



CoCoRaHS QA/QC Update

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QC Ticketing Trends

- At the current ticketing rate we are headed for about 6600 tickets this year, similar to 2018
- Roughly half of the tickets are submitted December through March
 - Snow reporting errors account for the seasonal bump



QC Ticketing Trends

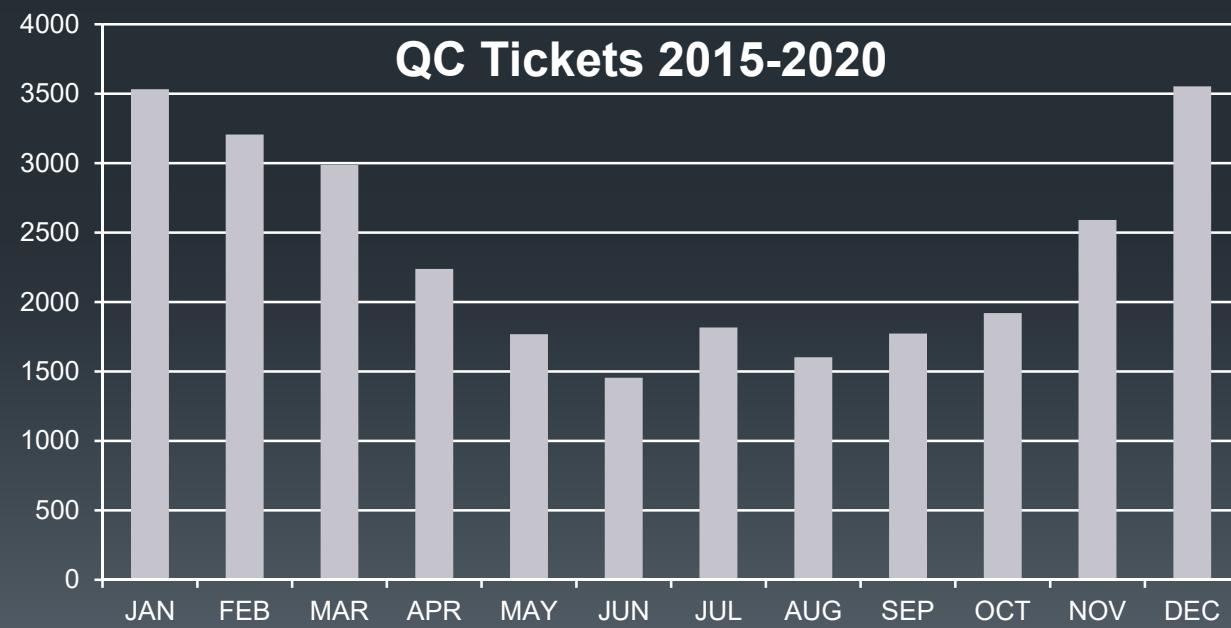
Annual QC Tickets

2015-2021





QC Ticketing Trends





Analysis of QC Tickets for 2021

- Looked at period January 1 through May 13
 - Types of errors
 - Tickets by state
 - Ticket rate by state (tickets per 1000 reports)



Types of Errors

ERROR TYPE	NUMBER
DATE	1001
FZERO	810
MULTI-DAY	540
TYPO/DECIMAL	518
SNOWPR	335
RATIO	190
PCPLO	139
PCPHI	123
OTHER	108
TOB	32
TOBPR	19
SWETSPR	11
DEWFRE	3
GAUGE	2
TENONE	2

