

Technology Committee Report

National Association of Ordnance Contractors

Monthly Update

December 20th, 2023



www.naoc.org



NAOC Annual Meeting

- ❑ December 11 – Board Meeting and RMM Training
- ❑ December 12 – Updates from DoD Leadership and NAOC Awards
- ❑ December 13 – MR-QAPP Toolkit Module 2 Training
- ❑ Jeffrey Leberfinger stepped down as Technology committee chair (congratulations for earning multiple awards)
- ❑ Craig Murray was nominated as the new chair and elected by NAOC board of directors
- ❑ Jeffrey will continue to work with the committee
- ❑ Harry Wagner volunteered to continue as deputy chair
- ❑ Members are all welcome to continue participating

USACE - NAOC M2G2 Call

❑ 2024 M2G2 Calls (2:00 PM Eastern)

- ❖ February 14
- ❖ May 8
- ❖ August 14
- ❖ November 13

❑ Primary Topics/Discussion:

- ❖ Synthetic Seeding
- ❖ CSM Updates and “Inaccessibility”

❑ Topic Suggestions

- ❖ Send to Craig M., Harry W. or Jeffrey L.

❑ M2S2 – No 2024 calls planned

SERDP/ESTCP Program

- ❑ New MR SERDP funding will stop in 2025. SERDP will continue to fund ongoing and recently selected projects for 2024 and earlier
- ❑ MR focus shifting to ESTCP and live site demonstration and validation at selected controlled sites and to transition to live sites selected by services
- ❑ SERDP/ESTCP Symposium occurred 11/28 – 12/1



- ❑ Abstracts open
- ❑ Due December 22nd, 2023
- ❑ The [abstract submission site](#) is open
- ❑ Planning for SAGEEP 2025 / 3rd Munitions Response Meeting in Denver underway. Hope to have the dates and venue selected by early 2024

Oasis Montaj / UX-Analyze

- ❑ The latest version of Oasis Montaj was released on Monday, 2023.2
- ❑ Darren Mortimer will provide details about this latest version

Miscellaneous Topics 1

- ❑ Draft QSR Appendix B and C
 - ❖ GCOs send comments directly to John Jackson using the form he provided
 - ❖ Non-GCOs send comments to Craig Murray or Jeffrey Leberfinger
- ❑ Virtual UXO/Demining Geophysics Summit – Being planned for April 30 – May 2 2024 (SEG, EEGS, NAOC)
- ❑ MR-QAPP Training in CA in January
 - ❖ February 1-2, Sacramento, CA (Full)
 - ❖ January 30-31, Cypress, CA (4 slots available)

<https://www.trainex.org/classdetails.cfm?courseid=2011&classid=9489> [trainex.org]

Miscellaneous Topics 2

- ❑ EM 200-1-15 – No expected date. 2024 PWSs expected to include attachment with MQO table from EM 200-1-15
- ❑ Steep Slopes requirements – EM CX is looking into it with overall USACE safety in mind
- ❑ MR-QAPP Toolkit Module 2 has been available for >6 months. EDQW will be looking for feedback and suggestions for improvement from NAOC
 - ❖ Harry W. volunteered to coordinate NAOC feedback
Harry.Wagner@WestonSolutions.com
- ❑ Huntsville is hoping to host a MR stand down in December 2024; NAOC annual meeting coordinated. More details may become available before February committee call
- ❑ Next Technology Committee Call – January 17, 2023

Technology Committee Contact

QUESTIONS?

Craig Murray, PGp

Harry Wagner

Chair

Deputy Chair

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Oasis montaj 2023.2

Update for NAOC Technical Committee

20 December 2023

Darren Mortimer



Oasis montaj 2023.2

Available as of Dec 18, 2023

- Oasis montaj
- UX-Analyze Extension
 - DAGCAP Validation
- Geosoft Plugins
- Seequent Connector

