

Susitna-Watana Hydroelectric Project Document ARLIS Uniform Cover Page

Title: Baseline water quality study, Study plan Section 5.5 : Initial study report -- Appendix J: TIR images		SuWa 223
Author(s) – Personal:		
Author(s) – Corporate: URS Corporation/Tetra Tech, Inc.		
AEA-identified category, if specified: Initial study report		
AEA-identified series, if specified:		
Series (ARLIS-assigned report number): Susitna-Watana Hydroelectric Project document number 223		Existing numbers on document:
Published by: [Anchorage : Alaska Energy Authority, 2014]		Date published: June 2014
Published for: Alaska Energy Authority		Date or date range of report:
Volume and/or Part numbers:		Final or Draft status, as indicated:
Document type:		Pagination: 30 p.
Related work(s): The following parts of Section 5.5 appear in separate files: Main report ; Figures ; Appendix A ; Appendices B-C ; Appendices D-I ; Appendix J ; Part B ; Part C.		Pages added/changed by ARLIS:
Notes:		

All reports in the Susitna-Watana Hydroelectric Project Document series include an ARLIS-produced cover page and an ARLIS-assigned number for uniformity and citability. All reports are posted online at <http://www.arlis.org/resources/susitna-watana/>



PART A - APPENDIX J: TIR IMAGES

Susitna-Watana Hydroelectric Project (FERC No. 14241)

Baseline Water Quality Study (5.5)

Part A - Appendix J TIR Images

Initial Study Report

Prepared for

Alaska Energy Authority



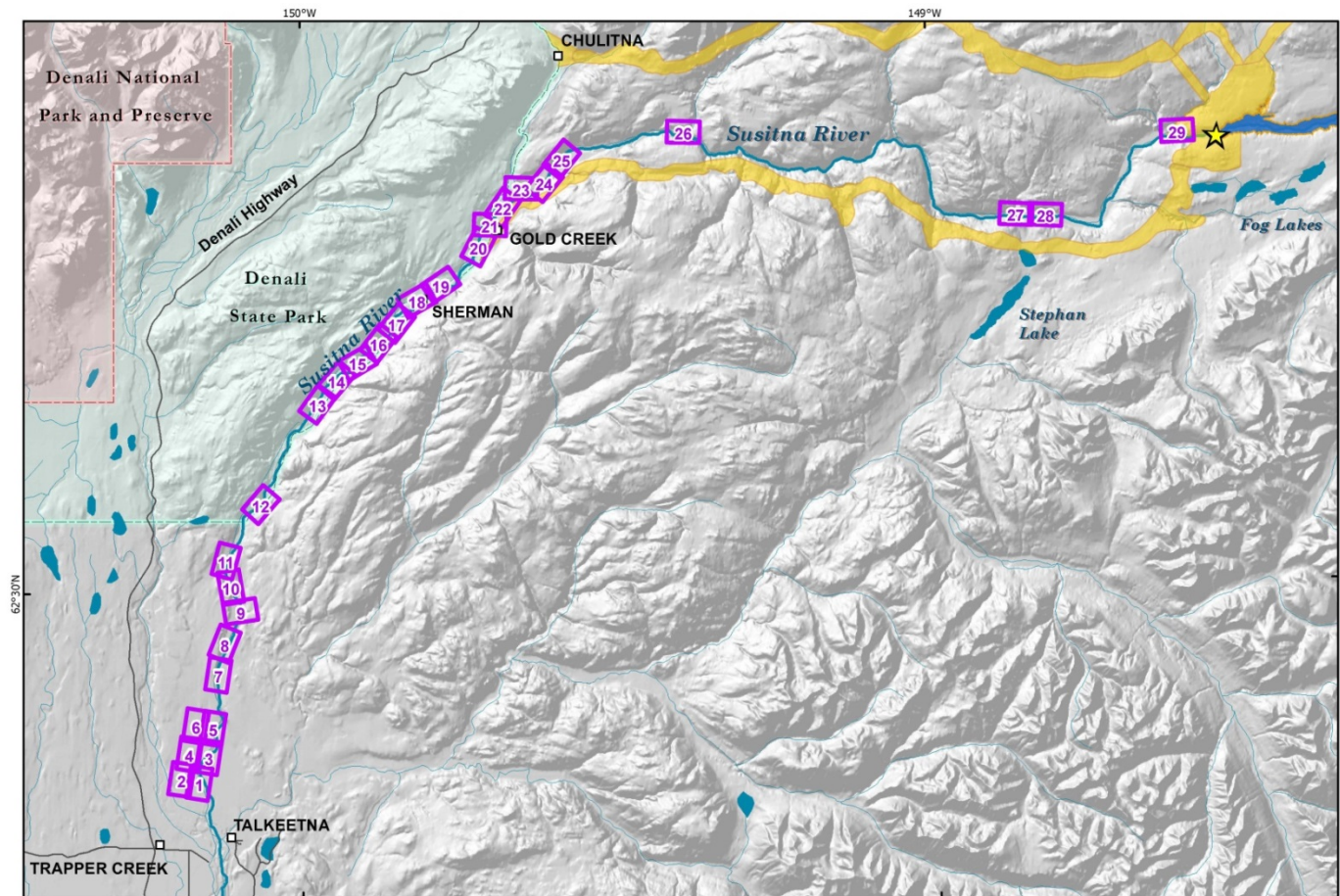
SUSITNA-WATANA HYDRO

Clean, reliable energy for the next 100 years.

Prepared by

Tetra Tech

June 2014

**LEGEND**

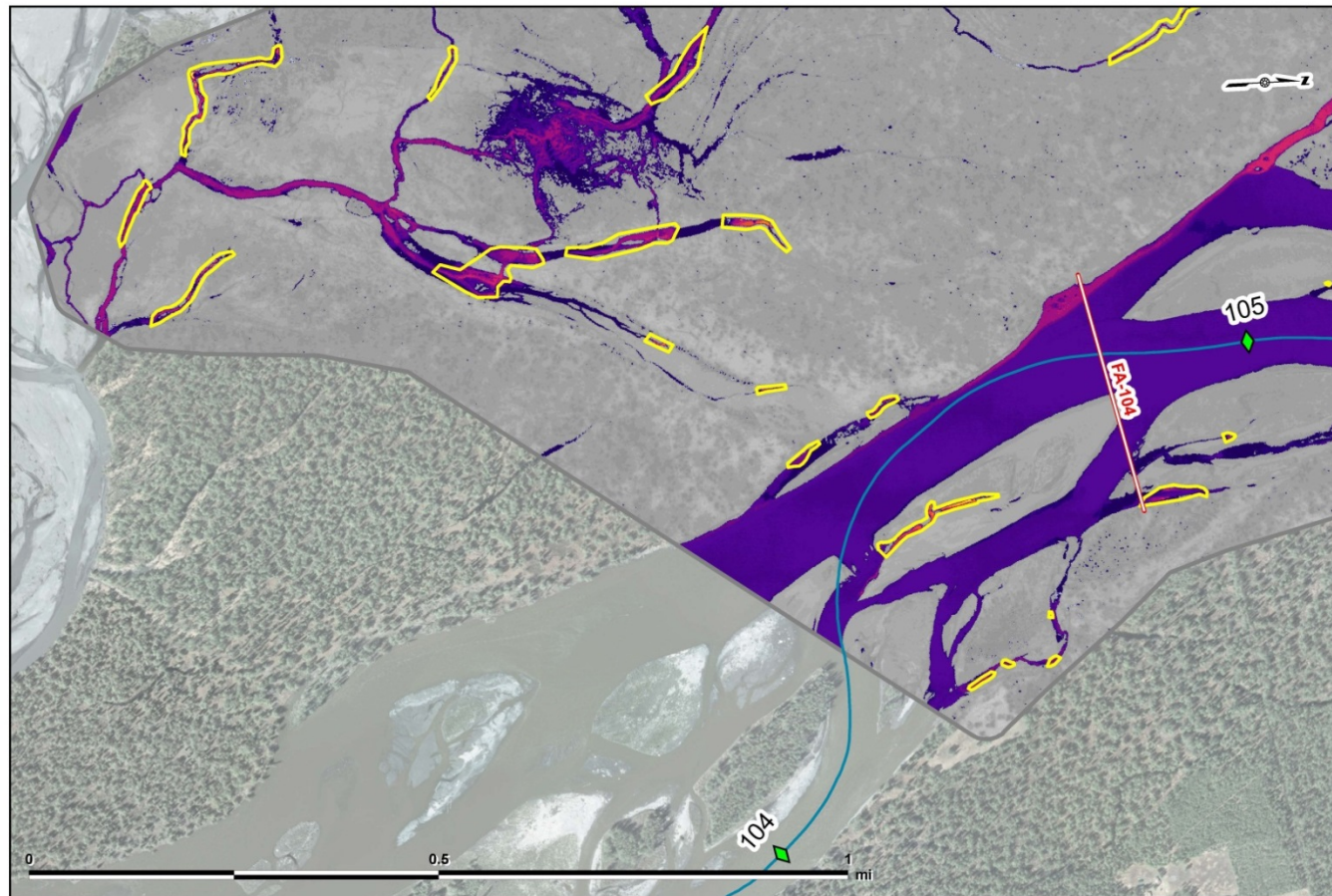
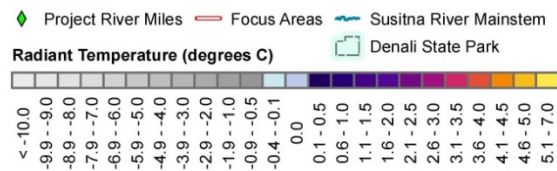
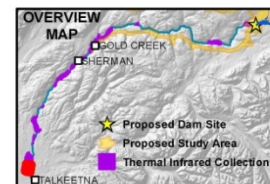
- ★ Proposed Watana Dam Site
- Proposed Watana Reservoir
- Map Pages (with page number)
- Rivers, Streams, and Lakes
- Proposed Study Area



Data Sources: See Map References

Overview Map

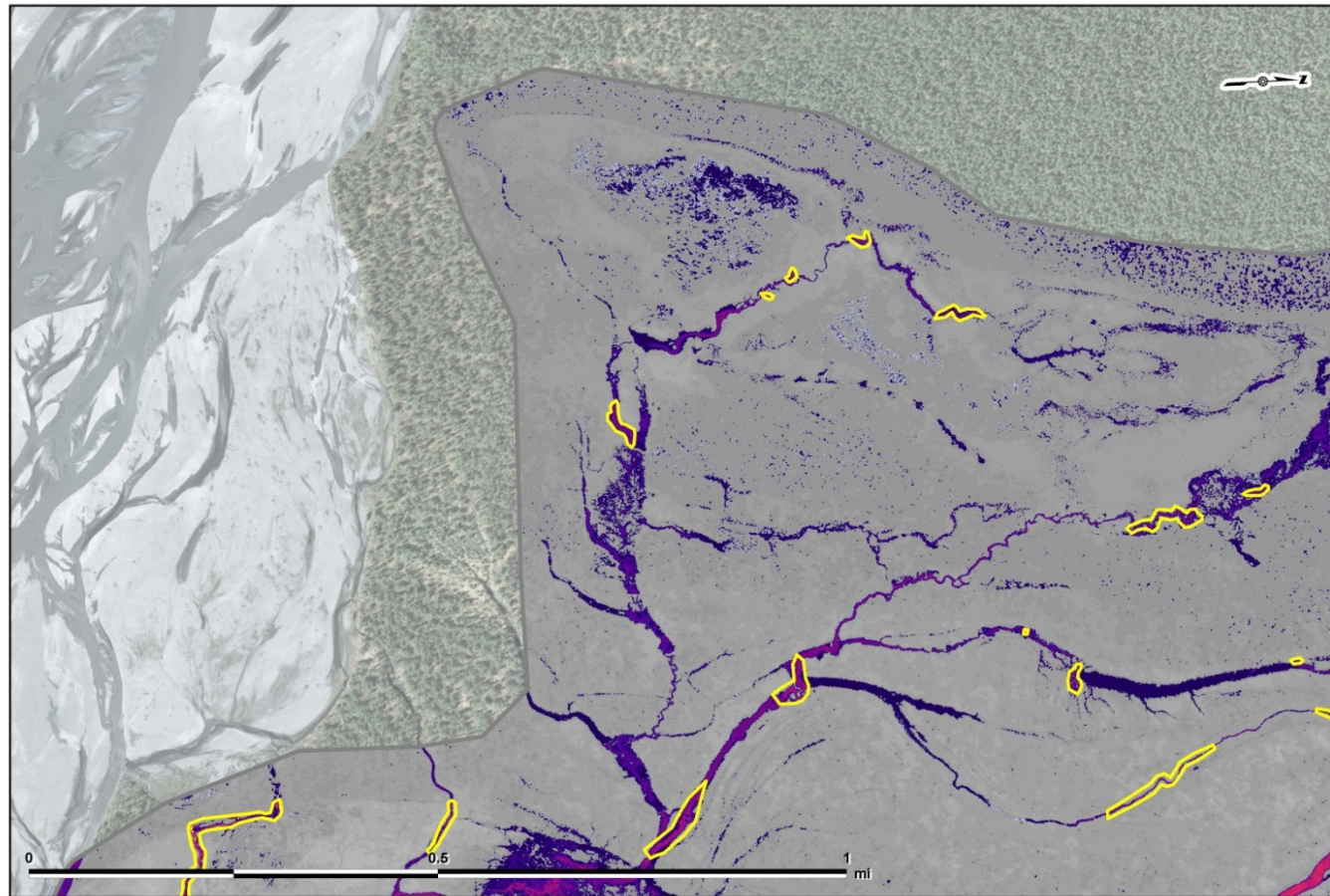
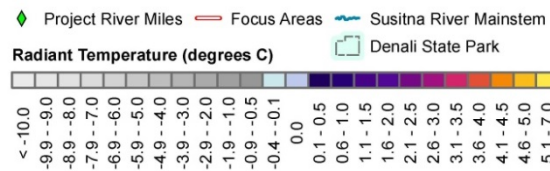
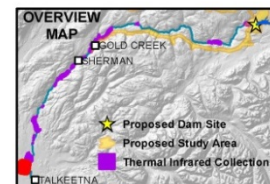
Projection: Alaska Albers NAD 1983
 Date Created: 1/10/2014
 Map Author: URS Alaska, Cynthia Kirkham
 File: ThermalDataOctober2013_OverviewMap_20140110.mxd

