; REC, 1955; Pantazis, 1969; Shalem, 1953; Striem, 1986; *Cumhuriyet*, 1953.9.11).

**1953 Sep 19.** Strong aftershock felt throughout the district of Paphos, at Morphou and Limassol. It was followed by many smaller shocks (Ambraseys and Adams, 1993; Havouzari, 1983; REC, 1955; Pantazis, 1969; Shalem, 1953; Striem, 1986; *Cumhuriyet*, 1953.9.11).

**1953 Sep 19.** A strong earthquake was felt at Xero and it was probably also felt at Nicosia (Ambraseys and Adams, 1993; Havouzari, 1983; REC, 1955; Pantazis, 1969; Shalem, 1953; Striem, 1986; *Cumhuriyet*, 1953.9.11).

**1953 Sep 21.** An aftershock was strongly felt at Kelokedara and it was perceptible in Limassol and Episkopi

(Ambraseys and Adams, 1993; Havouzari, 1983; REC, 1955; Pantazis, 1969; Shalem, 1953; Striem, 1986; *Cumhuriyet*, 1953.9.11).

**1953 Sep 22.** Continuing aftershocks felt chiefly in the region of Ktima (Ambraseys and Adams, 1993; Havouzari, 1983; REC, 1955; Pantazis, 1969; Shalem, 1953; Striem, 1986; *Cumhuriyet*, 1953.9.11).

**1953 Sep 23.** A strong aftershock caused damage at Evidimou (Ambraseys and Adams, 1993; Havouzari, 1983; REC, 1955; Pantazis, 1969; Shalem, 1953; Striem, 1986; *Cumhuriyet*, 1953.9.11).

**1953 Sep 26.** More aftershocks felt at Ktima (Ambraseys and Adams, 1993; Havouzari, 1983; REC, 1955; Pantazis, 1969; Shalem, 1953; Striem, 1986; *Cumhuriyet*, 1953.9.11).

**1953 Sep 27.** Aftershocks continued to be felt in Paphos and Limassol: on the 28 in Limassol, and on 29 in both Paphos and Limassol (Ambraseys and Adams, 1993; Havouzari, 1983; REC, 1955; Pantazis, 1969; Shalem, 1953; Striem, 1986; *Cumhuriyet*, 1953.9.11).

**1953 Oct 16.** Renewed aftershocks felt in Paphos; more on 17 October. On 19 reported only from Morphou. On 21 felt in Larnaka, and on 28 reported from Paphos, where more shocks were felt on 25 December, and 5, 6 and 7 January 1953 (Ambraseys and Adams, 1993; Havouzari, 1983; REC, 1955; Pantazis, 1969; Shalem, 1953; Striem, 1986; *Cumhuriyet*, 1953.9.11).

**1954 Sep 26.** Slightly felt in Limassol, followed by more shocks the following day (Christofidis, 1969-1973).

**1954 Oct 31.** Slightly felt at Ktima (Christofidis, 1969-1973).

**1954 Nov 22.** Felt at Ano Lefkara (Christofidis, 1969-1973).

**1955 May 15.** A strong earthquake caused some panic in Paphos. The shock was felt at Lefkara and Limassol (Christofidis, 1969-1973).

**1955 Sep 12.** An earthquake originating from the Nile Delta was strongly felt at Ktima and it was perceptible throughout Cyprus. It was reported from Paphos, Limassol and Nicosia, at an epicentral distance of about 450 km. It caused some damage in Egypt and it was also felt in Lebanon, Israel, Rhodes, Crete and Athens (Striem, 1986; Christofidis, 1969-1973).

**1955 Sep 23.** A strong shock was felt at Limassol causing some concern (Christofidis, 1969-1973).

**1955 Sep 25.** Preceded by a light shock a day earlier, a series of strong earthquakes were felt in Paphos and Ktima causing panic (Christofidis, 1969-1973).

**1955 Oct 24.** A strong earthquake in the district of Larnaka, particularly at Aradippou. The shock was felt in Nicosia and Larnaka and it was followed by small aftershocks (Christofidis, 1969-1973).

**1955 Dec 23.** A strong shock at Limassol caused some panic (Christofidis, 1969-1973).

**1956 Mar 2.** Preceded by a foreshock a strong earthquake in Limassol caused some panic; it was followed by a few aftershocks (Christofidis, 1969-1973).

**1956 Mar 16.** Two destructive shocks about ten minutes apart cause great damage in the Litani valley in Lebanon. The shocks were strongly felt in Limassol, at an epicentral distance of 280 km, where they caused concern and some slight damage. They were also felt in Larnaka and to a lesser extent in other parts of the island. Some of the aftershocks were also felt in Larnaka and Limassol (Christofidis, 1969-1973; Plassard, 1956, 1960; REC, 1969; Striem, 1986).

**1956 Aug 29.** Strongly felt in Limassol (Christofidis, 1969-1973).

**1956 Sep 29.** An earthquake caused considerable panic in Limassol and it was felt in Larnaka (Christofidis, 1969-1973).

**1957 Mar 15.** Strongly felt in Limassol and surrounding villages of Ag.Athanasios, Ag.Phylaxis, Germasogia, Mesa Gitionia where it caused some slight damage. The earthquake was felt as far as Amiantos and it was preceded and followed by smaller shocks (Christofidis, 1969-1973).

**1957 Mar 27.** A shock was felt in Larnaka and Varosia (Christofidis, 1969-1973).

**1957 Apr 24.** A relatively large magnitude foreshock of the earthquake in the Rhodes-Fetiyeh region was widely felt throughout Cyprus at an epicentral distance of about 380 km. In Stroumbi, Ktima and Paphos the shock caused great panic but no damage. In Limassol the shock set church bells ringing. In Larnaka the shock caused suspended lamps to swing. In Nicosia the shock lasted 8 seconds. It caused a power cut and considerable panic.

It was strongly felt in Kerynia, Lefkara and Ammochostos (Striem, 1986; Christofidis, 1969-1973).

**1957 Apr 25.** A large magnitude earthquake in Turkey caused extensive damage in the region of Fetiye. The shock was felt throughout Cyprus, at an epicentral distance of about 400. In Paphos, Limassol and in their respective districts, people were awakened. In Nicosia the shock was felt by most of the people and it was perceptible in Ammochostos (REC, 1959; Christofidis, 1969-1973).

**1957 May 26.** The large earthquake in the Abant region in Turkey was felt throughout Cyprus, at an epicentral distance of 640 km. The shock was particularly strong in Nicosia and in the Mesaoria valley where it lasted 20 seconds; at Kythrea it set the chandeliers of the church of Ag. Andronikos swinging (Ambraseys, 1988; Christofidis, 1969-1973).

**1957 Jun 11.** A strong shock was felt at Ktima without damage. It was followed on the 24th by a stronger shock which awakened a number of people (Christofidis, 1969-1973).

**1957 Dec 30.** A slight shock in Limassol. On 12 January, 1958 there was another shock (Christofidis, 1969-1973).

**1958 Mar 31.** A slight earthquake was felt at Varosia (Christofidis 1969-1973).

**1958 Jun 4.** Felt in Limassol. Another shock was felt on 22 October (Christofidis, 1969-1973).

**1958 Nov 6.** Preceded by a foreshock, a strong earthquake lasting two seconds was felt in the Paphos area at Stroumbi and Ktima (Christofidis 1969-1973).

**1959 Feb 15.** Strongly felt in the Paphos area particularly at Ktima. It was also felt slightly at Limassol and Nicosia (Christofidis, 1969-1973).

**1959 May 22.** A small shock was felt in Limassol (Christofidis, 1969-1973).

**1959 Jun 13 ( $M_s = 4.5$ , n).** An earthquake in southwest Cyprus was strongly felt at Morphou, Nicosia, Xeri, Limassol, and Poli. It was strong north of Ktima where it caused damage to a number of buildings weakened by the earthquake of 1953 (Ambraseys and Adams, 1993; Christofidis, 1969-1973).

**1959 Jun 14.** An aftershock felt chiefly in Paphos and Limassol (Ambraseys and Adams, 1993; Christofidis, 1969-1973).

**1959 Jul 10.** Strongly felt in southwest Cyprus at Platres and Amiantos where it caused some panic. The shock was also felt in Nicosia, Larnaka and Limassol (REC, 1961; Christofidis, 1969-1973).

**1960 May 16.** Slight shocks were reported from Varosia (Christofidis 1969-1973).

**1960 Oct 17.** A light shock was felt in Nicosia (Christofidis, 1969-1973).

**1961 Feb 16.** An earthquake was felt in Limassol (Christofidis, 1969-1973).

**1961 Mar 1.** A shock was felt in Paphos (Christofidis, 1969-1973).

**1961 May 23.** A damaging earthquake in the region of Fetiye in Turkey was felt throughout Cyprus at an epicentral distance of about 430 km. It was strong in the Paphos region (REC, 1964; Christofidis, 1969-1973).

**1961 Jul, 19.** Slightly felt at Limassol (Christofidis, 1969-1973).

**1961 Sep 15 ( $M_s = 5.7$ , n, Fig. 11).** A relatively large magnitude earthquake with an epicentre off Larnaka was widely felt in Cyprus causing great panic and some damage in the southeast part of the island. In Larnaka the shocks lasted about eight seconds. The Fort, the General Hospital, the minaret of the Buyuk Cami and 55 houses were damaged, injuring two people. The central part of the old aqueduct of Kamares collapsed. Minor damage occurred in the region between the coast and Varosia, Paralimni, Sotira, Xylophagou, Athienou and Kiti, where school buildings, a grain silo and a number of public buildings were seriously damaged. Sporadic minor damage was reported from as far as Trikomo, Akanthou, Nicosia, Lefkara and Vasilikos. Damage to public buildings was estimated at £ 20,000. The shock was felt in Mersin, Beirut, Jerusalem and it was perceptible in Cairo. The earthquake was followed by many small aftershocks, some of them causing additional damage (Ambraseys and Adams 1993; Plasard and Kogoj, 1968; REC, 1964; *al-Ahram*, 1961.9.16; Christofidis, 1969-1973).

