

Alberta Biodiversity
Monitoring Institute

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Circa 1950-1960 Historical Ortho Imagery Version 2.0 - Metadata

Document Version: August 2015



Acknowledgements

This document was created by Branko Hricko and Jahan Kariyeva.

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Suggested Citation

Alberta Biodiversity Monitoring Institute. 2015. Circa 1950-1960 Historical Ortho Imagery Version 2.0 - Metadata. Alberta Biodiversity Monitoring Institute, Alberta, Canada. Available at: abmi.ca [Date of Download].

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If you have questions or concerns about this publication, you can contact: ABMI Information Centre CW-405 Biological Sciences Centre University of Alberta Edmonton, Alberta, Canada, T6G 2E9 Phone: (780) 492-5766 E-mail: abmiinfo@ualberta.ca

Circa 1950-1960 Historical Ortho Imagery

This dataset contains georeferenced, orthophoto maps consisting mainly of photography from between 1949 and 1951 and a few maps with photos from 1961 to 1963. Each of the original maps covers a 1:50,000 NTS sheet at a scale of 1:63,360. The data covers the entire province of Alberta. The original orthophoto maps were provided by Alberta Tourism, Parks and Recreation. In 2008 the former Alberta Research Council, current Alberta Innovates Technology Futures, scanned most of the maps in collaboration with the University of Alberta Map Library. Alberta Biodiversity Monitoring Institute (ABMI) scanned last 20 missing tiles in 2015 after images were located by the Alberta Environment and Sustainable Resource Development (AESRD) staff. The scanning was done on an HP Designject 820 mfp scanner at a resolution of 1,000 DPI. The georeferencing was implemented by ABMI using 2.5-metre panchromatic SPOT imagery for 2012. The spatial resolution of georeferenced dataset is approximately 1.65 meters.

Accuracy Report

Positional accuracy of the data was implemented by AESRD staff in 2015: 206.49 m horizontal accuracy at 95% confidence level. The imagery was compared to the 2013 SPOT 6 imagery (1.5 m) as the control using Federal Geographic Data Committee (FGDC) standards. Because of the age and quality of the imagery being tested, it was very difficult to obtain good anthropogenic control points as there was often no human development in large portions of the province at that time period. A total of 643 control points were used and spaced out to try and obtain at least one control point per 50,000 NTS sheet. Intersections of surveyed roads were used when available. In areas where there was no human development, natural features such as lakes, rivers or stands of timber were used when it was obvious there was no change over the 50 to 60 year time span. A few NTS sheets could not have been sampled due to the lack of control points. In particular the mountainous portions of the province were impossible to sample due to the extreme variability of the oblique views of the older photos. Another consideration is the method in which the orthophoto maps were created. The technology at the time made it very difficult to align features to their true location due to the lack of reference information. As well, due to the inherent distortions in the photos themselves, it was not always possible to align the photos properly as they did not have the “rubber-sheeting” capability available to modern digital methods.

Time Period

Ground Condition: – 1949 to 1953 and 1961 to 1963

Coordinate System of Mosaic Dataset (ESRI File Geodatabase)

Datum: North American 1983
Projection: Transverse Mercator
Coordinate System: 10TM AEP Forest

Well known ID: 3400; Authority: EPSG

False Easting: 500000.0
False Northing: 0.0
Central Meridian: -115.0
Scale Factor: 0.9992
Latitude of Origin: 0.0
Linear Unit: Meter (1.0)

Coordinate System of Map Tile Raster Files (TIFFs)

Datum: North American 1983
Projection: Transverse Mercator
Coordinate System: 10TM AEP Forest

Well known ID: 3400; Authority: EPSG

False Easting: 500000.0
False Northing: 0.0
Central Meridian: -115.0
Scale Factor: 0.9992
Latitude of Origin: 0.0
Linear Unit: Meter (1.0)

