



November 27, 2024

Jennifer Woody, RG  
Hydrogeologist  
Oregon Water Resources Department  
725 Summer Street NE, Suite A  
Salem, OR 97301

Dear Jen:

On behalf of the City of Prineville (City), please find enclosed a request for a minor modification of the City's Aquifer Storage and Recovery (ASR) Limited License #026. As part of the modification request packet, we have included:

- 1) OWRD Application for Modification of ASR Limited License form;
- 2) summary of the requested minor modifications memorandum; and
- 3) a check in the amount of \$575 for the Modification of ASR LL fee.

If you have any questions regarding the enclosed modification request, please call me at (971) 200-8545. Please copy both me and the applicant on any correspondence regarding this request.

Sincerely,  
GSI Water Solutions, Inc.

A handwritten signature in blue ink, appearing to read "Trevor Grandy", is written over a light blue horizontal line.

Trevor Grandy, RG, CWRE  
Project Hydrogeologist

Enclosures

ASR Limited License No. 026



**APPLICATION FOR MODIFICATION OF  
AQUIFER STORAGE AND RECOVERY (ASR) LIMITED LICENSE**

**Applicant:** City of Prineville, Attn: Casey Kaiser

**Mailing Address:** 387 NE 3rd Street, Prineville, OR 97754

**Phone and Email:** 541.447.8338 CKaiser@cityofprineville.com

**Authorized Agent:** GSI Water Solutions, Inc. - Trevor Grandy

**Mailing Address:** 147 SW Shevlin Hixon Dr. Suite 201, Bend, OR 97702

**Phone and email:** 971.200.8545 tgrandy@gsiws.com

Per OAR 690-350-020(5)(f), an ASR LL may be modified upon written request from the licensee. Please consult the current ASR LL and provide as attachments the following:

- Request for minor adjustments to the ASR LL authorization
- ASR LL Modification Fee. Consult current fee schedule at:  
<http://www.oregon.gov/owrd/pages/pubs/forms.aspx#fees>
- Submit one hard copy in person or by mail to: Oregon Water Resources Department, 725 Summer St NE, Suite A, Salem, OR 97301
- Submit a digital copy to: [Jennifer.L.Woody@oregon.gov](mailto:Jennifer.L.Woody@oregon.gov)
- Questions? Contact Jen Woody, OWRD Hydrogeologist, at 503-986-0855

Signature of Applicant  Date 11/27/24

Title City of Prineville Public Works Director



## Modification Request - ASR Limited License #026 City of Prineville

**To:** Jennifer Woody, Oregon Water Resources Department  
Phillip Marcy, Oregon Water Resources Department

**From:** Trevor Grandy, GSI Water Solutions, Inc.  
Bruce Brody-Heine, GSI Water Solutions, Inc.  
Casey Kaiser, City of Prineville

**Date:** November 27, 2024

**RE:** **City of Prineville – Minor Modification Request for ASR Limited License #026**

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The City of Prineville (City) was issued Aquifer Storage and Recovery (ASR) Limited License #026 on April 24, 2019 and renewed on May 3, 2024, authorizing the storage of up to 870 million gallons per year in the Airport Area Aquifer in the Deschutes Formation located adjacent to the City. The limited license authorizes the use of up to 5 wells for the ASR program with a recharge rate of up to 1,100 gallons per minute (gpm) of source water per well and recovery from each well at a rate 2,000 gpm. The source water is from City wells located in the Crooked River Valley/Ochoco Creek Basin. The latest version of the limited license and map of ASR and source well locations is attached.

This minor modification application requests an increase in the allowed injection rates at each of the project's ASR wells.

### Modification to ASR Limited License Recovery Rates

The City's first ASR well developed under their limited license is the Heliport well. The Heliport Well's initial injection rate was 825 gpm. Based on the City's plans to upgrade and retrofit this well the ASR Limited License was modified to allow a maximum injection rate of 1,100 gpm. The City recently completed these Heliport Well retrofits during the spring and summer of 2024, which included a new large diameter pump column and motor designed to maximize the City's operational flexibility and increase the injection and recovery capacities of the Heliport Well. Although the City's original estimate of the injection rate was 1,100 gpm, the increased pump column diameter is allowing the system to inject at rates between 1,400 to 1,600 gpm. Unfortunately, efforts to dial back this injection rate would result in cascading water inside the pump column (which would allow air entrainment in the aquifer) the City is unable to dial back the injection rate to less than ~1,400 gpm in order to keep a full pump column.