**1961 Dec 20.** Preceded and followed by many local shocks between the 15th and 22nd December, an earthquake caused some panic at Ag. Thomas and Evdimou and it was strongly felt within a radius of 10 km at Pissouri, Alekhtora, Plataniskia, Anoyira, Prastio, and Paramali. The shocks were also felt at Episkopi and Limassol (Christofidis, 1969-1973).



**1962 Jun 11.** Preceded by a foreshock on the 10th, a strong earthquake of very long duration caused some panic in Limassol. It was followed by an aftershock on the 14th. The shock was not recorded at Ksara and we could find no instrumental data for this sequence (Christofidis, 1969-1973).

**1962 Aug 12.** An earthquake was felt in Larnaka (Christofidis, 1969-1973).

**1963 Mar 22.** A shock was felt in southwest Cyprus. It caused some panic in the district of Limassol and some slight damage in the town. It was also felt at Akrotiri and it was perceptible in Paphos, Morphou but not in Nicosia. The earthquake was followed by a number of strong aftershocks up to the 9th of April (Christofidis, 1969-1973).

**1963 Sep 12 ( $M_s = 4.6$ , n).** This event was felt in the west part of Cyprus, particularly at Ktima. It was perceptible as far as Nicosia and Limassol (Ambraseys and Adams, 1993; REC, 1965; Christofidis, 1969-1973).

**1964 Feb 29.** A slight shock at Limassol (Christofidis, 1969-1973).

**1964 Jun 28.** The shock was felt throughout the district of Paphos (Christofidis, 1969-1973).

**1964 Jul 28.** Widely felt in the southwest part of the island, particularly in the Paphos area (Christofidis, 1969-1973).

**1964 Sep 23.** Strongly felt at Limassol (Christofidis, 1969-1973).

**1964 Oct 12.** A light shock was felt at Limassol (Christofidis, 1969-1973).

**1964 Nov 9.** Slightly felt at Limassol (Christofidis, 1969-1973).

**1964 Dec 7.** Felt by few people at Paphos (Christofidis, 1969-1973).

**1965 Mar 17.** Felt rather strongly at Ktima (Christofidis, 1969-1973).

**1965 Nov 28.** This earthquake which was felt in Limassol and in the southwest of Cyprus originated in the region of Rhodes, at an epicentral distance of about 500 km. It was felt in Asia Minor and as far as Cairo (*al-Ahram*, 1965.11.29; Christofidis, 1969-1973).

**1966 Mar 6.** Strongly felt at Paphos where many people were awakened. The shock was perceptible throughout the district (Christofidis, 1969-1973).

**1966 Nov 2.** A shock in Limassol caused some panic (Christofidis, 1969-1973).

**1967 Jan 14.** A slight earthquake was felt in Limassol (Christofidis, 1969-1973).

**1967 Feb 20.** Felt at Ktima, where it caused some panic, and in the Paphos district. The earthquake was followed by strong aftershocks (Christofidis, 1969-1973).

**1967 Apr 12.** An earthquake shock was felt at Limassol (Christofidis, 1969-1973).

**1967 Apr 17.** Two earthquakes, an hour apart, caused panic at Limassol but no damage. They were felt strongly in the surroundings of Limassol and they were perceptible at Lefkara, Kilani and Platres. They were followed by many strong aftershocks in close succession until the 19th (Christofidis, 1969-1973).

**1967 May 30.** An earthquake awakened a few people at Ktima (Christofidis, 1969-1973).

**1967 Jun 15.** An earthquake shock was felt in south Cyprus in the area between Pissouri, Agros, Lanya and the coast. It was also felt at Limassol and surroundings (Christofidis, 1969-1973).

**1967 Jul 21.** A shock, widely felt in the east part of the island in the district of Ammochostos where it awoke a number of people. The earthquake was perceptible in Nicosia, but not in Limassol (Christofidis, 1969-1973).

**1968 Jun 16.** A local shock at Pyrgos, in the district of Limassol, caused the collapse of a roof injuring one person. There is no evidence that the shock was felt elsewhere (Christofidis, 1969-1973).

**1968 Nov 6.** An earthquake was felt throughout the island, and it was particularly strong at Morphou, Nicosia, Kerynia and Ammochostos. It lasted 6 seconds and it was generally felt at Paphos, Limassol and Larnaka (Christofidis, 1969-1973).

**1969 Aug 8.** A slight shock felt in Larnaka (Christofidis, 1969-1973).

**1970 Feb 1.** Felt rather strongly at Limassol. It was followed on the 16th by a slight shock which was felt at Ktima and Limassol, and on the 22nd at Limassol (Christofidis, 1969-1973).

**1970 Apr 17.** A local shock was felt in the district of Paphos at the villages of Tsada, Stroumbi and Lysos causing some panic (Christofidis, 1969-1973).

**1970 Aug 31.** A slight shock was felt at Limassol (Christofidis, 1969-1973).

**1970 Sep 9.** Slightly felt at Paphos and in the district (Christofidis, 1969-1973).

**1970 Sep 20.** A light shock was felt at Limassol (Christofidis, 1969-1973).

**1972 Jun 25.** An earthquake shock was felt in the region between Larnaka, Aradipou and Limassol (Christofidis, 1969-1973).

**1972 Oct 12.** Strongly felt in Larnaka and some other parts of its district, followed by a few aftershocks (Christofidis, 1969-1973).

**1972 Oct 24.** An earthquake was felt in the district of Limassol, particularly at Pakhna (Christofidis, 1969-1973).

**1972 Nov 21.** Widely felt shock in the district and town of Paphos (Christofidis, 1969-1973).

**1972 Nov 29.** A local shock at Larnaka caused some concern (Christofidis, 1969-1973).

**1973 Jan 9.** A light shock was felt at Limassol (Christofidis, 1969-1973).

**1973 May 29.** A strong shock was felt at Limassol and in most of its district (Christofidis, 1969-1973).

**1973 Aug 4.** A slight shock felt at Limassol (Christofidis, 1969-1973).

**1973 Oct 2.** A strong local earthquake caused some panic in the district of Limassol. The shock lasted five seconds and it was felt south of the Troodos Mt. up to the coast. On the 5th it was followed by a strong aftershock which lasted three seconds felt in a number of villages in the Limassol district (Christofidis, 1969-1973).

**1976 Jan 12 ( $M_s=5.0$ , n).** This earthquake was strongly felt in Limassol where it caused some concern. It was also felt throughout the Limassol district as well as at Larnaka, Nicosia and in some parts of the district of Paphos. It caused no damage (Ambraseys and Adams, 1993; *Apogevmatini*, 1976.1.13).

**1976 Jan 12 ( $m_b=4.8$ , i).** This aftershock was particularly strong at Limassol and Lefkara. Its intermediate depth is doubtful and in need of authentication (Ambraseys and Adams, 1993; *Apogevmatini*, 1976.1.13).

**1977 Jun 1 ( $m_b=5.9$ , i).** An intermediate depth earthquake with an epicentre in the Gulf of Antalia was felt throughout the island. It was particularly strong in the Mesaoria plain and in the west and south part of Cyprus where in places intensity reached IV MSK. The shock was strong on the Turkish coast at Antalya and it was felt as far as Burdur and Konya (Ambraseys and Adams, 1993; *Fileleftheros*, 1977.6.2; *Nea*, 1977.6.2; Neophytou, 1977).

**1977 Jun 5.** A strong shock was felt mainly in the districts of Paphos and Limassol in the villages of Alona, Ag. Nicholas, Mandres, Omodos, Pritori, Filousa, Fini and Platres (PIO, 1977.6.6.).

**1978 Jan 30.** The shock was felt in the district of Larnaka and caused some concern in the town of Larnaka itself where it lasted for four seconds and it was felt with an intensity V MSK (Neophytou, 1978).

**1978 Jun 25.** A local shock in the district of Larnaka was reported from Ag. Dometiou, Dasoupolis, Defteras, Pera Chorio, Potamia, and Strovolos. It was also felt at Larnaka (PIO, 1978.6.25).

**1979 May 28 ( $m_b=5.8$ , i).** An intermediate depth earthquake in the Gulf of Antalia was felt in the districts of Paphos, Evrykhou, Nicosia and Limassol. It was also felt in Turkey in the regions of Isparta and Antalia and it was perceptible in Cairo (Ambraseys and Adams, 1993; PIO, 1979.5.29; *Fileleftheros*, 1979.5.29; *Apogevmatini*, 1979.5.29-30).

**1980 Mar 28.** A shock lasting three seconds was felt at Limassol (PIO, 1980.3.29.)

**1981 Aug 17.** A shock was felt in the region of Evdimos and Pissouri (PIO, 1981.8.17).

**1982 May 20.** Felt in the Nicosia area.

**1983 Oct 31.** Felt in the region of Nicosia and Kerynia.

**1984 Mar 28 ( $M_s=4.5$ , n).** The earthquake was felt very strongly at Larnaka and its district where it caused panic, minor damage to houses at Mazotos Anglisides and Kiti, and cracks in tall buildings in Larnaka. Power cuts were widespread in the southeast part of the island. The shock was strongly felt in other parts of the districts of Limassol and Nicosia and it was reported from Episkopi and Paphos (Ambraseys and Adams, 1993; *Fileleftheros*,

1984.3.29; Agon, 1984.3.29).

**1985 Jun 6.** A local shock felt within a radius of about 10 km in the villages of Armino, Arsos, Kilani, Lemythou, Omodos, Panna and Platres of the districts of Paphos and Limassol. Strong aftershocks continued to be felt for two days (*Eleftherotypia*, 1985.6.7; *Agon*, 1985.6.7).

**1985 Jul 3.** Reported from villages within a radius of about 10 km from Stavrovouni, i.e. from Anafotia, Anglides, Alambra and Dhali (PIO, 1985.7.3).