**LEGEND****Increased Groundwater Activity (by date flown)****Focus Area 104/Whiskers Slough, Map 1 of 6**

Data Sources: See Map References

Map Page 1 of 29

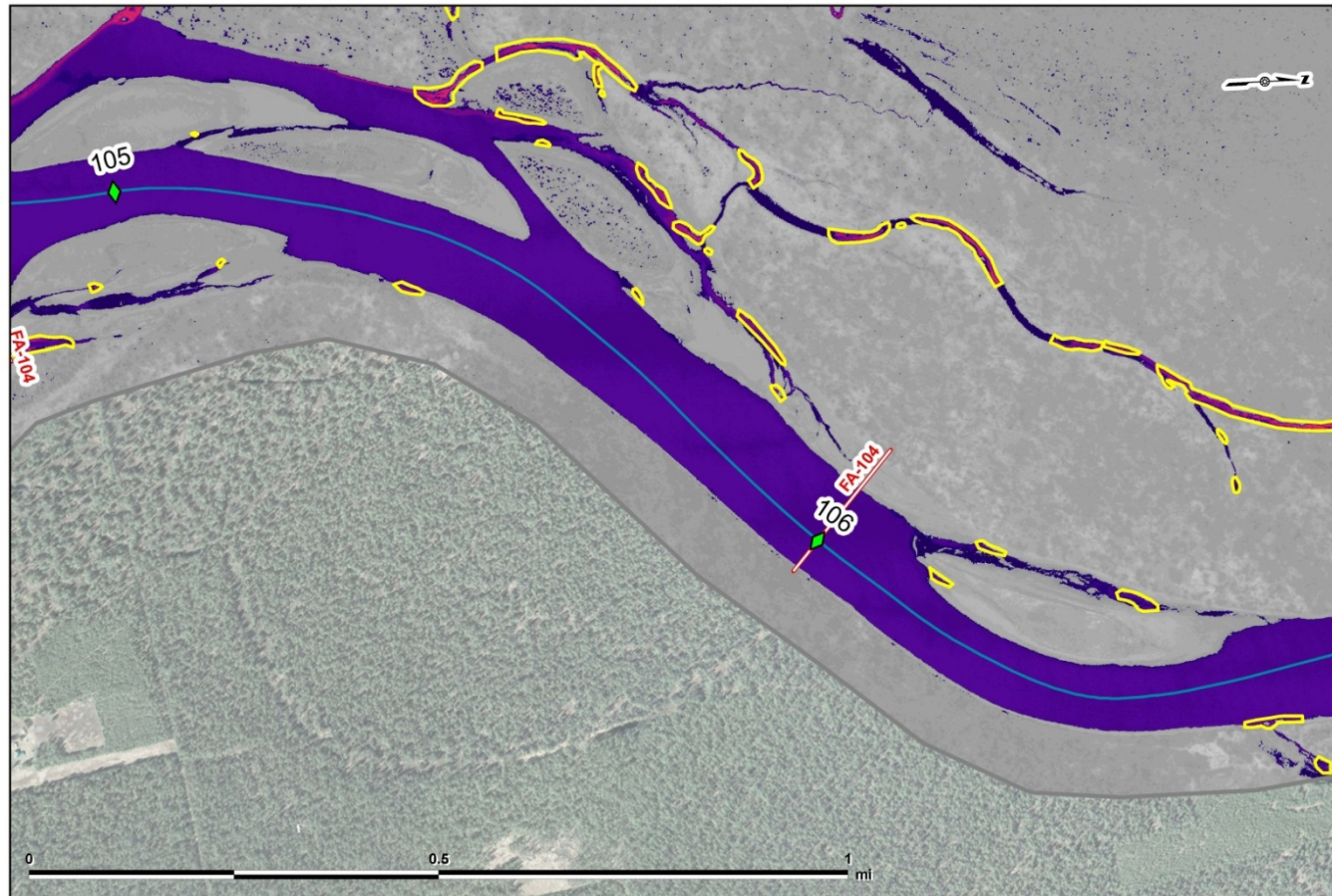
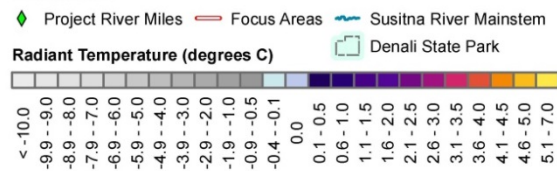
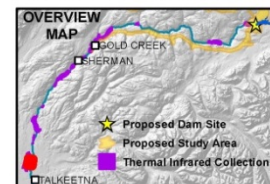
Projection: Alaska Albers NAD 1983
 Date Created: 1/10/2014
 Map Author: URS Alaska, Cynthia Kirkham
 File: ThermalDataOctober2013_20140110.mxd

**LEGEND****Increased Groundwater Activity (by date flown)****Focus Area 104/Whiskers Slough, Map 2 of 6**

Data Sources: See Map References

Map Page 2 of 29

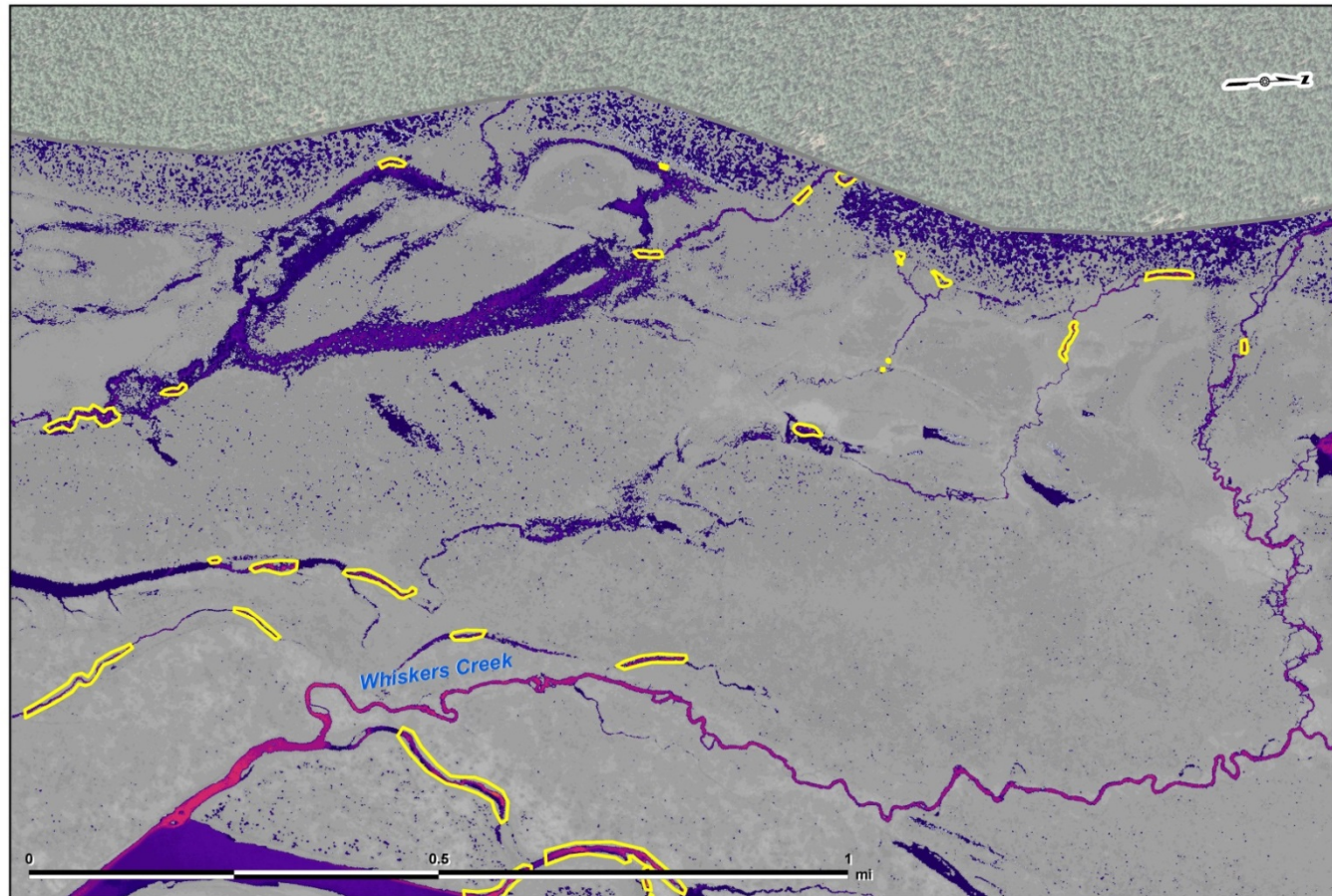
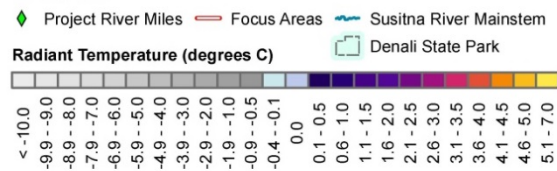
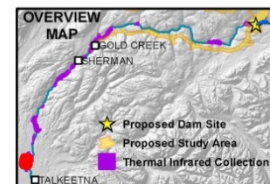
Projection: Alaska Albers NAD 1983
 Date Created: 1/10/2014
 Map Author: URS Alaska, Cynthia Kirkham
 File: ThermalDataOctober2013_20140110.mxd

**LEGEND****Increased Groundwater Activity (by date flown)****Focus Area 104/Whiskers Slough, Map 3 of 6**

Data Sources: See Map References

Map Page 3 of 29

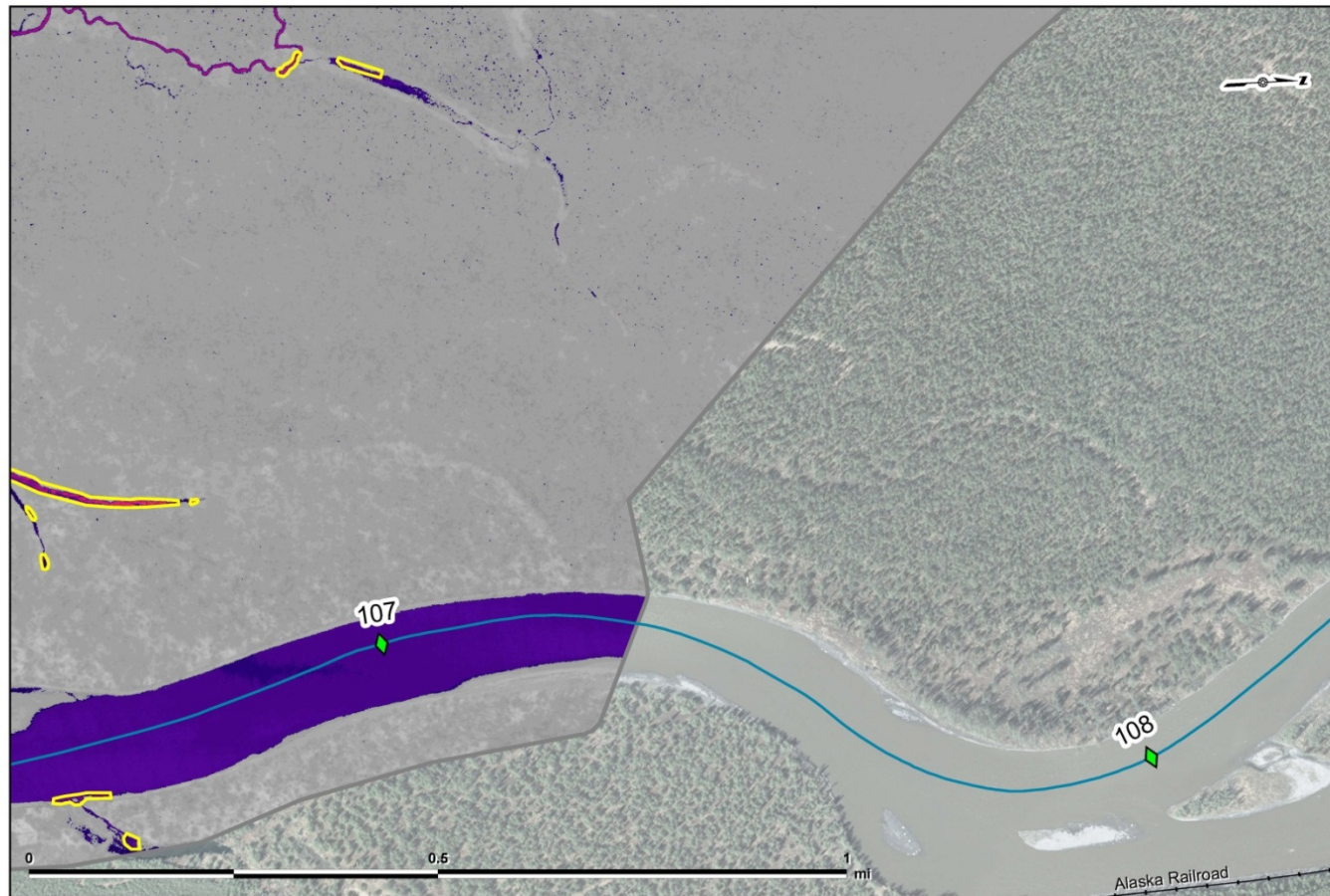
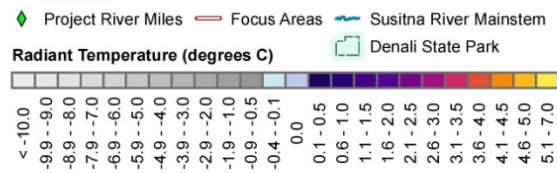
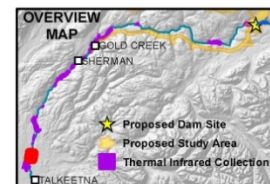
Projection: Alaska Albers NAD 1983
 Date Created: 1/10/2014
 Map Author: URS Alaska, Cynthia Kirkham
 File: ThermalDataOctober2013_20140110.mxd

**LEGEND****Increased Groundwater Activity (by date flown)****Focus Area 104/Whiskers Slough, Map 4 of 6**

Data Sources: See Map References

Map Page 4 of 29

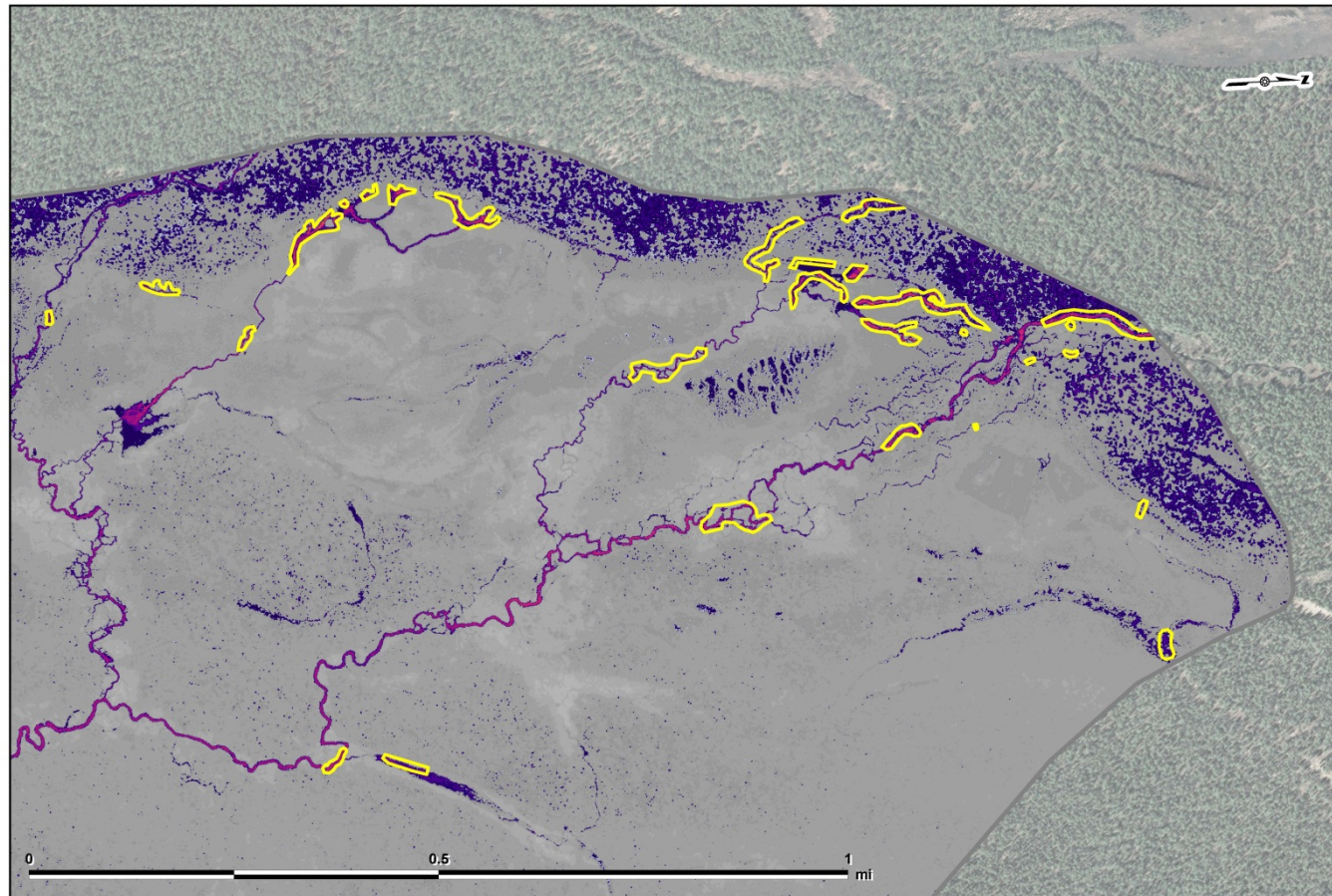
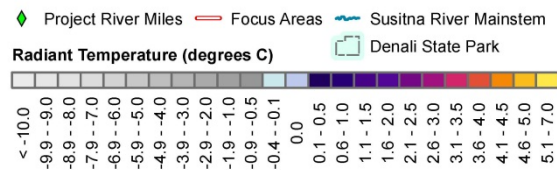
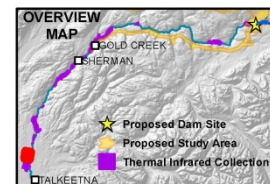
Projection: Alaska Albers NAD 1983
 Date Created: 1/10/2014
 Map Author: URS Alaska, Cynthia Kirkham
 File: ThermalDataOctober2013_20140110.mxd

