HISTORICAL AIRPHOTO INDICES FOR BRITISH COLUMBIA

GeoBC is the custodian of the Province's digital airphoto collection, with coverage as far back as 1936 in some areas of BC. *Most* airphoto operations from 1963 to the present can be discovered and ordered as high resolution digital scans using the <u>Web IMagery Search Interface</u> (WIMSI) application. Airphotos from 1963 to 2007 can also be discovered and ordered using the <u>Base Map Online Store</u> (BMOS). A third discovery tool, the <u>Airphoto Viewer</u> is a freely downloadable .kml file that displays airphoto photo centres and flightlines for recent years in Google Earth.

Eventually, spatial data (photo centre coordinates) and attributes for airphoto operations from 1936 to 1962 (and later years where gaps occur) will be made available within WIMSI and the Airphoto Viewer. In the meantime, the original set of of airphoto flight indices have been scanned as b&w tiff documents at 600 dpi, converted to pdf (suitable for printing on a plotter) and are now viewable through WIMSI and the Historical Flight Index Viewer and as individual images posted to anonymous ftp. From the index maps, you will be able to ascertain the roll(s) and frame number(s) required to cover an area of interest (AOI) and place a BMOS order for high resolution digital scans with a BCeID (or IDIR for BC Government staff) login account and a credit card (Visa/Mastercard/AMEX).

For example, if you were looking for some *medium* scale (these will be the oldest airphotos in most cases) block historical airphoto coverage of the City of Vernon (on NTS mapsheet 82L) from the late 1930's. From the anonymous ftp directory for <u>Aerial Photography</u> (Note: there are three directories: *Small, Medium* and *Large* scale aerial photography) follow the arrow sequence below.



Index 82L_sheet_2_40ch_1938_1951.pdf may have coverage of Vernon in the time period you are looking for. Below is a portion of that index. The nominal scale of the airphotos on this index is 40 chain (1:31,680 or 1" = ½ mile). Photocentres are labelled approximately every 10th photo and you will need to interpolate the frame number(s) that you require for your AOI (blue rectangle below). Standard forward overlap on airphotos is about 60% along the flight path and about 20% to 30% laterally between adjacent flight paths. For stereo coverage of a part of south-west Vernon, you would require roll number *BC89* and frame numbers *62* and *63*. Roll *BC89* was taken in 1938.



With the roll and frame numbers, you are now in a position to order high resolution digital raw tiff scans of these historical airphotos. The procedure is outlined briefly further on in this document. Some indices will have a range of years annotated on them. If you need to know the year that a specific roll of film was taken, there is a <u>year/roll correlation</u> listing (for instance, roll number **BC5002**, nominal scale of 20 chain [1:15,840 or 1" = $\frac{1}{2}$ mile] was taken in 1958).

Note: The basemaps used to index historical airphoto flightlines were compiled several decades ago and will not reflect all current land features. You may also have to zoom in several times to be able to interpret the roll and frame numbers as there may be numerous intersecting flightlines. Please take caution to select the correct roll and frame number(s) to cover your AOI. Unless indicated by **COLOUR** as part of the index name (colour rolls indexed will have the prefix **BCC**), the airphotos are black/white (black/white rolls indexed will have the prefix **BC** or **BCB**). If the index name contains a year range (such as **1952_1959**), there **may or may not** be additional years of coverage between the year range indicated and that coverage may only be for a limited portion of the mapsheet. Note that there were no airphotos taken for the years 1941 to 1945.

BLOCK INDEX COVERAGE FOR LARGE, MEDIUM AND SMALL SCALE AERIAL PHOTOGRAPHY



Interpreting a Historical Block Airphoto Index File Name from the FTP Directory

FTP Address: ftp://ftp.geobc.gov.bc.ca/sections/outgoing/dis/Aerial_Photography/HISTORICAL_AIRPHOTO_INDICES/

Year/Roll Correlation Listing: Film Roll Year Correlation.pdf

- Large scale block index: <u>93P_E_sheet 1_20ch_1968_1970.pdf</u>: The basemap used to index large scale historical airphoto flightlines (airphotos with a scale range from 1:10,000 to 1:25,000) is at a scale of 1: 126,720 or 2 miles to the inch and covers one-half of a 250K NTS mapsheet. In the above noted example, the index coverage is the east half of NTS mapsheet 93P (93P_E). It is sheet 1 from the collection and displays photocentres with a nominal scale of 20 chain (1:15,840) or 1" = ¼ mile. The photos are black/white (rolls prefixed with *BC*) and the year range is from 1968 to 1970. For this index, it also includes some airphotos taken in 1969. Note that some large scale block indices will have a mixture of black/white (*BC/BCB* prefixed rolls) and colour (*BCC* prefixed rolls) airphotos as well as a mixture of scales (such as 1:15,000 [15K] and 1:40,000 [40K]) on the same index. Where this occurs, the information will be embedded in the file index name. Approximately 700 large scale block indices have been scanned and posted to ftp with coverage ranging from about 1948 (limited areas only) to 1990. Note that some of the airphotos (from 1963 onwards) on these indices can also be found using <u>WIMSI</u> or the <u>Base Map Online Store</u>.
- Medium scale block index: <u>92F sheet 3 40ch 1946 1957.pdf</u>: The basemap used to index historical medium scale airphoto flightlines (airphotos with a scale range from 1:31,680 to 1:40,000) is at a scale of 1: 250,000 or about 4 miles to the inch and covers one 250K NTS mapsheet. In the above noted example, the index coverage is for NTS mapsheet 92F. It is sheet 3 from the collection and displays photocentres with a nominal scale of 40 chain (1:31,680) or 1" = ½ mile. The photos are black/white (rolls prefixed with *BC*) and the year range is from 1946 to 1957. For this index, it also includes some airphotos taken in 1947, 1949, 1950, 1951, 1952 and 1954. Note that there are also colour airphoto medium scale block indices (*BCC* prefixed rolls). Approximately 260 medium scale block indices have been scanned and posted to ftp with coverage ranging from 1936 (limited areas only) to 1990. Note that some of the airphotos (from 1963 onwards) on these indices can also be found using <u>WIMSI</u> or the <u>Base Map Online Store</u>.
- Small scale block index: <u>94NE_Sheet 1_50K_1976.pdf</u>: The basemap used to index historical small scale airphoto flightlines (airphotos with a scale range from 1:50,000 to 1:70,000) is at a scale of 1: 500,000 or about 8 miles to the inch and covers the equivalent of four 250K NTS mapsheets. In the above noted example, the index coverage is for 94NE and would cover the equivalent of 250K NTS mapsheets 94I, 94J, 94O and 94P. It is sheet 1 from the collection and displays photocentres with a nominal scale of 1:50,000 or approximately 1" = 4,667'. The photos are black/white (rolls prefixed with *BC*) and the year is 1976 only. Approximately 100 small scale block indices have been scanned and posted to ftp with coverage ranging from about 1969 to 1995. Note that some of the airphotos (from 1969 onwards) on these indices can also be found using <u>WIMSI</u> or the <u>Base Map Online Store</u>.