Download from: <https://my.seequent.com/products/oasis-montaj/latest>

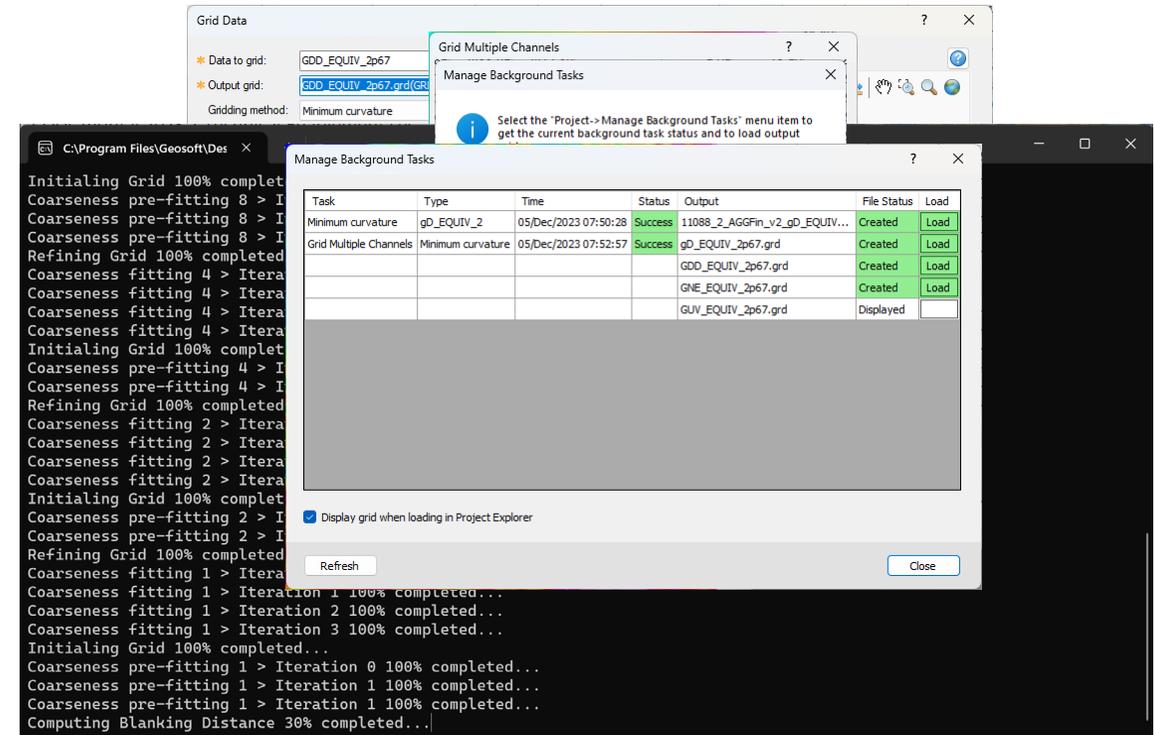
Run Grid Data and Multi-channel Gridding “in the background”

Customer Problems:

1. I can't use Oasis montaj when I'm gridding;
2. I must wait a long time for large grids, or multi-channel gridding

Solution:

- A new checkbox allows you to “Run in background”
- Once the gridding is launched, you may continue to use OM
- A new Manage Background Task dialog
 - Shows an ordered list of the jobs you've launched
 - Shows the status of the job and the output file(s)
 - Allows you to load the grid into the workspace when complete.





Coordinate Systems & Projections

EPSG

- Updated to the most recent EPSG codes

New projection methods

- Mollweide equal area
- Mollweide pseudo-cylindrical

UTM Zone – New Tool

- Determine the UTM zone(s), based on Geographic Coordinates

Coordinates

WGS84.gdb

✓ L1:0	Longitude x	Latitude y	mag	UTM_Zone		
0.0	-19.15.24.4864	-31.21.35.9711	820.02	27S		
1.0	-19.15.25.6665	-31.21.35.9504	620.82	27S		
2.0	-19.15.26.8466	-31.21.35.9296	478.56	27S		
3.0	-19.15.28.0266	-31.21.35.9088	392.28	27S		
4.0	-19.15.29.2067	-31.21.35.8881	285.95	27S		
5.0	-19.15.30.3868	-31.21.35.8673	115.24	27S		
6.0	-19.15.31.5669	-31.21.35.8465	11.59	27S		
7.0	-19.15.32.7470	-31.21.35.8257	-5.57	27S		
8.0	-19.15.33.9271	-31.21.35.8049	53.38	27S		
9.0	-19.15.35.1071	-31.21.35.7841	211.34	27S		
10.0	-19.15.36.2872	-31.21.35.7633	486.98	27S		
11.0	-19.15.37.4673	-31.21.35.7425	821.20	27S		
12.0	-19.15.38.6474	-31.21.35.7217	1121.14	27S		
13.0	-19.15.39.8275	-31.21.35.7009	1167.68	27S		
14.0	-19.15.41.0075	-31.21.35.6801	808.28	27S		
15.0	-19.15.42.1876	-31.21.35.6593	257.65	27S		
16.0	-19.15.43.3677	-31.21.35.6385	-46.14	27S		
17.0	-19.15.44.5478	-31.21.35.6177	-166.66	27S		
18.0	-19.15.45.7279	-31.21.35.5968	-218.25	27S		
19.0	-19.15.46.9079	-31.21.35.5760	-238.95	27S		
20.0	-19.15.48.0880	-31.21.35.5552	-242.47	27S		