**LEGEND****Increased Groundwater Activity (by date flown)****Focus Area 104/Whiskers Slough, Map 5 of 6**

Data Sources: See Map References

Map Page 5 of 29

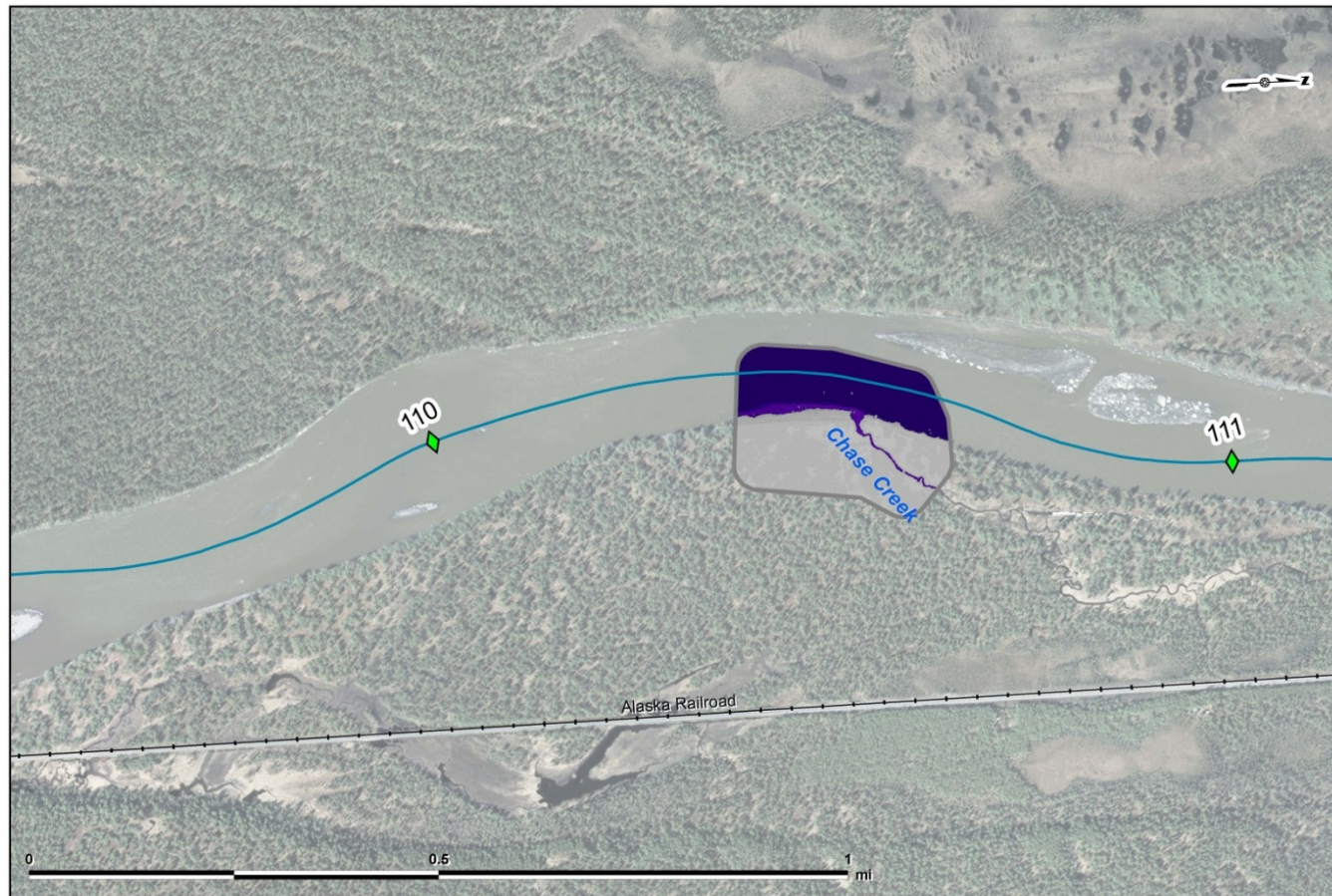
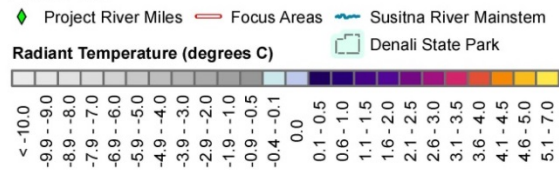
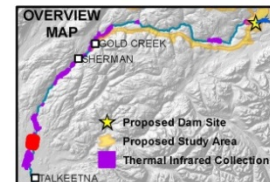
Projection: Alaska Albers NAD 1983
 Date Created: 1/10/2014
 Map Author: URS Alaska, Cynthia Kirkham
 File: ThermalDataOctober2013_20140110.mxd

**LEGEND****Increased Groundwater Activity (by date flown)****Focus Area 104/Whiskers Slough, Map 6 of 6**

Data Sources: See Map References

Map Page 6 of 29

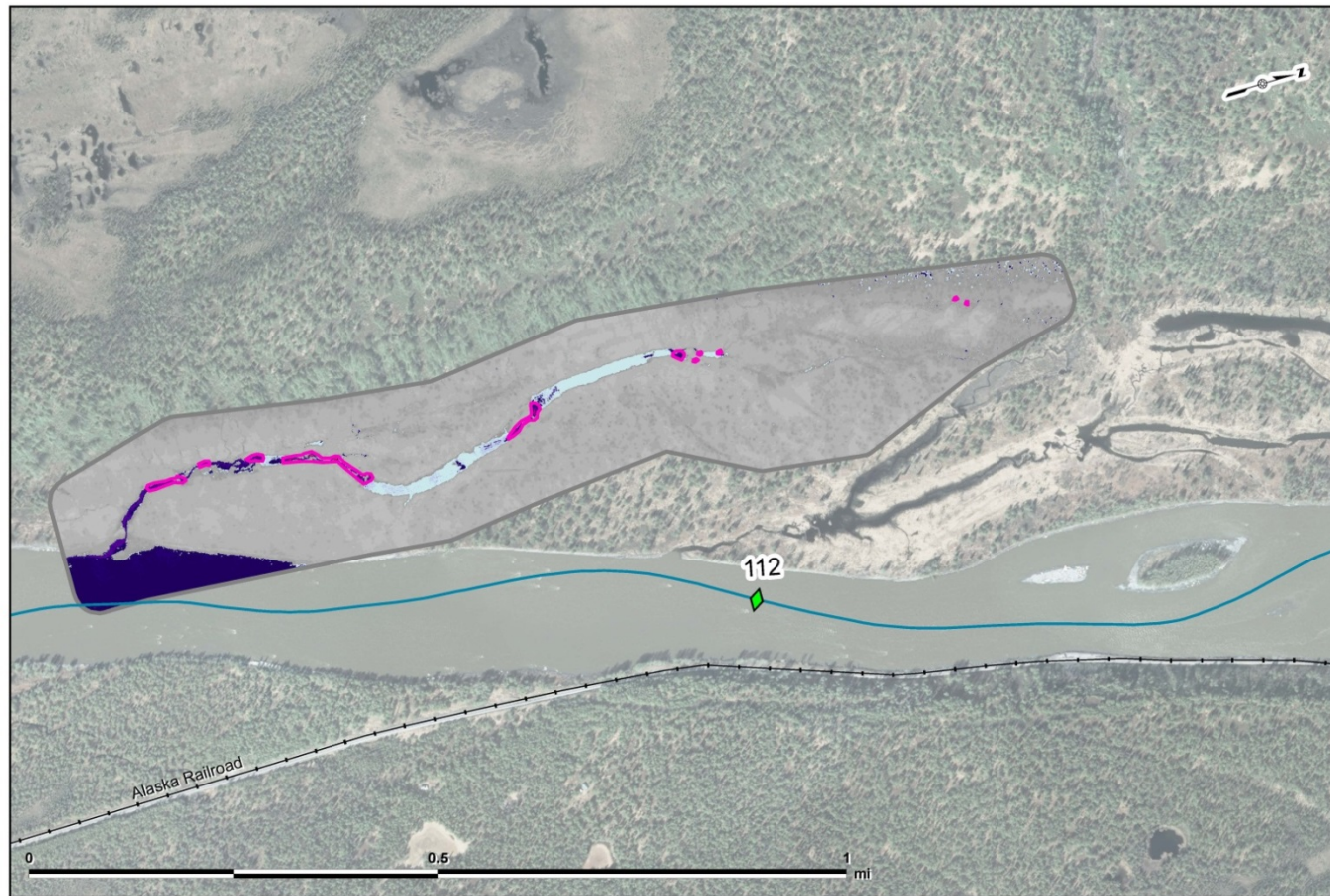
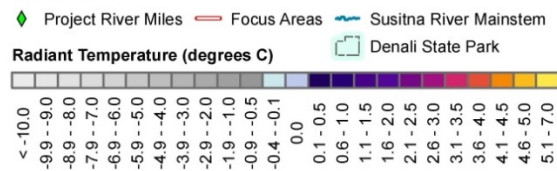
Projection: Alaska Albers NAD 1983
 Date Created: 1/10/2014
 Map Author: URS Alaska, Cynthia Kirkham
 File: ThermalDataOctober2013_20140110.mxd

**LEGEND****Increased Groundwater Activity (by date flown)****Chase Creek Mouth**

Data Sources: See Map References

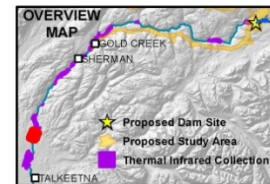
Map Page 7 of 29

Projection: Alaska Albers NAD 1983
 Date Created: 1/10/2014
 Map Author: URS Alaska, Cynthia Kirkham
 File: ThermalDataOctober2013_20140110.mxd

**LEGEND**

Increased Groundwater Activity (by date flown)

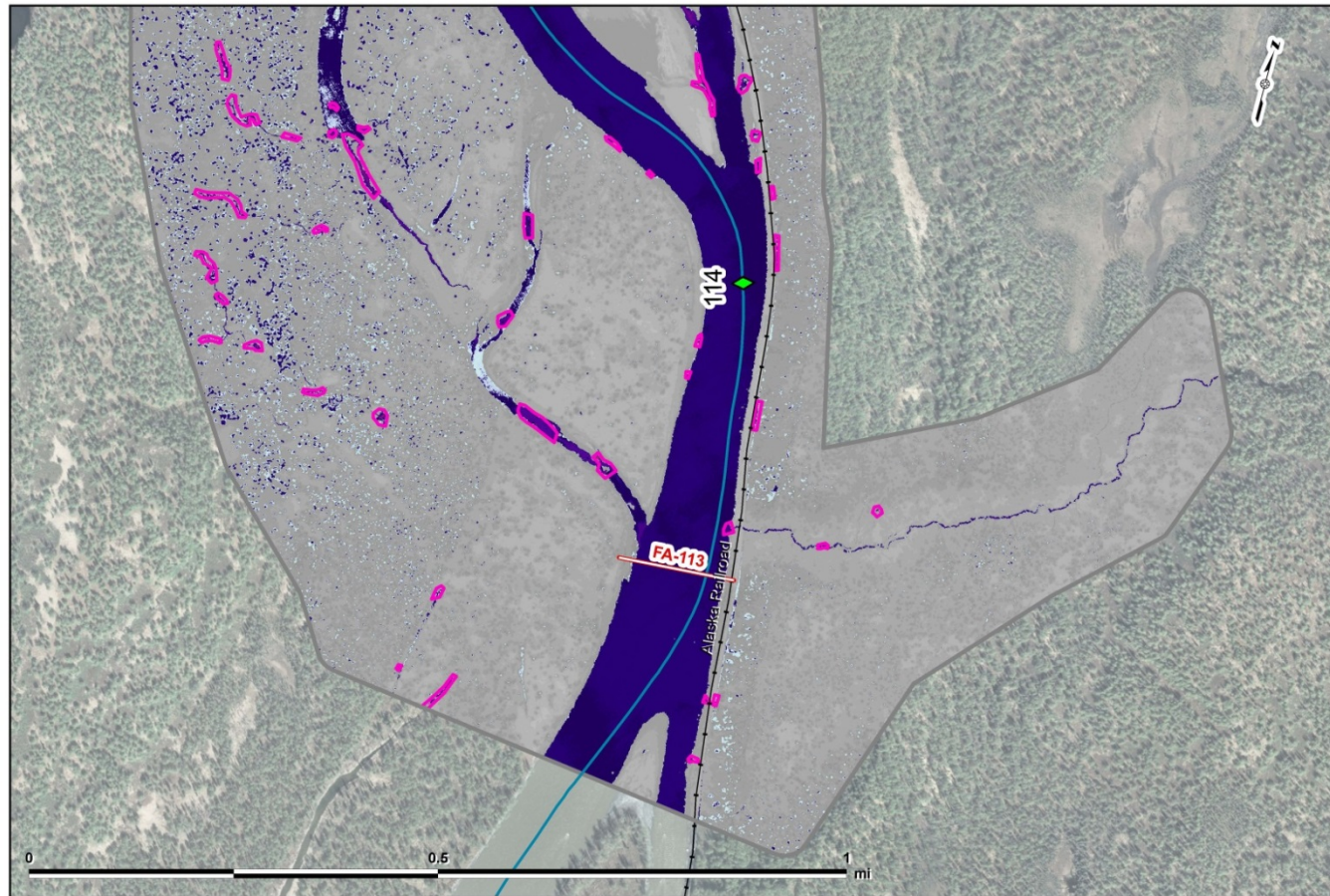
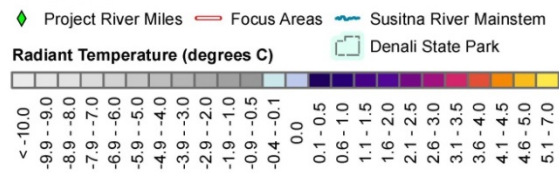
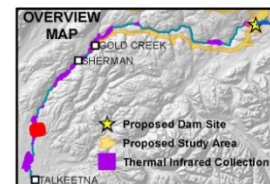
2013-Oct-23
 2013-Oct-24
 2013-Oct-31

**Slough 5**

Data Sources: See Map References

Map Page 8 of 29

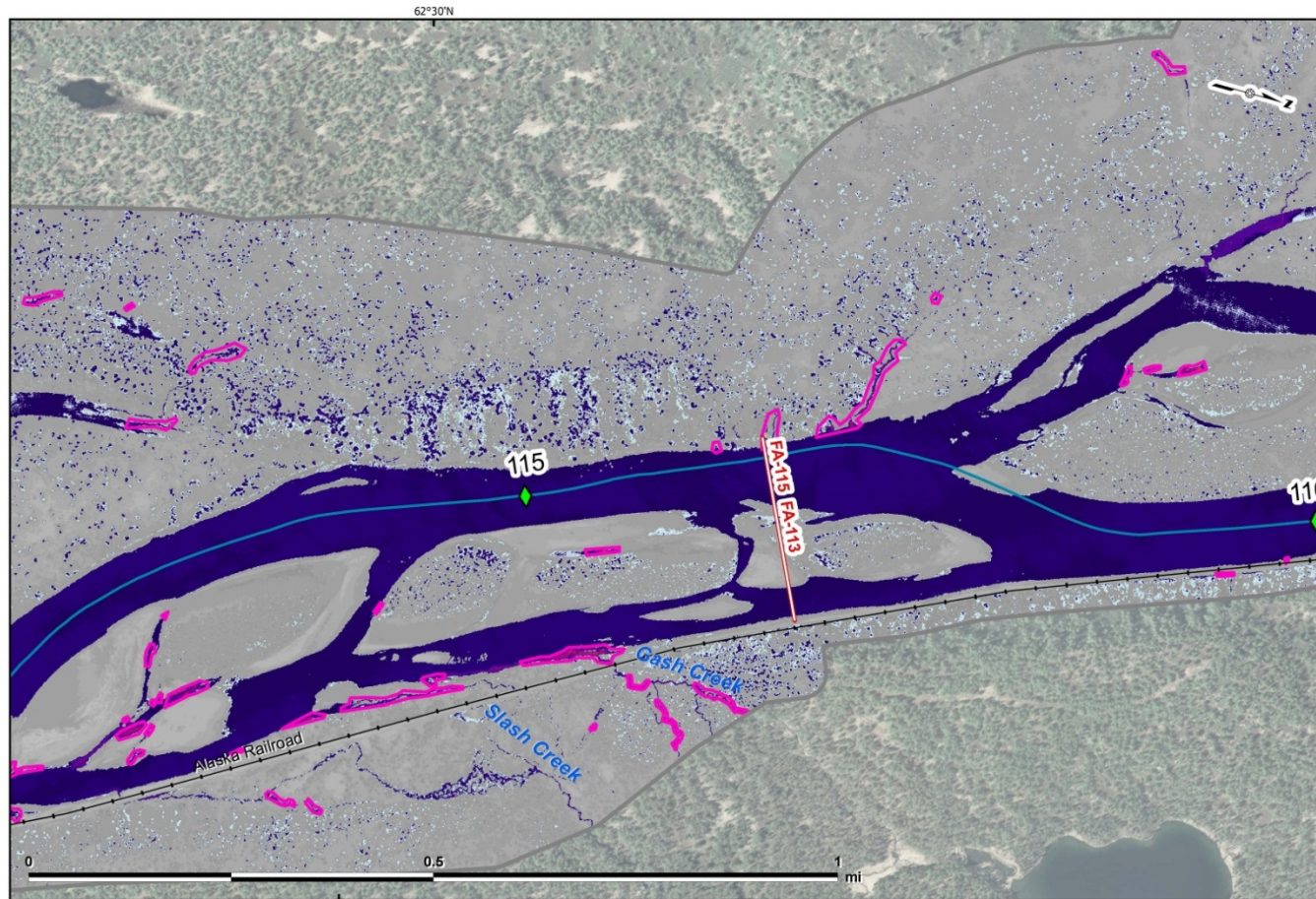
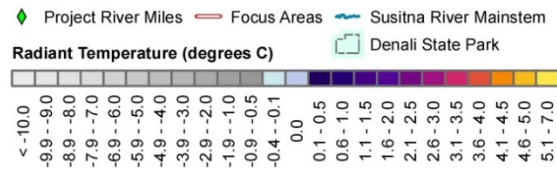
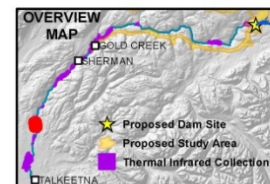
Projection: Alaska Albers NAD 1983
 Date Created: 1/10/2014
 Map Author: URS Alaska, Cynthia Kirkham
 File: ThermalDataOctober2013_20140110.mxd

