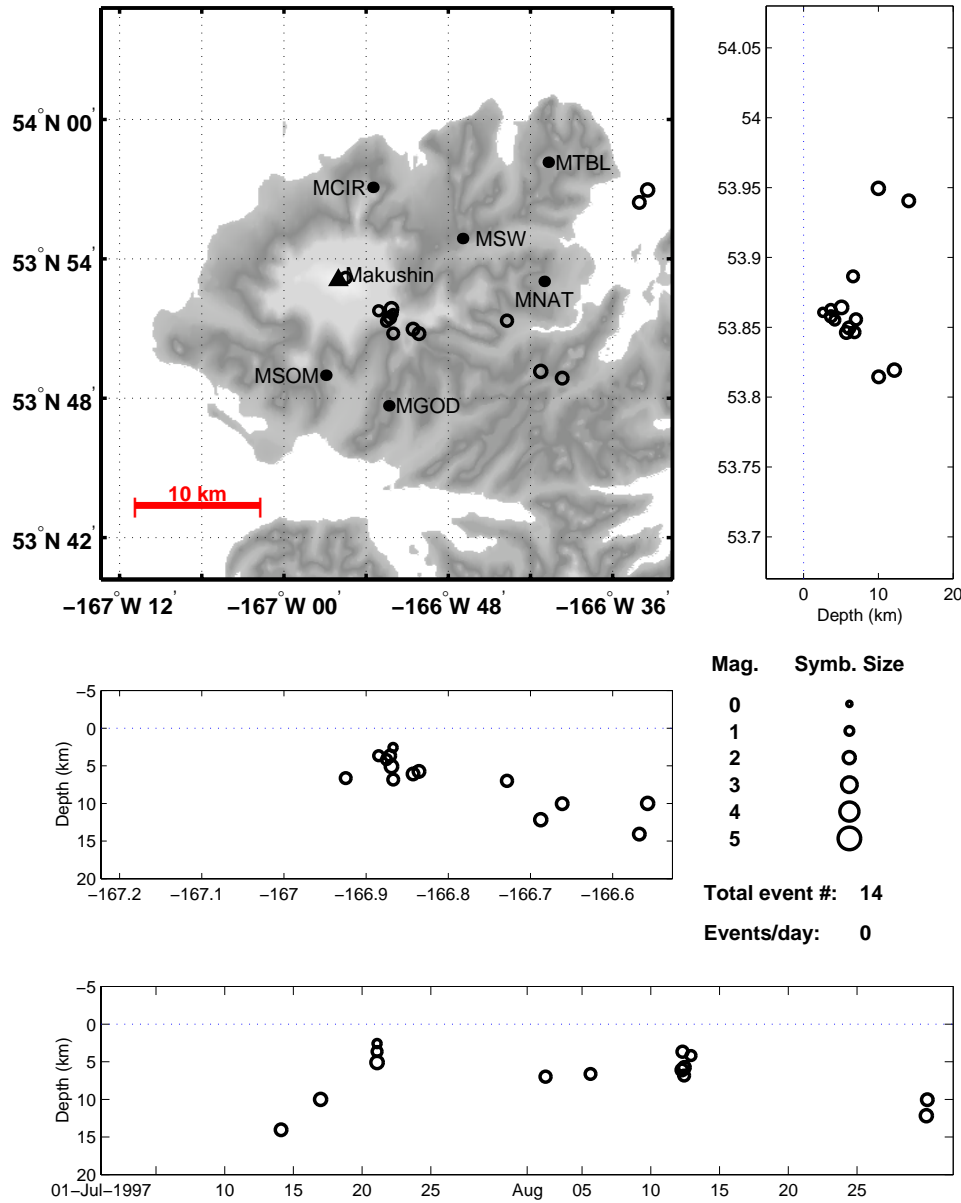


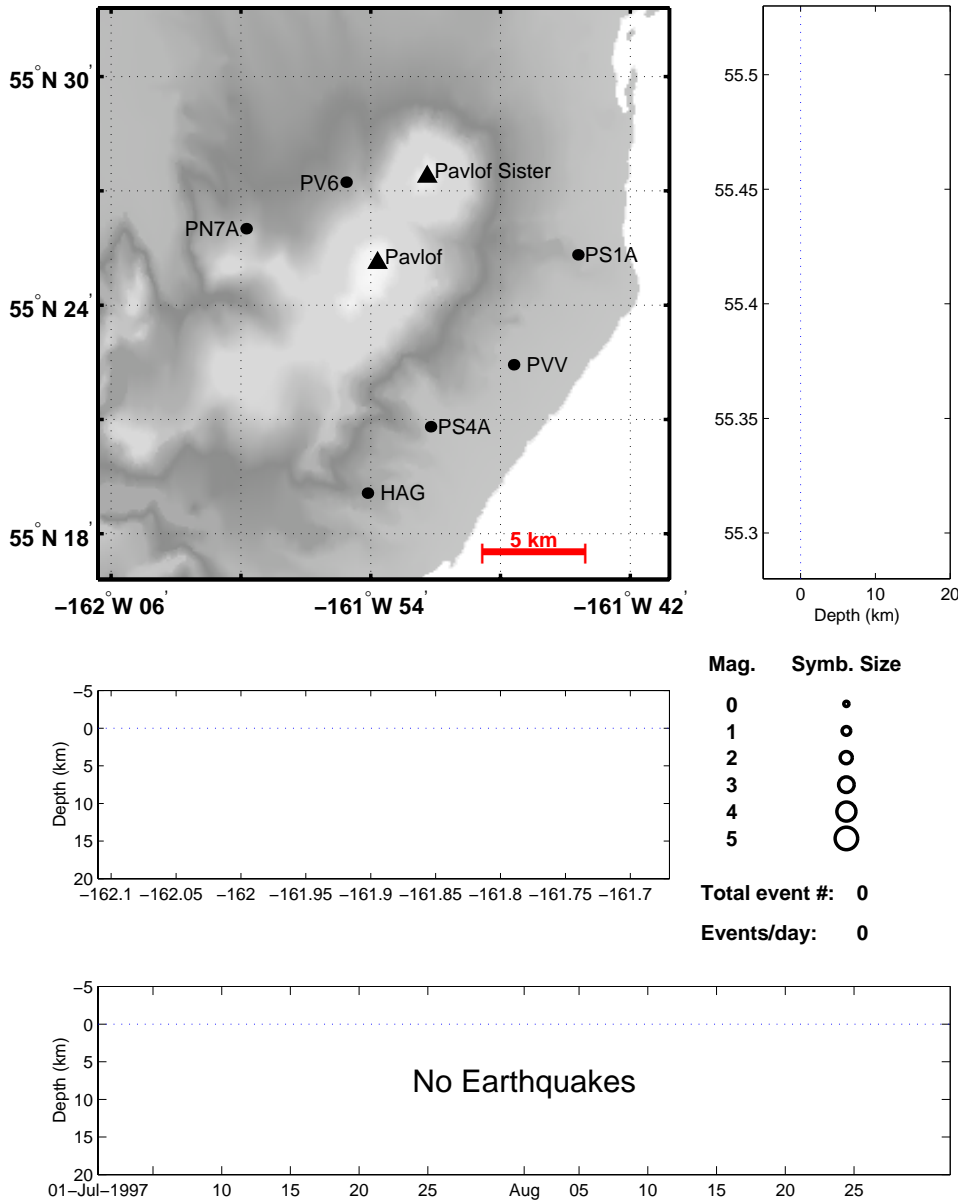
Makushin Volcano Seismicity: 01-Jul-1997 – 01-Sep-1997



Makushin During July and August a total of 15 earthquakes were located in the vicinity of Makushin (figs. 7, 12 and 13). Of these, eight were located 3-7 km southeast of the summit in a region that has been seismically active in the past. Another event was located beneath the summit. The largest earthquake located in the Makushin region during this two-month interval had a magnitude of 2.5. This event was located about 5 km north of Dutch Harbor at a depth of about 9 km. Two of the final three earthquakes were located beneath Unalaska Bay in the region southeast of Eider Point; this area has been quite active in the past. Two of the final three located earthquakes were located about 15-17 km southeast of the summit, while the remaining event was located 11 km south-southeast of the summit. The number of located Makushin earthquakes during this two-month time period is much lower than that of the previous interval (i.e. 15 located events vs. 53 located events). It is, however, greater than the six located events one would expect based upon the 6-month mean seismicity rate.