Chan UTM_Zone

| WGS 84 |

IGRF Update

IGRF Channel

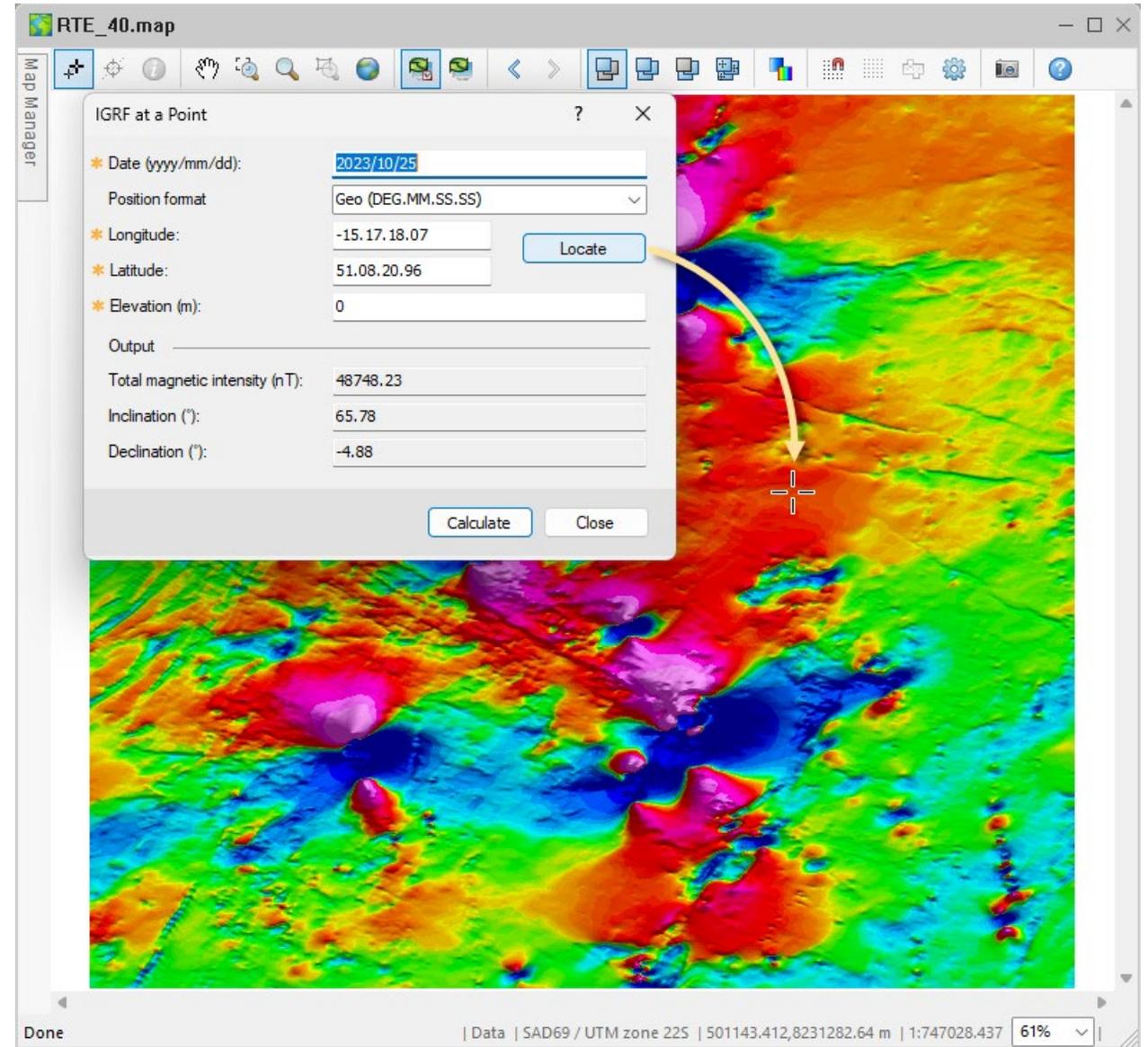
- New interface, parameters reordered in order of contribution
- Automatically sets the secular coefficients to use
- Calculator alignment