**LEGEND****Increased Groundwater Activity (by date flown)****Focus Areas 113 and 115, Map 1 of 3**

Data Sources: See Map References

Map Page 9 of 29

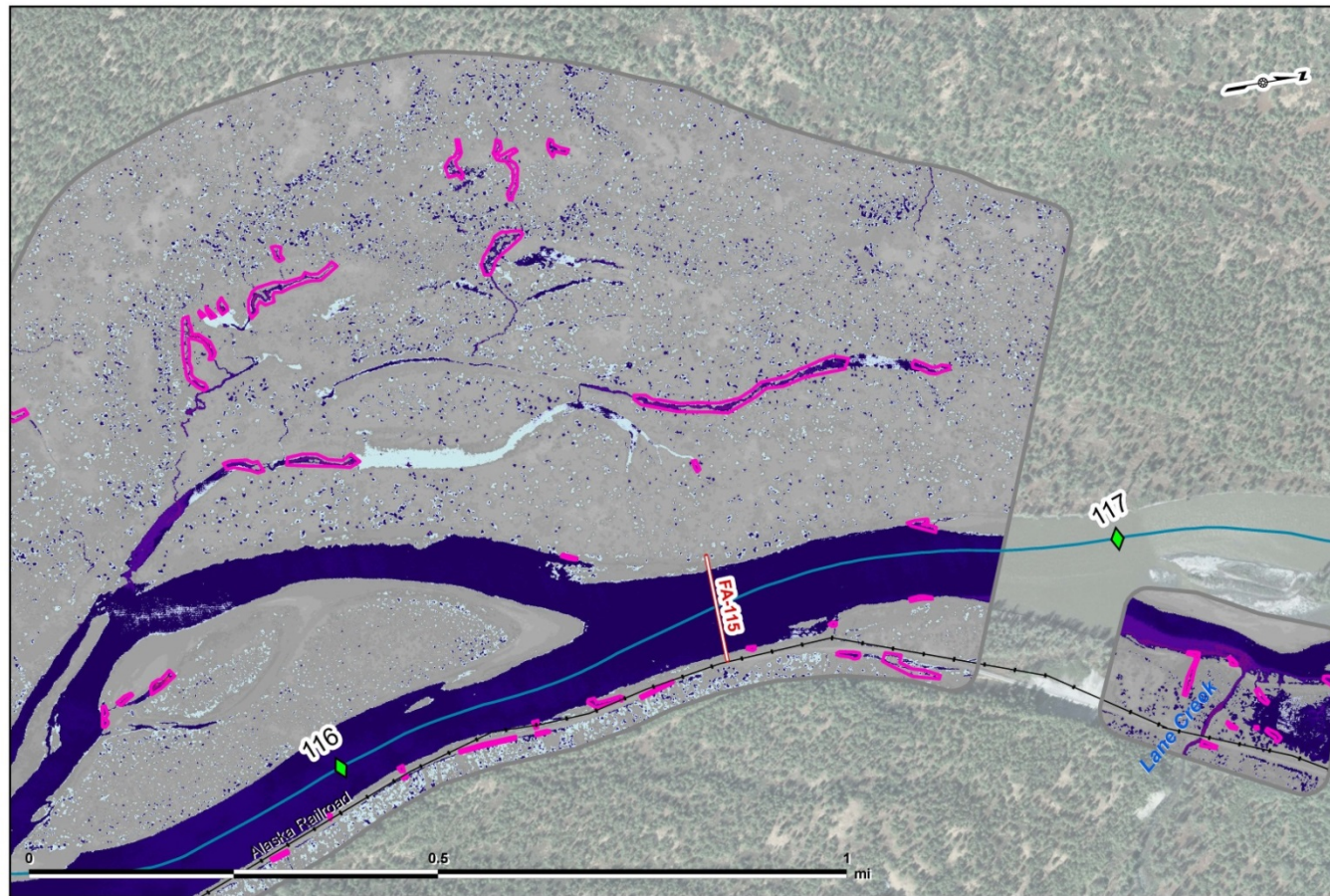
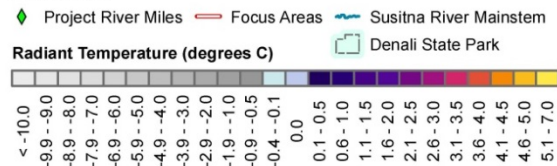
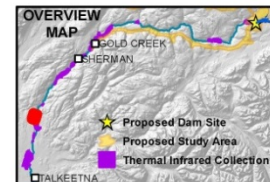
Projection: Alaska Albers NAD 1983
 Date Created: 1/10/2014
 Map Author: URS Alaska, Cynthia Kirkham
 File: ThermalDataOctober2013_20140110.mxd

**LEGEND****Increased Groundwater Activity (by date flown)****Focus Areas 113 and 115, Map 2 of 3**

Data Sources: See Map References

Map Page 10 of 29

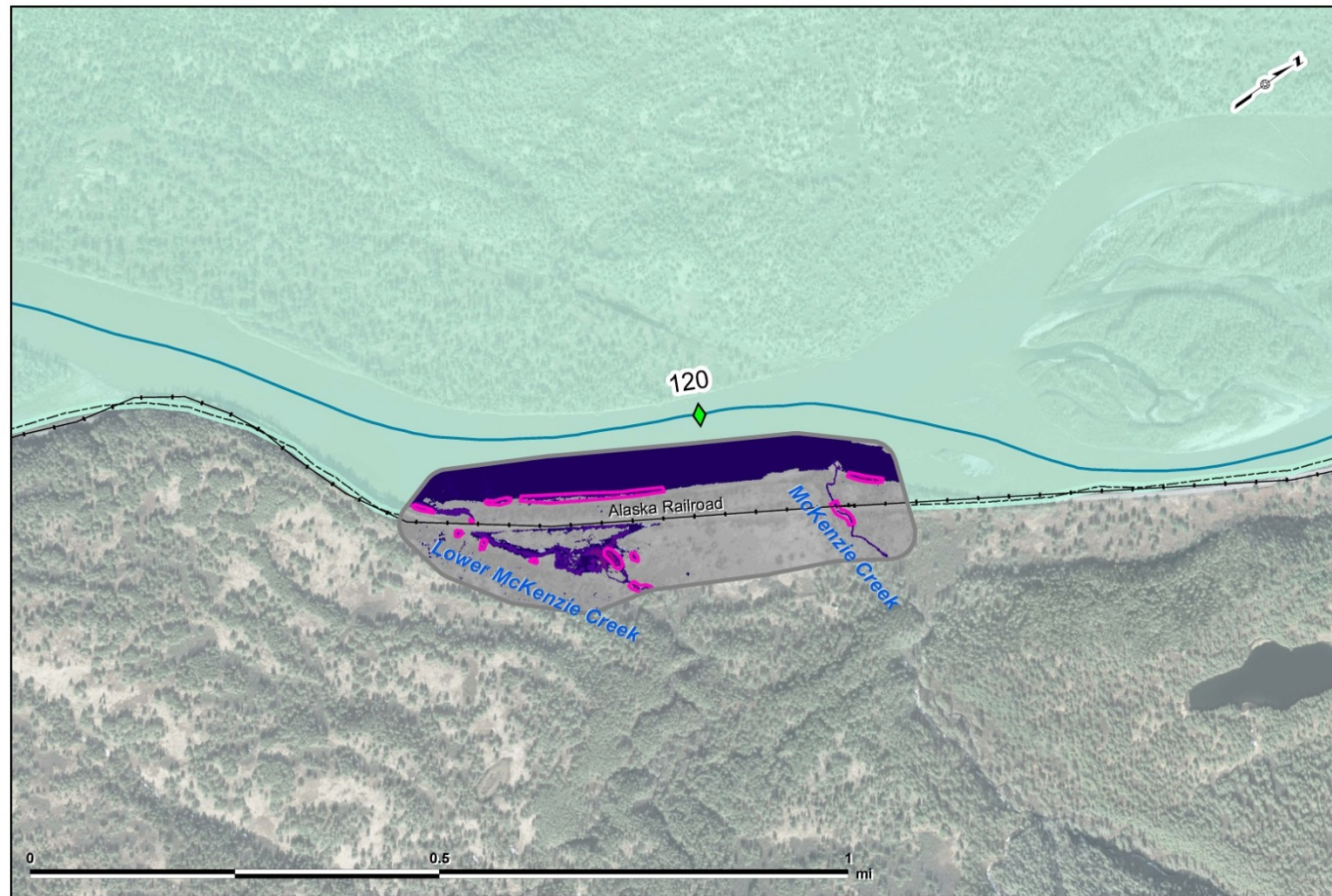
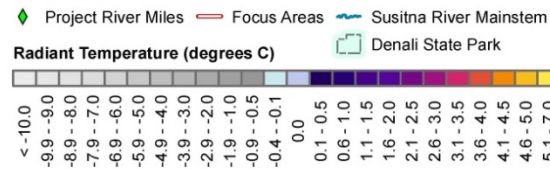
Projection: Alaska Albers NAD 1983
 Date Created: 1/10/2014
 Map Author: URS Alaska, Cynthia Kirkham
 File: ThermalDataOctober2013_20140110.mxd

**LEGEND****Increased Groundwater Activity (by date flown)****Focus Area 115 and Lane Creek Mouth, Map 3 of 3**

Data Sources: See Map References

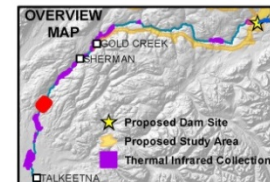
Map Page 11 of 29

Projection: Alaska Albers NAD 1983
 Date Created: 1/10/2014
 Map Author: URS Alaska, Cynthia Kirkham
 File: ThermalDataOctober2013_20140110.mxd

**LEGEND**

Increased Groundwater Activity (by date flown)

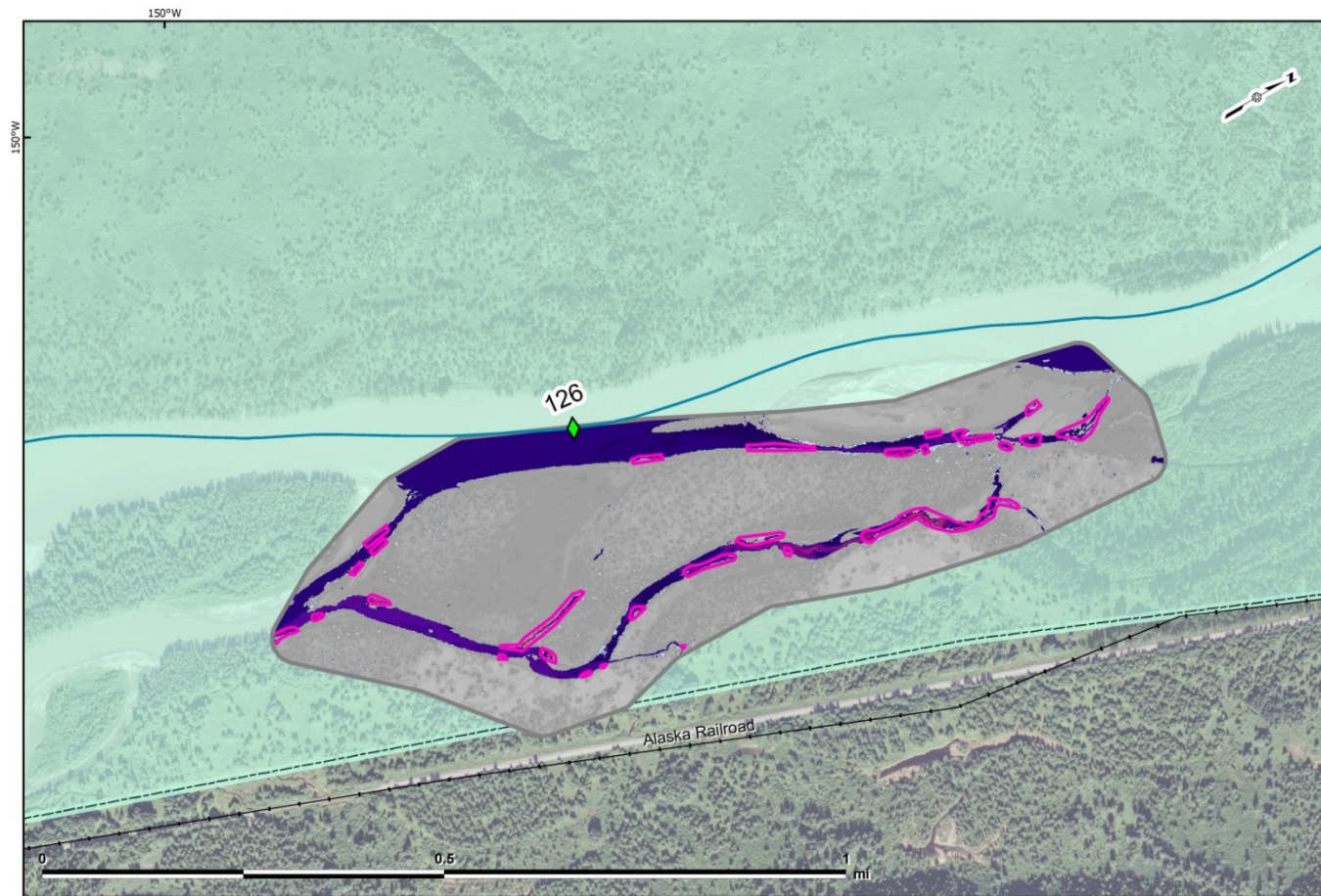
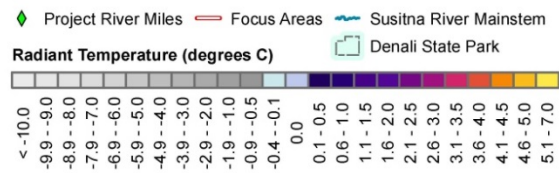
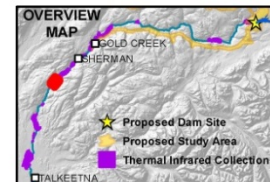
□ 2013-Oct-23
 □ 2013-Oct-24
 □ 2013-Oct-31