**1985 Jul 23.** Felt in the Nicosia region, particularly in high-rise buildings in the town (PIO, 1985.7.23).

**1985 Nov 16.** Felt in various parts of the district of Nicosia (PIO, 1985.11.18; *Simerini*, 1985.11.17).

**1985 Dec 11.** Felt in Limassol and in villages to the west of the town (*Simerini*, 1985.12.12; *Nea*, 1985.12.12).

**1986 Jul 7 ( $M_s = 4.7$ , n, Fig. 12).** The earthquake was particularly strong in Kokkinochoria in the district of Ammochostos and Paralimni where it caused panic. High-rise buildings in Larnaka experienced severe shaking but no damage. The shock was felt in Limassol, Nicosia, and Ammochostos but not in Paphos. The earthquake was perceptible in Haifa and Qiryat Shemona in Israel (Ambraseys and Adams, 1993; PIO, 1986.7.8; *Nea*, 1986.7.9).

**1986 Jul 30 ( $M_s = 4.5$ , n).** This event was felt throughout the districts of Paphos and to a lesser extent around Limassol (Ambraseys and Adams, 1993; *Haravgi*, 1986.7.31).

**1986 Sep 5.** An intermediate depth earthquake in the Gulf of Antalia was reported felt from various places in Cyprus, particularly from Nicosia. It was also felt in Antalya (PIO, 1986.9.6).

**1987 Jan 10.** Felt in the Limassol area (PIO, 1987.1.11).

**1987 Jan 15.** Preceded by a foreshock the earthquake was felt in the district of Larnaka where it caused some concern. In Nicosia the shock was strongly felt in upper floors of tall buildings and it was perceptible in Limassol, Ammochostos, in southern Lebanon and northern Israel (PIO, 1987.1.15; *Simerini*, 1987.1.16).

**1987 Feb 18 ( $m_b = 4.7$ , i).** This earthquake was strongly felt along the coast of the district of Paphos, particularly at Ktima (PIO, 1987.2.18; *Haravgi*, 1987.2.19).

**1987 May 1.** A sharp shock was felt at Limassol. An other shock followed on the 24th (PIO, 1987.5.2, 25).

**1987 Nov 9.** Preceded and followed by numerous shocks a strong earthquake was felt in the region of Pissouri and along the coast between Limassol and Paphos causing some panic but no damage. The earthquake was felt in Nicosia, mainly in upper floors (PIO, 1987.11.9-10; *Fileleftheros*, 1987.11.10; *Agon*, 1987.11.10).

**1989 May 31.** Strongly felt in the Paphos area and at Peyia (PIO, 1989.6.1).

**1990 May 21.** Felt in the coastal area of Paphos (PIO, 1990.5.22).

**1990 Nov 23.** Strongly felt at Limassol and in villages west of the town. The shock was felt in Paphos and it was perceptible in Nicosia (PIO, 1990.11.24).

**1990 Dec 13.** The shock was felt at Larnaka and in near-by villages and it was perceptible in Nicosia (*Ethnos*, 1990.12.14).

**1991 Feb 4.** This shock was felt in Limassol (PIO, 1991.2.9).

**Appendix 2**  
**Earthquakes in the region of Cyprus (33.0° to 37.0°N - 31.0° to 35.5°E)**  
**during the period 1890 - 1990**

Date	OT	Epicentre	h	M <sub>s</sub>	m <sub>b</sub>	n	L	S
1894 Jan 13	0200*	35.60-34.70	n	5.5+	-	-	NI	a
1895 Nov 23	1900*	-	-	-	-	NI	-	
1895 - -	-	36.50-33.00	-	-	-	TR	a	
1896 Feb 4	0405*	-	-	-	-	LI	-	
1896 Mar 18*	1130*	-	-	-	-	LI	-	
1896 Mar 19*	1100*	-	-	-	-	LI	-	
1896 Mar 20*	0200*	-	-	-	-	LI	-	
1896 Jun 22*	-	-	-	-	-	LI	-	
1896 Jun 29	2047	34.30-33.00	n	6.5+	-	8+	LI	a
1896 Jun 29*	2133	-	-	-	-	2	LI	-
1896 Jul 3*	0651	34.30-33.00	n	5.2+	-	2	LI	a
1896 Jul 13*	0030	-	-	-	-	1	LI	-
1896 Aug 27*	0527	-	-	-	-	1	LI	-
1896 Sep 28*	0000	-	-	-	-	-	LI	-
1896 Nov 12	1800*	-	-	-	-	-	LI	-
1897 Jul 26	-	-	-	-	-	-	NI	-
1898 Sep 21	-	-	-	-	-	-	LI	-
1900 Jan 5	0050	34.00-34.50	n	5.7+	-	-	NI	a
1900 Mar 3*	1041	-	-	-	-	1	NI	-
1901 Feb 28	2400*	-	-	-	-	-	TR	-
1902 Jan 17	1209*	-	-	-	-	-	NI	-
1902 Mar 14	1430*	-	-	-	-	-	LI	-
1903 Apr 23	-	-	-	-	-	-	TR	-
1903 Aug 27	1448	34.60-33.30	n	4.9	-	1	LI	a
1904 Feb 7	1650*	-	-	-	-	-	NI	-
1904 May 14	2340*	-	-	-	-	-	LR	-
1906 Feb 23	0731	34.30-33.50	n	5.3	5.8B	12	LI	R
1907 Apr 13	1800*	-	-	-	-	-	LR	-
1907 Jun 10	1208	33.30-35.20	n	-	-	-	LE	R
1907 Jun 22*	1533	33.80-35.40	n	4.3	-	-	LE	k
1907 Nov 28	1121	(37.47-34.87)	n	5.2	-	-	TR	-
1909 Nov 15	1630*	-	-	-	-	-	LI	-
1910 Mar 20	-	36.80-34.60?	-	-	-	-	-	-
1912 Jan 12	1300*	-	-	-	-	-	NI	-
1916 Feb 19*	1600*	-	-	-	-	-	LI	-
1916 Feb 22	0635*	-	-	-	-	-	LI	-
1917 Feb 15	2200*	-	-	-	-	-	LI	-
1917 Jul 10	1400*	-	-	-	-	-	LI	-
1917 Sep 17	2210	-	-	-	-	1	LI	-
1918 Jul 16	2004	(35.50-25.50)	150	(5.5)	7.0B	43	GR	g
1918 Jul 17	0000	-	-	-	-	1	LI	-
1918 Sep 29	1207	35.10-34.80	n	6.3	6.6B	54	LE	R
1919 Aug 19	2017	35.20-34.70	n	5.4	-	14	LE	R
1920 Sep 19	0130*	-	-	-	-	-	PA	-



Date	OT	Epicentre	h	M <sub>s</sub>	m <sub>b</sub>	n	L	S
1930 Jul 25*	1715	-	-	-	-	-	LI	-
1930 Jul 25*	1937	-	-	-	-	-	LI	-
1930 Jul 25	1946	34.90-33.00	n	4.8	-	36	LI	R
1930 Jul 26*	0455	-	-	-	-	1	LI	-
1930 Aug 1*	1849	-	-	-	-	1	LI	-
1930 Aug 2*	1447*	-	-	-	-	-	LI	-
1930 Aug 3*	0030*	-	-	-	-	-	LI	-
1930 Aug 4*	1935*	-	-	-	-	-	LI	-
1930 Aug 5*	0057*	-	-	-	-	-	LI	-
1930 Aug 6*	2300*	-	-	-	-	-	LI	-
1930 Aug 7*	0235*	-	-	-	-	-	LI	-
1930 Aug 9*	0140*	-	-	-	-	-	LI	-
1930 Aug 13*	0017*	-	-	-	-	-	LI	-
1930 Aug 17*	-	-	-	-	-	-	LI	-
1930 Aug 23*	0045*	-	-	-	-	-	LI	-
1930 Aug 24*	2250*	-	-	-	-	-	LI	-
1930 Aug 26*	1055*	-	-	-	-	-	LI	-
1930 Sep 2*	0155*	-	-	-	-	-	LI	-
1930 Oct 13*	2115*	-	-	-	-	-	LI	-
1930 Nov 16*	2047	34.32-32.80	n	4.9	-	13	LI	R
1931 Jan 4	0200*	-	-	-	-	-	LI	-
1931 Jan 5*	0140*	-	-	-	-	-	LI	-
1931 Feb 11	0415*	-	-	-	-	-	LI	-
1931 Feb 16	0500*	-	-	-	-	-	LI	-
1931 Jul 21	0500*	-	-	-	-	-	LI	-
1931 Jul 29	0600*	-	-	-	-	-	LI	-
1931 Nov 8	2200*	-	-	-	-	-	LI	-
1931 Nov 9*	0200*	-	-	-	-	-	LI	-
1931 Nov 27	1915*	-	-	-	-	-	LI	-
1932 Jan 15	2000	34.50-32.20	n	4.2	-	1+	-	k
1932 May 3	-	-	-	-	-	-	LI	-
1932 Jun 3	-	-	-	-	-	-	PA	-
1932 Dec 26	1903	36.20-33.60	n	5.2	-	27	-	R
1933 Jan 6	0730*	-	-	-	-	-	LI	-
1933 Feb 28	0130*	-	-	-	-	-	LI	-
1933 Jun 12*	-	-	-	-	-	-	LI	-
1933 Jun 13	1113	35.10-32.80	n	4.3	-	8+	NI	R
1933 Sep 14*	0100*	-	-	-	-	-	LR	-
1933 Nov 4	0430*	-	-	-	-	-	LI	-
1934 Feb 13	2100*	-	-	-	-	-	LI	-
1934 Aug 7	1200*	-	-	-	-	-	LI	-
1934 Aug 8*	0600*	-	-	-	-	-	LI	-
1934 Oct 2	1700*	-	-	-	-	-	LI	-
1934 Oct 21	1415*	-	-	-	-	-	PA	-
1935 Jan 19*	1945*	-	-	-	-	-	LI	-
1935 Jan 20	0340*	-	-	-	-	-	LI	-
1935 Feb 25	0251	(35.80-25.00)	80	(6.3)	7.1	130	GR	g
1935 May 7	0930*	-	-	-	-	-	LI	-
1935 May 23	1930*	-	-	-	-	-	LI	-
1936 Jan 20	0229	35.60-31.60	n	4.8	-	16	-	R
1936 Jan 23	1442	35.80-31.10	50	(4.5)	4.8B	22	-	R
1936 Feb 17	1205*	-	-	-	-	-	LI	-
1936 Apr 22	2130*	-	-	-	-	-	LI	-
1936 Jun 12	-	-	-	-	-	-	PA	-
1936 Aug 3	0402	36.50-31.00	n	4.8	-	23	-	R
1936 Aug 4*	0130*	-	-	-	-	-	LR	-
1936 Aug 10	0631	36.50-31.00	n	4.8	-	24	-	R
1936 Oct 28	0510*	-	-	-	-	-	NI	-
1937 Jan 25	1345*	-	-	-	-	-	LI	-
1937 Apr 28	0237	35.96-30.97	77	(4.8)	5.4B	45	NI	R

