



snowpex

***SnowPEX –
The Satellite Snow Product Inter-comparison
and Evaluation Exercise***

Snow Extent Reference Data Package Description

Deliverable D9

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Issue / Revision: 1 / 0

Date: 14.10.2015



Document controlled by: Gabriele Bippus

SnowPEX Report

SUBJECT:

Snow Extent Reference Data Package Description

PROJECT COORDINATOR:

ENVEO

ISSUE / REVISION:

1 / 0

CONTRACTOR'S REF:

Deliverable D9

Abstract:

This document provides an overview of the extent, location and temporal availability of the original Landsat data used for validation of medium resolution snow maps.

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DOCUMENT CHANGE LOG

Issue/ Revision	Date	Modification	Author	Observations
0/1	13.10.2015	Document created	Elisabeth Ripper	Document created (adopted from SnowPEX Del-9 v1.4 1/0)
0/2	14.10.2015	Corrections	Gabriele Bippus	Minor corrections, list of acronyms added
1/0	14.10.2015	Final Version	Gabriele Bippus	Final corrections and formatting

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TABLE OF CONTENTS

1. INTRODUCTION.....	1
1.1 Purpose of the document	1
1.2 Acronyms	1
2. LANDSAT REFERENCE DATA.....	2
3. REFERENCES.....	25

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1. INTRODUCTION

1.1 *Purpose of the document*

This document describes the high-resolution Landsat data set used for validation of medium resolution snow products. It gives an overview of the original data used for generating high-resolution snow maps from Landsat data.

The methodologies for generating high-resolution satellite reference products are described in deliverable D8 - "Guidelines for the generation of snow extent products from high resolution optical sensor".

1.2 *Acronyms*

6S	Second Simulation of a Satellite Signal in the Solar Spectrum
LEDAPS	Landsat Ecosystem Disturbance Adaptive Processing System
L1T	Level 1T (radiometrically and terrain corrected)
LSDS	Land Satellite Data System
LSRD	LSDS Science Research and Development
MODIS	Moderate Resolution Imaging Spectroradiometer
SLC	Scan Line Corrector
SLC-ON	Scan Line Corrector on
USGS	U.S. Geological Survey
UTM	Universal Transverse Mercator

2. LANDSAT REFERENCE DATA

The Landsat data set consists of 459 scenes from Landsat-5 (188), Landsat-7 (SLC-ON) (255) and Landsat-8 (16). The scenes are selected based on different environments and climate zones at different seasons and solar illumination over the northern hemisphere. Further they cover various land cover types like forest, mountains or regions with different amount of open water bodies. The acquisition period ranges from 1998 to 2014, whereas the majority of the scenes are from the years before May 2003 when the Landsat-7 Scan Line Corrector (SLC) was still working.

Figure 2.1: Overview on Landsat data selected for snow mapping on northern hemisphere (13 October 2015). Figure 2.1 gives an overview of the regional and annual availability of the complete Landsat reference data set.