**Lower McKenzie Creek Mouth**

Data Sources: See Map References

Map Page 12 of 29

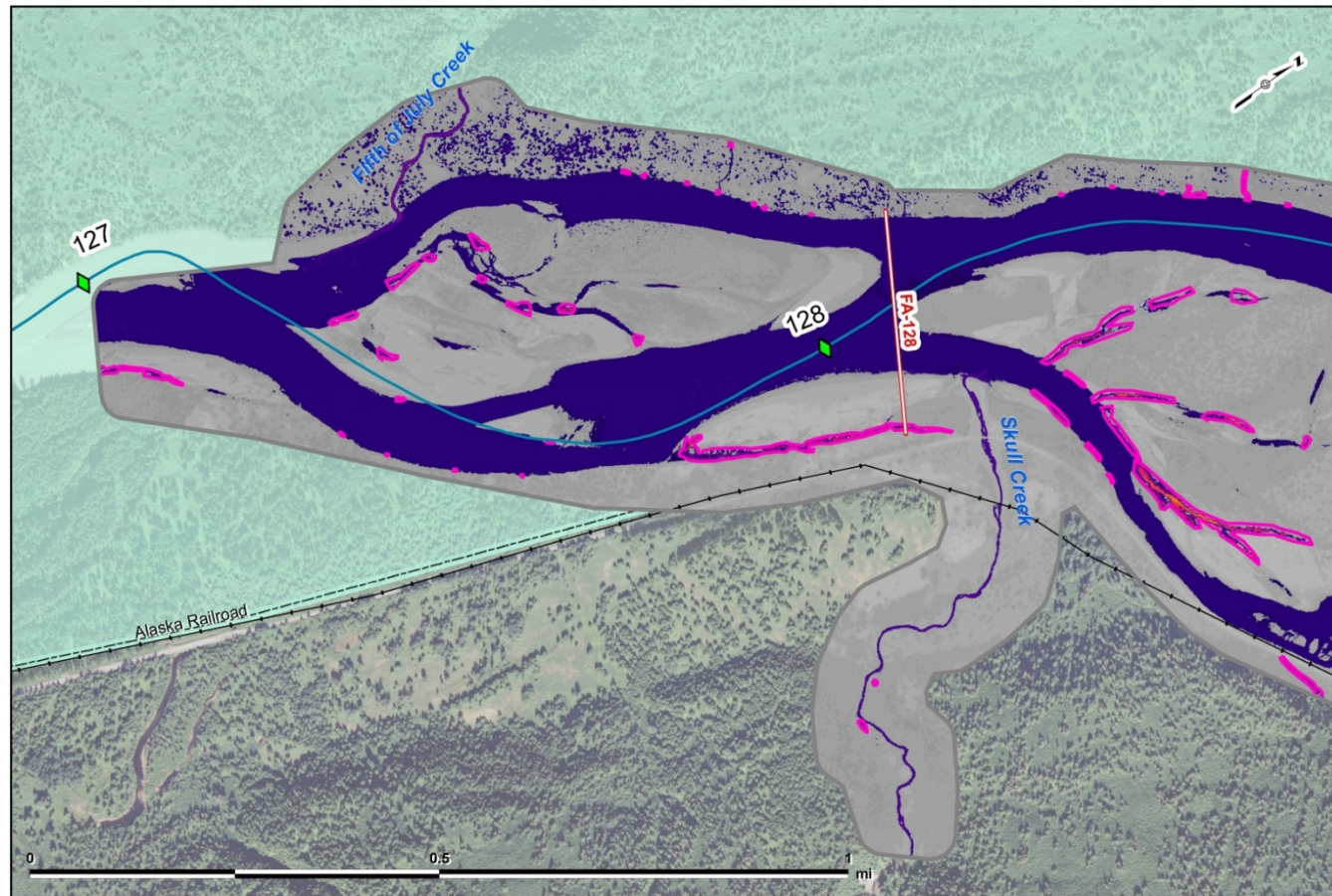
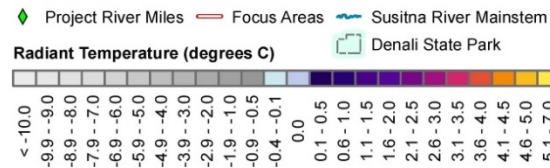
Projection: Alaska Albers NAD 1983
 Date Created: 1/10/2014
 Map Author: URS Alaska, Cynthia Kirkham
 File: ThermalDataOctober2013_20140110.mxd

**LEGEND****Increased Groundwater Activity (by date flown)****Slough 8B**

Data Sources: See Map References

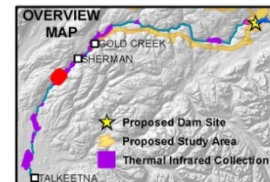
Map Page 13 of 29

Projection: Alaska Albers NAD 1983
 Date Created: 1/10/2014
 Map Author: URS Alaska, Cynthia Kirkham
 File: ThermalDataOctober2013_20140110.mxd

**LEGEND**

Increased Groundwater Activity (by date flown)

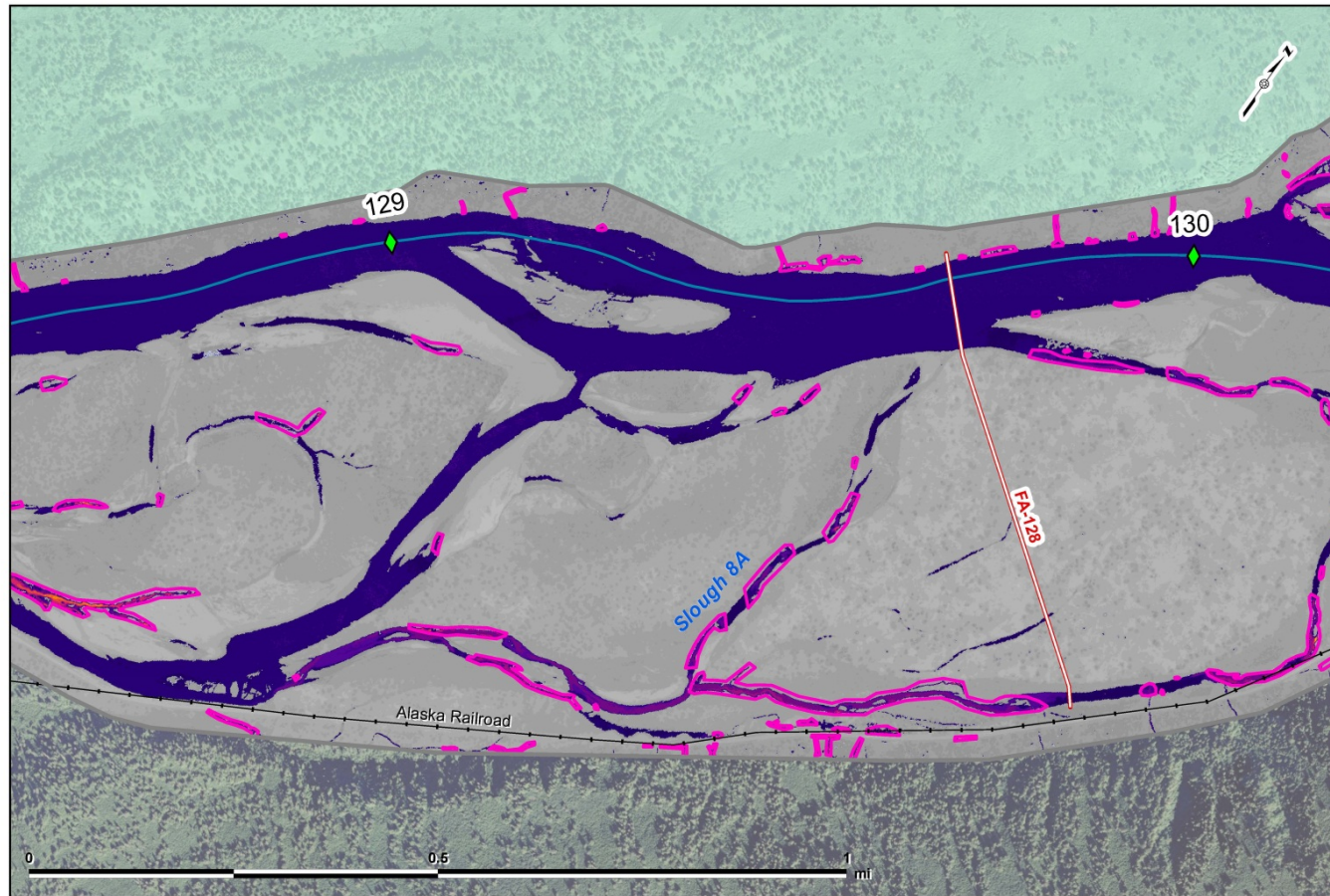
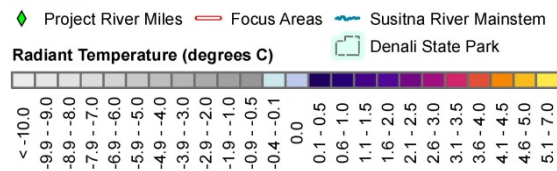
2013-Oct-23
 2013-Oct-24
 2013-Oct-31

Moose Slough, 5th of July Creek

Data Sources: See Map References

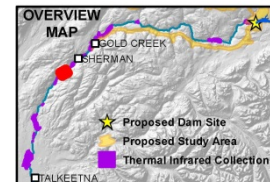
Map Page 14 of 29

Projection: Alaska Albers NAD 1983
 Date Created: 1/10/2014
 Map Author: URS Alaska, Cynthia Kirkham
 File: ThermalDataOctober2013_20140110.mxd

**LEGEND**

Increased Groundwater Activity (by date flown)

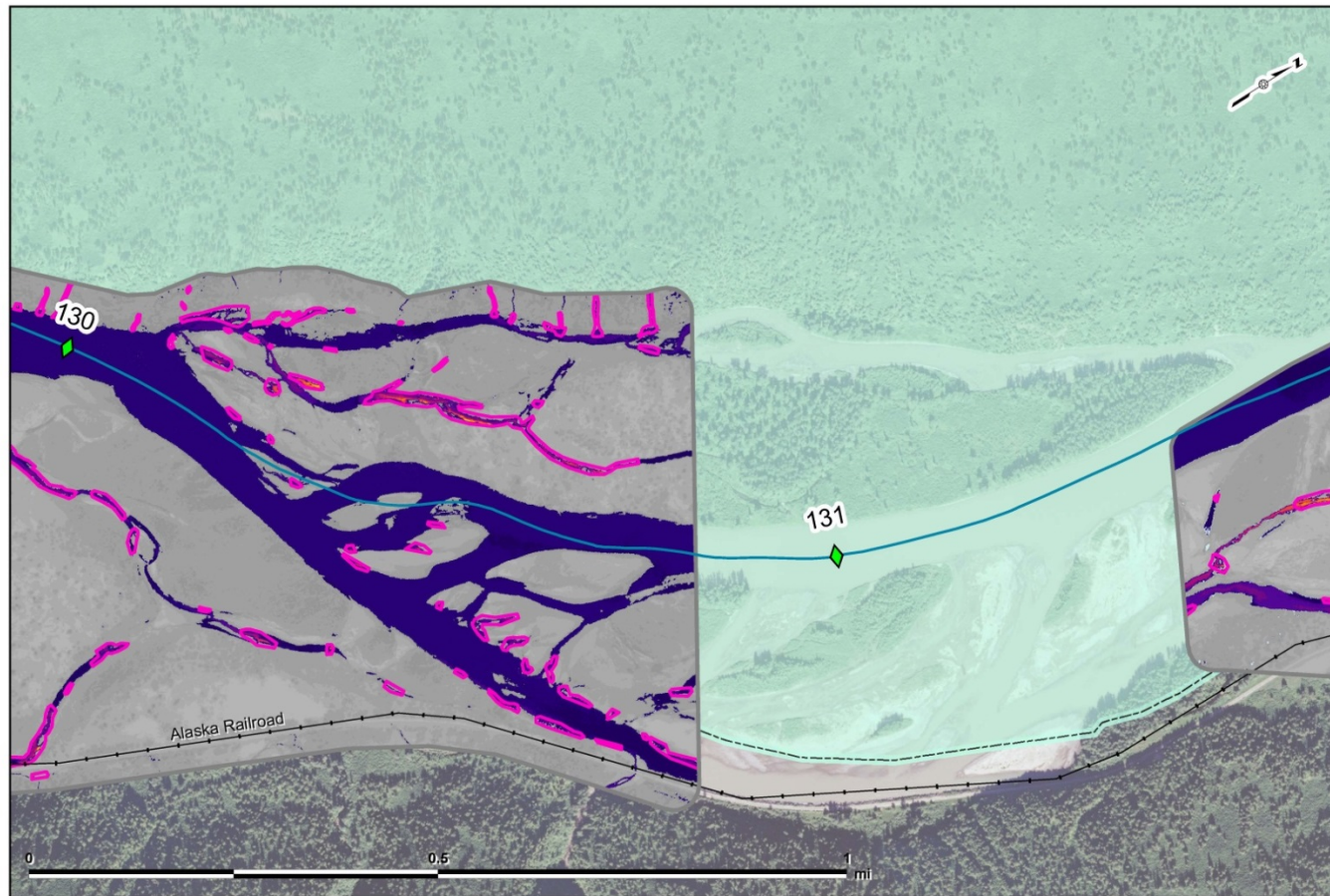
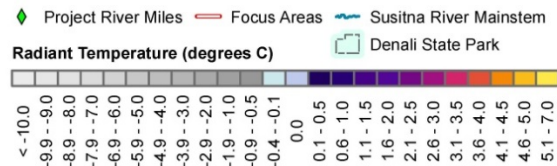
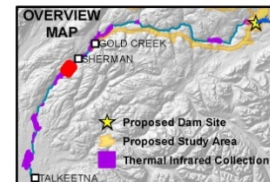
2013-Oct-23
 2013-Oct-24
 2013-Oct-31

Focus Area 128/Skull Creek (Slough 8A), Map 1 of 2

Data Sources: See Map References

Map Page 15 of 29

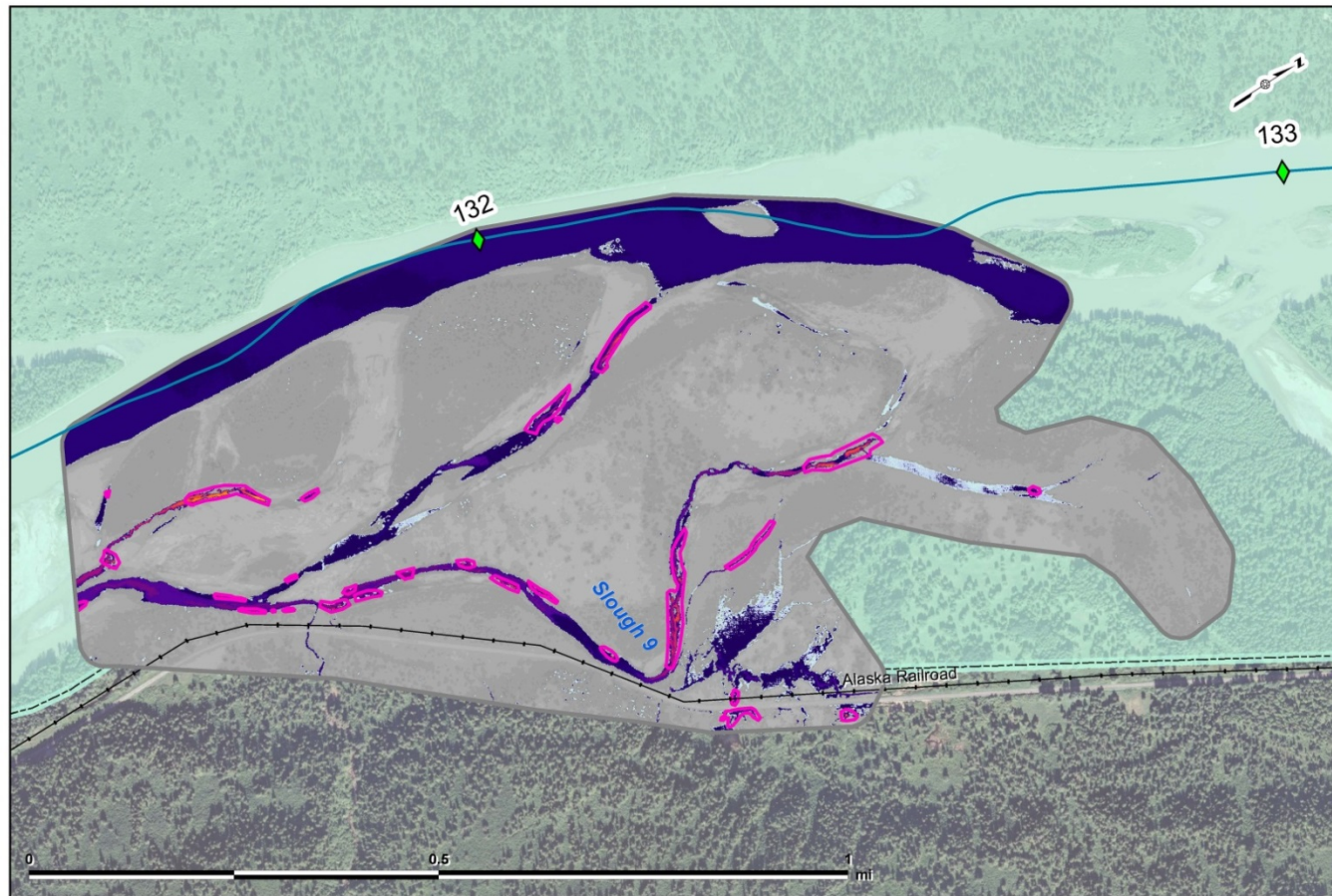
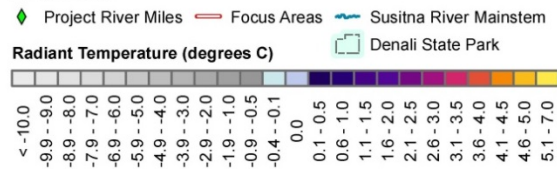
Projection: Alaska Albers NAD 1983
 Date Created: 1/10/2014
 Map Author: URS Alaska, Cynthia Kirkham
 File: ThermalDataOctober2013_20140110.mxd