Date	OT	Epicentre	h	M <sub>s</sub>	m <sub>b</sub>	n	L	S
1937 May 29	1523	36.30-31.08	86	(4.6)	5.2B	46	-	R
1937 Jun 26	1919	34.88-32.80	n	4.7	-	21	PA	a
1937 Jul 30	2230*	-	-	-	-	-	PA	-
1939 May 31	0500*	-	-	-	-	-	AM	-
1939 Dec 26	2357	(39.70-39.70)	15	7.8	7.7	161	TR	R
1940 Apr 17	2116	34.80-32.80	n	4.3	-	2+	PA	a
1940 May 10	0300*	-	-	-	-	-	LI	-
1940 Jul 24	2216	34.50-34.45	n	4.9	5.4B	33	CY	R
1940 Aug 16	1602	36.19-31.40	n	5.3	5.4B	50	LI	R
1940 Aug 16*	1823	35.90-31.40	80	(4.9)	5.5	40	LI	R
1940 Aug 18*	0757	-	-	-	-	1+	LI	-
1941 Jan 19*	1800*	-	-	-	-	-	PA	-
1941 Jan 20	0337	35.17-33.65	n	5.9	-	90	CY	R
1941 Jul 7	2300*	-	-	-	-	-	LI	-
1941 Sep 15	0749	-	-	-	-	1	LI	-
1942 Jan 7	0255*	-	-	-	-	-	LI	-
1942 Jan 12	0015*	-	-	-	-	-	LI	-
1942 Feb 25	0452*	-	-	-	-	-	LI	-
1942 May 8	0950*	-	-	-	-	-	LI	-
1942 Aug 17	0500*	-	-	-	-	-	LR	-
1943 Feb 23	2400*	-	-	-	-	-	AM	-
1943 Mar 28	0530*	-	-	-	-	-	PA	-
1943 Oct 16	1309	(36.50-27.50)	110	(5.5)	6.6	69	GR	g
1944 Dec 20	0100*	-	-	-	-	-	LI	-
1945 Mar 3	0025*	-	-	-	-	-	LI	-
1945 Apr 6	0605*	-	-	-	-	-	LI	-
1945 Nov 29	0638	-	-	-	-	1	LI	-
1946 Mar 21	1555*	-	-	-	-	-	LI	-
1946 May 13	0600*	-	-	-	-	-	LI	-
1947 Jan 29	0400*	-	-	-	-	-	LA	-
1947 May 26	0200*	-	-	-	-	-	LI	-
1947 Jun 3	0347	-	-	-	-	6	CY	-
1947 Sep 15	0040	33.00-35.50	n	-	4.5	-	IS	j
1947 Dec 9	2340	36.46-34.66	10	5.4	5.9	70	TR	R
1948 Apr 30	1450	36.05-31.16	73	(4.6)	5.2B	40	-	R
1948 Jul 24	0603	(34.40-24.50)	60	(6.4)	7.0	151	GR	i
1948 Nov 8	1253*	-	-	-	-	-	LI	-
1948 Nov 9*	1418*	-	-	-	-	-	LI	-
1949 Sep 12*	1815*	-	-	-	-	-	LI	-
1949 Sep 13	1815*	-	-	-	-	-	LI	-
1949 Oct 28	1910	33.00-35.50	n	-	4.0	-	IS	j
1950 Feb 21	2015*	-	-	-	-	-	LI	-
1950 Mar 1	2130	33.00-35.50	n	-	4.0	-	IS	j
1950 Apr 28	0745*	-	-	-	-	-	LI	-
1950 May 10	0600*	-	-	-	-	-	PA	-
1950 Aug 2	1840*	-	-	-	-	-	PA	-
1950 Aug 2*	1915*	-	-	-	-	-	PA	-
1950 Aug 8	0530*	-	-	-	-	-	LI	-
1951 Jan 30	2307	(32.30-33.40)	10	5.6	6.0	126	IS	R
1951 Feb 12	0120*	-	-	-	-	-	AM	-
1951 Feb 12*	0930*	-	-	-	-	-	LR	-
1951 Jun 25	0800*	-	-	-	-	-	PA	-
1951 Aug 8	0841	36.04-31.14	n	5.0	-	19	-	R
1952 Oct 15	1750	34.84-33.27	n	4.7	5.2	30	LI	R

Date	OT	Epicentre	h	M <sub>s</sub>	m <sub>b</sub>	n	L	S
1952 Oct 16*	1540*	-	-	-	-	-	LI	
1952 Oct 17*	0500*	-	-	-	-	-	LI	
1952 Oct 22	1701	36.97-35.70	34	5.3	5.9	122	TR	R
1952 Dec 31	2000	-	-	-	-	1+	KE	
1953 Jan 1*	1800*	-	-	-	-	-	KE	
1953 Jan 16	2400*	-	-	-	-	-	LI	
1953 Feb 1	1952	(33.50-32.00)	n	5.5	+	-	b	
1953 Jul 7*	0745*	-	-	-	-	-	LI	
1953 Jul 8	0609	-	-	-	-	1	LI	
1953 Sep 10*	0406	34.72-32.24	n	(6.0)	6.4B	229	PA	R
1953 Sep 10	0406	34.80-32.78	n	6.1	27+	PA	R	
1953 Sep 12*	2057	-	-	-	-	1+	PA	-
1953 Sep 13*	0629	-	-	-	-	2+	PA	-
1953 Sep 14*	0045	-	-	-	-	1+	PA	-
1953 Sep 15*	1155	-	-	-	-	2+	PA	-
1953 Sep 18*	1720	34.83-32.38	n	-	5.5	19+	PA	R
1953 Sep 19*	0100*	-	-	-	-	-	PA	-
1953 Sep 19*	2355	-	-	-	-	1	NI	-
1953 Sep 21*	1149	-	-	-	-	1+	PA	-
1953 Sep 22*	1149	-	-	-	-	1+	PA	-
1953 Sep 23*	1220*	-	-	-	-	-	PA	-
1953 Sep 26*	1920*	-	-	-	-	-	PA	-
1953 Sep 27*	1540*	-	-	-	-	-	PA	-
1953 Sep 28*	0015*	-	-	-	-	-	LI	-
1953 Sep 29*	-	-	-	-	-	-	PA	-
1953 Oct 16*	0300*	-	-	-	-	-	PA	-
1953 Oct 17*	1220	-	-	-	-	1+	PA	-
1953 Oct 19*	0600*	-	-	-	-	-	PA	-
1953 Oct 21*	1957	-	-	-	-	1+	LR	-
1953 Oct 28*	0219	-	-	-	-	1	PA	-
1953 Dec 25*	0515*	-	-	-	-	-	PA	-
1954 Jan 5*	0015	35.30-32.20	n	4.0*	-	1+	PA	k
1954 Jan 6*	1545*	-	-	-	-	-	PA	-
1954 Mar 13	0232	34.40-34.20	n	4.0*	-	1+	-	k
1954 Jun 3	2122	34.60-32.65	85	-	-	16+	-	R
1954 Jun 7*	1000*	-	-	-	-	-	PA	-
1954 Sep 26	0645*	-	-	-	-	-	LI	-
1954 Sep 27*	0300*	-	-	-	-	-	LI	-
1954 Oct 31	1234	33.80-32.30	n	4.2*	-	1+	PA	k
1954 Nov 22	2250*	-	-	-	-	-	LI	-
1955 May 15	2230*	-	-	-	-	-	PA	-
1955 Sep 12	0609	(32.20-29.60)	n	6.4	6.5	268	EG	i
1955 Sep 23	1900*	-	-	-	-	-	NI	-
1955 Sep 24*	1715*	-	-	-	-	-	PA	-
1955 Sep 25	1632*	-	-	-	-	-	PA	-
1955 Sep 30*	0415*	-	-	-	-	-	PA	-
1955 Oct 24	1950*	-	-	-	-	-	LR	-
1955 Dec 23	0622*	-	-	-	-	-	LI	-
1956 Feb 1	1134*	-	-	-	-	-	LI	-
1956 Mar 2	1955*	-	-	-	-	-	LI	-
1956 Mar 16*	1933	(33.50-35.60)	5	4.8	5.6	65	LE	R
1956 Mar 16	1943	(33.60-35.50)	5	5.1	5.6	70	LE	R
1956 Aug 29	2325*	-	-	-	-	-	LI	-
1956 Sep 29	2342	-	-	3.5	-	4	LI	-
1957 Mar 3	1823	34.00-34.00	n	3.2	3.0	3	-	j
1957 Mar 15	1152	34.75-33.02	n	4.0	-	1+	LI	a
1957 Mar 27	1547	34.50-34.00	n	-	-	1+	AM	k
1957 Apr 24*	1910	(36.00-29.00)	20	6.5	6.8	302	GR	R
1957 Apr 25	0225	(36.50-28.80)	18	6.7	7.0	314	TR	R
1957 May 26	0634	(40.50-31.00)	10	7.0	7.0	320	TR	R
1957 Jun 11	0850*	-	-	-	-	-	PA	-
1957 Jun 24	0455*	-	-	-	-	-	PA	-