Appendix A – List of Orthophoto Map Tiles

Orthophoto Map Tile number and acquisition date

72E01	1949-1951	72L16	1949-1951	73D15	1949-1951	73L14	1950	74D13	1949-1951
72E02	1949-1951	72M01	1949-1951	73D16	1949-1951	73L15	1949-1951	74D14	1949-1951
72E03	1949-1951	72M02	1949-1951	73E01	1949-1951	73L16	1949-1951	74D15	1949-1951
72E04	1949-1951	72M03	1949-1951	73E02	1949-1951	73M01	1949-1951	74D16	1949-1951
72E05	1949-1951	72M04	1949-1951	73E03	1949-1951	73M02	1949-1951	74E01	1949-1951
72E06	1949-1951	72M05	1949-1951	73E04	1949-1951	73M03	1949-1951	74E02	1949-1951
72E07	1949-1951	72M06	1949-1951	73E05	1949-1951	73M04	1949-1951	74E03	1949-1951
72E08	1949-1951	72M07	1949-1951	73E06	1949-1951	73M05	1949-1951	74E04	1949-1951
72E09	1949-1951	72M08	1949-1951	73E07	1949-1951	73M06	1949-1951	74E05	1949-1951
72E10	1949-1951	72M09	1949-1951	73E08	1949-1951	73M07	1949-1951	74E06	1949-1951
72E11	1949-1951	72M10	1950	73E09	1949-1951	73M08	1949-1951	74E07	1949-1951
72E12	1949-1951	72M11	1949-1951	73E10	1949-1951	73M09	1949-1951	74E08	1949-1951
72E13	1949-1951	72M12	1949-1951	73E11	1949-1951	73M10	1949-1951	74E09	1949-1951
72E14	1949-1951	72M13	1949-1951	73E12	1949-1951	73M11	1950	74E10	1949-1951
72E15	1949-1951	72M14	1949-1951	73E13	1949	73M12	1949-1951	74E11	1949-1951
72E16	1949-1951	72M15	1949-1951	73E14	1949-1951	73M13	1949-1951	74E12	1949-1951
72L01	1949-1951	72M16	1949-1951	73E15	1949-1951	73M14	1949-1951	74E13	1949-1951
72L02	1949-1951	73D01	1949-1951	73E16	1949-1951	73M15	1949-1951	74E14	1949-1951
72L03	1949-1951	73D02	1949-1951	73L01	1949-1951	73M16	1949-1951	74E15	1949-1951
72L04	1949-1951	73D03	1949-1951	73L02	1950	74D01	1949-1951	74E16	1949-1951
72L05	1951	73D04	1949-1951	73L03	1949-1951	74D02	1949-1951	74L01	1949-1951
72L06	1949-1951	73D05	1949-1951	73L04	1949-1951	74D03	1949-1951	74L02	1949-1951
72L07	1949-1951	73D06	1949-1951	73L05	1949-1951	74D04	1949-1951	74L03	1950
72L08	1949-1951	73D07	1949-1951	73L06	1949-1951	74D05	1949-1951	74L04	1950
72L09	1949-1951	73D08	1949-1951	73L07	1952	74D06	1949-1951	74L05	1950
72L10	1949-1951	73D09	1949-1951	73L08	1949-1951	74D07	1949-1951	74L06	1949-1951
72L11	1949-1951	73D10	1949-1951	73L09	1949-1951	74D08	1949-1951	74L07	1949-1951
72L12	1949-1951	73D11	1949-1951	73L10	1950	74D09	1949-1951	74L08	1949-1951
72L13	1949-1951	73D12	1949-1951	73L11	1950	74D10	1949-1951	74L09	1949-1951
72L14	1949-1951	73D13	1949-1951	73L12	1950	74D11	1949-1951	74L10	1949-1951
72L15	1949-1951	73D14	1949-1951	73L13	1950	74D12	1949-1951	74L11	1950