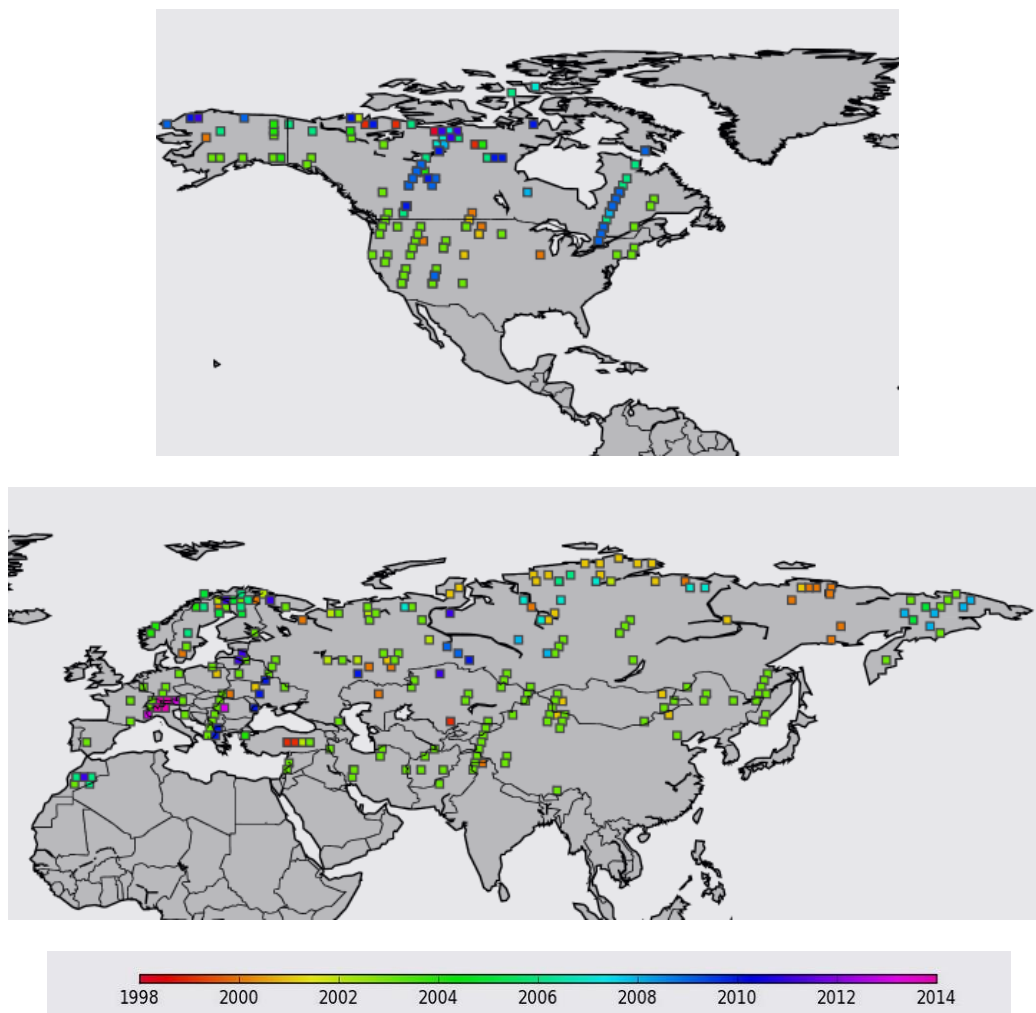


Figure 2.1: Overview on Landsat data selected for snow mapping on northern hemisphere (13 October 2015).

Two different Landsat products are used as input for snow map generation from high-resolution optical data depending on the applied algorithm (see deliverable D8 for the Landsat snow algorithms description):

- **Landsat L1T product** is a standard level-one terrain-corrected product, including radiometrically calibrated digital numbers and conversion factor for calculating at-satellite radiances and top of atmosphere reflectances. The L1T correction uses ground control points and digital elevation models to achieve the required geodetic accuracy [1].
- **Landsat surface reflectance product** is generated from the Landsat Ecosystem Disturbance Adaptive Processing System (LEDAPS) applying MODIS atmospheric correction routines to Landsat level-1 data products. The Second Simulation of a Satellite Signal in the Solar Spectrum (6S) radiative transfer model is used to generate the surface reflectance product [2].

Both data sets are provided via USGS (U.S. Geological Survey), and can be downloaded using the Earth Explorer (<http://earthexplorer.usgs.gov/>) or the LSDS (Land Satellite Data System) Science Research and Development (LSRD) bulk ordering system (<http://espa.cr.usgs.gov/>), respectively. All Landsat scenes are provided in Universal Transverse Mercator (UTM) coordinate system on WGS84 Ellipsoid with a 30m pixel size in the visible and infrared bands. The data format is GeoTIFF.

Table 2.1 lists the used Landsat scenes including information on date, path and row location, scene centre coordinates in geographic coordinates as well as if the scene is partly affected by cloud cover.

Table 2.1:
Landsat data set including SnowPEX Landsat data ID, Landsat original data ID (path, row and date), scene centre coordinates and information if the scene is partly affected by cloud cover.

LS-ID	ENTITY ID	ACQUISITION			SENSOR ID	LAT	LON	CLOUDS
		DATE	PATH	ROW				
		(YYYYMMDD)						
LS-001	LT51720331998098AAA01	19980408	172	33	L5	38.91	40.53	N
LS-002	LT50470131998134PAC00	19980514	47	13	L5	66.94	-111.32	Y
LS-003	LT52000171998134KIS00	19980514	200	17	L5	61.48	7.51	N

LS-ID	ENTITY ID	ACQUISITION		ROW	SENSOR ID	LAT	LON	CLOUDS
		DATE	PATH					
		(YYYYMMDD)						
LS-004	LT50460131998143PAC00	19980523	46	13	L5	66.94	-109.77	N
LS-005	LT51740331999003XXX03	19990103	174	33	L5	38.91	37.44	N
LS-006	LT51750331999026AAA02	19990126	175	33	L5	38.91	35.89	N
LS-007	LT51750331999058XXX01	19990227	175	33	L5	38.91	35.89	Y
LS-008	LT51740331999067XXX02	19990308	174	33	L5	38.91	37.44	N
LS-009	LT50570121999143PAC00	19990523	57	12	L5	68.30	-125.30	Y
LS-010	LT50600111999148PAC00	19990528	60	11	L5	69.60	-128.20	N
LS-011	LT50400151999152PAC00	19990601	40	15	L5	64.23	-103.11	Y
LS-012	LT50530121999163PAC00	19990612	53	12	L5	68.30	-119.10	N
LS-013	LE71540301999319SGS00	19991115	154	30	L7	43.19	69.73	N
LS-014	LT50350252000008XXX02	20000108	35	25	L5	50.28	-103.71	Y
LS-015	LT50350262000008XXX02	20000108	35	26	L5	48.87	-104.30	Y
LS-016	LT50350272000008XXX02	20000108	35	27	L5	47.45	-104.86	Y
LS-017	LE70330272000018EDC00	20000118	33	27	L7	47.45	-101.77	Y
LS-018	LE71940282000026AGS00	20000126	194	28	L7	46.03	8.94	N
LS-019	LE70330272000050EDC00	20000219	33	27	L7	47.45	-101.77	Y
LS-020	LE71850262000059SGS00	20000228	185	26	L7	48.87	23.94	Y
LS-021	LT51250292000063BJC00	20000303	125	29	L5	44.61	115.03	Y
LS-022	LE71930282000067EDC00	20000307	193	28	L7	46.03	10.48	Y
LS-023	LE71930272000067EDC00	20000307	193	27	L7	47.45	11.02	N
LS-024	LE71650262000079SGS00	20000319	165	26	L7	48.87	54.84	N
LS-025	LE71950282000081EDC00	20000321	195	28	L7	46.03	7.40	Y

