

Data Committee Update to the Steering Committee

Presented By: Joel D. Simon

Data Committee: Tim Ahern, Joel D. Simon, Christoph Waldmann

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Waveforms Recorded Through 2023: 31,718

- Princeton/GeoAzur data continue to be pushed to Earthscope: **6,263** total waveforms with next push
- JAMSTEC/Kobe data ready to go to Earthscope: **2,175** waveforms will be deposited with 2-year rolling embargo
- SUSTECH data ready to go to Earthscope with next push: **23,280** may be deposited (with TBD embargo)
- Total MERMAID waveforms recorded to date: **31,718**
- All **31,718** waveforms reviewed (matched to earthquakes) using Joel Simon's OMNIA software (doi: 10.5281/zenodo.5637492)

Waveforms Reviewed Through 2023: 31,718

□ Review team: Joel **Simon** (Princeton), Yong **Yu** (SUSTECH), Dalija **Namjesnik** (GeoAzur), Yuko **Kondo** (JAMSTEC/Kobe)

□ Joel further remade entire data set from the raw server and independently reviewed a random sample of 1000+ events originally reviewed by other team members to check agreement with phase picks (which is high!!)

□ Finding: phase-pick disagreements (of which there exists on the order of dozens, not, e.g., hundreds) most usually caused by data issues, not difference in opinion

□ Cause: various groups use different automaid/OMNIA versions over the years; **minimum requirements are automaid v3.5.1** (fixes interpolation issue, doi: 10.5281/zenodo.5514229) and **OMNIA v1.0.0** (fixes timing issue); ideally both codebases kept up to date with current releases (bugs continue to be found and fixed by Joel)

□ Guust Nolet has been forwarded this entire reviewed, cleaned, and corrected data set for the inversion, but Joel can also forward catalog and accompanying software to any interested parties