Airphotos were first taken in British Columbia in 1936. The first nine black/white rolls (BC1 to BC9 taken in 1936) cover portions of the east coast of Vancouver Island. If you are looking for historical airphoto coverage prior to 1936 for an area of interest in BC, please contact the <u>National Air Photo Library</u> in Ottawa as they may be able to assist you.

ORDERING DIGITAL SCANS OF HISTORICAL AIRPHOTOS VIA BMOS

Based on the preceding search for historical airphotos (roll number *BC89* and frame numbers *62* and *63*) in the Vernon area, the following instructions will guide you on how to place an order for digital scans using the <u>Base Map Online Store</u> (BMOS).

If you wish to order high resolution digital airphoto scans, you will need to have a <u>BCeID</u> (or IDIR account for BC Government) and a VISA, AMEX or Mastercard credit card. Go to the <u>BMOS</u> homepage and click on the <u>Start</u> button. The application will launch in a new window (allow popups in your browser). Below are partial screen captures of what you will see.

BASE Map Online Store The Best Place on Earth	Basic Search Advanced Search
Air Photos Orthophotos Maps AT Scans Satellite	Search Area: Map Window Optional: Enter an Air Photo roll/frame expression to view and order specified A Photos. For example, BCC95083,1-3,10,24
Click Air Photos on the toolbar	BC89, 62-63
	Search for Air Photos Add Directly to Cart

Enter the roll and frame number expression in the specified format. Click Add Directly to Cart.



The two historical airphoto (images) will not be validated. Click *Add all images*. This will open a new window for you to login with your *BCeID* or *IDIR* (BC Government) account. You will now be at the *Add Products* page for the *Shopping Cart*. The only product option is a *Tiff File*. Click *OK*. Click *Checkout* on the next page. Enter your *Shipping Address* details. Click *Next*. Select the *Shipping Method* (default is Mail). Click *Next*. Review the *Order Summary* page. Click *Submit & Pay*. Enter your credit card details. Click *Pay Now*. After a successful transaction, you will be sent a confirmation email with the order details.

How to Assemble a List of Historical Airphotos to cover an AOI

As an example, you wish to create a list of historical airphotos as stereo pairs to cover an area of interest just west of Vernon in mapsheet 82L. You require the oldest coverage to the most recent. This can be done using the historical block airphoto indices (small/medium/large scale) on ftp, as well as the Base Map Online Store (BMOS) for the most recent. You are already aware of the oldest coverage, which is from 1938 (roll *BC89*, frames *62* and *63*). Below is a list of airphotos (roll and frame numbers) from 1938 and other years that you would find:

BC89,62,63	found on <u>82L sheet 2 40ch 1938 1951.pdf</u> (medium scale, black/white from 1938)
BC1297,29,30	found on <u>82L sheet 3 40ch 1950 1954.pdf</u> (medium scale, black/white from 1951)
BC5002,164,165	found on <u>82L sheet 4 40ch 1958 1959.pdf</u> (medium scale, black/white from 1958)
BC4185,134,135	found on <u>82L W sheet 1 20ch 1958 1963.pdf</u> (large scale, black/white from 1963)
BC7691,208,209	found on <u>82L W sheet 3 20ch 1974 1975.pdf</u> (large scale, black/white from 1974)
BC82030,183,184	found on <u>82NW Sheet 5 54K 1982.pdf</u> (small scale, 1:54,000, black/white from 1982)
BC84040,58,59	found on <u>82L W sheet 5 20K 1980 1984.pdf</u> (large scale, 1:20,000, black/white from 1984)
BCC90080,187,188	found on <u>82L W sheet 10 15K 1990 COLOUR.pdf</u> (large scale, 1:15,000, colour from 1990)
15BCB97025,224,225	found using BMOS (1:40,000, black/white from 1997)
15BCC01027,17,18	found using BMOS (1:30,000 colour from 2001)
15BCC07002,184,185	found using BMOS (1:15,000 colour from 2007, most recent)

The 22 airphotos listed above from 11 different years for your area of interest near Vernon can be added directly to cart using BMOS (please see previous page). Some of the airphotos from the example above will not be validated and some will be validated.