IGRF at a point

- New interface
- Point selected on a grid | map

Historical data

- Both non-definitive and definitive constituent models can be still used.



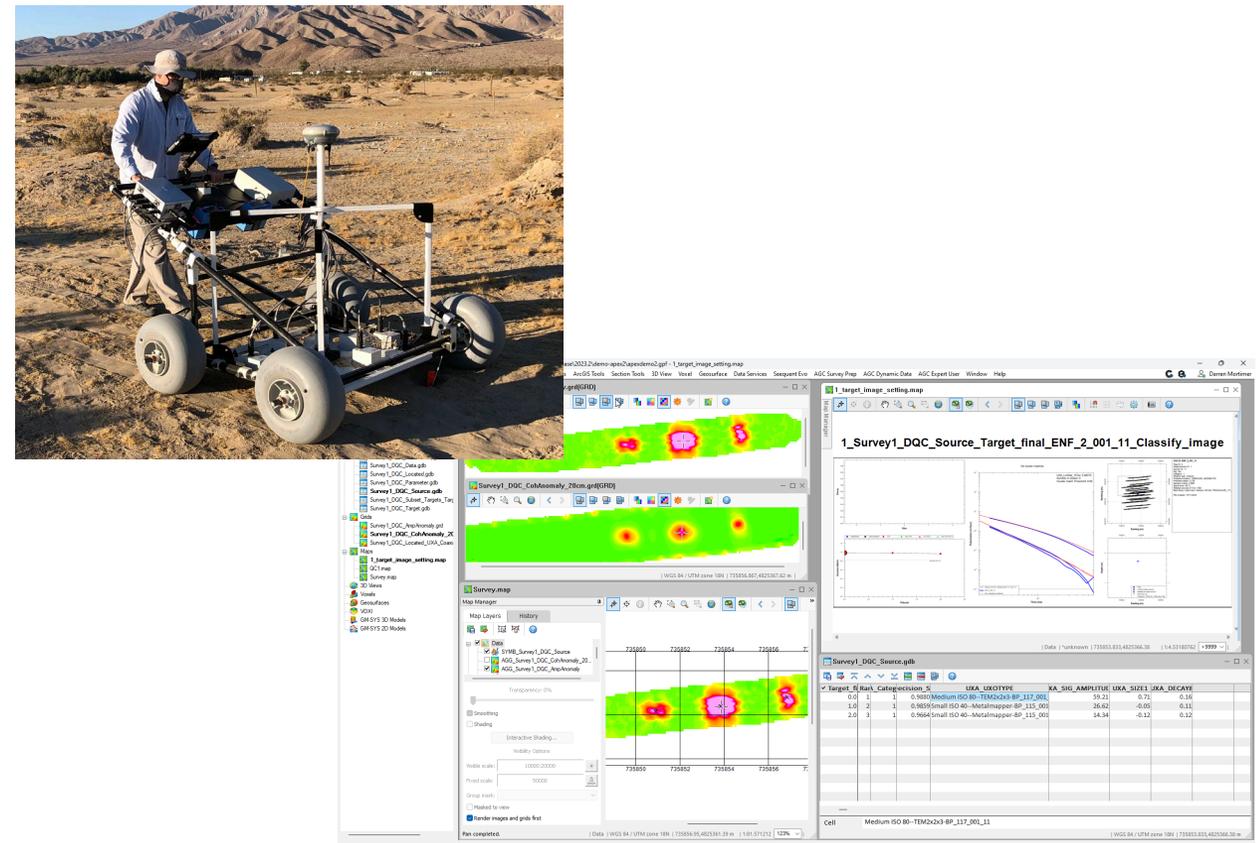
UX-Analyze – Improved Sensor Support

Customer Problems:

- Need to support HDF v1 for all DAGCAP approved sensors

Solution

- Support APEX
- Support MPV (AcornSI) data in HDF v1



UX-Analyze – Improved Inversion Algorithm

Customer Problems:

- Need to support HDF v1 – read all parameters from the data
- Not all sensor have monostatic coil combinations

Solution

- Updated inversion code
- Selection of coils for signal amplitude

Invert for Sources (Dynamic)

* Database prefix: v11Survey1_DAM

* Source group: Target

* Target database group: Targets

* Id channel: UXA_TARGET_ID

* Mask channel: UXA_MASK

Sensor channel suffix - leveled: NORM_LEV

Gates: Low: 5 High: 18
Time of gate (ms): 0.134 2.428

* Pitch channel: UXA_PITCH_FILTER

* Roll channel: UXA_ROLL_FILTER

* Heading channel: UXA_YAW_True_FILTER

Signal amplitude: Monostatic Z Coaxial Z

* Data chip cross-line dimension

* Data chip along-line dimension

Number of dipoles:

Invert identified anomalies

Invert identified anomalies

Reposition data chip to i

* Amplitude:

* Threshold:

Model coherence:

Threshold:



UX-Analyze – Improved Inversion Algorithm

Other changes:

- New example libraries

TOI	UXA Library Id	JXA Fit	BCz	UXA Class	Common	UXA Mark	Mo	UXA Conditi	TEMORIENT	A Dimensic	UXA Fins	UXA Fuse	UXA Name	Qualifier	Ped	A_RotatingB	SerialNum	SpottingCh	IT
1.0	100-lb GP Bomb-AN-M30A1-Mk	1.00		Bomb	100-lb GP Bon	AN-M30A1		Unfired/Pristi	VU	205,970	True	False	100-lb Bomb	A	False		46207-101767	False	
2.0	100-lb GP Bomb-AN-M30A1-Mk	1.19		Bomb	100-lb GP Bon	AN-M30A1		Unfired/Pristi	HPT1	205,970	True	False	100-lb Bomb	A	False		46207-101767	False	
3.0	20-lb Fragmentation Bomb-AN	0.60		Bomb	20-lb Fragmer	AN-M42		Weathered	HPT1	90,500	True	False	20-lb Bomb	A	False		46207-0257	False	
4.0	20-lb Fragmentation Bomb-AN	0.68		Bomb	20-lb Fragmer	AN-M42		Weathered	VU	90,500	True	False	20-lb Bomb	A	False		46207-0257	False	
5.0	20-lb Fragmentation Bomb-AN	0.72		Bomb	20-lb Fragmer	AN-M42		Weathered	VD	90,500	True	False	20-lb Bomb	A	False		46207-0257	False	
6.0	250-lb GP Bomb-AN-M57-Meta	1.03		Bomb	250-lb GP Bon	AN-M57		Weathered	VNU	270,1170	True	False	250-lb Bomb	A	False		Boneyard	False	
7.0	250-lb GP Bomb-AN-M57-Meta	1.06		Bomb	250-lb GP Bon	AN-M57		Weathered	VND	270,1170	True	False	250-lb Bomb	A	False		Boneyard	False	
8.0	250-lb GP Bomb-Mk81-MetaIm	0.77		Bomb	250-lb GP Bon	Mk81		Weathered	VU	225,1110	False	False	250-lb Bomb	A	False		62640-06674	False	
9.0	250-lb GP Bomb-Mk81-MetaIm	1.39		Bomb	250-lb GP Bon	Mk81		Weathered	HPT1	225,1110	False	False	250-lb Bomb	A	False		62640-06674	False	
10.0	5-lb Practice Bomb-Mk106-Met	0.50		Bomb	5-lb Practice B	Mk106		Rusty/Weathe	HPT1	100,459	True	False	5-lb Bomb	A	False		62640-00510	False	
11.0	5-lb Practice Bomb-Mk106-Met	0.61		Bomb	5-lb Practice B	Mk106		Rusty/Weathe	VD	100,459	True	False	5-lb Bomb	A	False		62640-00510	False	
12.0	5-lb Practice Bomb-Mk106-Met	0.64		Bomb	5-lb Practice B	Mk106		Rusty/Weathe	VU	100,459	True	False	5-lb Bomb	A	False		62640-00510	False	
13.0	BDU-33 Practice Bomb-Mk76-TI	0.26		Bomb	BDU-33 Practi	Mk76		Fired/Bent	V-D	102,635	True	False	25-lb Bomb	B	False		NRL PB-1	False	
14.0	BDU-33 Practice Bomb-Mk76-TI	0.39		Bomb	BDU-33 Practi	Mk76		Fired/Bent	V-D	102,635	True	False	25-lb Bomb	B	False		NRL PB-1	False	
15.0	BDU-33 Practice Bomb-Mk76-TI	0.40		Bomb	BDU-33 Practi	Mk76		Fired/Bent	V-U	102,635	True	False	25-lb Bomb	B	False		NRL PB-1	False	