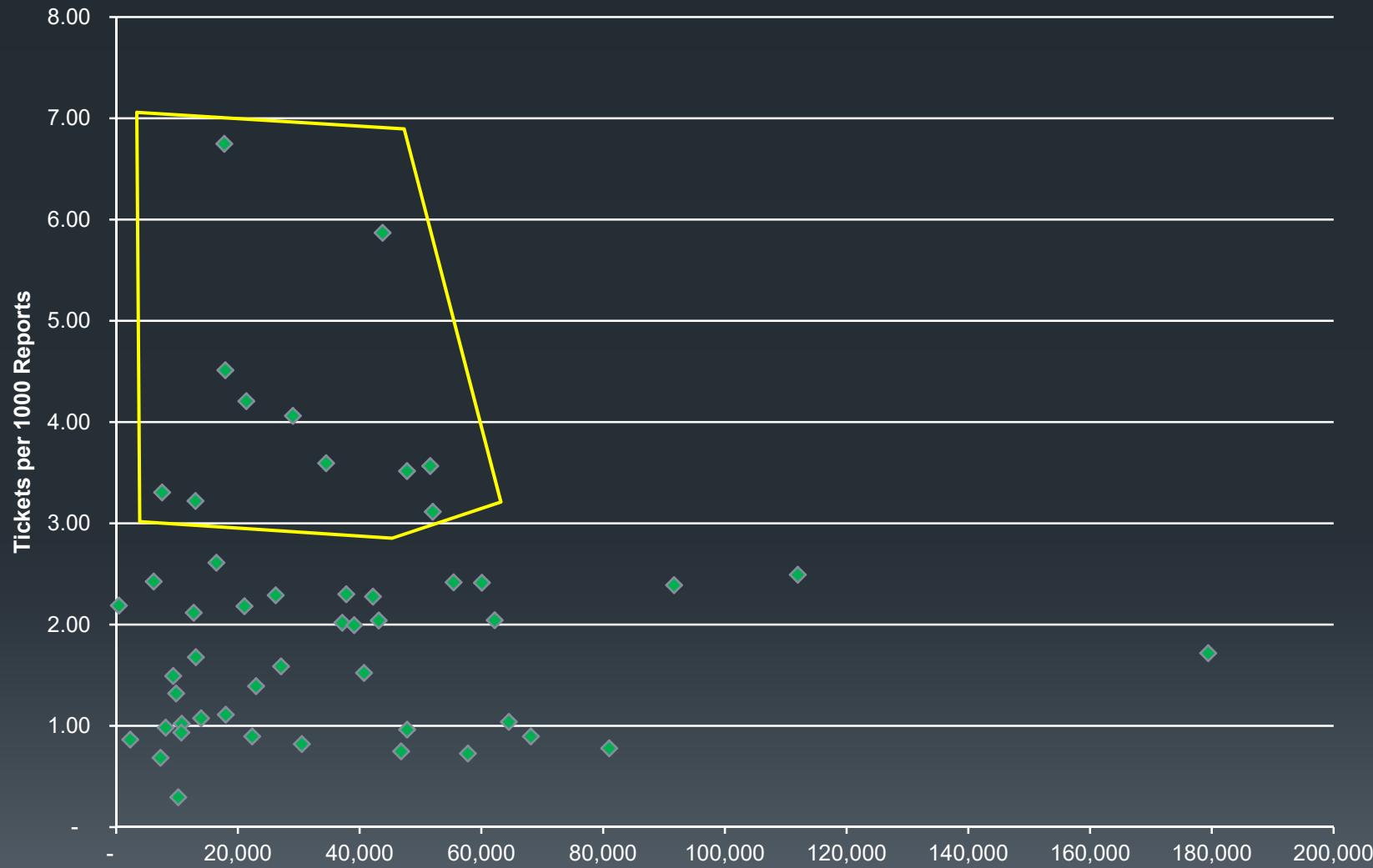
- Date errors are common
 - Wrong date
 - Transposed reports
- Many False Zeroes relate to date errors and multi-day reports
- Multi-day totals entered as a daily report - still too many
- Time of ob errors are likely underreported



Tickets by State

State	Tickets	Active Observers as of 5/13	Ratio
TX	308	2523	0.12
CO	279	1606	0.17
MO	257	538	0.48
NC	219	1236	0.18
KS	184	1001	0.18
NE	168	904	0.19
IN	162	689	0.24
SC	145	761	0.19
MN	134	1062	0.13
IL	127	705	0.18
PA	124	442	0.28
AR	120	262	0.46
MA	118	340	0.35

QC Tickets and Total Reports





Ticket Rate by State

State	Tickets	Total Reports	Tickets per 1000 Reports
AR	120	17,782	6.75
MO	257	43,789	5.87
CT	81	17,951	4.51
IA	90	21,396	4.21
MA	118	29,052	4.06
PA	124	34,505	3.59
KS	184	51,598	3.57
NE	168	47,792	3.52
WV	25	7,564	3.31
LA	42	13,043	3.22
IN	162	52,032	3.11



Ticket Rate

Does it tell us anything?

- Probably states with higher ticket rates need to make a stronger effort to contact observers with errors.
 - Not contacting the observer and leaving a value as “NA” deletes the error, but makes it very likely the observer will make the same mistake again.
- Some states have groups of observers that often make the same type of error that skews the rate high.



QA Strategies

- Continuous “training” to reinforce proper measurement and reporting procedures
 - We can’t assume training is “one and done”, or that the observer even viewed any training slide shows or videos.
 - Regular reporting and observing tips in newsletters and social media help to mitigate errors.
- We are considering compiling quarterly QC reports for each state:
 - Identify ticket rate
 - Type and frequency of errors that have been ticketed
 - Identify any “repeat offenders” that may need to be contacted for followup.