**LEGEND****Increased Groundwater Activity (by date flown)****Focus Area 128/Skull Creek (Slough 8A), Map 2 of 2**

Data Sources: See Map References

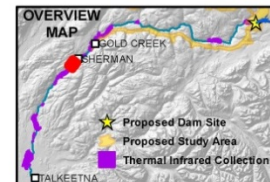
Map Page 16 of 29

Projection: Alaska Albers NAD 1983
 Date Created: 1/10/2014
 Map Author: URS Alaska, Cynthia Kirkham
 File: ThermalDataOctober2013_20140110.mxd

**LEGEND**

Increased Groundwater Activity (by date flown)

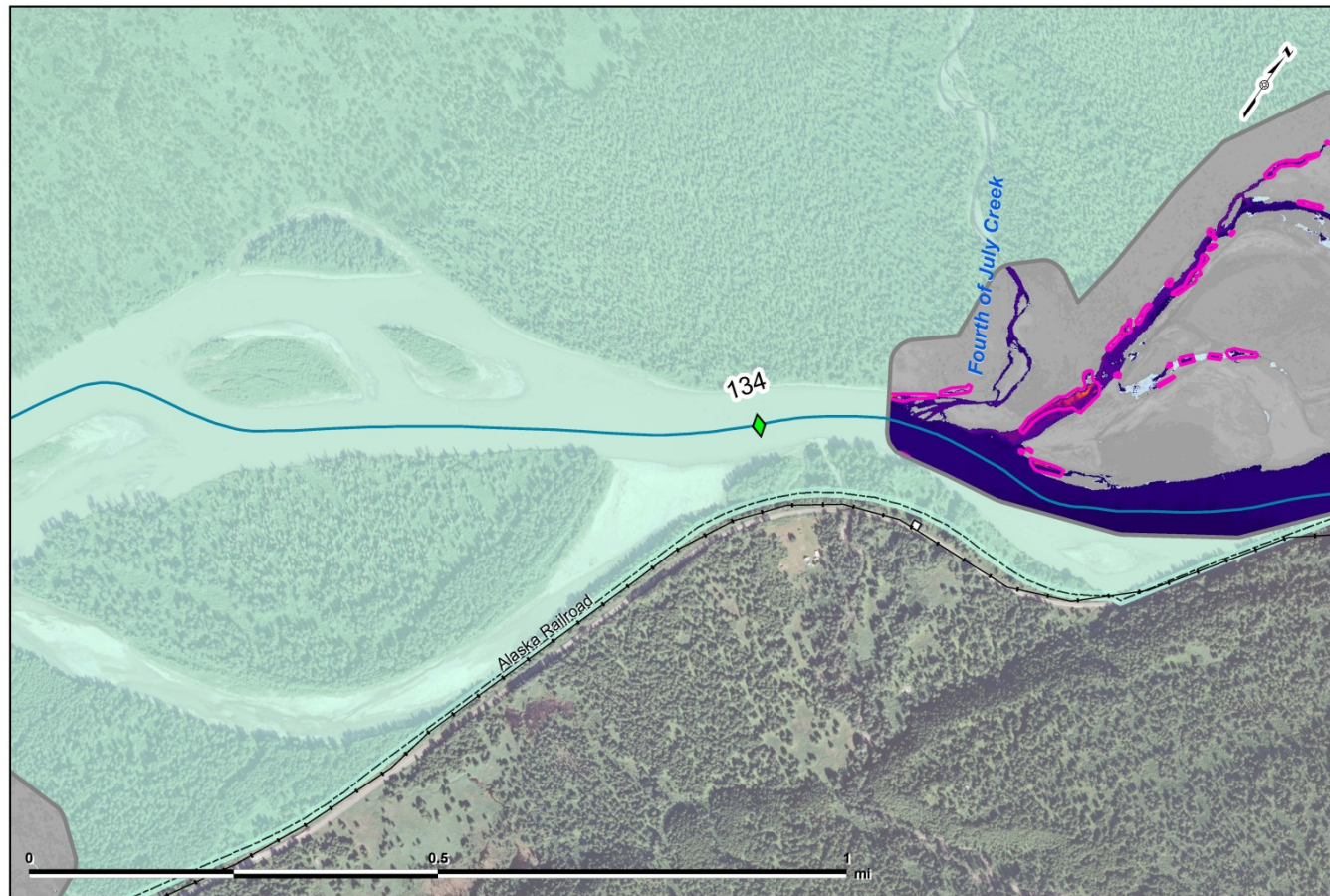
2013-Oct-23
 2013-Oct-24
 2013-Oct-31

**Slough 9 and Slough 9B**

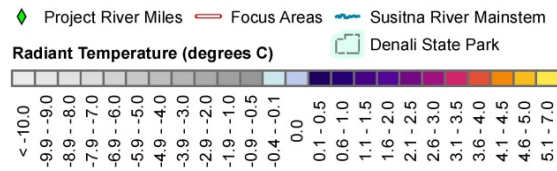
Data Sources: See Map References

Map Page 17 of 29

Projection: Alaska Albers NAD 1983
 Date Created: 1/10/2014
 Map Author: URS Alaska, Cynthia Kirkham
 File: ThermalDataOctober2013_20140110.mxd



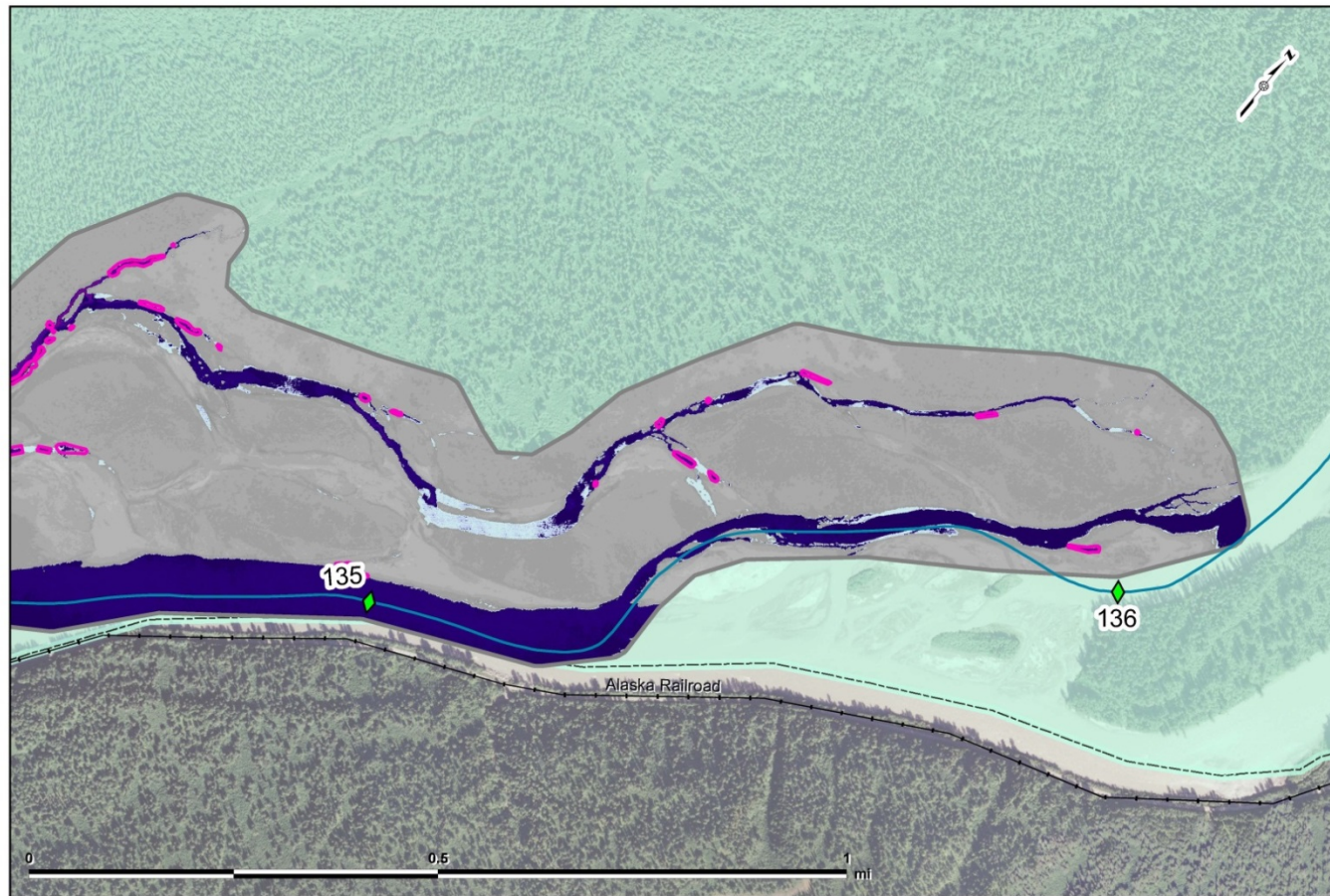
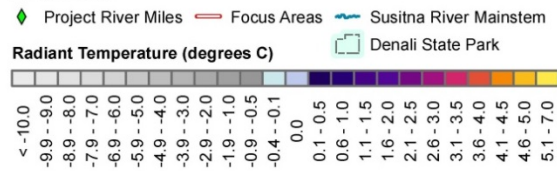
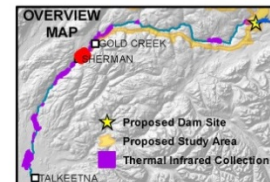
Side Channel 10A, 4th of July Creek, Map 1 of 2

LEGEND**Increased Groundwater Activity (by date flown)**

Data Sources: See Map References

Map Page 18 of 29

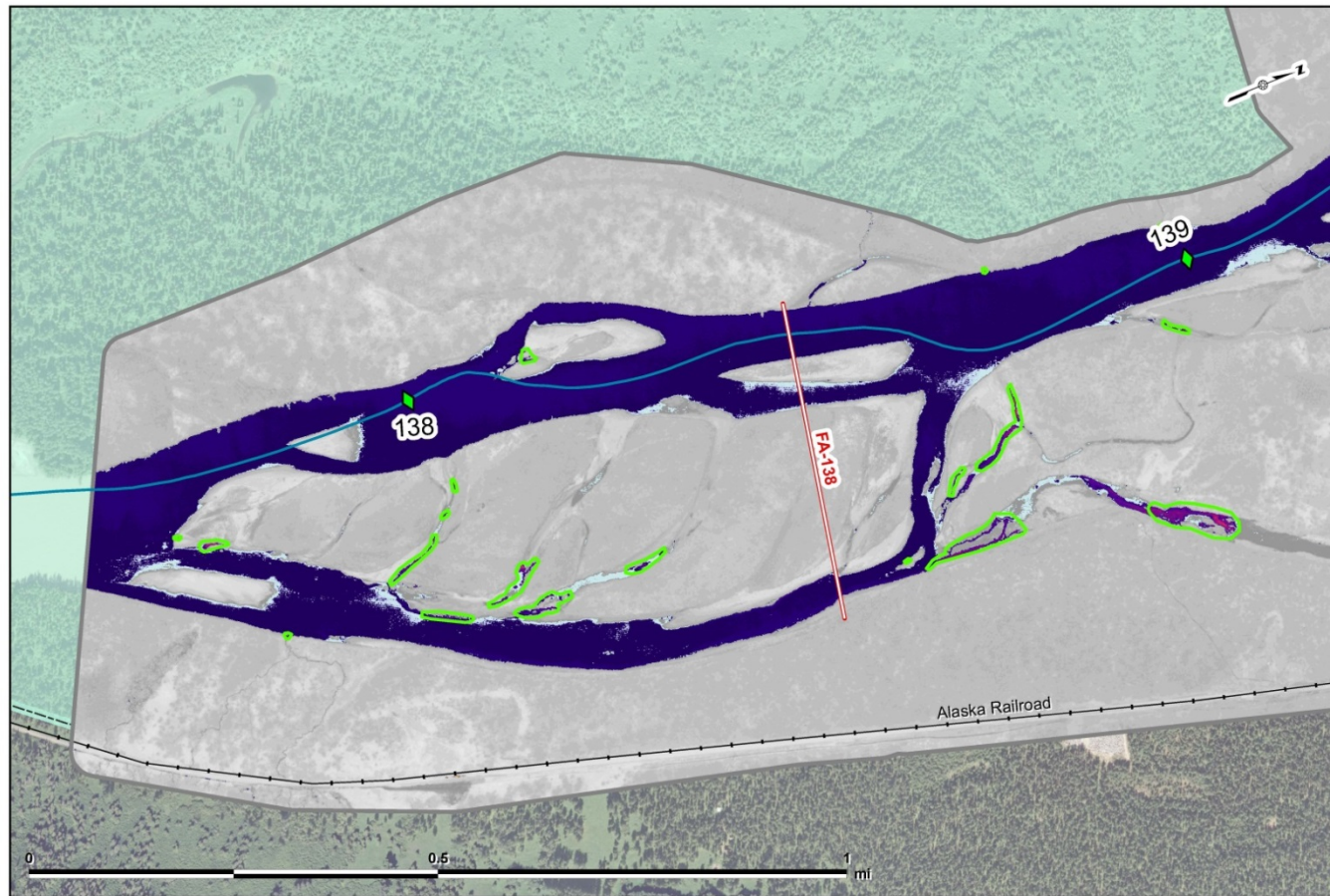
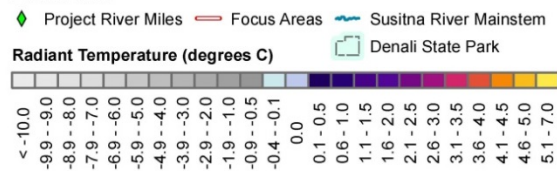
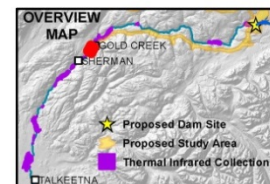
Projection: Alaska Albers NAD 1983
 Date Created: 1/10/2014
 Map Author: URS Alaska, Cynthia Kirkham
 File: ThermalDataOctober2013_20140110.mxd