The City's current ASR Limited License stipulates that the maximum injection rate is 1,100 gpm per well (ASR Limited License #026, page 5). The City requests a modification of the allowed maximum injection rate of water for ASR storage from the current 1,100 gpm to 1,800 gpm at each of the approved ASR wells. The increased injection rate of the ASR stored water will allow the City the flexibility to inject water via the newly retrofitted Heliport Well without damaging the aquifer and pumping system.

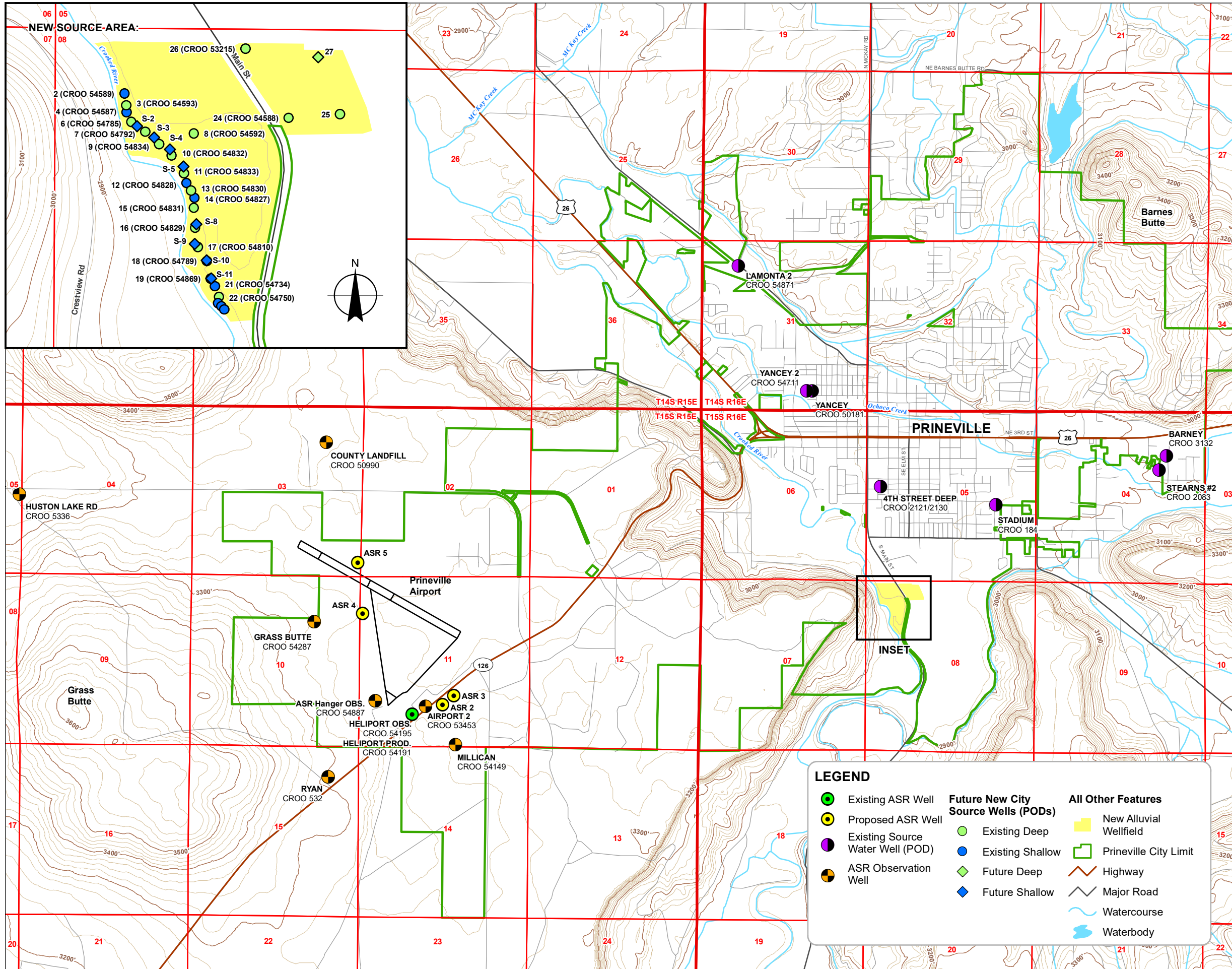
Thank you for considering the City of Prineville's minor modifications to the ASR Limited License #026 as describe above. If you have any questions do not hesitate to contact Trevor Grandy at 971.200.8545.