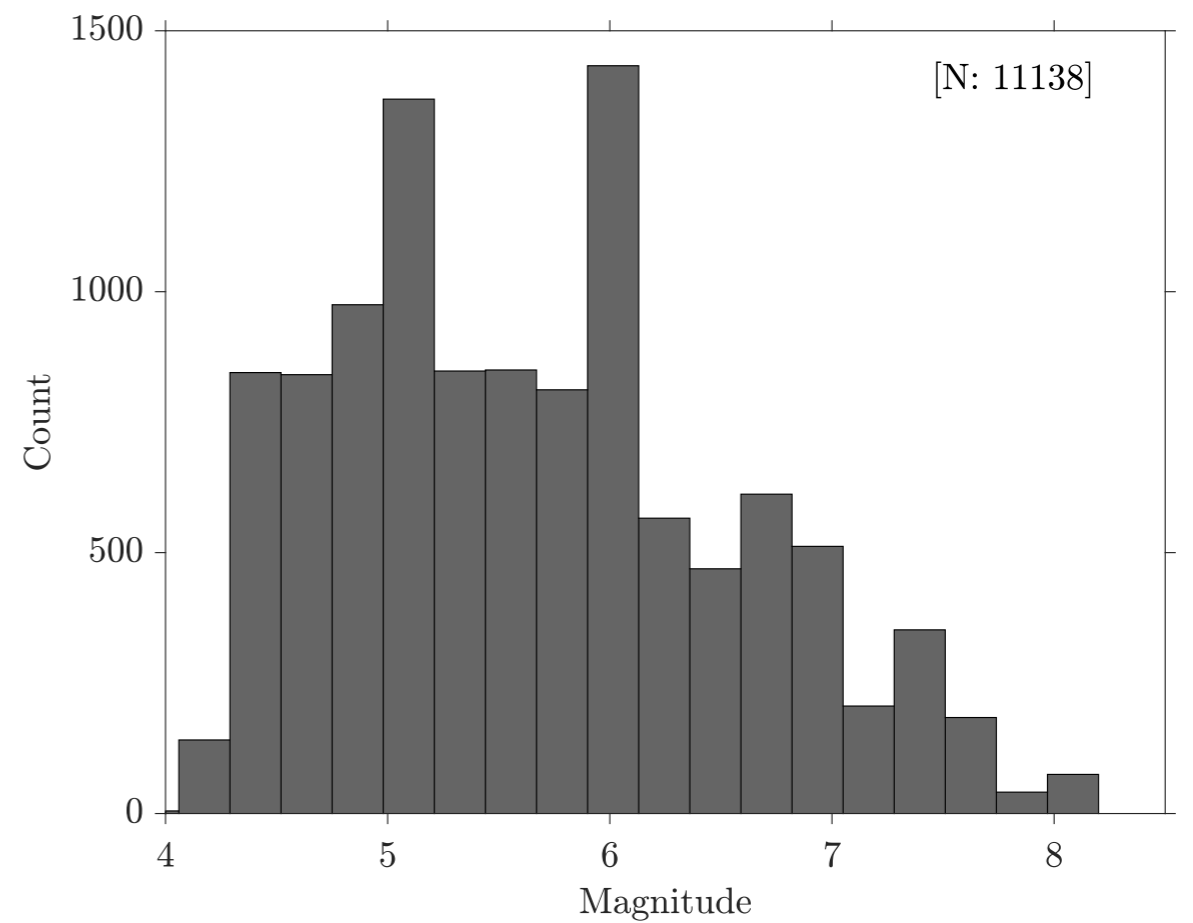
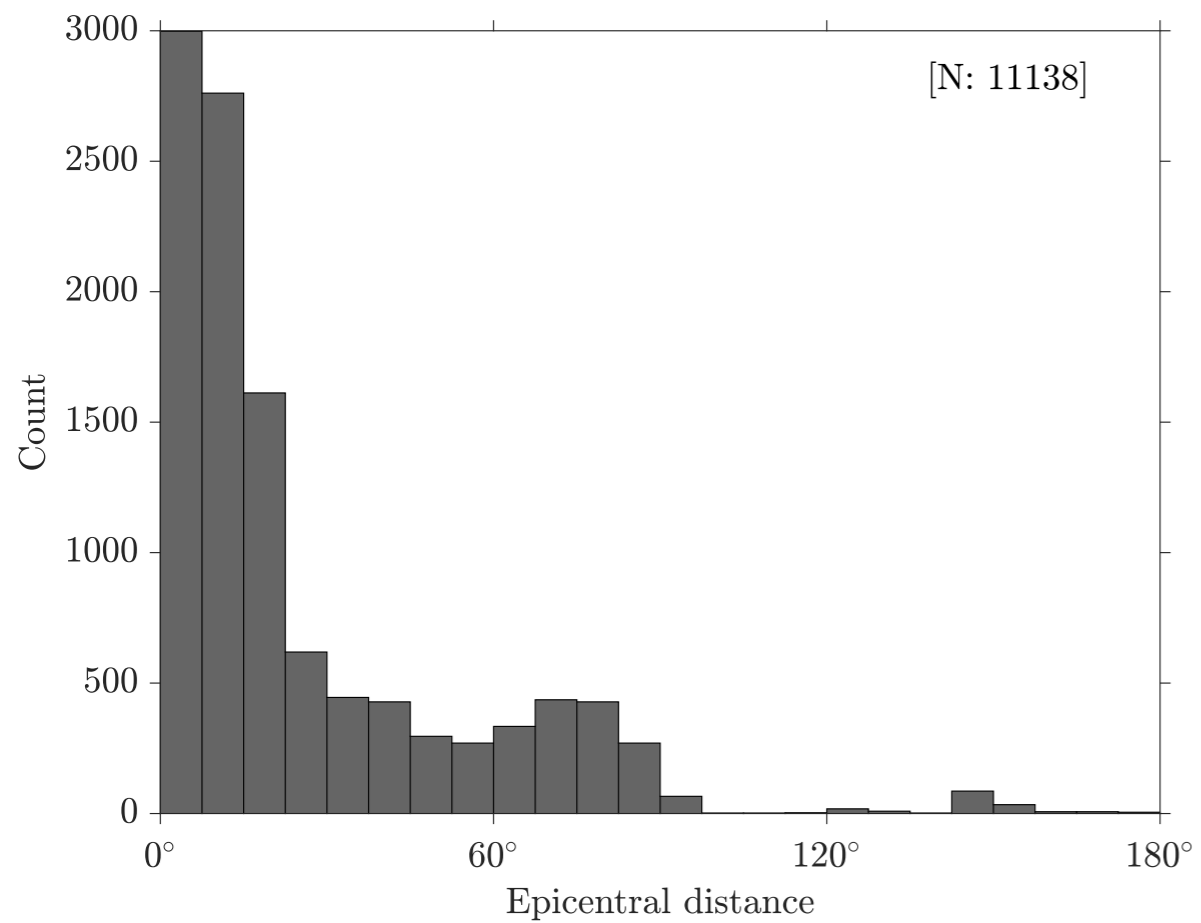
Travel-Time Residual Catalog: 10,943 Picks