Figure 7: Locatable Makushin seismic events in space and time for July through August.

Pavlof Volcano Seismicity: 01-Jul-1997 - 01-Sep-1997



P*avlof* No earthquakes were located in the vicinity of Pavlof during July and August (figs. 8, 12 and 13). A few events were, however, large enough to at least show up on the helicorder counts (fig. 11). One event did trigger the detection system and was even located (fig. 12). This event, however, was located about 14 km northwest of Pavlof Sister which is off the map. This is a quiet area despite its recent eruptive activity. No earthquake have not been located in the Pavlof region since January 1997.

Figure 8: Locatable Pavlof seismic events in space and time for July through August.

Redoubt
 Twelve earth quakes were located in the vicinity of Redoubt during July and August (figs. 8, 11 and 12). The largest such event had a magnitude of 1.5 and was located about 3 km east-southeast of the summit. Four other earthquakes were located beneath the south-eastern flank of Redoubt. Five events were located beneath the northern flank of Redoubt. Two of these events were located about 7-8 km from the summit while the remaining three earthquakes had virtually identical locations, about 9-10 km from the summit. The 10 earthquakes discussed above were all located within a 10 km radius of the summit of Redoubt. The other two earthquakes located during this two-month interval were outside this radius at distance of about 15 km northeast of the summit. These two events are likely regional tectonic earthquakes unrelated to volcanic activity at Redoubt. Note that the overall number of located events in the Redoubt region as well as those located just within the 10 km radius are twice the corresponding values for the previous two-month interval. The July and August seismicity rates for these two regions are, however, much lower than the corresponding three-year mean seismicity rates.