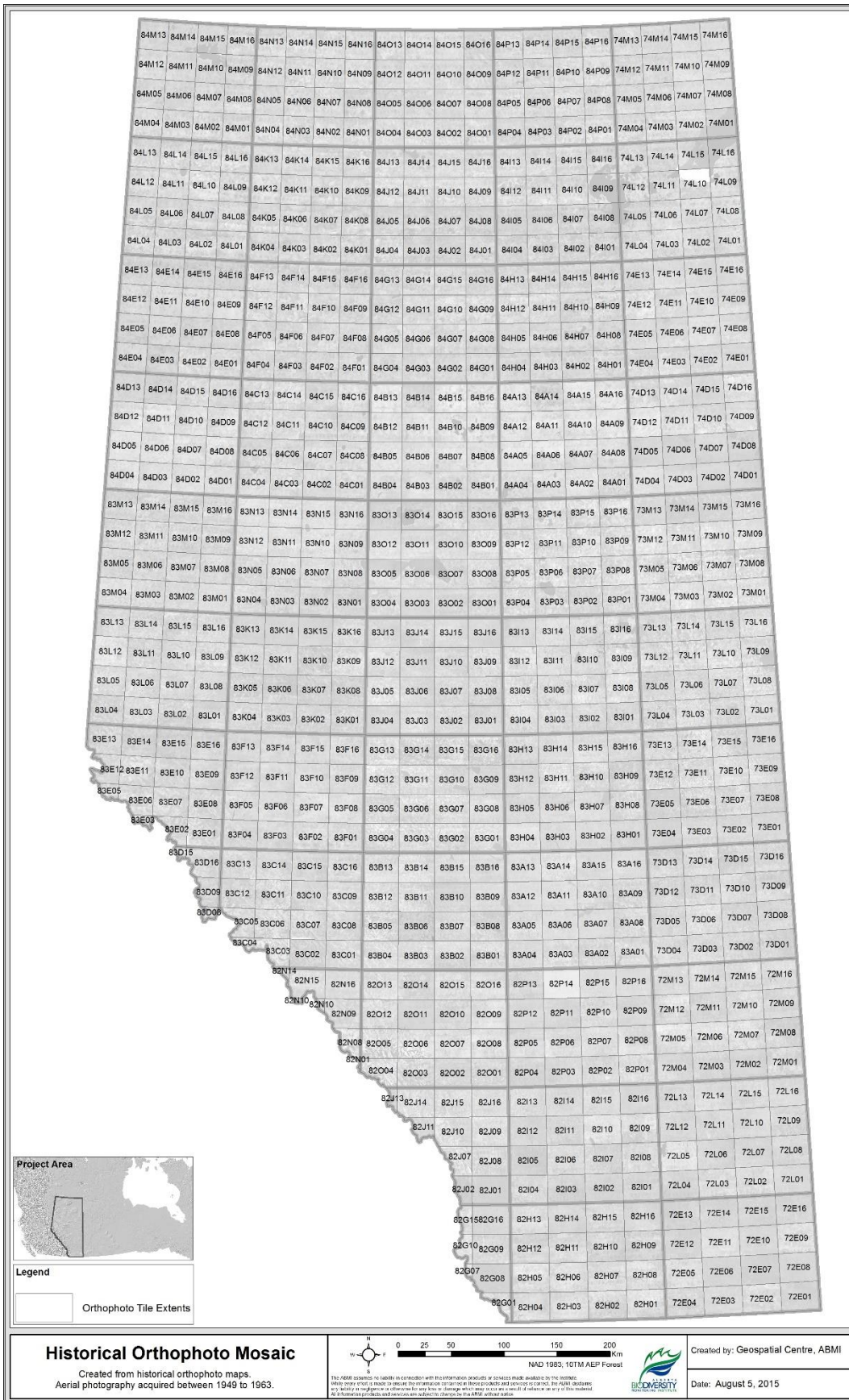
74L12	1950	82H07	1961	82J14	1949-1951	82P09	1949-1951	83B11	1949-1951
74L13	1950	82H08	1949-1951	82J15	1949-1951	82P10	1949-1951	83B12	1949-1951
74L14	1949-1951	82H09	1949-1951	82J16	1950	82P11	1949-1951	83B13	1949-1951
74L15	1949-1951	82H10	1949-1951	82N01	1949-1951	82P12	1949-1951	83B14	1949-1951
74L16	1949-1951	82H11	1961	82N08	1949-1951	82P13	1949-1951	83B15	1963
74M01	1949-1951	82H12	1961	82N09	1949-1951	82P14	1949-1951	83B16	1963
74M02	1949-1951	82H13	1961	82N10	1952	82P15	1949-1951	83C01	1950
74M03	1950	82H14	1949-1951	82N14	1949-1951	82P16	1949-1951	83C02	1950
74M04	1950	82H15	1961	82N15	1949-1951	83A01	1962	83C03	1950
74M05	1950	82H16	1949-1951	82N16	1949-1951	83A02	1949-1951	83C04	1950
74M06	1950	82I01	1949-1951	82O01	1949-1951	83A03	1949-1951	83C05	1949
74M07	1949-1951	82I02	1949-1951	82O02	1949-1951	83A04	1962	83C06	1949
74M08	1949-1951	82I03	1949-1951	82O03	1950	83A05	1949-1951	83C07	1949
74M09	1949-1951	82I04	1950	82O04	1949-1951	83A06	1961	83C08	1950
74M10	1949-1951	82I05	1949-1951	82O05	1949-1951	83A07	1961	83C09	1950
74M11	1950	82I06	1951	82O06	1949-1951	83A08	1949-1951	83C10	1949
74M12	1950	82I07	1949-1951	82O07	1949-1951	83A09	1949	83C11	1949
74M13	1950	82I08	1949-1951	82O08	1949-1951	83A10	1949-1951	83C12	1949
74M14	1950	82I09	1949-1951	82O09	1949-1951	83A11	1961	83C13	1949
74M15	1949-1951	82I10	1950	82O10	1950	83A12	1961	83C14	1949
74M16	1949-1951	82I11	1949-1951	82O11	1949-1950	83A13	1963	83C15	1949
82G01	1949-1951	82I12	1949-1951	82O12	1949-1951	83A14	1949-1951	83C16	1950
82G07	NA	82I13	1949-1951	82O13	1949-1951	83A15	1963	83D08	1949
82G08	NA	82I14	1949-1951	82O14	1950	83A16	1963	83D09	1949
82G09	1949-1951	82I15	1950	82O15	1950	83B01	1950	83D15	1949
82G10	NA	82I16	1949-1951	82O16	1949-1951	83B02	1949-1951	83D16	1949
82G15	1949-1951	82J01	1949-1951	82P01	1949-1951	83B03	1949-1951	83E01	1949
82G16	1949-1951	82J02	1949-1951	82P02	1949-1951	83B04	1949-1951	83E02	1949
82H01	1949-1951	82J07	1949-1951	82P03	1949-1951	83B05	1949-1951	83E03	1949
82H02	1949-1951	82J08	1949-1951	82P04	1949-1951	83B06	1949-1951	83E05	1949
82H03	1949-1951	82J09	1949-1951	82P05	1949-1951	83B07	1962	83E06	1949
82H04	1949-1951	82J10	1949-1951	82P06	1949-1951	83B08	1949-1951	83E07	1949
82H05	1949-1951	82J11	1949-1951	82P07	1950	83B09	1963	83E08	1949
82H06	1949-1951	82J13	1949-1951	82P08	1949-1951	83B10	NA	83E09	1951