□ Expanded version of supplemental catalog published with Simon et al., 2022 (*GJI*)

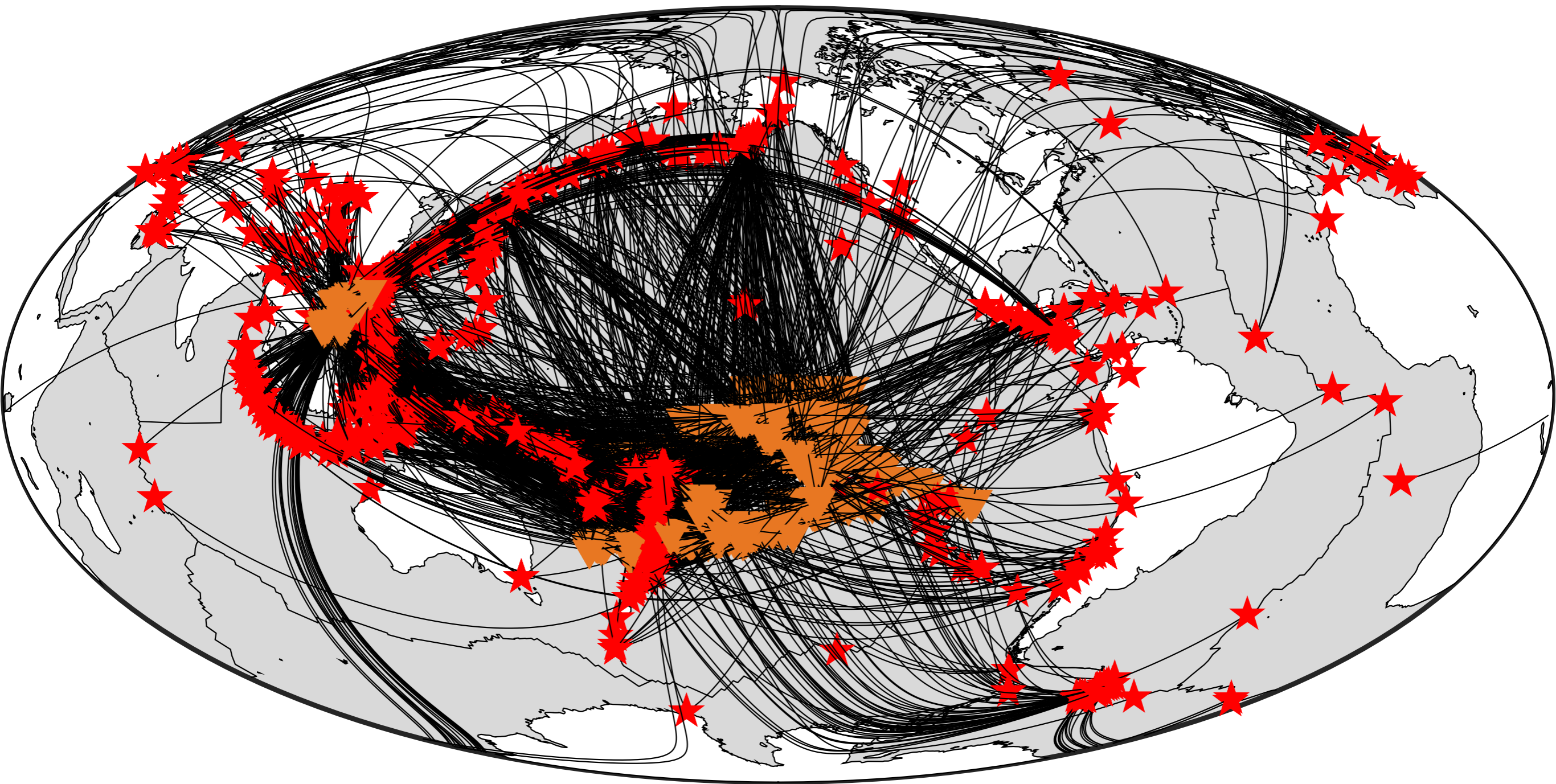
□ Additional columns: **station name** (KSTNM), **phase name**, **reviewer** (Simon, Yu, etc.)