Date	OT	Epicentre	h	M <sub>s</sub>	m <sub>b</sub>	n	L	s
1957 Jul 18	0835	33.80-34.60	n	3.4	4.5	4	IS	j
1957 Sep 1	0157	34.50-33.75	n	-	-	1+	-	k
1957 Dec 30	0100*	-	-	-	-	-	LI	-
1958 Jan 24	1554	35.75-31.00	n	-	-	1+	-	k
1958 Mar 6	0814	36.22-31.44	70	-	-	14+	-	R
1958 Mar 13	1740	33.00-33.50	n	-	-	1+	-	k
1958 Mar 31	0950*	-	-	-	-	-	AM	-
1958 Jun 4	0015*	-	-	-	-	-	LI	-
1958 Jul 27	1449	34.50-31.00	n	-	-	23+	-	b
1958 Sep 9	0020	33.00-34.50	n	-	3.0	3	-	j
1958 Sep 16	1852	34.25-31.50	n	-	-	1+	-	k
1958 Sep 25	1306	33.75-32.00	n	-	-	1+	-	k
1858 Oct 22	1302	34.50-33.00	n	3.1	-	3	LI	k
1958 Nov 6	1454	34.75-32.75	n	3.8	-	8	PA	b
1958 Nov 6	2114	36.90-31.35	40	4.8	-	6+	-	b
1958 Nov 15*	0910	36.90-31.00	n	-	-	1+	-	-
1959 Feb 15	0548	34.58-31.95	80	-	-	11+	LI	R
1959 Mar 30	1717	35.00-32.00	n	-	-	-	b	-
1959 May 22	1716	-	-	-	-	1+	LI	-
1959 Jun 13	1202	34.90-32.40	n	4.5	5.3	72	PA	R
1959 Jun 14*	1800*	-	-	-	-	-	PA	-
1959 Jul 10	2027	34.83-32.95	n	4.1	-	28	LI	R
1959 Aug 27	0556	34.20-33.50	n	-	-	1+	-	k
1959 Oct 29	1821	34.00-34.00	n	-	-	-	-	k
1959 Oct 30*	2020	34.40-32.50	n	-	-	1+	-	k
1959 Nov 10	0201	33.80-34.80	n	3.0	3.0	3	-	j
1959 Nov 29	2048	33.60-35.00	n	3.0	3.0	3	-	j
1960 Jan 30	0957	35.50-32.00	n	-	-	1+	-	b
1960 Mar 1	1937	35.00-31.00	n	-	-	1+	-	b
1960 Apr 15	0320	35.00-31.50	n	-	-	1+	-	b
1960 Apr 26	0721	34.50-33.50	n	-	-	1+	-	k
1960 May 16	0142	-	-	-	-	1+	AM	-
1960 May 25	0031	33.60-33.00	n	3.0	3.0	3	-	j
1960 Jul 17	0137	34.50-34.00	n	-	-	1+	-	k
1960 Oct 17	1912	-	-	-	-	1	LI	-
1960 Oct 19	0135	33.00-33.00	n	3.0	3.0	3	-	k
1960 Nov 28	0513	36.11-31.09	80	-	-	26+	-	R
1961 Feb 16	0525*	-	-	-	-	-	LI	-
1961 Mar 1	0730*	-	-	-	-	-	PA	-
1961 May 23	0245	(36.50-28.60)	24	6.3	6.5	253	TR	R
1961 Jul 19	2025*	-	-	-	-	-	LI	-
1961 Sep 15	0146	34.91-33.83	n	5.7	6.0	203	LR	R
1961 Sep 22	0922	33.60-34.60	n	3.0	3.0	3	-	j
1961 Oct 1	0629	36.00-31.50	n	-	-	1+	-	b
1961 Oct 11	0354	34.30-35.00	n	3.0	3.0	3	-	j
1961 Dec 20	1245*	-	-	-	-	-	LI	-
1962 Jan 7	0843	33.40-35.00	n	-	-	1+	-	k
1962 Feb 1	0932	33.60-35.00	n	3.1	3.5	3	-	j
1962 Feb 18	1108	36.00-33.00	n	4.0*	-	1+	-	k
1962 Mar 5	0505	36.00-33.00	n	3.7*	-	1+	-	k
1962 May 24	0109	35.60-32.00	n	3.5*	-	1+	-	k
1962 Jun 10	1420*	-	-	-	-	-	LI	-
1962 Jun 11*	0709*	-	-	-	-	-	LI	-
1962 Jul 14	0200*	-	-	-	-	-	LI	-
1962 Aug 12	2240	35.80-33.30	n	3.7*	-	2+	LR	k
1962 Dec 1	0013	35.60-32.40	n	3.0*	-	1+	-	k
1963 Mar 22	2228	34.80-33.00	n	4.2	-	16	PA	b
1963 Mar 22*	2335	34.20-32.20	n	3.9	-	8	PA	b
1963 Mar 24*	1350	-	-	-	-	1	LM	-
1963 Apr 9	1530	-	-	-	-	1	LM	-
1963 Sep 12	0819	34.72-32.18	n	4.6	5.0	98	PA	R

Date	OT	Epicentre	h	M <sub>s</sub>	m <sub>b</sub>	n	L	S
1963 Nov 3	0444	35.00-35.00	n	3.3*	-	1+	-	k
1964 Jan 7	2214	34.50-32.80	n	3.5*	-	1+	-	k
1964 Feb 2	0627	36.71-35.41	38	3.8	-	11	-	R
1964 Feb 29	1841	-	-	-	-	1	LI	-
1964 May 12	2141	33.00-34.60	n	-	3.0	3	-	k
1964 May 20	2334	36.20-33.00	n	-	-	1+	-	k
1964 Jun 28	1115	34.72-32.29	65	-	4.7	42	PA	R
1964 Jul 15	1724	34.50-34.50	n	3.2*	-	1+	-	k
1964 Jul 17	2212	35.84-31.55	65	-	-	6	-	i
1964 Jul 28	0201	34.64-32.25	52	-	4.5	21	PA	i
1964 Sep 23	0141	34.21-32.61	57	-	4.7	31	PA	R
1964 Oct 8	2028	36.00-31.00	-	-	-	3	-	i
1964 Oct 9*	0256	35.50-31.00	-	-	-	3	-	i
1964 Oct 12*	0036	36.00-31.00	-	-	-	3	-	i
1964 Oct 12*	1605*	-	-	-	-	-	LI	-
1964 Nov 9	0357*	-	-	-	-	-	LI	-
1964 Nov 17	2251	36.81-35.33	4	4.3	4.5	24	-	i
1964 Dec 7	0700*	-	-	-	-	-	PA	-
1964 Dec 15	1731	36.46-34.80	41	-	4.1	12	-	i
1964 Dec 30	0114	36.40-34.20	128	-	-	7	-	i
1965 Jan 25	1218	34.49-32.72	16	4.6	4.8	41	-	R
1965 Feb 20	2312	35.70-31.70	n	3.9*	-	1+	-	k
1965 Feb 25	1343	36.10-35.50	-	-	-	1+	-	k
1965 Mar 17	0352	34.91-32.49	37	4.2	4.6	19	PA	R
1965 Apr 4	2300	36.50-34.00	n	-	-	1+	-	k
1965 Apr 16	2258	33.30-34.20	n	-	-	1+	-	k
1965 May 2	1151	33.50-35.30	n	-	-	1+	-	k
1965 Jun 8	2205	34.03-33.70	n	4.0*	-	6	-	i
1965 Aug 5	0124	33.60-34.80	n	-	3.5	3	-	k
1965 Nov 28	0526	(36.10-27.40)	73	(5.0)	5.7	209	GR	i
1965 Dec 30	0539	33.50-35.50	n	-	-	1+	-	k
1966 Jan 4	0142	34.20-31.50	n	-	-	1+	-	k
1966 Feb 28	1919	35.30-31.30	n	-	-	1+	-	k
1966 Mar 6	0215	34.50-32.70	n	-	-	1+	PA	k
1966 Mar 14	2125	36.27-31.97	109	-	-	6	-	i
1966 Mar 16	0330	35.25-32.40	n	-	-	1+	-	k
1966 Mar 20	2026	36.00-34.60	n	-	-	1+	-	k
1966 Mar 23	0351	35.10-31.30	n	-	-	1+	-	k
1966 Mar 23	2213	34.40-33.90	n	-	-	1+	-	k
1966 Apr 7	0317	34.20-35.00	n	-	-	1+	-	k
1966 Apr 8	1347	35.81-30.99	50	-	4.4	48	-	i
1966 Apr 29	2206	34.30-35.50	n	-	-	1+	-	k
1966 May 20	1951	34.20-35.30	n	-	-	1+	-	k
1966 Jun 2	2309	33.50-35.60	n	-	-	1+	-	k
1966 Jun 6	0046	33.60-35.30	n	-	-	1+	-	k
1966 Jun 11	2023	34.10-35.40	n	-	-	1+	-	k
1966 Jun 23	1815	35.51-33.50	91	-	-	10	-	i
1966 Jun 27	0933	34.00-34.00	n	-	-	1+	-	k
1966 Sep 1	1707	36.03-34.07	n	-	-	1+	-	k
1966 Oct 22	0935	35.60-31.20	34	3.9	-	10	-	i
1966 Nov 2	2106*	-	-	-	-	-	-	LI
1967 Jan 14	0630*	-	-	-	-	-	LI	-
1967 Feb 20	0847	34.50-32.20	n	3.6	-	5	PA	i
1967 Apr 12*	2210*	-	-	-	-	-	LI	-
1967 Apr 17	2138	34.50-32.84	41	4.7	4.6	53	LI	i
1967 Apr 17*	2205	34.53-32.89	33	4.2	4.3	16	LI	i
1967 Apr 19*	1210*	-	-	-	-	-	LI	-
1967 May 1	0054	36.50-34.00	-	-	-	1+	-	k
1967 May 30	2340*	-	-	-	-	-	PA	-
1967 Jun 15	1456	34.09-32.43	52	-	4.7	65	LI	i
1967 Jun 24	1927	36.40-31.30	n	-	-	3+	-	b
1967 Jul 1	0324	36.20-31.30	69	-	4.4	18	-	i
1967 Jul 21	2048	34.40-34.20	155	-	4.3	14	AM	i