LS-ID	ENTITY ID	ACQUISITION		PATH	ROW	SENSOR ID	LAT	LON	CLOUDS
		DATE							
		(YYYYMMDD)							
LS-026	LE71950272000081EDC00	20000321	195	27	L7	47.45	7.93	Y	
LS-027	LE71730332000087AGS01	20000327	173	33	L7	38.91	38.98	N	
LS-028	LE71940192000090EDC00	20000330	194	19	L7	58.71	14.93	Y	
LS-029	LE71940202000090EDC00	20000330	194	20	L7	57.31	14.09	N	
LS-030	LE70240312000099EDC00	20000408	24	31	L7	41.80	-89.90	N	
LS-031	LE70400292000099	20000408	40	29	L7	44.60	-113.60	N	
LS-032	LE71680222000100EDC00	20000409	168	22	L7	54.51	52.76	Y	
LS-033	LE71650222000111SGS00	20000420	165	22	L7	54.51	57.39	Y	
LS-034	LE70760142000127AGS00	20000506	76	14	L7	65.59	-157.49	Y	
LS-035	LE71080162000128EDC00	20000507	108	16	L7	62.86	150.70	Y	
LS-036	LE71080182000128EDC00	20000507	108	18	L7	60.09	148.69	Y	
LS-037	LE71520132000132SGS00	20000511	152	13	L7	66.94	86.45	N	
LS-038	LE71180122000134EDC00	20000513	118	12	L7	68.30	140.50	N	
LS-039	LE71940132000138SGS00	20000517	194	13	L7	66.94	21.56	N	
LS-040	LE71900122000142SGS00	20000521	190	12	L7	68.28	29.25	Y	
LS-041	LE71170102000143EDC00	20000522	117	10	L7	70.92	145.63	N	
LS-042	LE71810152000143EDC00	20000522	181	15	L7	64.20	39.00	Y	
LS-043	LE71150102000145EDC00	20000524	115	10	L7	70.92	148.72	Y	
LS-044	LE71360092000148SGS00	20000527	136	9	L7	72.21	118.42	Y	
LS-045	LE71180102000150EDC00	20000529	118	10	L7	70.92	144.08	Y	
LS-046	LE71140112000154EDC00	20000602	114	11	L7	69.61	148.37	N	
LS-047	LE71480362000248SGS00	20000904	148	36	L7	34.61	76.34	Y	

LS-ID	ENTITY ID	ACQUISITION		ROW	SENSOR ID	LAT	LON	CLOUDS
		DATE (YYYYMMDD)	PATH					
LS-048	LE70330282001004EDC01	20010104	33	28	L7	46.03	-102.31	N
LS-049	LE70340312001011EDC00	20010111	34	31	L7	41.80	-105.30	N
LS-050	LT50330282001028XXX02	20010128	33	28	L5	46.03	-102.31	Y
LS-051	LE70350262001066EDC00	20010307	35	26	L7	48.87	-104.30	N
LS-052	LE71240152001066EDC00	20010307	124	15	L7	64.20	127.10	N
LS-053	LE71400272001066SGS00	20010307	140	27	L7	47.40	92.90	N
LS-054	LE71400292001066SGS00	20010307	140	29	L7	44.60	91.90	N
LS-055	LE71880232001066EDC00	20010307	188	23	L7	53.10	21.17	N
LS-056	LE71910122001087SGS00	20010328	191	12	L7	68.28	27.71	N
LS-057	LE71820252001088SGS00	20010329	182	25	L7	50.28	29.17	N
LS-058	LT51270262001095BJC00	20010405	127	26	L5	48.87	113.56	N
LS-059	LE71660212001120SGS01	20010430	166	21	L7	55.91	56.58	Y
LS-060	LE71940122001124SGS00	20010504	194	12	L7	68.28	23.07	Y
LS-061	LE70650172001132AGS00	20010512	65	17	L7	61.48	-143.91	Y
LS-062	LE71480142001154SGS00	20010603	148	14	L7	65.60	91.30	Y
LS-063	LE71480152001154SGS00	20010603	148	15	L7	64.23	90.03	N
LS-064	LE71190102001159EDC00	20010608	119	10	L7	70.92	142.54	N
LS-065	LE71580082001160SGS00	20010609	158	8	L7	73.47	86.89	N
LS-066	LE71490082001161SGS00	20010610	149	8	L7	73.47	100.79	N
LS-067	LE71650102001161SGS00	20010610	165	10	L7	70.92	71.47	N
LS-068	LE71650112001161SGS00	20010610	165	11	L7	69.61	69.57	N
LS-069	LE71400092001162SGS00	20010611	140	9	L7	72.21	112.24	N

LS-ID	ENTITY ID	ACQUISITION		PATH	ROW	SENSOR ID	LAT	LON	CLOUDS
		DATE							
		(YYYYMMDD)							
LS-070	LE71560082001162SGS00	20010611	156	8	L7	73.47	89.98	N	
LS-071	LE71560092001162SGS00	20010611	156	9	L7	72.21	87.52	N	
LS-072	LE71480062001170SGS00	20010619	148	6	L7	75.90	108.45	Y	
LS-073	LE71550062001171SGS00	20010620	155	6	L7	75.90	97.64	N	
LS-074	LE71460062001172SGS00	20010621	146	6	L7	75.90	111.54	Y	
LS-075	LE71530052001173SGS00	20010622	153	5	L7	77.05	104.58	N	
LS-076	LE71530062001173SGS00	20010622	153	6	L7	75.90	100.73	N	
LS-077	LT51250292001305BJC00	20011101	125	29	L5	44.61	115.03	Y	
LS-078	LE71730332002012SGS00	20020112	173	33	L7	38.91	38.98	N	
LS-079	LE71940272002063EDC00	20020304	194	27	L7	47.45	9.47	Y	
LS-080	LE71940282002063EDC00	20020304	194	28	L7	46.03	8.94	Y	
LS-081	LE71930272002072EDC00	20020313	193	27	L7	47.45	11.02	N	
LS-082	LE71930282002072EDC00	20020313	193	28	L7	46.03	10.48	N	
LS-083	LE71620182002095SGS00	20020405	162	18	L7	60.09	65.26	N	
LS-084	LE71780142002095SGS00	20020405	178	14	L7	65.59	44.91	Y	
LS-085	LE71740212002099SGS00	20020409	174	21	L7	55.91	44.22	N	
LS-086	LE71700212002103SGS00	20020413	170	21	L7	55.91	50.40	Y	
LS-087	LE71730142002108SGS00	20020418	173	14	L7	65.59	52.64	N	
LS-088	LE71900112002147SGS00	20020527	190	11	L7	69.61	30.94	Y	
LS-089	LE71880122002149SGS00	20020529	188	12	L7	68.28	32.34	N	
LS-090	LE71950122002150SGS00	20020530	195	12	L7	68.28	21.53	N	
LS-091	LE71460092002159SGS00	20020608	146	9	L7	72.21	102.97	Y	

