

MSDIS Update – September 2022

Updated Data

- MO Dialysis Centers
- MO Ambulatory Surgical Centers
- MO WIC Satellite Offices
- MO Rural Health Clinics
- MO Adult Daycare
- MO Bedrock 24K
- MO Drill Areas
- MO Metallic Mineral Waste Management Areas
- MO Aquatic Invertebrate Monitoring Sites
- MO Missouri Dept of Natural Resources Land Boundaries
- MO Public Drinking Water Districts
- MO Wells
- MO Long Term Care Facilities
- MO Licensed Pharmacies
- MO Hospitals
- MO Intermediate Care Facilities For Individuals With Intellectual Disabilities
- MO Local Public Health Agencies
- MO Local Public Health Agency Districts
- MO Missouri Dept of Conservation Trails
- MO Missouri Dept of Conservation Lands
- MO Missouri Dept of Conservation Boat Ramps

MSDIS General News

MSDIS has completed the migration to the 10.8 Imagery server. For (many) more details, see Appendix 1

Huge shoutout to our friends at both DNR and MDC for delivering updates to several major layers last month.

In order to achieve some semblance of parity between the MSDIS web site and the MSDIS Hub site, we have added several new pages to the later. Visitors to the MSDIS Hub site will now have direct access to new versions of the GIS Jobs, MSDIS Reports, and MSDIS Staff pages.

MSDIS Downtime

There was a brief slowdown of some imagery services on the afternoon of 09 September. To our knowledge, this slowdown did not develop into an outright outage, but it was noticeable enough that we restarted the server to shake any proverbial cobwebs loose. The server restart appeared to have the intended effect and services were restored to normal operating conditions. Owing to the fact that this was a slowdown and not a complete outage, and combined with the fact that we received several alerts unrelated to MSDIS from the Missouri Division of IT throughout the day, it is very possible that this issue was not a MSDIS-specific problem and, rather, a symptom of larger network issues.

MSDIS September 2022 Server Stats

Imagery

Month	Hits	Page views	Visitors	Sessions	Avg Sessions per day
Jan-22	3917313	3915634	31154	108024	3484
Feb-22	3677227	3676212	29114	97294	3474
Mar-22	4122785	4121632	32968	120154	3875
Apr-22	4634350	4633194	32082	114106	3803
May-22	3792947	3792169	29977	106875	3447
June-22	3992739	3991965	30178	107435	3581
July-22	3758766	3756990	30644	106120	3423
Aug-22	4074902	4073034	32364	116417	3755
Sept-22	3379958	3378663	29224	104491	3483

Map

Month	Hits	Page views	Visitors	Sessions	Avg Sessions per day
Jan-22	186941	184114	2005	4341	140
Feb-22	173707	172197	1742	3843	137
Mar-22	240869	238452	2175	4643	149
Apr-22	221310	217506	2186	4686	156
May-22	190056	188509	2008	4541	146
June-22	309904	308328	2578	6164	205
July-22	468647	467154	3936	7749	249
Aug-22	1024851	1022164	6411	11481	370
Sept-22	944572	941012	5866	10570	352

Archive

Month	Hits	Page views	Visitors	Sessions	Avg Sessions per day
Jan-22	141004	139413	1240	13183	425
Feb-22	91628	89756	1253	10539	376
Mar-22	282381	279459	1295	10899	351
Apr-22	92930	90778	1426	12010	400
May-22	85880	83785	1222	10504	338
June-22	86910	84069	1077	10461	348
July-22	125076	123454	2407	11785	380
Aug-22	122497	120787	1569	9757	314
Sept-22	92183	90199	1232	8261	275

Appendix 1

The Fate of the MSDIS Image Server

On the morning of Wednesday, 05 October 2022, MSDIS was informed that the NAIP2016 Imagery service was unresponsive. We were able to quickly confirm that the service was offline, though the problem seemed to be isolated to NAIP2016 only. Given the nature of the incident, our chief suspicion was that the imagery mosaic itself had either been corrupted or (more likely) had been changed too much by a newer installation of ArcCatalog (likely the version being used to setup the new 10.8 Imagery Server) and was no longer compatible with the 10.4 Imagery Server. Unfortunately, due to what was likely a completely unrelated issue, we were unable to begin building a new mosaic to replace the old version because the ESRI license server for Mizzou's campus had been knocked offline. We called out colleagues at DoIT to inform them of the license server problem and were informed that 1) it was a known outage and 2) Telecom was working to resolve it.