Redoubt Volcano Seismicity: 01-Jul-1997 - 01-Sep-1997

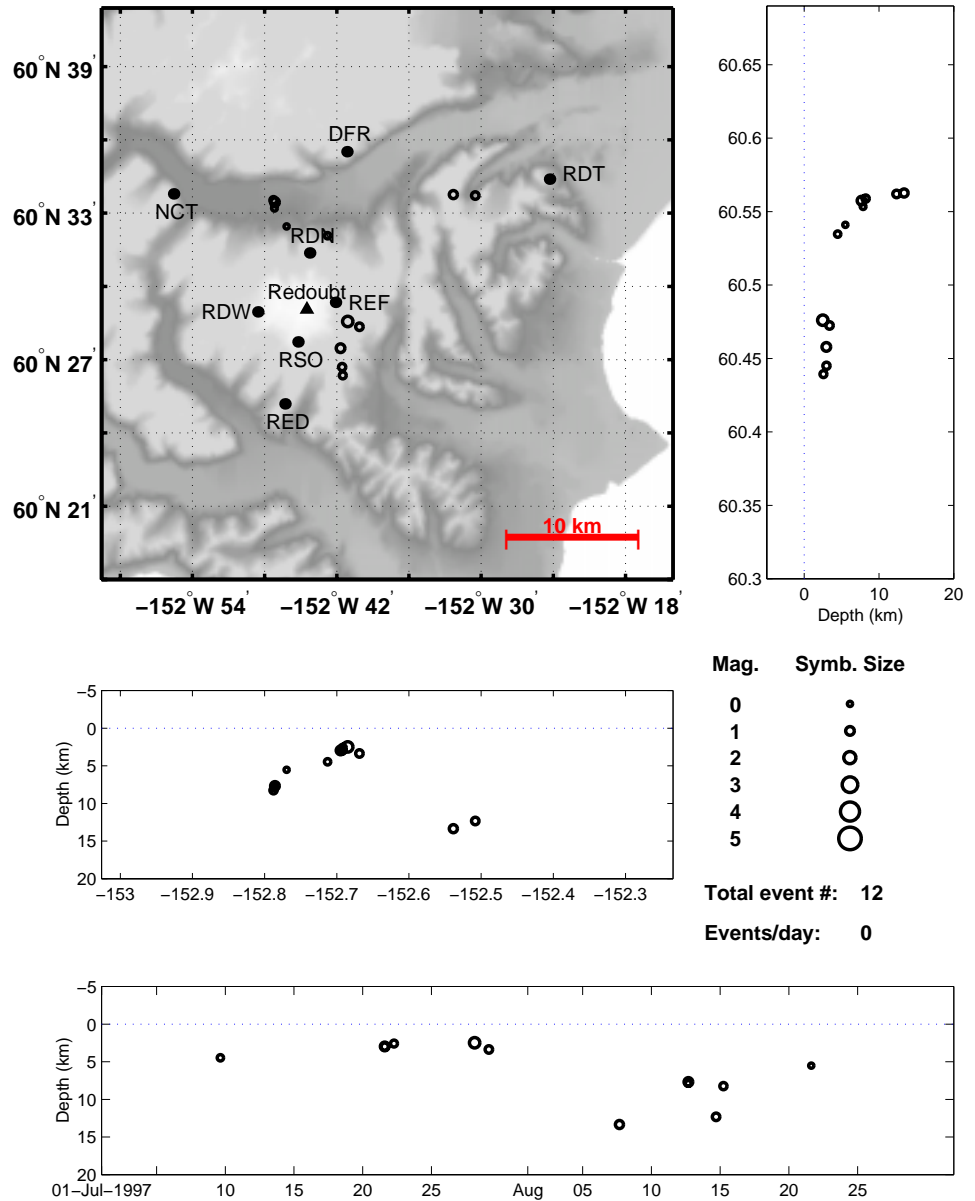


Figure 9: Locatable Redoubt seismic events in space and time for July through August.

Shishaldin

The first earth quake located in the Shishaldin region using the newly installed seismic network occurred on August 17, 1997. It was off the southeastern shore of Unimak Island about 4 km south-southeast of Cape Lazaref (figs. 9, 11 and 12). This event had a magnitude of 1.7 and was located at a depth of nearly 5 km. This was the only earthquake located within the map area during this two-month interval. Note, however, that the Shishaldin subnet was not added to the data acquisition system until August 7, 1997. Therefore, the activity indicated on the plots represents a time period of only about three weeks. Since we have just started monitoring the seismic activity at Shishaldin, it will be a while before its background level of seismicity can be ascertained.