83E10	1951	83G10	1949-1951	83I12	1949	83K14	1949-1951	83M16	1950
83E11	1951	83G11	1949-1951	83I13	1949-1951	83K15	1949-1951	83N01	1950
83E12	1951	83G12	1949-1951	83I14	1949-1951	83K16	1950	83N02	1950
83E13	1951	83G13	1949-1951	83I15	1949-1951	83L01	1949	83N03	1950
83E14	1950	83G14	1950	83I16	1949	83L02	1950	83N04	1950
83E15	1950	83G15	1950	83J01	1949-1951	83L03	1950	83N05	1950
83E16	1950	83G16	1949-1951	83J02	1949-1951	83L04	1950	83N06	1950
83F01	1950	83H01	1962	83J03	1949-1951	83L05	1950	83N07	1950
83F02	1950	83H02	1962	83J04	1949-1951	83L06	1950	83N08	1950
83F03	1950	83H03	1962	83J05	1949-1951	83L07	1950	83N09	1950
83F04	1950	83H04	1949-1951	83J06	1949-1951	83L08	1949	83N10	1950
83F05	1951 (1949-1951)	83H05	1949-1951	83J07	1949-1951	83L09	1950	83N11	1950
		83H06	1949-1951	83J08	1949-1951	83L10	1949-1951	83N12	1950
83F06	1951 (1949-1951)	83H07	1949-1951	83J09	1949	83L11	1950	83N13	1950
83F07	1951	83H08	1950	83J10	1949-1951	83L12	1950	83N14	1950
83F08	1952	83H09	1950	83J11	1949-1951	83L13	1950	83N15	1950
83F09	1951	83H10	1950	83J12	1949-1951	83L14	1950	83N16	1950
83F10	1951	83H11	1949-1951	83J13	NA	83L15	1950	83O01	1949
83F11	1951	83H12	1949-1951	83J14	1949-1951	83L16	1950	83O02	1949
83F12	1951	83H13	1949-1951	83J15	1949-1951	83M01	1950	83O03	1949-1951
83F13	1950	83H14	1949-1951	83J16	1949-1951	83M02	1950	83O04	1949
83F14	1950	83H15	1949-1951	83K01	1949	83M03	1950	83O05	1949
83F15	1950	83H16	1949-1951	83K02	1949	83M04	1950	83O06	1949
83F16	1950	83I01	1949	83K03	1949	83M05	1950	83O07	1949
83G01	1949-1951	83I02	1949	83K04	1949	83M06	1950	83O08	1949
83G02	1949-1951	83I03	1949	83K05	1949	83M07	1950	83O09	1949
83G03	1949-1951	83I04	1949-1951	83K06	1949	83M08	1950	83O10	1949-1951
83G04	1950	83I05	1949-1951	83K07	1949	83M09	1950	83O11	1949-1951
83G05	1949-1951	83I06	1949-1951	83K08	1949	83M10	1950	83O12	1949-1951
83G06	1949-1951	83I07	1949	83K09	1949	83M11	1950	83O13	1949-1951
83G07	1949-1951	83I08	1949	83K10	1949	83M12	1950	83O14	1949-1951
83G08	1962	83I09	1949	83K11	1949-1951	83M13	1950	83O15	1949-1951
83G09	1962	83I10	1949-1951	83K12	1949-1951	83M14	1950	83O16	1949-1951
		83I11	1949-1951	83K13	1949-1951	83M15	1950	83P01	1949