LS-ID	ENTITY ID	ACQUISITION		PATH	ROW	SENSOR ID	LAT	LON	CLOUDS
		DATE							
		(YYYYMMDD)							
LS-092	LE70590112002269EDC00	20020926	59	11	L7	69.60	-126.70	Y	
LS-093	LE71730332002348SGS00	20021214	173	33	L7	38.91	38.98	N	
LS-094	LE70410352003002EDC00	20030102	41	35	L7	36.04	-117.93	Y	
LS-095	LE71620342003002SGS01	20030102	162	34	L7	37.48	55.54	Y	
LS-096	LE71620352003002SGS01	20030102	162	35	L7	36.04	55.12	N	
LS-097	LE70370302003006EDC00	20030106	37	30	L7	43.19	-109.50	Y	
LS-098	LE70370292003006EDC00	20030106	37	29	L7	44.61	-109.01	N	
LS-099	LE71260282003006EDC00	20030106	126	28	L7	46.00	114.00	Y	
LS-100	LE71260282003006EDC00	20030106	126	28	L7	46.00	114.00	N	
LS-101	LE70350272003008EDC00	20030108	35	27	L7	47.45	-104.86	N	
LS-102	LE72020332003010EDC00	20030110	202	33	L7	38.91	-5.83	Y	
LS-103	LT50350272003016LGS01	20030116	35	27	L5	47.45	-104.86	Y	
LS-104	LE70410312003018EDC00	20030118	41	31	L7	41.76	-116.16	Y	
LS-105	LE70410342003018EDC00	20030118	41	34	L7	37.48	-117.50	N	
LS-106	LE71940282003018EDC00	20030118	194	28	L7	46.03	8.94	Y	
LS-107	LE71720332003024SGS01	20030124	172	33	L7	38.91	40.53	Y	
LS-108	LE72020392003026EDC00	20030126	202	39	L7	30.31	-8.26	N	
LS-109	LE71230322003033EDC00	20030202	123	32	L7	40.33	116.68	N	
LS-110	LE71390292003033SGS00	20030202	139	29	L7	44.61	93.40	N	
LS-111	LE71390302003033SGS00	20030202	139	30	L7	43.19	92.90	N	
LS-112	LE71390312003033SGS00	20030202	139	31	L7	41.76	92.42	N	
LS-113	LE71550342003033SGS00	20030202	155	34	L7	37.48	66.36	Y	

LS-ID	ENTITY ID	ACQUISITION		PATH	ROW	SENSOR ID	LAT	LON	CLOUDS
		DATE							
		(YYYYMMDD)							
LS-114	LE70410332003034EDC00	20030203	41	33	L7	38.91	-117.07	N	
LS-115	LE70410342003034EDC00	20030203	41	34	L7	37.48	-117.50	N	
LS-116	LE70410352003034EDC00	20030203	41	35	L7	36.04	-117.93	N	
LS-117	LE71140242003034EDC00	20030203	114	24	L7	51.69	134.85	Y	
LS-118	LE71140252003034EDC00	20030203	114	25	L7	50.28	134.23	Y	
LS-119	LE71140232003034EDC00	20030203	114	23	L7	53.10	135.50	N	
LS-120	LE71140262003034EDC01	20030203	114	26	L7	48.87	133.64	N	
LS-121	LE71140272003034EDC00	20030203	114	27	L7	47.45	133.08	N	
LS-122	LE71460292003034SGS00	20030203	146	29	L7	44.61	82.58	Y	
LS-123	LE71780252003034SGS00	20030203	178	25	L7	50.28	35.35	N	
LS-124	LE71530372003035SGS00	20030204	153	37	L7	33.18	68.22	Y	
LS-125	LE71530392003035SGS00	20030204	153	39	L7	30.31	67.45	N	
LS-126	LE71120292003036EDC00	20030205	112	29	L7	44.61	135.12	Y	
LS-127	LE71120302003036EDC00	20030205	112	30	L7	43.19	134.62	N	
LS-128	LE71280302003036SGS00	20030205	128	30	L7	43.19	109.90	N	
LS-129	LE70140312003037EDC00	20030206	14	31	L7	41.76	-74.44	Y	
LS-130	LE70300282003037EDC00	20030206	30	28	L7	46.03	-97.67	N	
LS-131	LE70460262003037EDC00	20030206	46	26	L7	48.87	-121.30	Y	
LS-132	LE70460312003037EDC00	20030206	46	31	L7	41.76	-123.89	N	
LS-133	LE70370302003038EDC00	20030207	37	30	L7	43.20	-109.50	Y	
LS-134	LE70370352003038EDC00	20030207	37	35	L7	36.04	-111.74	N	
LS-135	LE70370332003038EDC00	20030207	41	33	L7	38.91	-117.07	N	