Known Issue

- Performance is slower than previous versions
 - Running from a script using OMS (Command Line) is better than from the GUI

UX-Analyze – Improved Classification Workflow

Customer Problems:

- Problem with updates, many copy of scripts and expressions
- Files are everywhere
- “Optional parameters” are hard to use

Solution

- Refactor removing scripts and several expressions
- Improve UI
 - Easy to use settings for all optional parameters
 - Ranking options, use ‘mask’ channels instead of ‘comment codes’

Note: No changes to the “logic”

The screenshot shows the 'Set Classification Thresholds and Prioritize' dialog box. It is divided into several sections:

- Source Database:** Includes fields for Name (v11Survey1_SAM_Source.gdb), Group (Targets), ID channel (LXA_TARGET_ID), and Mask channel (LXA_MASK). It also has a Gates section with Low (14), High (98), and Decay (71) values, and their corresponding Time of gates (ms) values (0.104, 8.116, 2.034).
- Library Database:** Includes fields for Name (SiteLib 6ms 99gate.gdb), Group - TOI (TOI), and Group - non TOI (Clutter).
- Classification Thresholds:** A list of parameters with input fields: Minimum signal amplitude (mV) at 2, Maximum signal amplitude (mV) at 20, Minimum fit coherence at 0.8, Maximum inverted depth BGS (m) at 2, Maximum distance - array position & inverted location (m) at 0.4, Maximum distance - array position & flag location (m) at 0.75, Maximum distance - flag location & inverted location (m) at 0.6.
- Decision Statistics:** Includes Dig - no Dig threshold at 0.825, High confidence match to known non TOI threshold at 0.925, and Minimum source distance for multiple TOI at a flag (m) at 0.2.
- Classification options:** Contains checkboxes for 'Classify sources with noisy polarizabilities as Cannot Analyze (Cat 0)', 'Classify sources using only the primary polarizability match', and 'Use custom classification expressions'. Each has associated threshold values.
- Ranking options:** Contains checkboxes for 'Rank using manual TOI selection' and 'Rank training data at the top of the list', each with a corresponding mask channel dropdown.

At the bottom, there are 'Less', 'OK', and 'Cancel' buttons.



UX-Analyze – Improved Sensor Support

Supported sensors for v2023.2 (Dec. 2023)

Sensor	Manufacturer	CSV	HDF v0	HDF v1
Metal Mapper	Geometrics	Supported	n/a	n/a
TEM 2x2	NRL	Supported	n/a	n/a
MPV	G&G Geosciences	Supported	n/a	n/a
Metal Mapper 2x2	Geometrics	n/a	Supported	Pending
TEMSense	TEMSense	n/a	n/a	Supported
MPV	AcornSI	Supported	n/a	Supported
APEX	White River Technologies	n/a	n/a	Supported
UltraTEM	Black Tusk Geophysics	n/a	n/a	<i>Coming for 2024</i>



DAGCAP Validation

- Latest Version
 - v 2022.1
- Pending
 - v 2022.2
 - v 2023.1
 - v 2023.2

For up-to-date information see:

<https://www.seequent.com/help-support/standards-certifications/validated-ux-analyze-versions/>



Geosoft Plugins retirement

Oasis montaj 2023.2

2023.1 was the last release these plugins were available in the Geosoft installer