#COLUMN:	1	2	3	4	5	6	7	8
DESCRIPTION:	FILENAME	EVENT_TIME	EVLO	EVLA	MAG_VAL	MAG_TYPE	EVDP	SEISMOGRAM_TIME
	20180629T170731.06_5B3F1904.MER.DET.WLT5.sac	2018-06-29T17:07:10.22	-179.5110	-22.1932	4.8	mb	581880	2018-06-29T17:07:31.21
	20180629T170747.07_5B3F17F0.MER.DET.WLT5.sac	2018-06-29T17:07:10.22	-179.5110	-22.1932	4.8	mb	581880	2018-06-29T17:07:47.75
	20180706T014928.06_5B3F1904.MER.DET.WLT5.sac	2018-07-06T01:40:04.61	157.8404	51.4994	6.1	Mww	45000	2018-07-06T01:49:28.61
	20180706T014930.07_5B3F17F0.MER.DET.WLT5.sac	2018-07-06T01:40:04.61	157.8404	51.4994	6.1	Mww	45000	2018-07-06T01:49:30.66
	20180712T065158.06_5B4748AE.MER.DET.WLT5.sac	2018-07-12T06:51:21.16	-179.9115	-23.3370	5.5	Mww	541300	2018-07-12T06:51:58.29
	20180712T065212.07_5B474836.MER.DET.WLT5.sac	2018-07-12T06:51:21.16	-179.9115	-23.3370	5.5	Mww	541300	2018-07-12T06:52:12.54
	20180713T094803.06_5B4C1D4F.MER.DET.WLT5.sac	2018-07-13T09:46:49.64	169.0224	-18.9332	6.4	Mww	169160	2018-07-13T09:48:03.14
	20180713T094833.07_5B4C1F90.MER.DET.WLT5.sac	2018-07-13T09:46:49.64	169.0224	-18.9332	6.4	Mww	169160	2018-07-13T09:48:33.28
	20180713T170508.07_5B4C1F90.MER.DET.WLT5.sac	2018-07-13T17:05:52.02	-177.1942	-15.0653	4.2	mb	371350	2018-07-13T17:05:08.84
	20180715T224815.06_5B4C1D4F.MER.DET.WLT5.sac	2018-07-15T22:48:53.34	-177.8474	-15.5926	5.2	mb	399840	2018-07-15T22:48:15.97
	20180715T224817.07_5B4C1F90.MER.DET.WLT5.sac	2018-07-15T22:48:53.34	-177.8474	-15.5926	5.2	mb	399840	2018-07-15T22:48:17.82
	20180717T070448.06_5B5013BC.MER.DET.WLT5.sac	2018-07-17T07:02:53.02	166.4320	-11.5936	6.0	Mww	37960	2018-07-17T07:04:48.33
	20180717T070507.07_5B4FDEF8.MER.DET.WLT5.sac	2018-07-17T07:02:53.02	166.4320	-11.5936	6.0	Mww	37960	2018-07-17T07:05:07.16
	20180718T224522.06_5B5013BC.MER.DET.WLT5.sac	2018-07-18T22:45:44.83	-178.3446	-17.6986	4.6	mb	532510	2018-07-18T22:45:22.55
	20180722T212346.07_5B57CC38.MER.DET.WLT5.sac	2018-07-22T21:21:57.41	168.8900	-18.9488	5.4	Mww	101830	2018-07-22T21:23:46.82
	20180724T192656.06_5B57CAEE.MER.DET.WLT5.sac	2018-07-24T19:26:58.55	-177.7775	-19.8557	4.3	mb	431010	2018-07-24T19:26:56.91
	20180724T192709.07_5B57CC38.MER.DET.WLT5.sac	2018-07-24T19:26:58.55	-177.7775	-19.8557	4.3	mb	431010	2018-07-24T19:27:09.77
	20180728T080018.06_5B62EA1F.MER.DET.WLT5.sac	2018-07-28T08:00:32.19	-178.3522	-17.8554	4.7	mb	560820	2018-07-28T08:00:18.14
	20180729T020513.07_5B5D7034.MER.DET.WLT5.sac	2018-07-29T02:05:05.46	-177.4825	-19.3002	4.3	mb	548140	2018-07-29T02:05:13.94
	20180801T025907.07_5B654F6C.MER.DET.WLT5.sac	2018-08-01T02:59:39.85	-178.3934	-15.5296	4.2	mb	425710	2018-08-01T02:59:07.77