LS-ID	ENTITY ID	ACQUISITION		PATH	ROW	SENSOR ID	LAT	LON	CLOUDS
		DATE							
		(YYYYMMDD)							
LS-136	LE71580372003038SGS00	20030207	158	37	L7	33.18	60.49	N	
LS-137	LE71740362003038SGS00	20030207	174	36	L7	34.61	36.17	Y	
LS-138	LE71740372003038SGS00	20030207	174	37	L7	33.18	35.77	Y	
LS-139	LE71900292003038SGS00	20030207	190	29	L7	44.61	14.60	Y	
LS-140	LE70120312003039EDC00	20030208	12	31	L7	41.76	-71.35	Y	
LS-141	LE70120302003039EDC00	20030208	12	30	L7	43.19	-70.88	N	
LS-142	LE70440272003039EDC00	20030208	44	27	L7	47.45	-118.77	Y	
LS-143	LE70440312003039EDC00	20030208	44	31	L7	41.76	-120.80	Y	
LS-144	LE70440322003039EDC00	20030208	44	32	L7	40.33	-121.26	N	
LS-145	LE71170272003039SGS00	20030208	117	27	L7	47.45	128.44	N	
LS-146	LE71490232003039SGS00	20030208	149	23	L7	53.10	81.42	N	
LS-147	LE71490242003039SGS00	20030208	149	24	L7	51.69	80.77	N	
LS-148	LE71490252003039SGS00	20030208	149	25	L7	50.28	80.15	N	
LS-149	LE71650372003039EDC00	20030208	165	37	L7	33.18	49.48	Y	
LS-150	LE71650382003039EDC00	20030208	165	38	L7	31.74	49.29	N	
LS-151	LE71970302003039SGS00	20030208	197	30	L7	43.19	3.29	N	
LS-152	LE71240252003040EDC00	20030209	124	25	L7	50.28	118.78	N	
LS-153	LE71560352003040SGS00	20030209	156	35	L7	36.04	64.39	N	
LS-154	LE71560372003040SGS00	20030209	156	37	L7	33.18	63.58	N	
LS-155	LE71720212003040SGS00	20030209	172	21	L7	55.91	47.31	N	
LS-156	LE70330352003042EDC00	20030211	33	35	L7	36.04	-105.56	N	
LS-157	LE72020382003042EDC00	20030211	202	38	L7	31.74	-7.88	N	

LS-ID	ENTITY ID	ACQUISITION		PATH	ROW	SENSOR ID	LAT	LON	CLOUDS
		DATE							
		(YYYYMMDD)							
LS-158	LE71130262003043EDC00	20030212	113	26	L7	48.87	135.19	N	
LS-159	LE71450252003043SGS00	20030212	145	25	L7	50.28	86.33	N	
LS-160	LE71450262003043SGS00	20030212	145	26	L7	48.87	85.74	N	
LS-161	LE71450272003043SGS00	20030212	145	27	L7	47.45	85.18	N	
LS-162	LE71930232003043EDC00	20030212	193	23	L7	53.10	13.44	Y	
LS-163	LE71910272003045SGS00	20030214	191	27	L7	47.45	14.11	Y	
LS-164	LE71980272003046EDC00	20030215	198	27	L7	47.45	3.29	Y	
LS-165	LE71890222003047SGS00	20030216	189	22	L7	54.51	20.31	N	
LS-166	LE71940252003050EDC00	20030219	194	25	L7	50.28	10.63	Y	
LS-167	LE71940272003050EDC00	20030219	194	27	L7	47.45	9.47	Y	
LS-168	LE71940282003050EDC00	20030219	194	28	L7	46.03	8.94	Y	
LS-169	LE71940262003050EDC00	20030219	194	26	L7	48.87	10.04	Y	
LS-170	LE71940192003050EDC00	20030219	194	19	L7	58.71	14.93	N	
LS-171	LE71920272003052EDC00	20030221	192	27	L7	47.45	12.56	Y	
LS-172	LE70370342003054EDC00	20030223	37	34	L7	37.48	-111.32	N	
LS-173	LE70370352003054EDC00	20030223	37	35	L7	36.04	-111.74	N	
LS-174	LE71970252003055EDC00	20030224	197	25	L7	50.28	5.99	N	
LS-175	LE71950272003057EDC00	20030226	195	27	L7	47.45	7.93	Y	
LS-176	LE71950282003057EDC00	20030226	195	28	L7	46.03	7.39	Y	
LS-177	LE71860272003058SGS00	20030227	186	27	L7	47.45	21.83	Y	
LS-178	LE71860282003058SGS00	20030227	186	28	L7	46.03	21.30	Y	
LS-179	LE71860292003058SGS00	20030227	186	29	L7	44.61	20.78	Y	