- Target for ArcMap plugin
- Plugin for ArcGIS
- Plugin for MapInfo

Past releases: <https://my.seequent.com/products/oasis-montaj>

The image shows three overlapping screenshots of Geosoft plugin retirement notices. The top-most screenshot is for 'Target for ArcMap 2022.2', released on December 13, 2022. It features the Geosoft logo and the text '(Under Retirement) Target for ArcMap 2022.2' and 'Released on December 13, 2022'. Below this, it says 'View drillhole data as... within Esri ArcMap.' and includes links for 'Release Details' and 'Past Releases'. The middle screenshot is for 'Geosoft Plug-in for ArcGIS', also released on December 13, 2022. It features the Geosoft logo and the text 'Geosoft Plug-in for ArcGIS' and 'Released on December 13, 2022'. Below this, it says 'Plug-in to view and use Geosoft grids, shaded grids, and map files in ArcMap.' and includes links for 'Release Details' and 'Past Releases'. The bottom-most screenshot is for 'Geosoft Plug-in for MapInfo', released on December 13, 2022. It features the Geosoft logo and the text 'Geosoft Plug-in for MapInfo' and 'Released on December 13, 2022'. Below this, it says 'Plug-in to view and use Geosoft grids, shaded grids, and map files in MapInfo.' and includes links for 'Release Details' and 'Past Releases'. A dark blue 'Download' button is visible at the bottom of this screenshot.

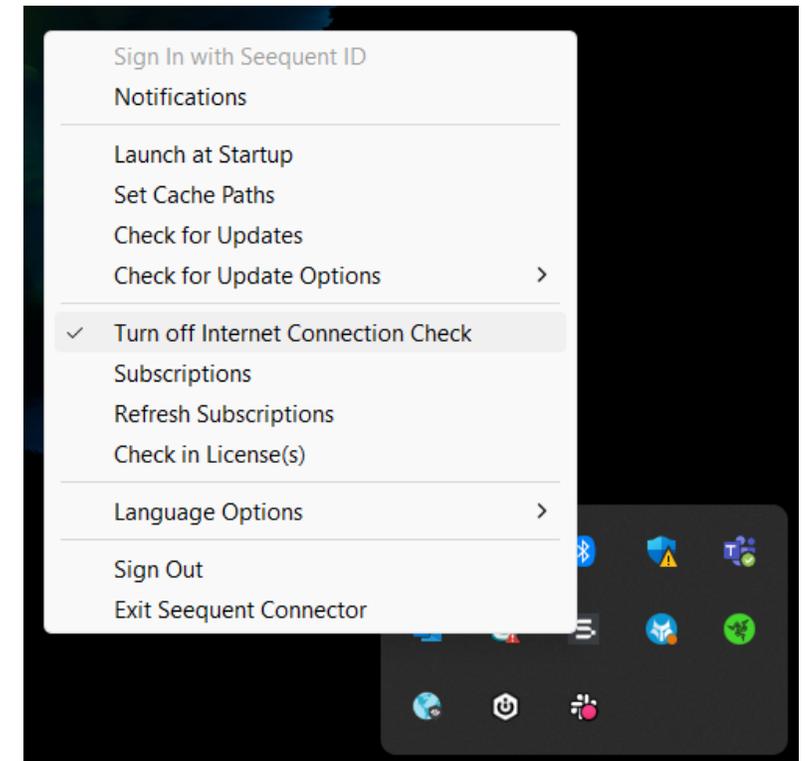


Seequent Connector Update

Oasis montaj 2023.2

Improved Offline Capabilities

- **Extended Offline Usage:** Operate entirely offline for up to 90 days without interruption.
- **Consistent Offline Mode:** Optionally disable the automatic license check-in. Once set to offline mode, the SQ Connector avoids license checks, even if an internet connection is detected.



When upgrading to the latest Oasis montaj version, 2023.2, please note that the Seequent Connector will automatically update for offline mode functionality. For Leapfrog users, it's essential to run one of these versions: 2021.1.5, 2021.2.7, 2022.1.2, 2023.1.2, or 2023.2.1. If you're not on these versions, an upgrade is required to ensure Leapfrog continues working seamlessly.



Questions?

Contact us for any questions.

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Laura Quigley - Laura.Quigley@seequent.com