Date	OT	Epicentre	h	M <sub>s</sub>	m <sub>b</sub>	n	L	S
1967 Aug 7	1954	33.80-35.30	n	-	-	1+	-	k
1967 Nov 3	1756	36.19-31.09	80	-	-	8	-	i
1967 Nov 7	0709	34.50-33.50	n	-	-	1+	-	k
1967 Nov 27	1809	36.11-32.04	0	4.0	3.9	10	-	i
1968 Jan 8	1845	36.60-32.00	0	3.9	-	10	-	i
1968 Feb 12	0157	36.25-31.54	78	-	-	11	-	i
1968 Mar 26	1937	34.08-35.47	37	4.6	4.8	50	-	i
1968 Apr 8	1052	33.70-34.30	n	-	-	1+	-	k
1968 Jun 16	0400*	-	-	-	-	-	LI	-
1968 Jun 16	0834	36.70-34.27	52	-	4.4	39	-	i
1968 Sep 17	2114	35.34-31.24	24	4.4	4.5	30	-	i
1968 Sep 19*	2022	35.17-31.10	23	4.3	4.5	24	-	i
1968 Nov 6	1341	35.13-32.73	65	-	4.8	125	CY	i
1969 Jan 21	1134	34.35-34.50	0	3.3*	-	5	-	i
1969 Mar 4	0147	36.98-31.04	109	-	4.8	92	TR	i
1969 Mar 12	1454	36.77-31.43	86	-	4.3	19	-	i
1969 May 24	1149	36.82-35.31	44	(3.7)	4.4	54	TR	i
1969 May 24*	1150	36.90-33.83	0	3.6	-	5	-	i
1969 Aug 8	0015*	-	-	-	-	-	LR	-
1969 Dec 11	0846	35.35-31.28	0	4.0	-	13	-	i
1970 Feb 1	0304	34.49-32.70	17	4.1	4.6	12	LI	i
1970 Feb 16	0420*	-	-	-	-	-	PA	-
1970 Feb 22	1949*	-	-	-	-	-	LI	-
1970 Mar 18	1718	34.42-32.49	38	4.2	4.5	18	-	i
1970 Mar 20	0850	36.90-33.50	33	3.7	-	7	-	i
1970 Apr 17	0900*	-	-	-	-	-	PA	-
1970 May 18	0838	36.20-31.70	56	-	-	10	-	i
1970 Jul 1	1551	35.23-31.29	53	-	4.8	55	-	i
1970 Jul 30	0501	34.40-35.50	33	3.6	-	8	-	i
1970 Aug 30	0403	36.04-31.45	81	-	-	5	-	i
1970 Aug 31	0130*	-	-	-	-	-	LI	-
1970 Sep 9	0012	34.59-32.21	49	-	4.7	52	PA	i
1970 Sep 20	2115*	-	-	-	-	-	LI	-
1971 Apr 16	2128	33.63-35.43	8	4.7	4.5	56	-	i
1971 Jun 29	0922	36.42-34.97	33	3.7	-	6	-	i
1972 Jun 23	0650	36.54-32.25	43	-	4.3	43	-	i
1972 Jun 25	2400*	-	-	-	-	-	LR	-
1972 Jul 31	2355	35.67-31.23	68	(3.8)	4.3	42	-	i
1972 Aug 7	0543	36.21-33.10	0	3.2	-	4	-	i
1972 Oct 12	1105*	-	-	-	-	-	LR	-
1972 Oct 24	1325*	-	-	-	-	-	LI	-
1972 Nov 21	1816	35.48-33.49	0	3.7	-	7	PA	i
1972 Nov 29	1145*	-	-	-	-	-	LR	-
1973 Jan 9	2045*	-	-	-	-	-	LI	-
1973 Mar 21	0722	33.95-32.36	0	3.8	-	7	-	i
1973 May 29	0130*	-	-	-	-	-	LI	-
1973 Jul 28	1855	36.06-31.39	77	-	4.5	73	-	i
1973 Aug 4	0440*	-	-	-	-	-	LI	-
1973 Sep 8	0201	36.13-31.23	75	-	-	26	-	i
1973 Oct 2	1947*	-	-	-	-	-	LI	-
1973 Oct 5*	2009*	-	-	-	-	-	LI	-
1974 Feb 11	1152	36.27-31.75	122	-	-	7	-	i
1974 Mar 13	1812	33.30-31.53	33	3.5	-	5	-	i
1974 Apr 28	0055	35.99-31.78	90	-	4.0	33	-	i
1974 May 16	0228	34.89-32.03	33	3.8	-	8	-	i
1974 Jun 26	1424	36.63-34.74	45	-	3.9	33	-	i
1974 Jul 19	0740	35.72-31.53	67	-	4.1	37	-	i
1974 Dec 30	0330	35.89-31.52	0	3.9	-	9	-	i
1975 Jan 28	2112	35.54-33.81	35	4.8	4.7	86	-	i

Date	OT	Epicentre	h	M <sub>s</sub>	m <sub>b</sub>	n	L	S
1975 Mar 10	0139	34.88-33.44	10	3.8	-	9	-	i
1975 Apr 29	1845	36.90-31.47	0	4.1	4.1	14	-	i
1975 May 9	0549	34.67-32.53	0	3.9	-	9	-	i
1975 Jun 21	1619	36.10-31.11	34	4.4	4.0	31	-	i
1975 Aug 11	2028	35.96-31.43	49	-	-	17	-	i
1975 Aug 30	0618	35.12-33.11	0	3.7	-	6	-	i
1975 Sep 14	0714	35.79-31.32	0	4.1	-	13	-	i
1975 Oct 28	1224	36.46-31.14	0	3.8	-	7	-	i
1976 Jan 12	1750	34.44-32.63	36	5.0	5.0	164	CY	i
1976 Jan 12*	2020	34.38-32.55	47	-	4.8	84	CY	i
1976 Jan 22*	1450	34.46-32.64	59	-	3.6	11	-	i
1976 Jan 26*	0412	34.33-32.74	42	-	-	8	-	i
1976 Jan 26*	2245	35.83-31.23	71	-	4.6	81	-	i
1976 Feb 15	0303	36.06-31.82	0	3.6	-	5	-	i
1976 Mar 14	1514	36.80-31.67	0	-	-	-	-	I
1976 May 9	1559	36.63-31.19	0	3.0*	-	4	-	i
1976 Jul 30	0723	36.71-35.90	58	-	4.3	23	-	i
1976 Aug 2	1249	34.17-32.26	33	3.7	-	7	-	i
1976 Aug 14	1016	36.09-31.25	63	-	3.9	21	-	i
1976 Sep 8	0009	35.91-31.49	0	3.8	-	8	-	i
1976 Sep 10	1454	35.81-31.50	0	-	-	-	-	I
1976 Sep 23*	1929	36.14-32.22	0	-	-	-	-	I
1976 Sep 24	1340	36.37-31.81	33	3.8	-	9	-	i
1976 Oct 3	0552	36.08-31.59	0	3.5	-	5	-	i
1976 Oct 4	1838	34.10-34.39	33	3.9	-	9	-	i
1976 Nov 17	0129	35.39-31.10	0	3.7	-	7	-	i
1976 Dec 17	0023	35.72-31.52	0	-	-	-	-	I
1977 Jan 21	2034	34.31-32.41	0	3.7	-	6	-	i
1977 Feb 4	2133	36.06-31.21	33	-	-	5	-	i
1977 Feb 20	1310	34.75-34.14	0	4.0	-	11	-	i
1977 Mar 14	0654	36.55-31.61	0	-	-	-	-	I
1977 Mar 20	0801	35.36-31.70	0	3.6	-	5	-	i
1977 Apr 8	2337	36.99-31.21	0	3.8	-	5	-	i
1977 Apr 12	1901	35.24-31.37	33	3.7	-	5	-	i
1977 Apr 15	1152	36.75-31.16	0	3.5*	-	9	-	i
1977 May 3	1752	36.33-31.27	0	4.1*	-	18	-	i
1977 Jun 1	1254	36.16-31.30	68	(5.3)	5.9	372	CY	i
1977 Jun 5*	1838	34.78-32.83	33	3.7	-	7	PA	i
1977 Jun 15*	1116	36.00-31.36	10	4.0*	-	22	-	i
1977 Jul 2*	2202	36.01-31.06	62	-	-	16	-	i
1977 Sep 7	1623	35.51-31.27	0	3.7	-	7	-	i
1977 Sep 21	2002	36.03-31.07	0	-	-	-	-	I
1977 Oct 26	1641	36.36-31.51	0	3.6	-	7	-	i
1977 Dec 21	0537	36.15-33.11	0	3.7*	-	4	-	i
1978 Jan 30	0753	34.67-33.83	36	4.6	4.5	50	LR	i
1978 Mar 21	0238	36.94-31.01	110	-	3.5	26	-	i
1978 Apr 21	1912	34.51-33.02	33	3.7	-	6	-	i
1978 Jun 13	2125	36.30-31.87	33	3.8*	-	8	-	i
1978 Jun 15	1611	35.77-31.26	10	4.3*	-	8	-	i
1978 Jun 24	0051	35.28-31.14	0	-	-	9	-	i
1978 Jun 25	1101	34.68-33.38	33	4.0	4.1	15	LR	i
1978 Aug 8	2206	33.50-35.40	8	3.8	-	9	-	i
1978 Aug 11	1525	35.08-31.01	10	3.9	-	10	-	i
1978 Aug 26	0201	35.61-31.24	10	3.8	-	8	-	i
1978 Sep 1	2308	36.41-31.01	0	-	-	-	-	I
1978 Sep 28	2229	36.65-34.51	33	3.6	-	6	-	i
1978 Nov 27	1646	34.95-31.01	33	3.7	-	7	-	i
1978 Dec 7	0105	35.56-31.40	33	3.7	-	6	-	i
1979 Jan 13	0446	35.69-31.05	101	-	4.0	51	-	i
1979 Feb 19	0404	35.99-31.30	67	-	4.0	27	-	i
1979 Mar 17	2343	34.26-31.57	52	-	3.8	30	-	i
1979 May 28	0927	36.46-31.72	111	(5.3)	5.8	448	TR	i
1979 Jun 26	2201	36.80-31.85	0	3.4*	-	4	-	i