Shishaldin Volcano Seismicity: 01-Jul-1997 - 01-Sep-1997

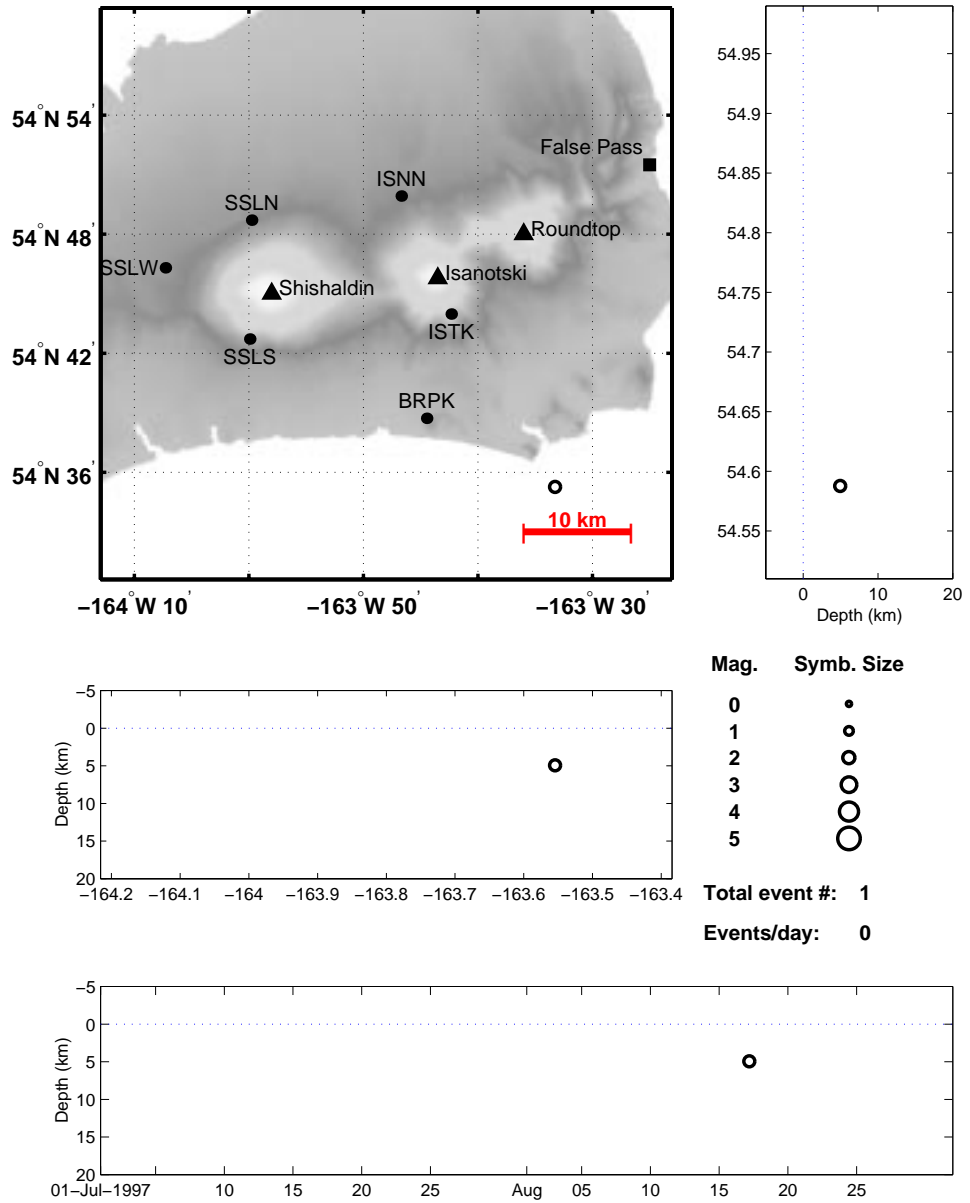


Figure 10: Locatable Shishaldin seismic events in space and time for July through August.