LS-ID	ENTITY ID	ACQUISITION		PATH	ROW	SENSOR ID	LAT	LON	CLOUDS
		DATE							
		(YYYYMMDD)							
LS-180	LE71860302003058SGS00	20030227		186	30	L7	43.19	20.28	Y
LS-181	LE71860322003058SGS00	20030227		186	32	L7	40.33	19.34	Y
LS-182	LE71860262003058SGS00	20030227		186	26	L7	48.87	22.40	N
LS-183	LE71860312003058SGS00	20030227		186	31	L7	41.76	19.81	N
LS-184	LE71250272003063EDC00	20030304		125	27	L7	47.45	116.08	N
LS-185	LE70410352003066EDC00	20030307		41	35	L7	36.04	-117.93	Y
LS-186	LE70410342003066EDC00	20030307		41	34	L7	37.48	-117.50	N
LS-187	LE70730172003066PFS00	20030307		73	17	L7	61.48	-156.27	N
LS-188	LE71690342003067EDC00	20030308		169	34	L7	37.48	44.73	Y
LS-189	LE71850212003067SGS00	20030308		185	21	L7	55.91	27.22	Y
LS-190	LE71670202003069SGS00	20030310		167	20	L7	57.31	55.81	N
LS-191	LE70370332003070EDC00	20030311		37	33	L7	38.91	-110.89	Y
LS-192	LE70370342003070EDC00	20030311		37	34	L7	37.50	-111.30	Y
LS-193	LE70690172003070EDC00	20030311		69	17	L7	61.48	-150.09	N
LS-194	LE71810322003071SGS00	20030312		181	32	L7	40.33	27.07	Y
LS-195	LE71860202003074SGS00	20030315		186	20	L7	57.31	26.45	Y
LS-196	LE71860172003074SGS00	20030315		186	17	L7	61.48	29.14	N
LS-197	LE70130272003078EDC00	20030319		13	27	L7	47.45	-70.87	N
LS-198	LE71940282003082EDC00	20030323		194	28	L7	46.03	8.94	N
LS-199	LE71530272003083SGS00	20030324		153	27	L7	47.45	72.82	Y
LS-200	LE71530262003083SGS00	20030324		153	26	L7	48.87	73.38	N
LS-201	LE71850312003083SGS00	20030324		185	31	L7	41.76	21.35	Y

LS-ID	ENTITY ID	ACQUISITION		PATH	ROW	SENSOR ID	LAT	LON	CLOUDS
		DATE							
		(YYYYMMDD)							
LS-202	LE71850232003083ASN00	20030324	185	23	L7	53.10	25.80	N	
LS-203	LE71650372003087EDC00	20030328	165	37	L7	33.18	49.68	Y	
LS-204	LE71810212003087ASN00	20030328	181	21	L7	55.91	33.40	Y	
LS-205	LE71810242003087ASN00	20030328	181	24	L7	51.69	31.33	Y	
LS-206	LE71810222003087ASN00	20030328	181	22	L7	54.51	32.67	N	
LS-207	LE71810232003087ASN00	20030328	181	23	L7	53.10	31.98	N	
LS-208	LE71770142003091ASN00	20030401	177	14	L7	65.59	46.46	N	
LS-209	LE71930272003091EDC00	20030401	193	27	L7	47.45	11.02	Y	
LS-210	LE71410262003095ASN00	20030405	141	26	L7	48.87	91.92	Y	
LS-211	LE71410302003095ASN00	20030405	141	30	L7	43.19	89.81	Y	
LS-212	LE71410272003095ASN00	20030405	141	27	L7	47.45	91.36	N	
LS-213	LE71410282003095ASN00	20030405	141	28	L7	46.03	90.82	N	
LS-214	LE71410292003095ASN00	20030405	141	29	L7	44.61	90.31	N	
LS-215	LE70410272003098EDC00	20030408	41	27	L7	47.45	-114.13	Y	
LS-216	LE70410302003098EDC00	20030408	41	30	L7	43.19	-115.68	Y	
LS-217	LE70410292003098EDC00	20030408	41	29	L7	44.61	-115.19	N	
LS-218	LE70410282003098EDC00	20030408	41	28	L7	46.03	-114.67	N	
LS-219	LE71210262003099EDC00	20030409	121	26	L7	48.87	122.83	Y	
LS-220	LE71210272003099EDC00	20030409	121	27	L7	47.45	122.26	N	
LS-221	LE71850132003099ASN00	20030409	185	13	L7	66.94	35.46	N	
LS-222	LE71920122003100EDC00	20030410	192	12	L7	68.28	26.16	N	
LS-223	LE70600172003103EDC00	20030413	60	17	L7	61.48	-136.18	N	

LS-ID	ENTITY ID	ACQUISITION		PATH	ROW	SENSOR ID	LAT	LON	CLOUDS
		DATE							
		(YYYYMMDD)							
LS-224	LE70600182003103EDC00	20030413	60	18	L7	60.09	-137.15	N	
LS-225	LE71650212003103ASN00	20030413	165	21	L7	55.91	58.12	Y	
LS-226	LE71650152003103ASN00	20030413	165	15	L7	64.23	63.76	N	
LS-227	LE71650202003103ASN00	20030413	165	20	L7	57.31	58.90	N	
LS-228	LE70970112003106EDC00	20030416	97	11	L7	69.61	174.63	Y	
LS-229	LE70970122003106EDC00	20030416	97	12	L7	68.28	172.94	Y	
LS-230	LE70970132003106EDC00	20030416	97	13	L7	66.94	171.43	N	
LS-231	LE71450352003107ASN00	20030417	145	35	L7	36.04	81.39	Y	
LS-232	LE71450362003107ASN00	20030417	145	36	L7	34.61	80.98	Y	
LS-233	LE71610242003107ASN00	20030417	161	24	L7	51.69	62.23	N	
LS-234	LE71610252003107ASN00	20030417	161	25	L7	50.28	61.61	N	
LS-235	LE71930142003107ASN00	20030417	193	14	L7	65.59	21.74	Y	
LS-236	LE71930132003107ASN00	20030417	193	13	L7	66.94	23.10	N	
LS-237	LE70520152003111EDC00	20030421	52	15	L7	64.23	-121.65	N	
LS-238	LE70570142003114EDC00	20030424	57	14	L7	65.59	-128.13	N	
LS-239	LE71370402003115ASN00	20030425	137	40	L7	28.87	91.80	Y	
LS-240	LE71440182003116ASN00	20030426	144	18	L7	60.09	93.07	Y	
LS-241	LE71440192003116ASN00	20030426	144	19	L7	58.71	92.18	N	
LS-242	LE71440202003116ASN00	20030426	144	20	L7	57.31	91.35	N	
LS-243	LE70650172003122EDC00	20030502	65	17	L7	61.48	-143.91	Y	
LS-244	LE70810112003122EDC00	20030502	81	11	L7	69.61	-160.65	N	
LS-245	LE70720172003123EDC00	20030503	72	17	L7	61.48	-154.72	Y	