**LEGEND****Side Channel 10A, 4th of July Creek, Map 2 of 2**

Data Sources: See Map References

Map Page 19 of 29

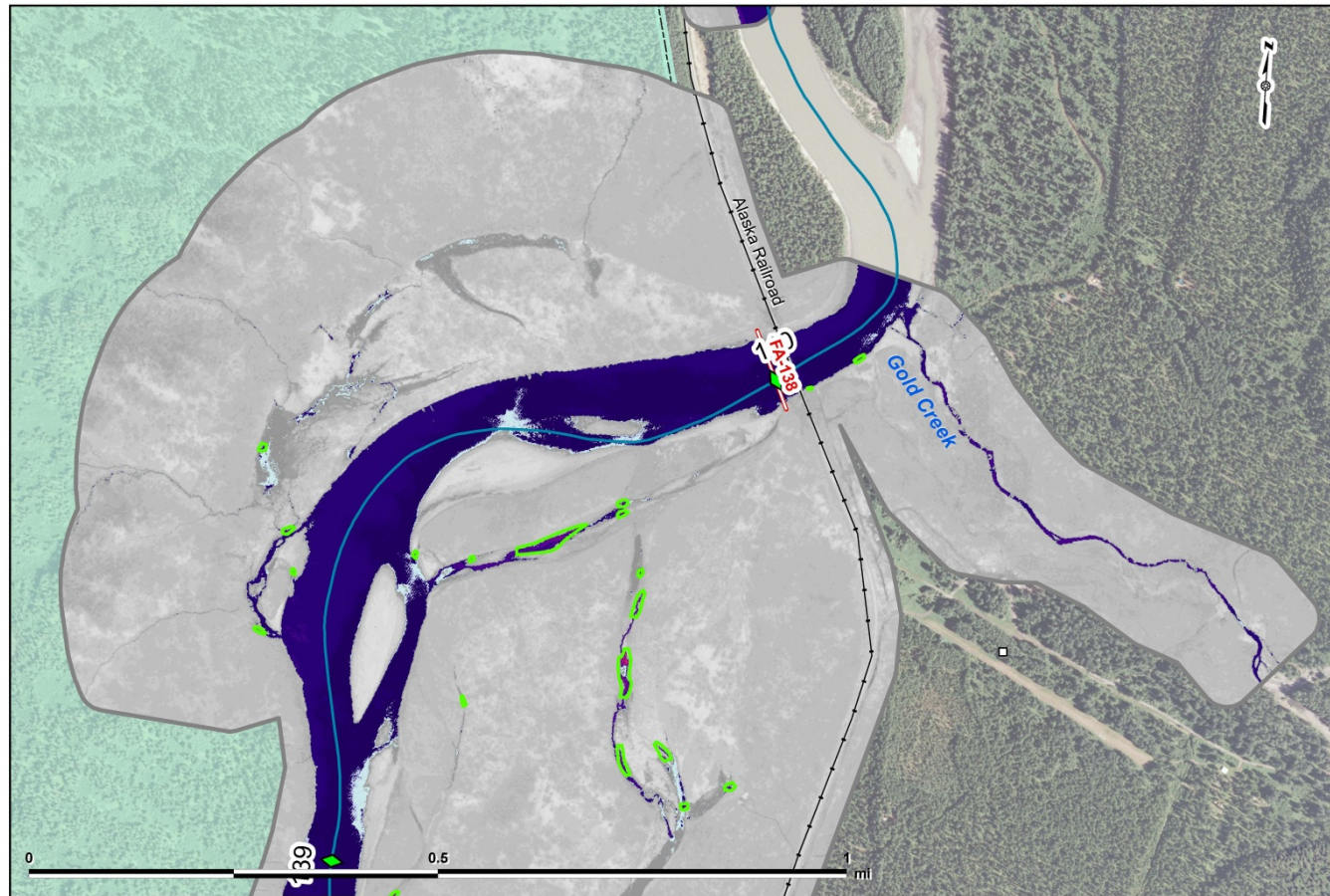
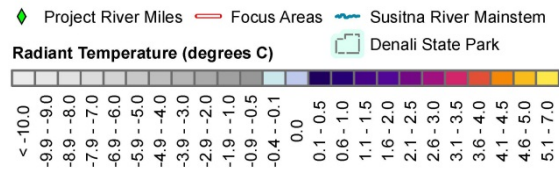
Projection: Alaska Albers NAD 1983
 Date Created: 1/10/2014
 Map Author: URS Alaska, Cynthia Kirkham
 File: ThermalDataOctober2013_20140110.mxd

**LEGEND****Increased Groundwater Activity (by date flown)****Focus Area 138/Gold Creek, Map 1 of 2**

Data Sources: See Map References

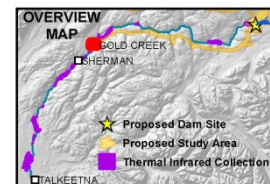
Map Page 20 of 29

Projection: Alaska Albers NAD 1983
 Date Created: 1/10/2014
 Map Author: URS Alaska, Cynthia Kirkham
 File: ThermalDataOctober2013_20140110.mxd

**LEGEND**

Increased Groundwater Activity (by date flown)

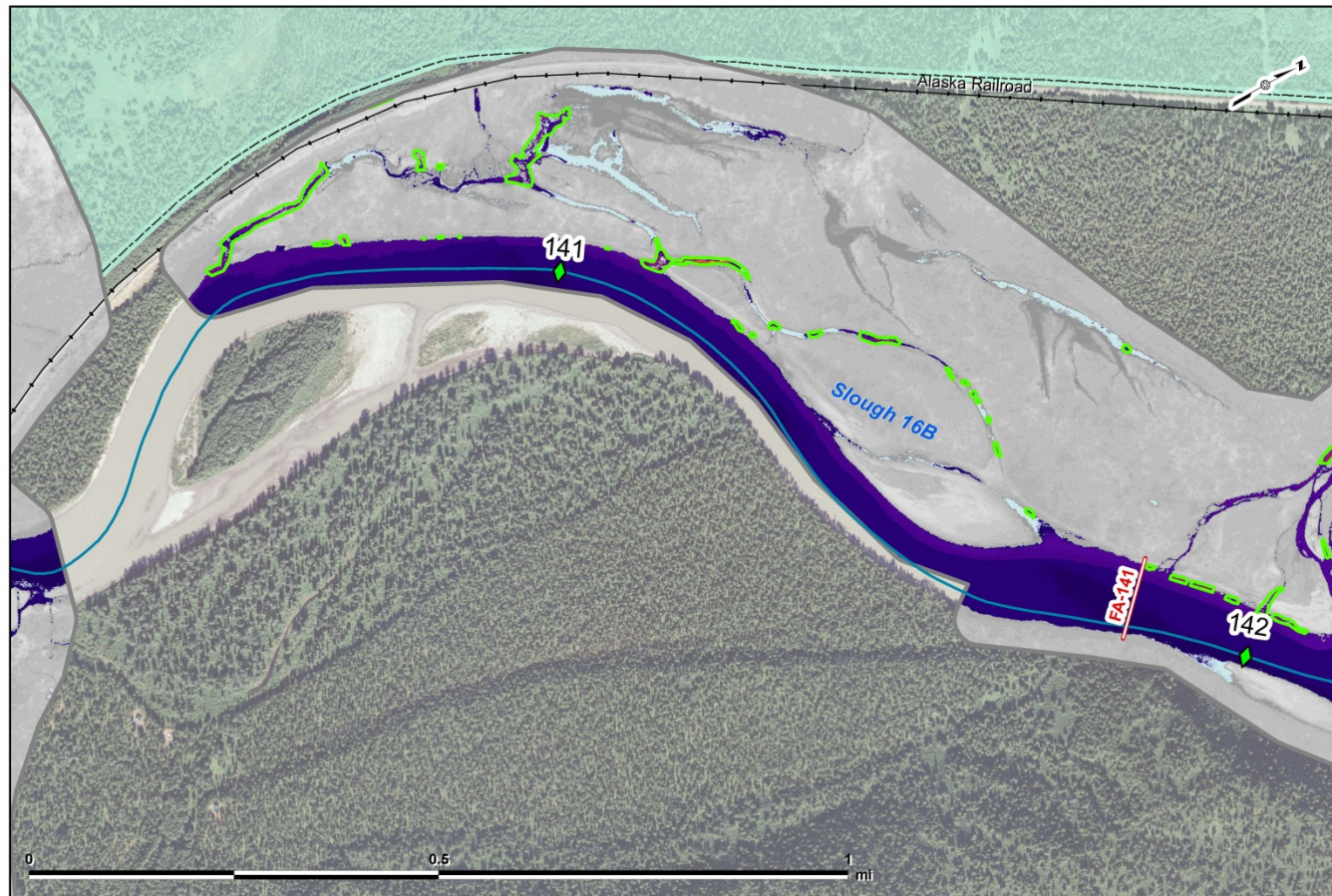
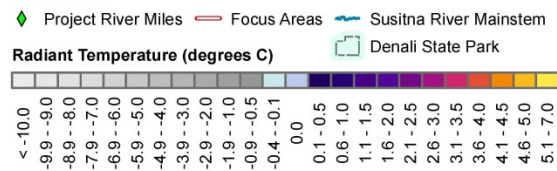
2013-Oct-23
 2013-Oct-24
 2013-Oct-31

Focus Area 138/Gold Creek, Map 2 of 2

Data Sources: See Map References

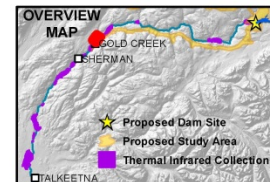
Map Page 21 of 29

Projection: Alaska Albers NAD 1983
 Date Created: 1/10/2014
 Map Author: URS Alaska, Cynthia Kirkham
 File: ThermalDataOctober2013_20140110.mxd

**LEGEND**

Increased Groundwater Activity (by date flown)

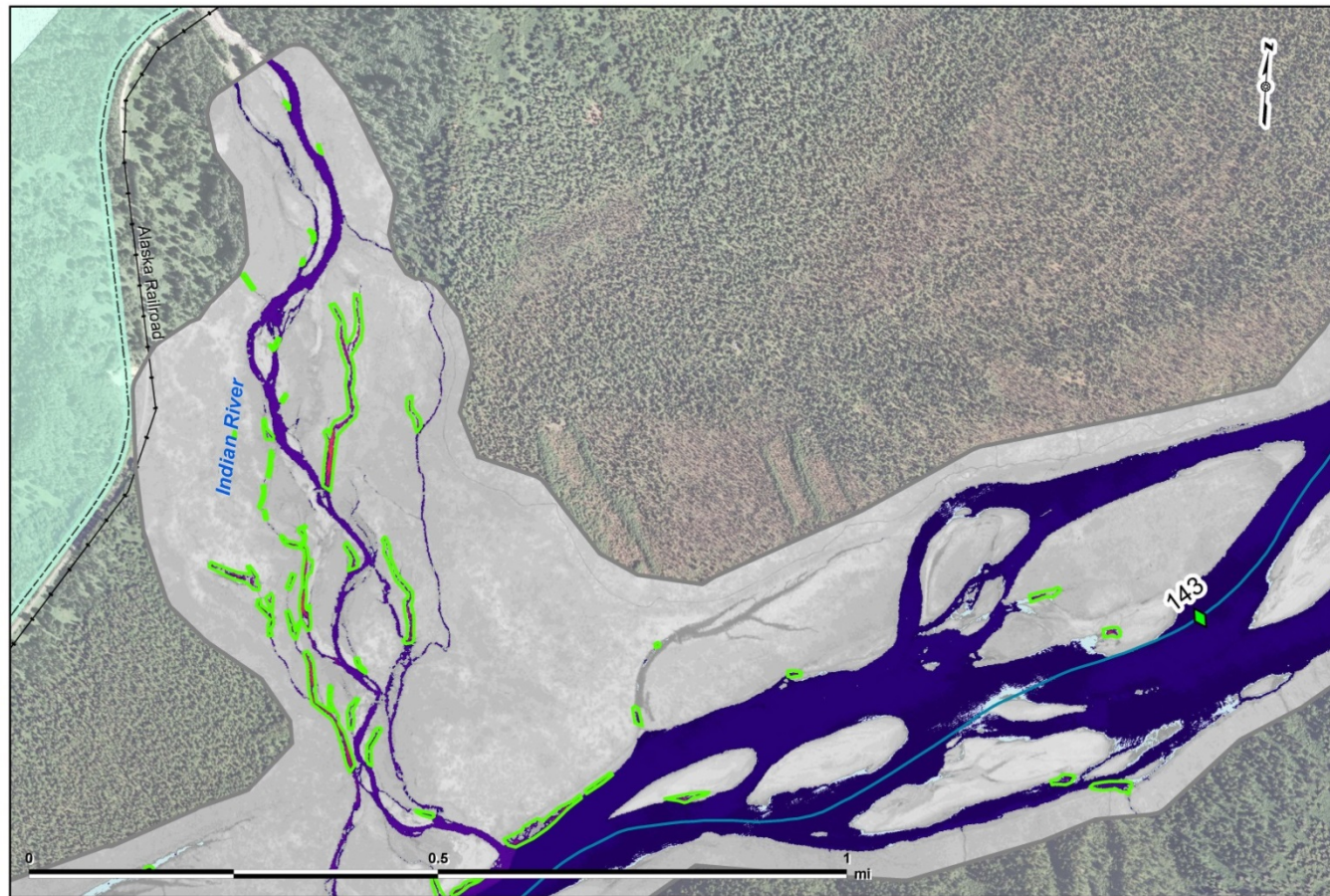
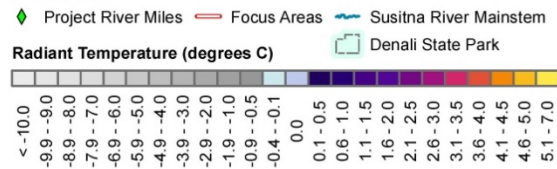
2013-Oct-23
 2013-Oct-24
 2013-Oct-31

**Slough 15**

Data Sources: See Map References

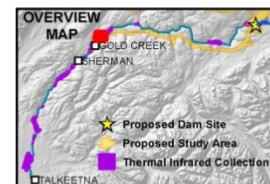
Map Page 22 of 29

Projection: Alaska Albers NAD 1983
 Date Created: 1/10/2014
 Map Author: URS Alaska, Cynthia Kirkham
 File: ThermalDataOctober2013_20140110.mxd

**LEGEND**

Increased Groundwater Activity (by date flown)

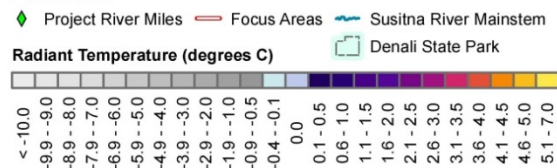
2013-Oct-23
 2013-Oct-24
 2013-Oct-31

Focus Areas 141 and 144, Map 1 of 3

Data Sources: See Map References

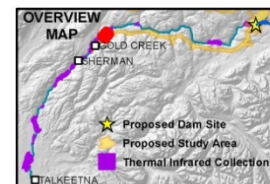
Map Page 23 of 29

Projection: Alaska Albers NAD 1983
 Date Created: 1/10/2014
 Map Author: URS Alaska, Cynthia Kirkham
 File: ThermalDataOctober2013_20140110.mxd

**LEGEND**

Increased Groundwater Activity (by date flown)

2013-Oct-23
 2013-Oct-24
 2013-Oct-31

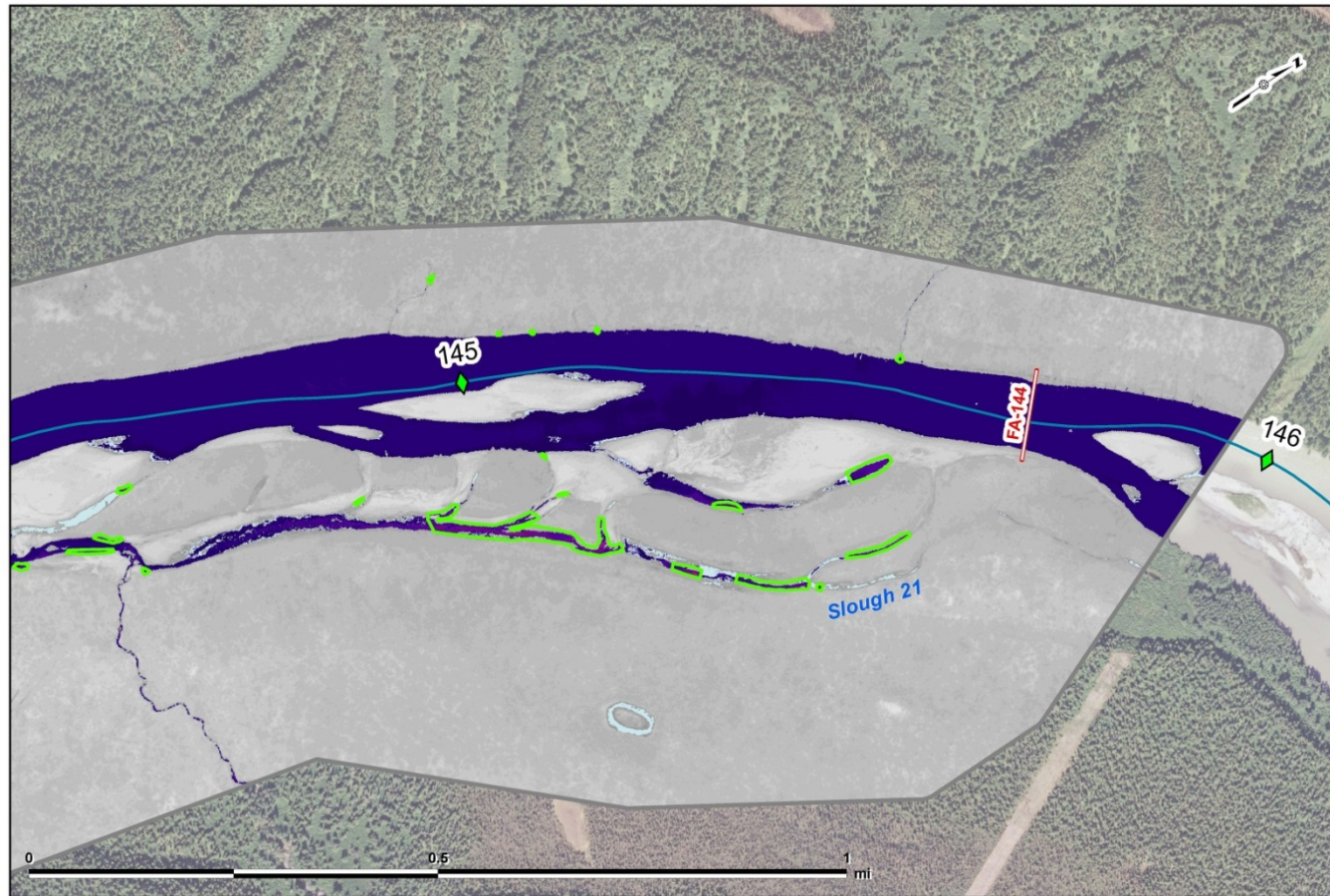
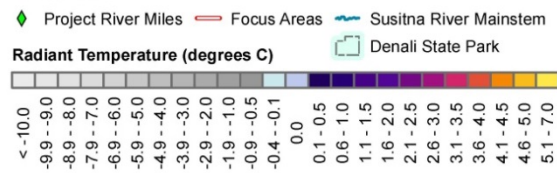
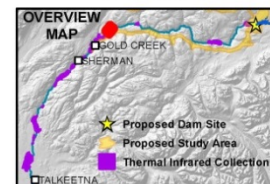
Focus Areas 141 and 144, Map 2 of 3