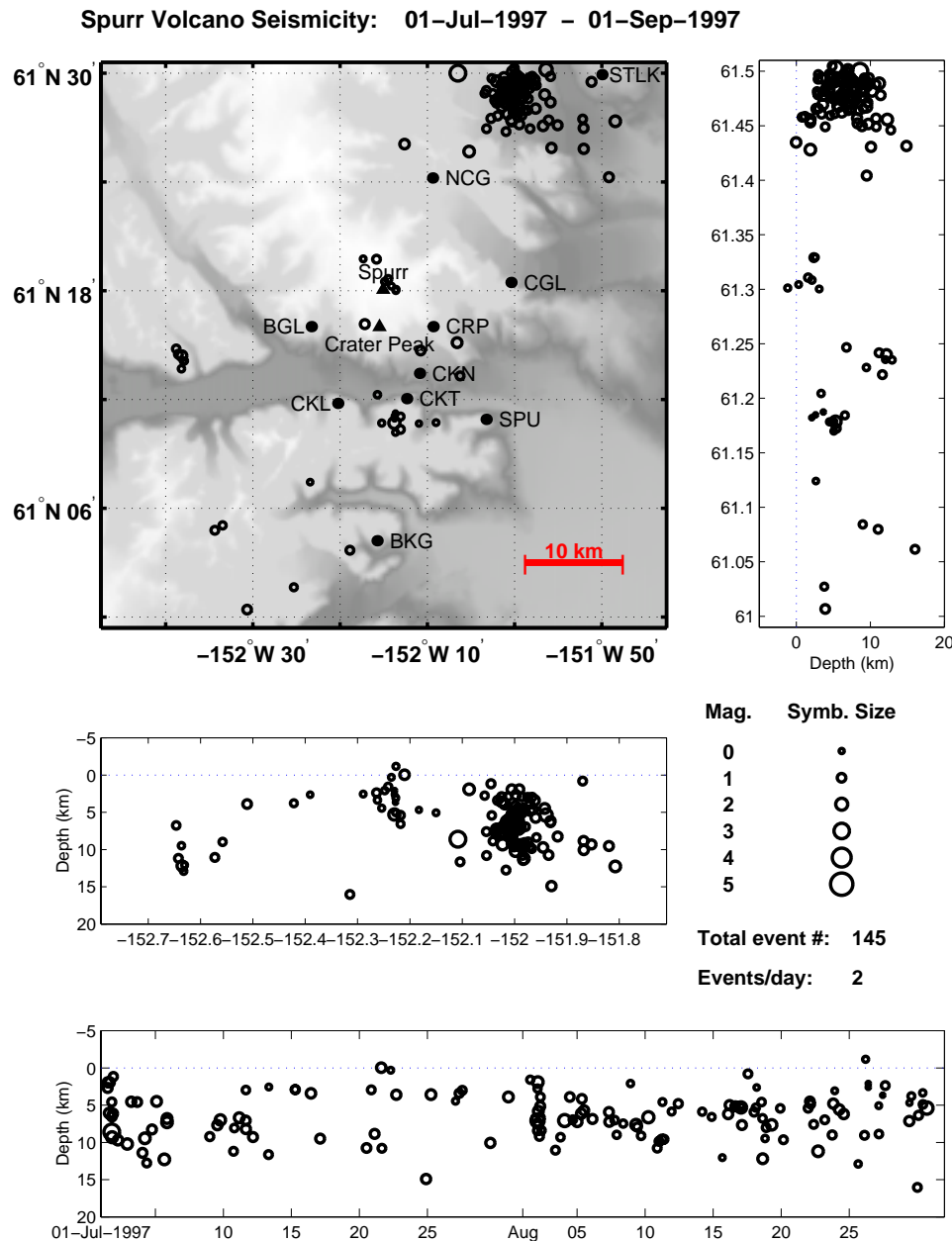


Figure 11: Locatable Spurr seismic events in space and time for July through August. The intense seismicity well northeast of the volcano is thought to be tectonic, rather than magmatic, in origin.

S*purrr*
During July and August a total of 145 earthquakes, the largest of which had a magnitude of 3.1, were located in the general vicinity of Spurr (figs. 11, 12 and 13). Of the 145 located events, 114 were located in the Strandline Lake region (i.e. the northeast corner of fig. 10). The Strandline Lake earthquakes are probably regional tectonic events unrelated to activity at Spurr. Therefore, the discussion will be limited to the non-Strandline Lake events plotted in Figure 10.

A total of 31 non-Strandline Lake events were located during this two-month interval. The largest such event had a magnitude of 1.8 and was located 10 km south of Crater Peak. Nine events were located within a 10 km radius of the summit of Spurr. Four of these events were located slightly east of the summit of Spurr. Two other events were located beneath the northern flank of Spurr about 5 km from the summit. The final three events within the 10 km radius were all relatively deep b-type events. One of these events was located 1.5 km west

of Crater Peak at a depth of nearly 34 km. The other two events were located about 5 and 8 km east-southeast of Crater Peak at depths of about 29 km and 31 km respectively. Because the hypocentral depths of these events exceeded the maximum plotted depths of the cross-sections, these three events appear only in map view on the seismicity map. Although such deep events in this area are not really commonplace they are also certainly not unheard of either. The 21 non-Strandline Lake events, not located within the 10 km radius, are probably regional tectonic events unrelated to volcanic activity at Spurr/Crater Peak. The total number of earthquakes (both Strandline Lake and non-Strandline Lake events) located in the Spurr region during July and August was much lower than that of the previous two-month interval. This may, at least in part, be due to the fact that both stations NCG and CGL were out for much of July with CRP also out for about a week during the same time period. The number of events located within the 10 km radius of the summit was, however, only a little lower than that of the previous two-month interval (i.e. 9 vs. 11 located events). This value is about half that predicted from the three-year mean seismicity rate. Note that the change in Spurr seismicity basemaps resulted in an additional 22 earthquakes, 12 of which were non-Strandline Lake events, being plotted on the new map.