LS-ID	ENTITY ID	ACQUISITION		PATH	ROW	SENSOR ID	LAT	LON	CLOUDS
		DATE							
		(YYYYMMDD)							
LS-246	LE71020122003126EDC00	20030506		102	12	L7	68.30	165.20	Y
LS-247	LE70680132003127EDC00	20030507		68	13	L7	66.09	-143.80	N
LS-248	LE70480222003131EDC01	20030511		48	22	L7	54.51	-121.84	Y
LS-249	LE71370152003131ASN00	20030511		137	15	L7	64.23	107.02	N
LS-250	LE71370162003131ASN00	20030511		137	16	L7	62.86	105.89	N
LS-251	LE71370172003131ASN00	20030511		137	17	L7	61.48	104.85	N
LS-252	LE71690302003131EDC00	20030511		169	30	L7	43.19	46.55	Y
LS-253	LE70940172003133EDC00	20030513		94	17	L7	61.50	171.30	Y
LS-254	LE71740132003134ASN00	20030514		174	13	L7	66.94	52.46	Y
LS-255	LE70120232003135EDC01	20030515		12	23	L7	53.10	-66.90	N
LS-256	LE70120242003135EDC00	20030515		12	24	L7	51.69	-67.56	N
LS-257	LE71330212003135ASN00	20030515		133	21	L7	55.91	107.56	N
LS-258	LE71720152003136ASN00	20030516		172	15	L7	64.23	52.94	N
LS-259	LE71720142003136ASN00	20030516		172	14	L7	65.59	54.18	N
LS-260	LE70990212003137EDC00	20030517		99	21	L7	55.91	160.10	Y
LS-261	LE71680132003140ASN00	20030520		168	13	L7	66.94	61.73	N
LS-262	LE70460252003149EDC00	20030529		46	25	L7	50.28	-120.71	Y
LS-263	LE70460262003149EDC00	20030529		46	26	L7	48.87	-121.30	Y
LS-264	LE70460272003149EDC00	20030529		46	27	L7	47.45	-121.86	Y
LS-265	LE70460282003149EDC00	20030529		46	28	L7	46.03	-122.40	Y
LS-266	LE70440322003151EDC00	20030531		44	32	L7	40.33	-121.26	Y
LS-267	LE71490302003151EDC00	20030531		149	30	L7	43.19	77.45	Y

LS-ID	ENTITY ID	ACQUISITION		PATH	ROW	SENSOR ID	LAT	LON	CLOUDS
		DATE							
		(YYYYMMDD)							
LS-268	LE71490312003151EDC00	20030531		149	31	L7	41.76	76.97	Y
LS-269	LE71490322003151EDC00	20030531		149	32	L7	40.33	76.51	Y
LS-270	LE71490332003151EDC00	20030531		149	33	L7	38.91	76.06	Y
LS-271	LE71490362003151EDC00	20030531		149	36	L7	34.61	74.80	Y
LS-272	LE71490372003151EDC00	20030531		149	37	L7	33.18	74.40	Y
LS-273	LE71490342003151EDC00	20030531		149	34	L7	37.48	75.63	N
LS-274	LE71490352003151EDC00	20030531		149	35	L7	36.04	75.21	N
LS-275	LT51920272003284MTI02	20031011		192	27	L5	47.45	12.56	Y
LS-276	LT51930272003291MTI01	20031018		193	27	L5	47.45	11.02	Y
LS-277	LT51940282003298MTI01	20031025		194	28	L5	46.03	8.94	Y
LS-278	LT51810322004050MTI00	20040219		181	32	L5	40.33	27.07	Y
LS-279	LT50440192004066LGS01	20040306		44	19	L5	58.70	-113.30	Y
LS-280	LT50680132004106PAC00	20040415		68	13	L5	66.90	-143.80	N
LS-281	LT50600112004114PAC00	20040423		60	11	L5	69.60	-128.20	N
LS-282	LT50690122004129PAC00	20040508		69	12	L5	68.28	-143.80	N
LS-283	LT50640172004142PAC00	20040521		64	17	L5	61.48	-142.36	Y
LS-284	LT50580132004148PAC00	20040527		58	13	L5	66.94	-128.31	N
LS-285	LT52000162004151KIS00	20040530		200	16	L5	62.86	8.55	N
LS-286	LT52000172004151KIS00	20040530		200	17	L5	61.48	7.51	Y
LS-287	LT50390152004159PAC02	20040607		39	15	L5	64.20	-101.60	Y
LS-288	LT51970132004162KIS00	20040610		197	13	L5	66.94	16.92	Y
LS-289	LT51940282005095KIS00	20050405		194	28	L5	46.03	8.94	Y