# Limited License Map

## ASR Limited License Map

### February 2021

#### City of Prineville



**POD LOCATION DESCRIPTIONS**

**PROPOSED ASR WELL AND FUTURE WELL SITES**

**Heliport Production Well:** Located 1070 feet North and 1710 feet East from the SW corner of Section 11, Township 15 South, Range 15 East (W.M.)

**Future ASR Well 2:** Located 1320 feet North and 2690 feet West from the SE corner of Section 11, Township 15 South, Range 15 East (W.M.)

**Future ASR Well 3:** Located 1580 feet North and 2340 feet West from the SE corner of Section 11, Township 15 South, Range 15 East (W.M.)

**Future ASR Well 4:** Located 1141 feet South and 83 feet East from the NW corner of Section 11, Township 15 South, Range 15 East (W.M.)

**Future ASR Well 5:** Located 442 feet North and 86 feet West from the SE corner of Section 3, Township 15 South, Range 15 East (W.M.)

**ASR SOURCE WATER POINTS OF DIVERSION**

**CROO 184 (Stadium Well):** Located 2122 feet North and 461 feet West from the SE corner of Section 5, Township 15 South, Range 16 East (W.M.)

**CROO 2083 (Stearns #2):** Located 1810.2 feet South and 1151.5 feet East from the N 1/4 corner of Section 4, Township 15 South, Range 16 East (W.M.)

**CROO 3132 (Barney):** Located 1315 feet South and 1370 feet East from the N 1/4 corner of Section 4, Township 15 South, Range 16 East (W.M.)

**CROO 50181 (Yancey):** Located 1070 feet North 55 degrees and 0 minutes East from the 1/4 section corner south line of Section 31, Township 14 South, Range 16 East (W.M.)

**CROO 54711 (Yancey 2):** Located 613 feet North and 1730 feet West from the SE corner Section 31, Township 14 South, Range 16 East (W.M.)

**CROO 54871 (Lamonta 2):** Located 765 feet South and 1240 feet East from the NW corner of Section 31, Township 14 South, Range 16 East (W.M.)

**CROO 2121 (4th Street Deep):** Located 375 feet North and 370 feet East from the W 1/4 corner of Section 5, Township 15 South, Range 16 East (W.M.)

**2 (CROO 54589):** Located 370 feet South and 396 feet East from the NW corner of Section 8, Township 15 South, Range 16 East (W.M.)

**3 (CROO 54593):** Located 422 feet South and 400 feet East from the NW corner of Section 8, Township 15 South, Range 16 East (W.M.)

**4 (CROO 54587):** Located 471 feet South and 406 feet East from the NW corner of Section 8, Township 15 South, Range 16 East (W.M.)

**6 (CROO 54785):** Located 540 feet South and 435 feet East from the NW corner of Section 8, Township 15 South, Range 16 East (W.M.)

**7 (CROO 54792):** Located 590 feet South and 510 feet East from the NW corner of Section 8, Township 15 South, Range 16 East (W.M.)

**8 (CROO 54592):** Located 585 feet South and 793 feet East from the NW corner of Section 8, Township 15 South, Range 16 East (W.M.)

**9 (CROO 54834):** Located 680 feet South and 590 feet East from the NW corner of Section 8, Township 15 South, Range 16 East (W.M.)

**10 (CROO 54832):** Located 725 feet South and 670 feet East from the NW corner of Section 8, Township 15 South, Range 16 East (W.M.)

**11 (CROO 54833):** Located 825 feet South and 735 feet East from the NW corner of Section 8, Township 15 South, Range 16 East (W.M.)

**12 (CROO 54829):** Located 875 feet South and 755 feet East from the NW corner of Section 8, Township 15 South, Range 16 East (W.M.)

**13 (CROO 54830):** Located 920 feet South and 775 feet East from the NW corner of Section 8, Township 15 South, Range 16 East (W.M.)

**14 (CROO 54827):** Located 970 feet South and 800 feet East from the NW corner of Section 8, Township 15 South, Range 16 East (W.M.)

**15 (CROO 54831):** Located 1,020 feet South and 790 feet East from the NW corner of Section 8, Township 15 South, Range 16 East (W.M.)

**16 (CROO 54829):** Located 1,130 feet South and 800 feet East from the NW corner of Section 8, Township 15 South, Range 16 East (W.M.)