Date	OT	Epicentre	h	M <sub>s</sub>	m <sub>b</sub>	n	L	S
1979 Aug 2	2341	35.63-31.23	33	4.2	3.9	16	-	i
1979 Aug 10	1308	33.74-34.81	33	3.5	-	6	-	i
1979 Aug 11	2019	35.61-31.22	80	-	-	15	-	i
1979 Aug 14	1732	33.60-34.56	10	4.6	4.3	47	-	i
1979 Aug 31	2150	36.45-34.77	0	3.8	-	9	-	i
1979 Sep 14	1545	36.82-31.04	0	-	-	-	-	I
1979 Oct 31	1026	34.12-32.06	33	3.7	-	6	-	i
1979 Dec 31	0621	36.22-31.49	93	(5.0)	5.3	294	-	i
1979 Dec 31*	0825	36.10-31.44	79	-	4.0	16	-	i
1980 Jan 6	2159	36.56-31.22	33	3.6	-	6	-	i
1980 Jan 22	0947	33.98-31.57	77	-	3.8	17	-	i
1980 Feb 19	0843	35.94-31.19	10	4.3	4.0	21	-	i
1980 Feb 20	1026	35.77-31.01	66	-	4.2	27	-	i
1980 Feb 21	2121	36.78-31.29	0	3.5*	-	-	-	I
1980 Mar 28	2043	34.62-33.11	0	3.9	-	8	LI	i
1980 Apr 29	0125	34.77-32.37	0	3.8	3.9	8	-	i
1980 Jul 5	0248	36.17-33.94	42	-	4.2	72	-	i
1980 Jul 13	0826	36.77-31.70	0	3.5*	-	9	-	i
1980 Sep 22	1936	35.32-31.86	65	-	4.1	53	-	i
1980 Nov 30	0109	36.03-31.38	80	-	4.6	166	-	i
1981 Jan 22	2129	36.21-31.32	77	-	-	8	-	i
1981 Apr 26	1436	36.09-31.09	0	3.5*	-	6	-	i
1981 Aug 17	0555*	-	-	-	-	-	PA	-
1982 Jan 28	0111	36.70-31.30	0	3.3*	-	-	-	I
1982 Mar 11	2309	33.57-33.87	15	4.1*	-	9	-	i
1982 Apr 5	1507	36.60-31.00	0	3.0*	-	-	-	I
1982 May 20	0328	35.04-33.70	72	-	4.6	161	NI	i
1982 Jun 10	0627	35.82-31.25	61	-	3.6	22	-	i
1982 Aug 7	0814	33.74-34.67	1	3.2*	-	11	-	i
1982 Nov 15	0238	35.48-31.50	97	-	4.2	19	-	i
1982 Nov 30	1532	36.91-32.37	10	3.5	-	7	-	i
1982 Dec 19	1917	34.89-34.06	37	4.6	4.7	45	-	i
1983 Apr 12	1439	35.49-32.52	74	-	-	13	-	i
1983 Apr 28	1932	36.76-31.42	33	3.8	-	9	-	i
1983 May 9	1224	36.98-31.19	33	3.6*	-	8	-	i
1983 May 31	1610	34.13-32.72	27	4.0*	-	15	-	i
1983 Aug 11	0526	35.72-31.28	33	3.9	4.8	11	-	i
1983 Aug 19	1220	35.15-31.67	33	4.0	4.0	13	-	i
1983 Sep 24	1641	34.62-33.31	46	-	4.6	97	-	i
1983 Sep 28	2000	34.86-32.72	58	-	4.2	35	-	i
1983 Oct 31	1842	34.90-33.65	75	-	4.4	27	KE	i
1983 Dec 3	1422	36.85-31.55	0	3.7*	-	8	-	i
1983 Dec 6	1906	36.55-31.31	0	3.7*	-	-	-	I
1984 Jan 6	1311	34.76-33.83	27	3.8*	-	13	-	i
1984 Jan 7	1105	34.42-33.81	1	3.5*	-	-	-	j
1984 Jan 12	1320	33.62-34.32	1	3.1*	-	-	-	j
1984 Jan 23	1442	36.73-31.02	82	-	4.5	66	-	i
1984 Jan 26	1125	34.31-32.82	27	3.7*	-	18	-	i
1984 Jan 30	0354	34.93-32.37	27	3.4*	-	4	-	i
1984 Feb 8	1028	36.99-31.26	10	3.3*	-	16	-	i
1984 Feb 13	0624	34.42-32.78	1	3.4*	-	-	-	j
1984 Mar 11	1451	34.25-34.43	2	3.2*	-	-	-	j
1984 Mar 28	1615	34.75-33.58	38	4.5	5.1	219	LR	i
1984 Apr 7	0920	33.78-32.15	48	-	4.5	31	-	i
1984 Apr 16	1755	35.72-31.20	47	-	4.5	20	-	i
1984 Apr 17	1755	35.20-31.13	33	3.1	-	14	-	i
1984 Apr 21	1405	34.82-33.09	27	3.4*	-	-	-	j
1984 May 7	0616	36.62-31.37	101	-	4.7	147	-	i
1984 May 11	0336	34.99-32.29	1	3.2*	-	19	-	i
1984 May 11	0357	34.47-33.44	1	3.1*	-	-	-	j
1984 May 16	1828	33.05-31.61	0	3.9*	-	19	-	i
1984 May 19	0608	34.65-33.89	1	3.9*	-	-	-	j

Date	OT	Epicentre	h	M <sub>s</sub>	m <sub>b</sub>	n	L	S
1984 May 22	0811	34.89-33.81	27	4.1*	-	21	-	i
1984 May 24	1706	34.76-34.39	27	3.1*	-	-	-	j
1984 Jun 11	2145	35.01-32.65	1	3.3*	-	-	-	j
1984 Jun 21	1747	34.36-32.79	2	3.2*	-	-	-	j
1984 Jun 21	2156	33.65-32.15	21	3.1*	-	-	-	j
1984 Jun 23	0103	34.94-34.01	21	3.6*	-	16	-	i
1984 Jun 23	0115	34.56-33.78	2	3.0*	-	-	-	j
1984 Jun 23	0345	34.31-34.11	21	3.0*	-	-	-	j
1984 Jun 24	0907	35.23-32.20	1	-	-	-	-	j
1984 Jun 24	1558	34.58-34.12	1	3.4*	-	-	-	j
1984 Jul 7	0238	34.79-34.08	2	3.2*	-	-	-	j
1984 Jul 7	0826	33.33-34.77	21	-	-	-	-	j
1984 Jul 31	2227	35.38-34.65	2	3.7*	-	12	-	i
1984 Aug 5	1132	34.78-33.62	21	3.3*	-	-	-	j
1984 Sep 4	1338	34.22-33.68	21	3.3*	-	-	-	j
1984 Sep 15	0828	33.25-35.31	1	3.0*	-	-	-	j
1984 Sep 18	0301	34.75-34.16	21	3.7*	-	12	-	i
1984 Sep 18	1052	33.81-35.22	4	3.6*	-	9	-	i
1984 Sep 19	1852	34.08-33.55	2	3.1*	-	-	-	j
1984 Sep 20	0251	34.38-32.79	2	3.4*	-	18	-	i
1984 Sep 20	0409	34.14-32.35	21	3.0*	-	-	-	j
1984 Sep 20	0448	34.53-32.58	21	3.7*	-	5	-	i
1984 Sep 20	2232	33.57-32.12	20	3.4*	-	20	-	i
1984 Oct 6	1949	34.77-33.27	20	3.3*	-	13	-	i
1984 Oct 13	0939	34.25-33.96	4	3.0*	-	-	-	j
1984 Nov 6	0824	34.05-32.08	26	3.1*	-	-	-	i
1984 Nov 14	1001	36.08-31.09	72	-	4.3	45	-	i
1984 Nov 20	0704	34.87-33.64	26	3.1*	-	-	-	j
1984 Dec 8	2231	33.27-34.37	4	3.2*	-	-	-	j
1984 Dec 12	1522	33.52-34.51	3	3.2*	-	-	-	j
1984 Dec 14	0545	34.59-33.29	26	3.7*	-	14	-	i
1984 Dec 18	1359	35.29-35.32	39	4.5	4.7	120	-	i
1984 Dec 23	2052	33.85-35.07	5	3.0*	-	13	-	i
1985 Jan 30	0732	35.76-31.98	13	3.4*	-	12	-	i
1985 Mar 13	1946*	36.86-31.70	10	3.6	-	18	-	i
1985 Mar 14	1506	36.91-31.67	16	3.9*	4.2	26	-	i
1985 Mar 19	0528	34.61-35.01	4	3.2*	-	-	-	j
1985 Apr 21	2226	35.89-32.19	0	3.3*	-	11	-	i
1985 Apr 22	0505	36.37-32.30	10	3.5*	-	15	-	i
1985 May 25	0941	33.38-31.63	33	4.0*	-	26	-	i
1985 Jun 6	1309	35.56-31.21	54	-	4.9	21	-	i
1985 Jun 6	1818	34.85-32.65	42	-	4.5	24	PA	i
1985 Jun 7	0044	34.80-32.56	16	3.4*	-	19	PA	i
1985 Jun 8	2253	34.83-32.47	45	4.1	4.0	32	-	i
1985 Jul 4	2203	35.22-31.06	65	-	3.3	18	-	i
1985 Jul 7	1901	34.88-32.21	25	3.2*	-	16	-	i
1985 Jul 23	0033*	-	-	-	-	1	NI	-
1985 Aug 8	2050	35.37-34.22	25	3.5*	-	15	-	i
1985 Sep 3	0503	34.50-32.36	5	3.7*	-	15	-	i
1985 Sep 21	0858	33.34-35.39	0	3.0*	-	15	-	i
1985 Sep 24	2148	34.28-32.81	5	3.6*	-	17	-	i
1985 Sep 25	1645	33.97-35.35	0	3.6*	-	13	-	i
1985 Oct 15	0225	36.13-31.87	10	3.4	3.9	16	-	i
1985 Oct 25	0639	34.54-33.66	4	3.4*	-	10	-	i
1985 Oct 26	0019	34.48-33.61	2	3.3*	-	18	-	i
1985 Nov 16	1126	35.03-33.44	66	-	4.1	29	NI	i
1985 Dec 11	1601	34.72-32.85	21	3.8*	4.1	27	LI	i
1985 Dec 15	1308	33.66-35.46	1	3.2*	-	12	-	i
1985 Dec 16	2038	34.81-32.94	24	3.0*	-	-	-	j
1986 Mar 19	1624	35.62-31.21	33	4.2	4.5	86	-	i
1986 Apr 18	1852	33.95-35.35	4	3.8*	-	10	-	i
1986 May 12	1103	34.10-34.54	10	3.7*	-	10	-	i
1986 Jun 28	0848	33.62-34.99	12	3.0*	-	16	-	i
1986 Jul 7	1417	34.81-33.67	49	-	4.8	147	LR	i
1986 Jul 30	0213	34.67-32.31	37	4.5	4.9	239	PA	i