ALASKA ENERGY AUTHORITY

Data Sources: See Map References

Map Page 24 of 29

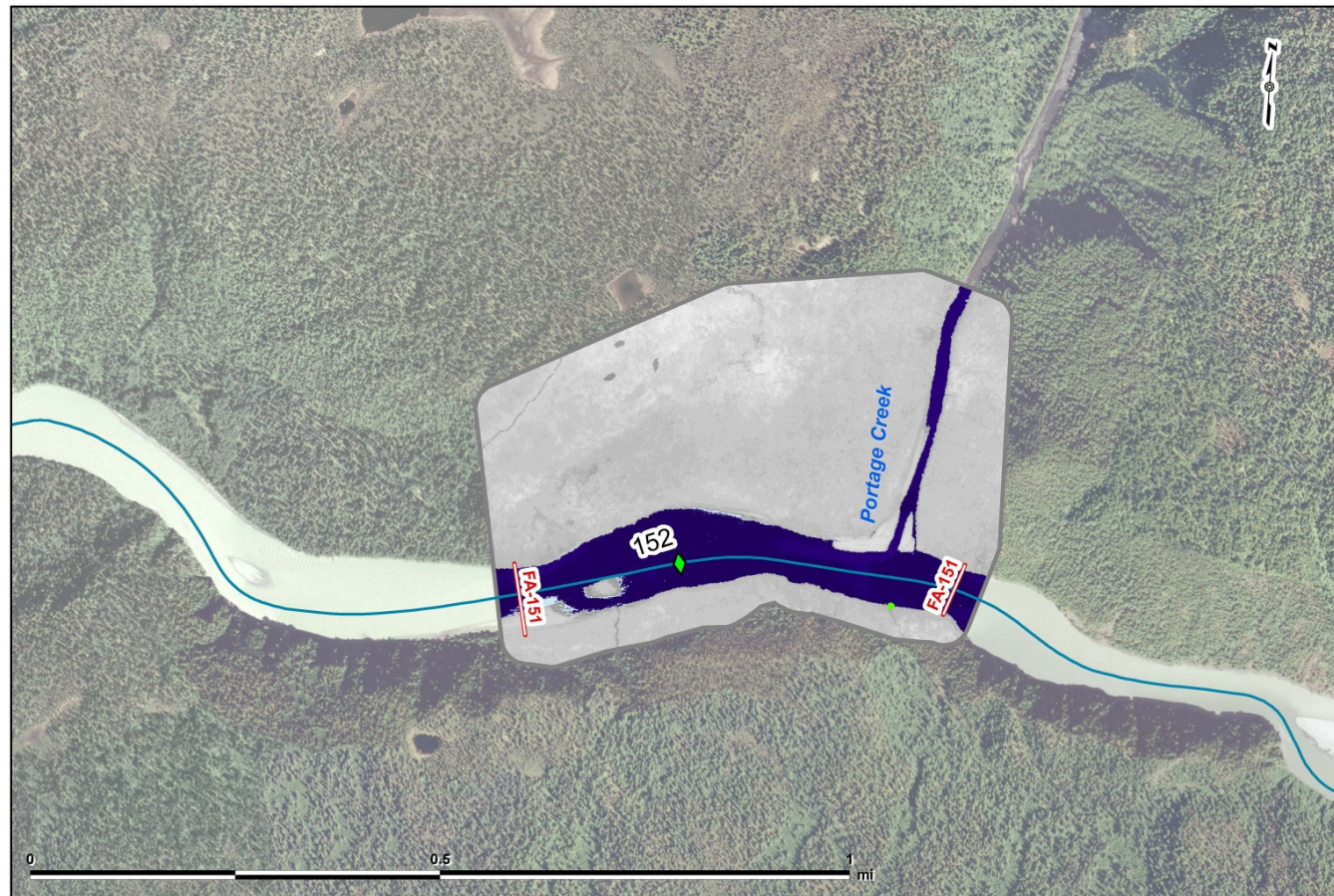
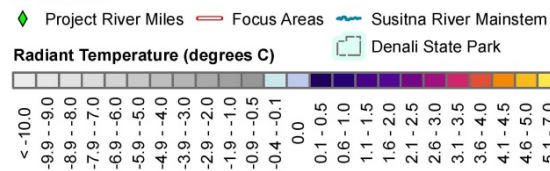
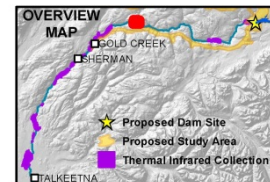
Projection: Alaska Albers NAD 1983
 Date Created: 1/10/2014
 Map Author: URS Alaska, Cynthia Kirkham
 File: ThermalDataOctober2013_20140110.mxd

**LEGEND****Increased Groundwater Activity (by date flown)****Focus Areas 141 and 144, Map 3 of 3**

Data Sources: See Map References

Map Page 25 of 29

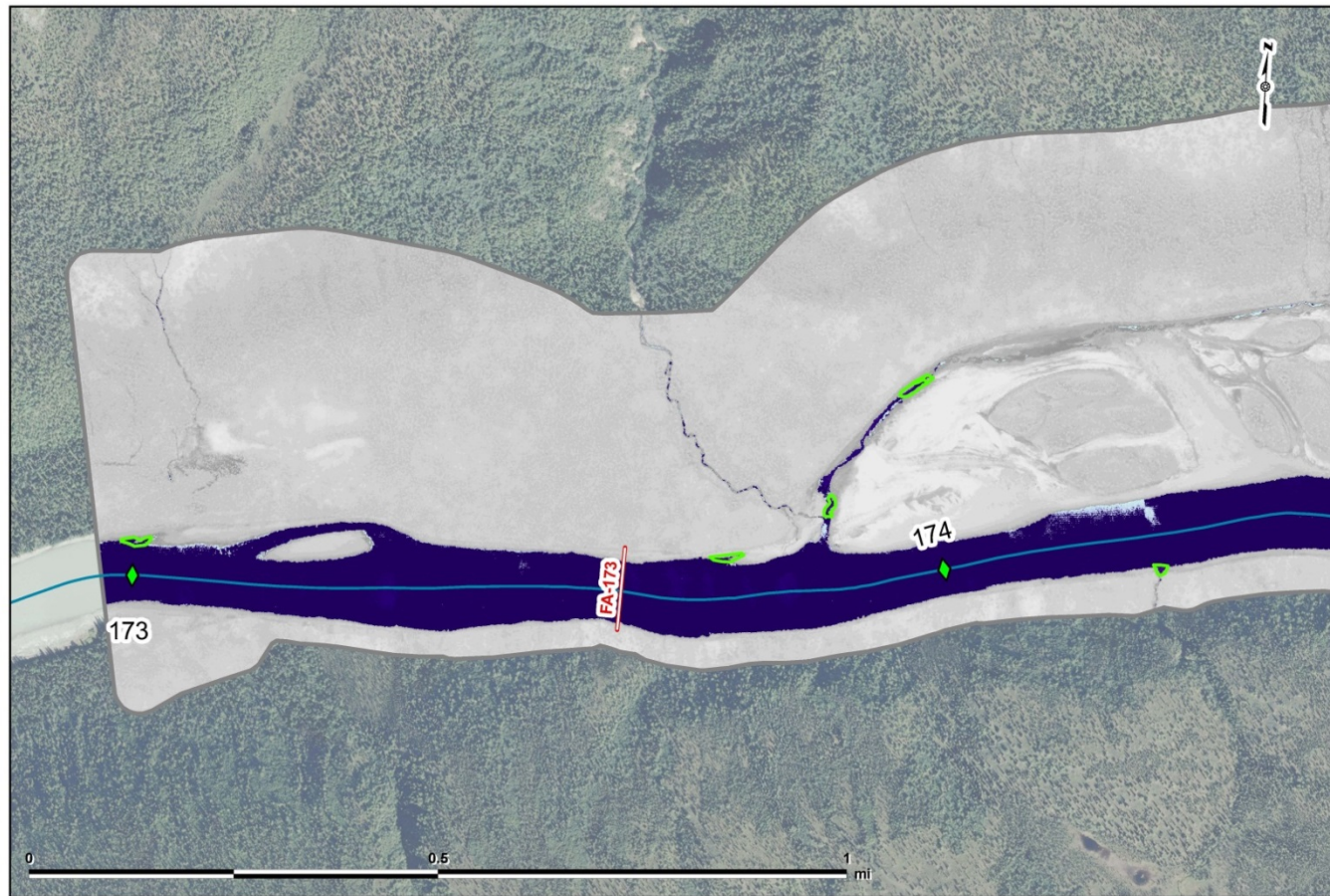
Projection: Alaska Albers NAD 1983
 Date Created: 1/10/2014
 Map Author: URS Alaska, Cynthia Kirkham
 File: ThermalDataOctober2013_20140110.mxd

**LEGEND****Increased Groundwater Activity (by date flown)****Focus Area 151**

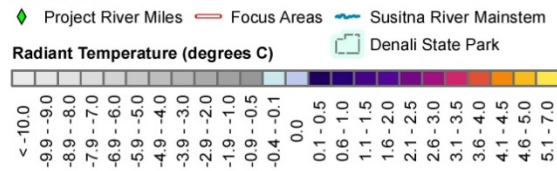
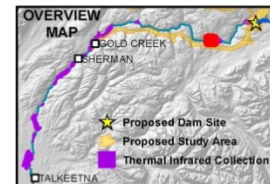
Data Sources: See Map References

Map Page 26 of 29

Projection: Alaska Albers NAD 1983
Date Created: 1/10/2014
Map Author: URS Alaska, Cynthia Kirkham
File: ThermalDataOctober2013_20140110.mxd



Focus Area 173, Map 1 of 2

LEGEND**Increased Groundwater Activity (by date flown)**

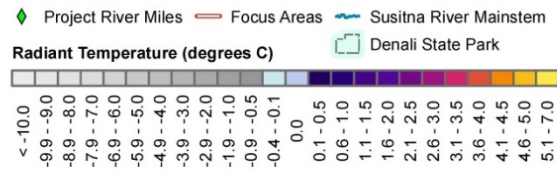
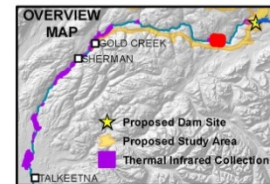
Data Sources: See Map References

Map Page 27 of 29

Projection: Alaska Albers NAD 1983
Date Created: 1/10/2014
Map Author: URS Alaska, Cynthia Kirkham
File: ThermalDataOctober2013_20140110.mxd



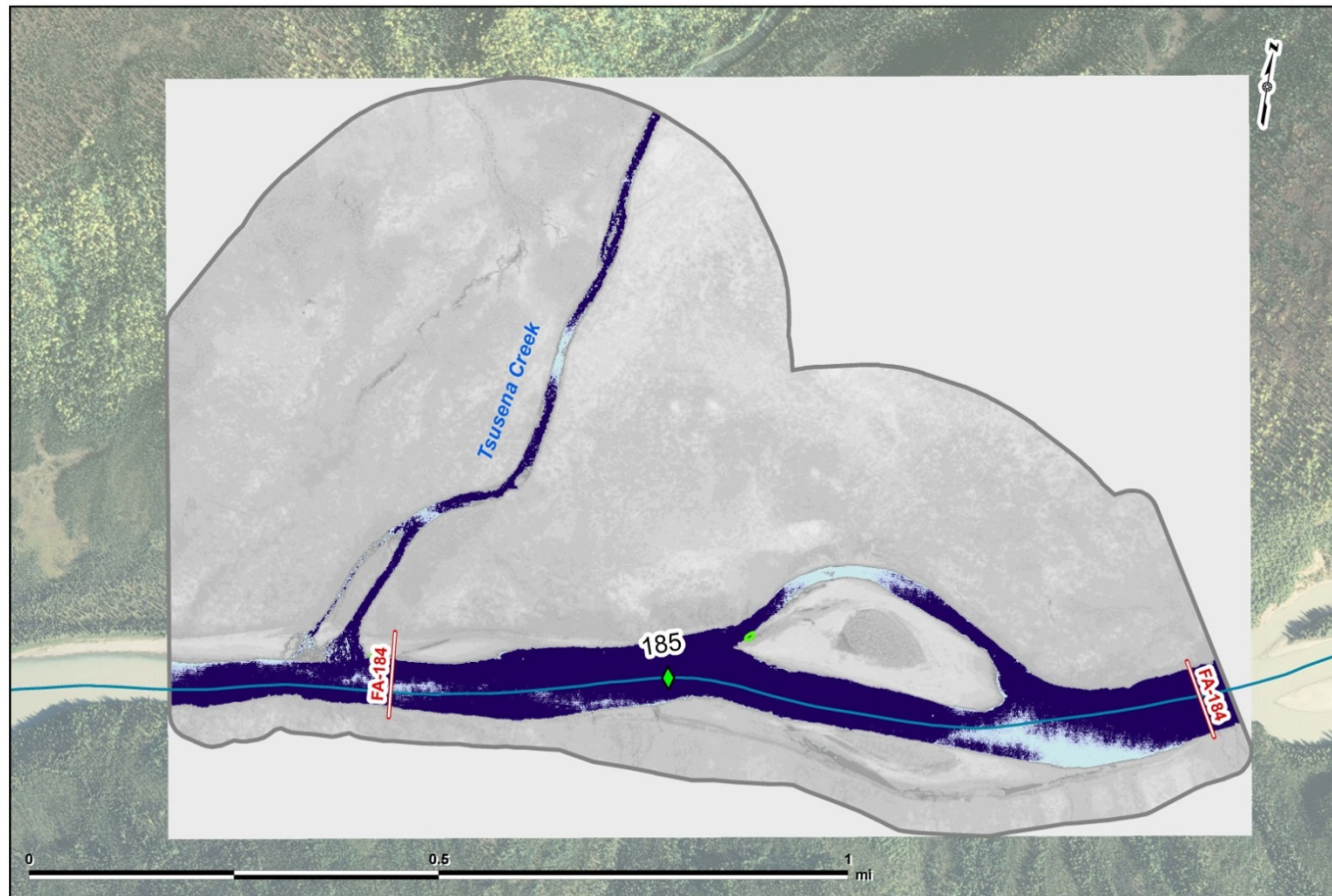
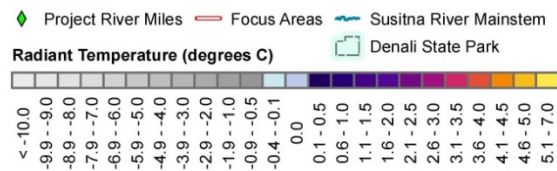
Focus Area 173, Map 2 of 2

LEGEND**Increased Groundwater Activity (by date flown)**

Data Sources: See Map References

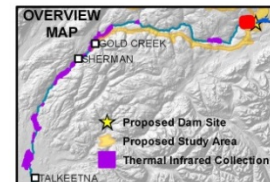
Map Page 28 of 29

Projection: Alaska Albers NAD 1983
 Date Created: 1/10/2014
 Map Author: URS Alaska, Cynthia Kirkham
 File: ThermalDataOctober2013_20140110.mxd

**LEGEND**

Increased Groundwater Activity (by date flown)

2013-Oct-23
 2013-Oct-24
 2013-Oct-31

**Focus Area 184**

Data Sources: See Map References

Map Page 29 of 29

Projection: Alaska Albers NAD 1983
 Date Created: 1/10/2014
 Map Author: URS Alaska, Cynthia Kirkham
 File: ThermalDataOctober2013_20140110.mxd