83P02	1949	84B04	1949	84D06	1950	84F08	1950	84H10	1950
83P03	1949	84B05	1949	84D07	1950	84F09	1950	84H11	1950
83P04	1949	84B06	1949	84D08	1950	84F10	1950	84H12	1950
83P05	1949	84B07	1949	84D09	1950	84F11	1950	84H13	1950
83P06	1949	84B08	1949	84D10	1950	84F12	1950	84H14	1950
83P07	1949	84B09	1950	84D11	1950	84F13	1950	84H15	1950
83P08	1949	84B10	1950	84D12	1950	84F14	1950	84H16	1950
83P09	1949	84B11	1950	84D13	1949-1951	84F15	1950	84I01	1950
83P10	1949	84B12	1950	84D14	1949-1951	84F16	1950	84I02	1950
83P11	1949	84B13	1950	84D15	1950	84G01	1950	84I03	1950
83P12	1949	84B14	1950	84D16	1950	84G02	1950	84I04	1950
83P13	1950	84B15	1950	84E01	1950	84G03	1950	84I05	1950
83P14	1950	84B16	1950	84E02	1950	84G04	1950	84I06	1950
83P15	1950	84C01	1949	84E03	1949-1951	84G05	1950	84I07	1950
83P16	1950	84C02	1949	84E04	1949-1951	84G06	1950	84I08	1950
84A01	1950	84C03	1949	84E05	1949-1951	84G07	1950	84I09	1950
84A02	1950	84C04	1949	84E06	1949-1951	84G08	1950	84I10	1950
84A03	1950	84C05	1949	84E07	1949-1951	84G09	1950	84I11	1950
84A04	1950	84C06	1949	84E08	1950	84G10	1950	84I12	1950
84A05	1950	84C07	1949	84E09	1949-1951	84G11	1950	84I13	1950
84A06	1950	84C08	1949	84E10	1949-1951	84G12	1950	84I14	1950
84A07	1950	84C09	1950	84E11	1949-1951	84G13	1950	84I15	1950
84A08	1950	84C10	1950	84E12	1950	84G14	1950	84I16	1950
84A09	1950	84C11	1950	84E13	1950	84G15	1950	84J01	1950
84A10	1950	84C12	1950	84E14	1949-1951	84G16	1950	84J02	1950
84A11	1950	84C13	1950	84E15	1949-1951	84H01	1950	84J03	1950
84A12	1950	84C14	1950	84E16	1949-1951	84H02	1950	84J04	1950
84A13	1950	84C15	1950	84F01	1950	84H03	1950	84J05	1950
84A14	1950	84C16	1950	84F02	1950	84H04	1950	84J06	1950
84A15	1950	84D01	1950	84F03	1950	84H05	1950	84J07	1950
84A16	1950	84D02	1950	84F04	1950	84H06	1950	84J08	1950
84B01	1949	84D03	1950	84F05	1950	84H07	1950	84J09	1950
84B02	1949	84D04	1950	84F06	1950	84H08	1950	84J10	1950
84B03	1949	84D05	1950	84F07	1950	84H09	1950	84J11	1950