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Figure 12: Histogram of seismic events counted from helicorder records during July through August.

EARTHQUAKE COUNTS FROM HELICORDER RECORDS

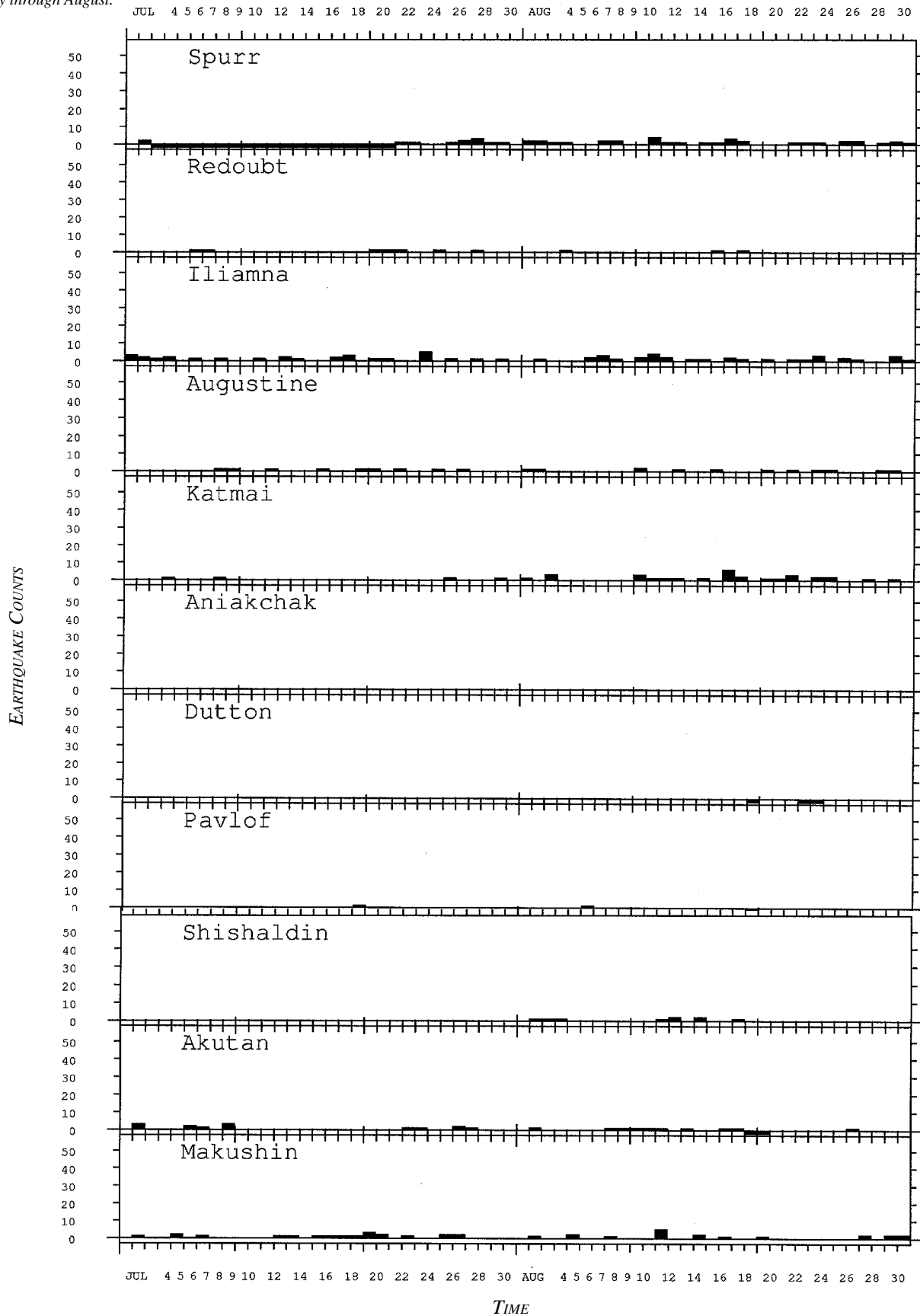