**17 (CROO 54810):** Located 1,240 feet South and 815 feet East from the NW corner of Section 8, Township 15 South, Range 16 East (W.M.)

**18 (CROO 54789):** Located 1,325 feet South and 865 feet East from the NW corner of Section 8, Township 15 South, Range 16 East (W.M.)

**19 (CROO 54869):** Located 1,425 feet South and 890 feet East from the NW corner of Section 8, Township 15 South, Range 16 East (W.M.)

**21 (CROO 54734):** Located 1,460 feet South and 920 feet East from the NW corner of Section 8, Township 15 South, Range 16 East (W.M.)

**22 (CROO 54750):** Located 1,535 feet South and 940 feet East from the NW corner of Section 8, Township 15 South, Range 16 East (W.M.)

**24 (CROO 54588):** Located 510 feet South and 1,330 feet East from the NW corner of Section 8, Township 15 South, Range 16 East (W.M.)

**25:** Located 485 feet South and 1,620 feet East from the NW corner of Section 8, Township 15 South, Range 16 East (W.M.)

**26 (CROO 53215):** Located 105 feet South and 1,080 feet East from the NW corner of Section 8, Township 15 South, Range 16 East (W.M.)

**27:** Located 170 feet South and 1,500 feet East from the NW corner of Section 8, Township 15 South, Range 16 East (W.M.)

**S-2:** Located 561 feet South and 466 feet East from the NW corner of Section 8, Township 15 South, Range 16 East (W.M.)

**S-3:** Located 621 feet South and 564 feet East from the NW corner of Section 8, Township 15 South, Range 16 East (W.M.)

**S-4:** Located 694 feet South and 654 feet East from the NW corner of Section 8, Township 15 South, Range 16 East (W.M.)

**S-6:** Located 789 feet South and 731 feet East from the NW corner of Section 8, Township 15 South, Range 16 East (W.M.)

**S-8:** Located 1116 feet South and 808 feet East from the NW corner of Section 8, Township 15 South, Range 16 East (W.M.)

**S-9:** Located 1232 feet South and 800 feet East from the NW corner of Section 8, Township 15 South, Range 16 East (W.M.)

**S-10:** Located 1320 feet South and 869 feet East from the NW corner of Section 8, Township 15 South, Range 16 East (W.M.)

**S-11:** Located 1420 feet South and 896 feet East from the NW corner of Section 8, Township 15 South, Range 16 East (W.M.)

**ASR OBSERVATION WELLS**

**Airport Well 2:** Located 1165 feet North and 1990 feet East from the SW corner of Section 11, Township 15 South, Range 15 East (W.M.)

**Millican Well (Airport Well 3):** Located 55 feet North and 3000 feet East from the SW corner of Section 11, Township 15 South, Range 15 East (W.M.)

**CROO 53965 (Heliport Observation Well):** Located 1238 feet North and 1506 feet East from the SW corner of Section 11, Township 15 South, Range 15 East (W.M.)

**ASR Hanger Observation Well:** Located 1404 feet North and 506 feet East from the SW corner of Section 11, Township 15 South, Range 15 East (W.M.)

**CROO 532 (Ryan Well):** Located 895 feet South and 952 feet West from the SW corner of Section 11, Township 15 South, Range 15 East (W.M.)

**CROO 53361 (Houston Lake Rd):** Located 183 feet South and 77 feet West from the W 1/4 corner of Section 4, Township 15 South, Range 15 East (W.M.)

**CROO 54287 (Grass Butte Well):** Located 1472 feet South and 1493.15 feet West from the NE corner of Section 10, Township 15 South, Range 15 East (W.M.)

**CROO 50990 (County Landfill Well):** Located 1067 feet South and 1161 feet West from the NW corner of Section 3, Township 15 South, Range 15 East (W.M.)

**LEGEND**

Existing ASR Well	<b>Future New City Source Wells (PODs)</b>	<b>All Other Features</b>
Proposed ASR Well	Existing Deep	New Alluvial Wellfield
Existing Source Water Well (POD)	Existing Shallow	Prineville City Limit
ASR Observation Well	Future Deep	Highway
	Future Shallow	Major Road
		Watercourse
		Waterbody

0 1,500 3,000 4,500  
Feet

**MAP NOTES:**  
POD = Point of Diversion  
Date: November 25, 2024  
Data Sources: ESRI, USGS, DigiGlobe 2016