	20180804T101759.06_5B6733EE.MER.DET.WLT5.sac	2018-08-04T10:17:21.05	170.1746	-14.3514	4.7	mb	616180	2018-08-04T10:17:59.88
	20180805T115530.06_5B6733EE.MER.DET.WLT5.sac	2018-08-05T11:46:38.19	116.4363	-8.2597	6.9	Mww	31000	2018-08-05T11:55:30.28
	20180805T115549.07_5B6A9A64.MER.DET.WLT5.sac	2018-08-05T11:46:38.19	116.4363	-8.2597	6.9	Mww	31000	2018-08-05T11:55:49.73
	20180807T075550.07_5B6A9A64.MER.DET.WLT5.sac	2018-08-07T07:56:17.41	-175.8266	-16.1228	4.3	mb	372260	2018-08-07T07:55:50.92
	20180807T075601.06_5B6A9885.MER.DET.WLT5.sac	2018-08-07T07:56:17.41	-175.8266	-16.1228	4.3	mb	372260	2018-08-07T07:56:01.33
	20180808T014133.07_5B6A9A64.MER.DET.WLT5.sac	2018-08-08T01:42:10.39	-176.6425	-15.4500	4.9	mb	361820	2018-08-08T01:41:33.37
	20180808T014139.06_5B6A9885.MER.DET.WLT5.sac	2018-08-08T01:42:10.39	-176.6425	-15.4500	4.9	mb	361820	2018-08-08T01:41:39.07
	20180808T014200.08_5B736FA6.MER.DET.WLT5.sac	2018-08-08T01:42:10.39	-176.6425	-15.4500	4.9	mb	361820	2018-08-08T01:42:00.57
	20180810T002919.07_5B6DEE36.MER.DET.WLT5.sac	2018-08-10T00:29:32.77	-178.7260	-17.6123	4.3	mb	543580	2018-08-10T00:29:19.26
	20180810T055722.07_5B6DEE36.MER.DET.WLT5.sac	2018-08-10T05:57:19.13	-174.9501	-18.7490	4.9	mb	133680	2018-08-10T05:57:22.62
	20180810T055728.06_5B6DEF16.MER.DET.WLT5.sac	2018-08-10T05:57:19.13	-174.9501	-18.7490	4.9	mb	133680	2018-08-10T05:57:28.12
	20180810T142736.06_5B6DEF16.MER.DET.WLT5.sac	2018-08-10T14:28:27.25	177.9307	-16.1643	5.1	mb	10000	2018-08-10T14:27:36.14
	20180810T142759.07_5B6DEE36.MER.DET.WLT5.sac	2018-08-10T14:28:27.25	177.9307	-16.1643	5.1	mb	10000	2018-08-10T14:27:59.25
	20180812T034151.06_5B73E987.MER.DET.WLT5.sac	2018-08-12T03:41:43.89	-177.8794	-19.7171	4.2	mb	588820	2018-08-12T03:41:51.83
	20180812T150956.09_5B77394A.MER.DET.WLT5.sac	2018-08-12T14:58:54.29	-145.2998	69.5619	6.3	mL	2200	2018-08-12T15:09:56.33
	20180815T031402.07_5B7739F0.MER.DET.WLT5.sac	2018-08-15T03:14:33.54	-173.6493	-14.9862	4.9	mb	32680	2018-08-15T03:14:02.55
	20180815T031424.06_5B73E987.MER.DET.WLT5.sac	2018-08-15T03:14:33.54	-173.6493	-14.9862	4.9	mb	32680	2018-08-15T03:14:24.23
	20180817T154239.06_5B773AE6.MER.DET.WLT5.sac	2018-08-17T15:35:01.87	119.8341	-7.4263	6.5	Mww	529000	2018-08-17T15:42:39.48
	20180817T154245.07_5B7739F0.MER.DET.WLT5.sac	2018-08-17T15:35:01.87	119.8341	-7.4263	6.5	Mww	529000	2018-08-17T15:42:45.78
	20180817T154328.08_5B773B94.MER.DET.WLT5.sac	2018-08-17T15:35:01.87	119.8341	-7.4263	6.5	Mww	529000	2018-08-17T15:43:28.73
	20180817T154351.09_5B77394A.MER.DET.WLT5.sac	2018-08-17T15:35:01.87	119.8341	-7.4263	6.5	Mww	529000	2018-08-17T15:43:51.09

