MSDIS Update – December 2021

Updated Data
- MO Commuter Lots
- MO Emergency Reference Markers
- MO MoDOT Rest Areas
- MO MoDOT Roads Routes
- MO MoDOT Roads Arcs
- MO Rural Health Clinics
- MO Public Schools
- MO Sales Tax Boundaries

MSDIS General News
Please refer to the **MSDIS Downtime** section. Then, if you have a lot of time on your hands, please refer to **MSDIS Year Five** at the end of this document.

MSDIS Downtime
On 21 December, MSDIS received reports of slow and/or unresponsive imagery services. On investigation, we were able to reproduce the problem. Seeing no obvious problems with the services, the imagery server was restarted. This resolved the issue.

Later that evening, the MSDIS Map server was quarantined at approximately 5:00PM by University of Missouri Information Security & Access Management due to failed security scans related to the recently discovered Log4J exploit. While the MSDIS Map server was quarantined, the MSDIS web page was unavailable, the vector and raster file downloads (not including LiDAR – thanks, Mollie!) were unavailable, and the map data server was unavailable. Working with both IT and InfoSec, the failed scans were later determined to be false positives as they were not, in fact, directly related to the Log4J issues and the server was removed from quarantine at approximately 8:00AM on 22 December. The MSDIS Imagery server remained operational and accessible throughout the quarantine of the MSDIS Map server.

Out of an abundance of caution, once our access to the server had been restored, we began uninstalling all old, unused Apache-related software that may have been associated with the Log4J issue. At present, the removal of these software packages has had no negative impact on the functioning of the MSDIS website that we are aware of. It is likely that most (if not all) of these platforms had been previously installed to support the now-defunct GeoPortal application.

As of early January 2022, we have not received any new Log4J-related warnings for either of our servers.

It is worth pointing out that the entire MSDIS Map server episode took place outside of normal business hours, so it is our hope that none of our users noticed that anything had gone awry. Had the quarantine continued into the day, however, all map data services available from the MSDIS Map server (other than TIGER services) have already been duplicated as feature services via the MSDIS AGOL account. While data downloads would still have been unavailable, most MSDIS functions would have still been available, albeit in slightly altered fashion.

MSDIS December 2021 Server Stats

Imagery

Month	Hits	Page views	Visitors	Sessions	Avg Sessions per day
Apr-21	4302132	4297181	30753	111660	3722
May-21	4021892	4016581	28854	101772	3282
June-21	4039218	4034651	29086	104704	3490
July-21	3762147	3757245	30572	105689	3409
Aug-21	3880472	3876213	30279	109631	3536
Sept-21	3718255	3713701	28911	103099	3436
Oct-21	3628816	3624776	29386	104228	3362
Nov-21	4204494	4202264	30438	104277	3475
Dec-21	3828617	3827245	31623	104062	3356

Map

Month	Hits	Page views	Visitors	Sessions	Avg Sessions per day
Apr-21	214128	211287	3103	6497	216
May-21	171715	169386	2577	5421	174
June-21	217557	212108	2483	5363	178
July-21	211474	208281	2614	5636	181
Aug-21	133288	131666	2366	5349	172
Sept-21	151857	149603	2590	5364	178
Oct-21	240977	238728	2709	5713	184
Nov-21	305510	302535	2544	4979	165
Dec-21	224378	221476	2246	4536	146

Archive

Month	Hits	Page views	Visitors	Sessions	Avg Sessions per day
Apr-21	186854	183791	1477	6104	203
May-21	97622	95982	1344	5277	170
June-21	93340	91853	1260	7582	252
July-21	73928	72602	1121	6394	206
Aug-21	109987	108539	1770	7909	255
Sept-21	81456	79979	1580	7158	238
Oct21	238757	236298	1310	9279	299
Nov-21	706637	702025	1192	11755	391
Dec-21	107452	106107	1232	12562	405

MSDIS Year Five

As of 08 Jan 2022, MSDIS has entered its fifth year of what we'll call "management" under Tom. Since 2018, MSDIS has undergone many changes, some necessary, some overdue, and some (in true Tom fashion) just to see what happens. We've adopted the ArcGIS Online platform, we've moved to the A&S Cloud, we've built a Hub site, we've posted a lot of new map data services, we've hosted some metadata training sessions, we hosted a grant-funded ArcGIS Pro training session, we've welcomed several graduate and undergraduate interns, we've said goodbye to all of those same interns as they've graduated, we've flexed our creative muscles with a plethora of cool story maps, we've worked hard to build bridges, and we finally made a triumphant return to Stewart Hall to take our place with the rest of the Mizzou Geography Dept. In other words, it's a been a busy couple of years.

We've also faced down our fair share of frustrations. We've had to elbow our way through network outages, there was that time the two old servers completely collapsed in on themselves like dying stars and we had to make the snap decision to migrate to our virtual servers well ahead of schedule, we've rebuilt whole websites and directories, we've reengineered the way users navigate through MSDIS, we've reimagined the entire clearinghouse from the ground up, and then that unfortunate business of the whole world shutting down happened and we moved the whole enterprise into our living room. These things happen, though, and we knew they would. Well, except for the pandemic part. That one was pretty surprising. The point is, we knew this wouldn't be a cakewalk. Very few things worth doing ever are.

In spite of the setbacks, MSDIS is dangerously close to finally being in the position we wanted to guide it to when we took over management. We're hosting more services, we've taken advantage of emerging technology, we've refocused the website, and it is a heck of a lot easier to add new and updated data to the site. One thing now remains before MSDIS is where we want it to be: new servers. Actual new servers and not virtual copies of the old servers. MSDIS currently lives on two virtual servers that are, by all reasonable description, ancient. We are still running ArcGIS Server 10.4.1. That must change. MSDIS cannot continue to serve Missouri's GIS community from a prehistoric foundation.

Thanks to our good friends in DoIT, one new server has already been created. It is currently online but remains to be configured and populated. It is meant to replace the existing MSDIS Imagery server. In the coming weeks and months, we will begin work on effectively recreating the MSDIS Imagery on this new platform. The good news is that, if we are successful, this (hopefully) will help MSDIS remain stable well into the future. The bad news is that this means there will be a fair amount of tinkering going on, which may result in the occasional outage or interruption. We'll go ahead and pre-apologize for those inconveniences now, with the reminder that this is all mean for the greater good.

Once we've secured a safer haven for MSDIS Imagery, we'll figure out what to do with the MSDIS Map server. On one hand, it makes sense to build a replacement server. On the other hand, almost everything on the current MSDIS Map server is already reproduced via the MSDIS ArcGIS Online account. Whatever we decide to do, you can rest easy knowing that we'll definitely write a lot more needlessly long emails describing what we're doing and why.

This remains an exciting time for your friendly neighborhood GIS data clearinghouse. We continue to grow, adapt, and plan for the future. As always, we thank all of our loyal users for their continued trust and patience as we try to futureproof MSDIS to ensure that it is available and relevant for many years to come.