84J12	1950	84L01	1951	84M06	1951	84N11	1950	84O16	1950
84J13	1950	84L02	1951	84M07	1951	84N12	1950	84P01	1950
84J14	1950	84L03	1951	84M08	1951	84N13	1951	84P02	1950
84J15	1950	84L04	1951	84M09	1951	84N14	1951	84P03	1950
84J16	1950	84L05	1951	84M10	1951	84N15	1951	84P04	1950
84K01	1951	84L06	1951	84M11	1951	84N16	1951	84P05	1950
84K02	1951	84L07	1951	84M12	1951	84O01	1951	84P06	1950
84K03	1951	84L08	1951	84M13	1951	84O02	1951	84P07	1950
84K04	1951	84L09	1951	84M14	1951	84O03	1951	84P08	1950
84K05	1951	84L10	1951	84M15	1951	84O04	1951	84P09	1950
84K06	1951	84L11	1951	84M16	1951	84O05	1950	84P10	1950
84K07	1951	84L12	1951	84N01	1951	84O06	1950	84P11	1950
84K08	1951	84L13	1951	84N02	1951	84O07	1950	84P12	1950
84K09	1951	84L14	1951	84N03	1951	84O08	1950	84P13	1950
84K10	1951	84L15	1951	84N04	1951	84O09	1950	84P14	1950
84K11	1951	84L16	1951	84N05	1950	84O10	1950	84P15	1950
84K12	1951	84M01	1951	84N06	1950	84O11	1950	84P16	1950
84K13	1950	84M02	1951	84N07	1950	84O12	1950		
84K14	1950	84M03	1951	84N08	1950	84O13	1950		
84K15	1951	84M04	1951	84N09	1950	84O14	1950		
84K16	1950	84M05	1951	84N10	1950	84O15	1960		

Appendix B – Map of Orthophoto Map Tiles



Also available for download as layered and georeferenced PDF - "ABMI_Historical_Orthophoto_cca1950_Map_Tiles_Index_v2.pdf".

Appendix C – Metadata

Metadata for each individual orthophoto map tile are stored in ASCII text file following this naming convention:
[TILE_NAME]_metadata.txt (Example: 72E01_metadata.txt).

Metadata file contains following information:

ulx/y urx/y lrx/y llx/y heading[deg] pixel_size length width

ul = coordinates of upper left corner

ur = coordinates of upper right corner

lr = coordinates of lower right corner

ll = coordinates of lower left corner

heading = rotation of orthophoto map tile in degrees

pixel_size = spatial resolution (cell size) of orthophoto map tile in meters

length = length of orthophoto map tile in x direction in meters (including NoData pixels!)

width = width of orthophoto map tile in y direction in meters (including NoData pixels!)

Example: 72E01_metadata.txt

*

* Content: ulx/y urx/y lrx/y llx/y heading[deg] pixel_size length width

*

```
534921.84 5457651.83 573486.31 5457651.83 573486.31 5427452.63 534921.84 5427452.63
0.0000 1.58 38564.47 30199.20
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