So we waited.

At approximately 10:15 AM, the license server was restored and we were able to go to work generating a new NAIP 2016 mosaic for the 10.4 imagery server. The basic framework for the new service was completed quickly, but the overview construction required a considerable amount of time to fully execute.

We waited again.

At approximately 3:00 PM that same day, we were alerted that some of our local imagery services had become unresponsive. We were, once again, able to confirm the problem. Given the choice between trying to restore the faulty services and waiting for the replacement NAIP service to build, we opted for the former and restarted the image server. On restart, the 10.4 Imagery Server was restored and the image services (save for the NAIP 2016 service) were running as intended.

During both of the aforementioned interruptions, the new 10.8 Imagery Server remained functional on all counts. The NAIP 2016 service was still running and there were no obvious problems in the afternoon. As such, we reached out to our DoIT colleagues again and asked them to begin the migration of the moimagery.missouri.edu URL from the old server to the new. We received a response shortly after indicating that a ticket had been created with Networking and that the process would begin whenever they were able to get to us, which could be a few hours or a few days.

It turned out to be a few hours.

By approximately 5:30 PM that same day, we were informed by Networking that the DNS change had been executed. We tested the change on our work machine and confirmed that the moimagery.missouri.edu link did, in fact, lead to the new 10.8 Imagery Server. After some additional testing, however, we discovered that the change was only effective within the Mizzou VPN and that accessing the URL from outside of the network still took users to the old server. At that point, it was getting late and we agreed with DoIT to get back to work in the morning.

Early on the morning of Thursday, 06 October 2022, we once again began working with DoIT on the URL migration. After about two hours of making small modifications to URL bindings, SSL Certificates, IIS, and

the ArcGIS Server Webadaptor, we had completed all of the changes that we could make. The next step was to wait for the DNS to naturally swap from the old server to the new.

So, once more, we waited.

At approximately 3:30 PM that afternoon, we were informed that internal web site monitoring had officially switched from the old server to the new. Upon checking the moimagery.missouri.edu URL, we were able to confirm that the link did lead to the new server regardless of where traffic originated from. The new server had officially taken over the responsibilities of the old. Online links to our imagery services were hitting the new machine, as were ArcCatalog links. With that established, all we could do was wait to see if any of our users reported any broken links.

You guessed it, more waiting.

By the next day, we had received no indications from any of our MSDIS users that they were experiencing problems. One of our partner agencies reached out to us about several services that were no longer functional for them, but those services had been eliminated some time ago, so that was likely a case of them simply not having used those services in a while despite still having links to them. At this point, as long as a user was connected to our imagery services via the moimagery.missouri.edu URL, they should have automatically migrated when the DNS flipped.

This was not how we wanted to roll this server migration out. As is often the case with this job, though, it became a matter of necessity. The older server was very obviously struggling. In the heat of the moment, we decided that it was more important to pull the trigger on the migration and get it over with than start a series of emails warning people that it was definitely and/or probably going to happen in the next few days and/or in a few hours. Needless to say, we apologize for any disruption this migration may have caused anyone. Our goal at MSDIS has always been to provide geospatial data services that you can rely on. Likewise, we thank all of our users for their patience during this time and especially any of our users who have read this extremely longwinded explanation.

While the new 10.8 server is now officially **THE** MSDIS Imagery Server, there is still work to be done. In the coming days and weeks, we will be monitoring the server and investigating our options for improving the new virtual machine. Additionally, we will have major decisions to make about the MSDIS Web Server in the coming weeks. Like the now retired Imagery Server, the MSDIS Web Server is currently running on borrowed time and an OS that is no longer supported. We already have several possible plans in place for that machine, but we will need to commit to one or the other in the near future. One step at a time, though. For now, we remain committed to ensuring the health of the new Imagery Server. If you experience any problems or issues with the new server, please do not hesitate to let us know so we can get to work on building a better clearinghouse.

-Tom