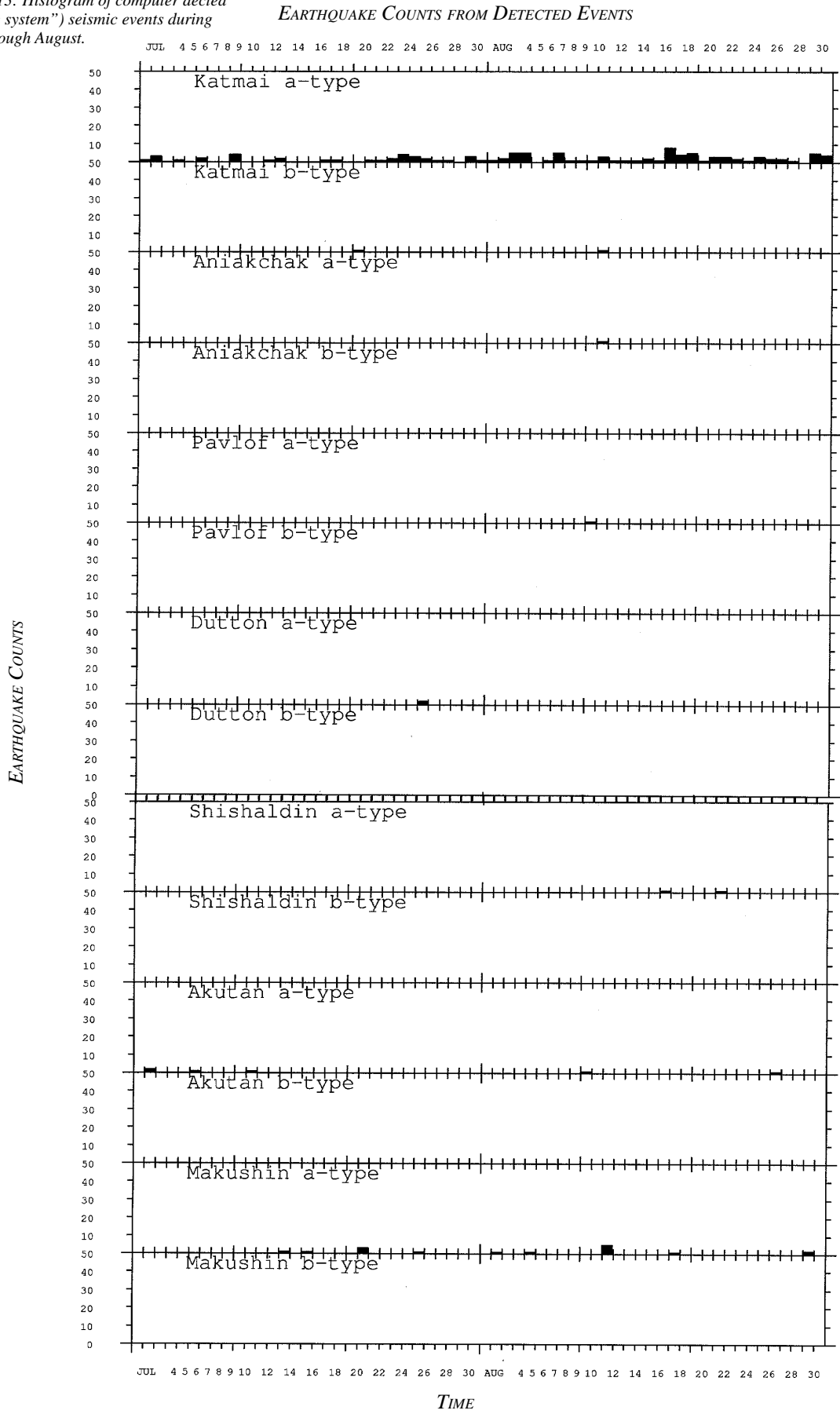


Figure 13: Histogram of computer detected ("Willie system") seismic events during July through August.



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