Date	OT	Epicentre	h	M <sub>s</sub>	m <sub>b</sub>	n	L	S
1986 Aug 24	1052	36.08-32.14	100	-	4.3	54	-	i
1986 Sep 5	1953	36.06-31.76	73	(3.8)	4.4	166	CY	i
1986 Dec 8	0558	36.60-31.73	130	-	4.7	130	-	i
1987 Jan 10	1504	34.64-33.31	36	3.6	4.3	33	LI	i
1987 Jan 15	1119	34.41-33.74	40	4.3	5.1	203	LR	i
1987 Jan 24	0446	33.46-33.81	0	3.0*	-	14	-	i
1987 Feb 16	1540	36.34-34.75	10	-	-	12	-	i
1987 Feb 18	0535	34.90-32.26	49	-	4.7	113	PA	i
1987 Mar 20	0633	34.87-34.03	59	-	-	18	-	i
1987 Mar 27	2115	35.15-31.07	60	-	3.8	15	-	i
1987 May 1	0814	34.80-32.74	10	2.3	-	11	LI	i
1987 May 11	0317	35.48-31.78	10	-	-	16	-	i
1987 May 24	1337	34.73-33.16	28	3.4*	-	15	LI	i
1987 Jun 10	2127	33.92-34.70	-	3.0*	-	-	-	j
1987 Jun 16	0618	35.55-35.25	33	4.0*	4.6	70	-	i
1987 Sep 4	0725	34.88-34.57	10	3.4*	-	23	-	i
1987 Sep 14	1552	36.74-31.10	111	-	4.7	238	-	i
1987 Sep 25	0358	34.50-33.08	10	3.1*	-	20	-	i
1987 Nov 9*	0603	34.73-32.96	22	3.0*	-	23	LI	i
1987 Nov 9	0750	34.72-32.88	23	4.3*	4.4	76	LI	i
1987 Dec 2	1324	34.64-34.31	-	-	-	-	-	j
1988 Jan 10	2212	36.67-35.39	10	3.4*	-	10	-	i
1988 Feb 16	0205	36.14-31.56	101	-	3.8	33	-	i
1988 Feb 29	1532	35.76-31.21	33	3.8*	-	22	-	i
1988 Mar 2	1445	33.23-34.61	19	3.3*	-	25	-	i
1988 Jul 3	0953	33.66-34.86	11	3.0*	-	19	-	i
1988 Jul 9	1301	36.30-34.34	25	3.4*	-	21	TR	i
1988 Sep 5	1433	33.16-34.36	5	3.5*	-	37	IS	i
1988 Oct 31	0005	34.00-34.68	10	3.0*	-	33	-	i
1988 Nov 10	1753	36.14-31.13	10	3.1	-	27	-	i
1988 Dec 3	2015	35.68-31.70	9	3.4*	4.1	36	-	i
1988 Dec 13	1954	34.59-33.19	25	3.3*	-	25	-	i
1988 Dec 19	0010	35.88-31.31	10	-	7	-	u	
1989 Mar 6	1643	35.88-33.60	10	3.2*	-	10	-	i
1989 Mar 10	0446	34.44-33.00	10	3.3*	-	7	-	i
1989 Mar 31	2353	33.43-34.70	12	3.1*	-	23	-	i
1989 Apr 16	1033	34.26-33.80	29	3.3*	-	29	-	i
1989 May 16	1121*	34.60-32.50	0	3.0*	-	26	-	i
1989 May 31	1215	34.70-32.22	10	3.1*	-	28	PA	i
1989 Jun 7	0741	35.00-34.70	0	3.0*	-	28	-	i
1989 Sep 9	2015	34.57-32.91	29	4.0*	4.1	61	-	i
1989 Oct 2	1141	33.67-34.82	26	3.9*	3.8	53	IS	i
1989 Nov 12	1032	33.10-31.41	25	3.9*	4.3	66	-	i
1990 Jan 16	1511	34.50-31.20	33	3.1*	-	7	-	i
1990 May 21	0817	34.62-32.30	10	2.5	-	15	PA	i
1990 Jun 8	0842	34.95-33.80	33	3.0*	-	16	-	i
1990 Jul 16	0451	34.62-32.44	33	3.5*	-	10+	-	u
1990 Jul 20	0748	34.99-33.94	50	-	-	22+	-	u
1990 Sep 19	0131	35.89-31.02	33	-	-	13+	-	u
1990 Oct 18	0019	34.54-33.05	33	3.2*	-	8+	-	u
1990 Nov 23	0644	34.64-32.95	25	4.9*	4.2	48+	LI	u
1990 Dec 13	0732	34.64-33.93	49	-	4.2	48+	LR	u
1991 Jan 16	0650	-	-	-	-	-	PA	c
1991 Feb 4	0432	34.42-32.22	52	-	3.7	38+	PA	u
1991 Feb 6	2218	34.42-32.17	33	3.1*	-	5+	-	u
1991 Feb 9	0407	34.65-32.92	10	3.6*	-	7+	LI	u
1991 Feb 21	1455	34.98-34.07	33	3.8*	-	6+	F	u

## Note:

Date\* = foreshock or aftershock

Time\* = reported local time

Time = origin time GMT

Epicentre in () = event outside study area felt in Cyprus

a = macroseismic epicentre adopted from felt reports only. Occasionally, associated magnitude and approximate origin time based on microseismic data.

b = BCIS

c = determined by Mathiatis (CSS) seismic network in Cyprus

g = determined by Gutenberg and Richter (1963)

i = BAAS/ISS/ISC determination

I = Istanbul; Sismoloji Rasatlari Bulteni, Kandilli, 1934-1955

j = IPRG/JSO/Arieh et al. (1985)

k = Ksara; Annales Seism. Obs. Ksara, 1911-1967

R = recalculated position

u = USCGS/NOAA location

U = Uppsala/Alsan et al. (1975) LAO (Large Aperture Seismic Array) locations and magnitudes discarded.

Depth = focal depths are very approximate and they may be used with caution to differentiate between shallow and normal earthquakes. n: normal depth focus in the crust taken  $h < 40$  km; i: subcrustal /intermediate depth,  $h > 40$  km

## Magnitude

$M_s$  = surface-wave magnitude recalculated for normal depth earthquakes using the Prague formula without station corrections

$M_s^+$  =  $M_s$  values calculated from macroseismic data

$M_{\#}$  =  $M_s$  values calculated from number of stations

$m_b$  = short-period, body-wave magnitude, re-assessed for both normal and intermediate depth earthquakes

$M_B$  = long-period, body-wave magnitude, re-assessed for normal and intermediate depth events

$M^*$  = mean value of local magnitudes  $M_L$  reported from the Greek network, IPRG/JSO, Ksara, Istanbul, CSS, for normal depth events. For intermediate depth shocks  $M_L$  is not applicable.

Note: Calculated surface wave magnitudes for deeper than normal depth earthquakes ( $h > 40$  km) are shown in brackets. For deeper events  $M_B$  may be calculated either from P and S-wave amplitude and period data or from:  $M_B = M_s + 0.0107(h-20)$  derived by Karnik (1968, p. 59) for the Aegean and E. Mediterranean region;  $M_B$  is shown in the column for  $m_b$ .

## Recording stations

n = number of stations known to have recorded the event

n+ = actual number of stations that recorded the event probably greater than shown

Affected area (L), not necessarily epicentral

AM: Ammochostos district LR: Larnaka district - KE: Kerynia district MO: Morphou district - LI: Limassol district  
 NI: Nicosia district - PA: Paphos district - CY: felt in Cyprus - EG: Nile delta - GR: Greek islands and Hellenic  
 arc - IS: maximum effects in Israel - LE: maximum effects in Lebanon - TR: maximum effects in Turkey