Earthquake and Travel-Time Residual Catalog

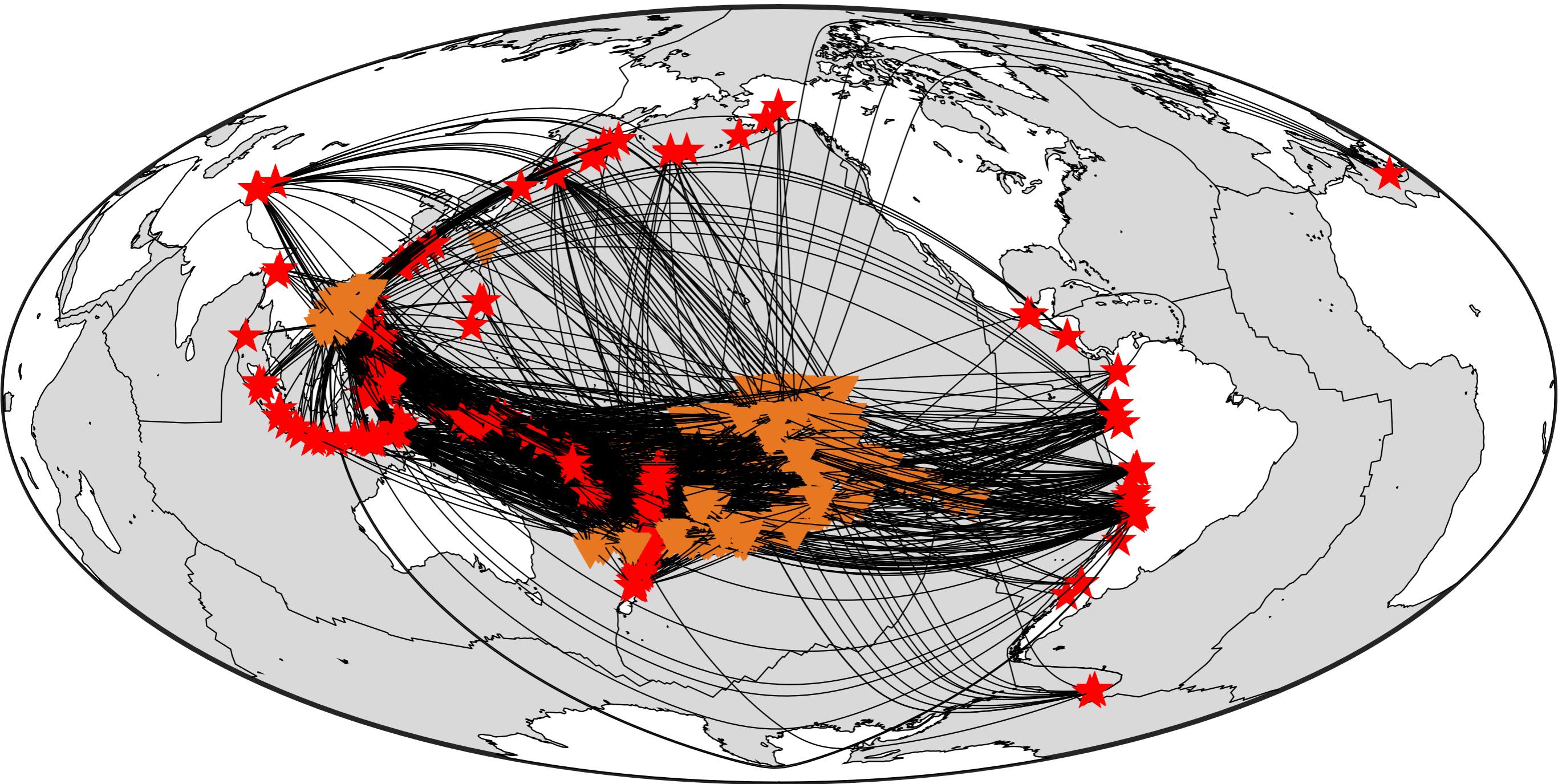


Event Depth ≤ 70 km
5813 Paths, 2118 Earthquakes, 61 MERMAIDs



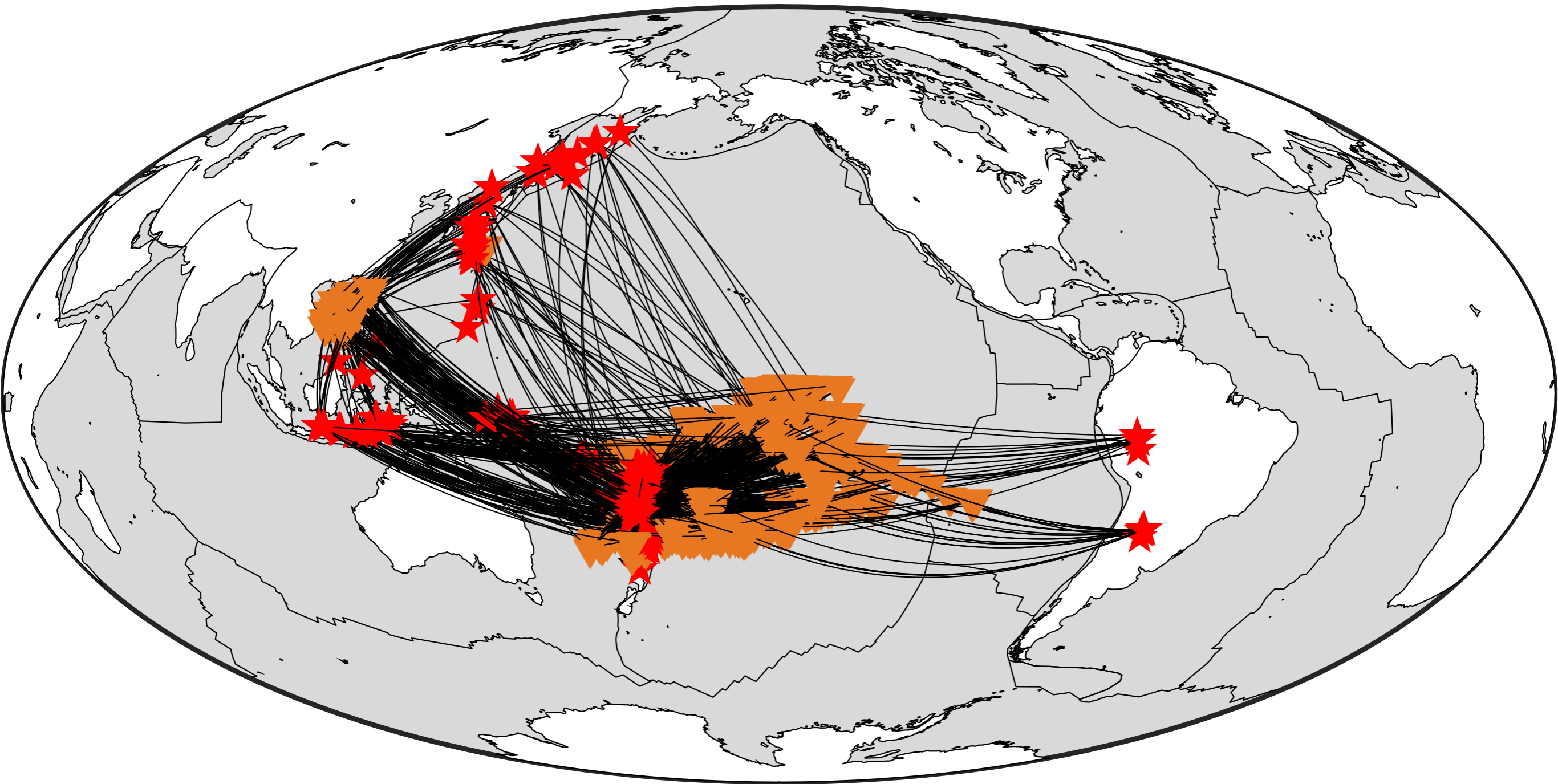
***Shallow Earthquakes**

70 km < Event Depth ≤ 300 km
2239 Paths, 583 Earthquakes, 61 MERMAIDS



***Intermediate-Depth Earthquakes**

Event Depth > 300 km
3086 Paths, 1065 Earthquakes, 61 MERMAIDs



***Deep Earthquakes**

11138 Travel Times, 3763 Earthquakes, 61 MERMAIDs