LS-ID	ENTITY ID	ACQUISITION		PATH	ROW	SENSOR ID	LAT	LON	CLOUDS
		DATE							
		(YYYYMMDD)							
LS-290	LT51980112005107KIS00	20050417	198	11	L5	69.61	18.58	Y	
LS-291	LT51900142005115KIS00	20050425	190	14	L5	65.59	26.37	Y	
LS-292	LT51930142005120KIS00	20050430	193	14	L5	65.59	21.74	Y	
LS-293	LT50990152005134GLC00	20050514	99	15	L5	64.20	165.70	N	
LS-294	LT50990132005134GLC00	20050514	99	13	L5	66.90	168.30	N	
LS-295	LT51930112005136KIS00	20050516	193	11	L5	69.61	26.31	Y	
LS-296	LT51930122005136KIS00	20050516	193	12	L5	68.28	24.62	Y	
LS-297	LT50460132005146PAC00	20050526	46	13	L5	66.94	-109.77	N	
LS-298	LT50170272006058EDC00	20060227	17	27	L5	47.40	-77.10	N	
LS-299	LT50170282006058EDC00	20060227	17	28	L5	46.00	-77.60	N	
LS-300	LT50170292006058EDC00	20060227	17	29	L5	44.60	-78.10	N	
LS-301	LT50440242006071EDC00	20060312	44	24	L5	51.70	-117.00	Y	
LS-302	LT50440252006071PAC01	20060312	44	25	L5	50.30	-117.60	Y	
LS-303	LT50450172006094EDC00	20060404	45	17	L5	61.50	-113.00	Y	
LS-304	LT50450182006094EDC00	20060404	45	18	L5	60.10	-114.00	Y	
LS-305	LT50450192006094EDC00	20060404	45	19	L5	58.70	-114.90	Y	
LS-306	LT51950172006105KIS00	20060415	195	17	L5	61.48	15.23	Y	
LS-307	LT50170232006106GNC01	20060416	17	23	L5	53.10	-74.60	Y	
LS-308	LT50370172006118PAC01	20060428	37	17	L5	61.50	-100.60	N	
LS-309	LT50440162006119PAC02	20060429	44	16	L5	62.90	-110.40	Y	
LS-310	LT51880122006120KIS00	20060430	188	12	L5	68.28	32.34	N	
LS-311	LT50170212006122GNC01	20060502	17	21	L5	55.90	-73.20	N	

LS-ID	ENTITY ID	ACQUISITION		PATH	ROW	SENSOR ID	LAT	LON	CLOUDS
		DATE							
		(YYYYMMDD)							
LS-312	LT50170242006122GNC01	20060502	17	24	L5	51.70	-75.30	N	
LS-313	LT50170252006122GNC01	20060502	17	25	L5	50.30	-75.90	N	
LS-314	LT50170222006122GNC01	20060502	17	22	L5	54.50	-73.90	Y	
LS-315	LT50170202006122GNC01	20060502	17	20	L5	57.30	-72.40	Y	
LS-316	LT51930112006123KIS00	20060503	193	11	L5	69.61	26.31	Y	
LS-317	LT51910132006125KIS00	20060505	191	13	L5	66.94	26.19	N	
LS-318	LT51910122006125KIS00	20060505	191	12	L5	68.28	27.71	Y	
LS-319	LT51960132006128KIS00	20060508	196	13	L5	66.94	18.47	N	
LS-320	LT50460132006133PAC00	20060513	46	13	L5	66.94	-109.77	N	
LS-321	LT50440242006135PAC01	20060515	44	24	L5	51.70	-117.00	Y	
LS-322	LT50440252006135PAC01	20060515	44	25	L5	50.30	-117.60	Y	
LS-323	LT50670122006136PAC00	20060516	67	12	L5	68.28	-140.71	Y	
LS-324	LT50170162006138GNC00	20060518	17	16	L5	62.90	-68.70	Y	
LS-325	LT50170182006138GNC01	20060518	17	18	L5	60.10	-70.70	Y	
LS-326	LT50630132006140PAC00	20060520	63	13	L5	66.90	-136.00	Y	
LS-327	LT50430142006144PAC02	20060524	43	14	L5	65.60	-106.50	Y	
LS-328	LT50750132006144GLC00	20060524	75	13	L5	66.94	-154.58	Y	
LS-329	LT50510122006152PAC00	20060601	51	12	L5	68.30	-116.00	Y	
LS-330	LT51940272006162KIS00	20060611	194	27	L5	47.45	9.47	N	
LS-331	LT51530092006163KIS00	20060612	153	9	L5	72.21	92.16	N	
LS-332	LT51530082006163KIS00	20060612	153	8	L5	73.47	94.61	Y	
LS-333	LT51530092006163KIS00	20060612	153	9	L7	72.21	92.16	N	

LS-ID	ENTITY ID	ACQUISITION		ROW	SENSOR ID	LAT	LON	CLOUDS
		DATE	PATH					
		(YYYYMMDD)						
LS-334	LT51920272006164KIS00	20060613	192	27	L5	47.45	12.56	Y
LS-335	LT51930272006171KIS00	20060620	193	27	L5	47.45	11.02	Y
LS-336	LT50450072006190PAC01	20060709	45	7	L5	74.70	-95.70	Y
LS-337	LT50440062006263GLC00	20060920	44	6	L5	75.90	-90.90	Y
LS-338	LT50440242006295PAC01	20061022	44	24	L5	51.70	-117.00	Y
LS-339	LT52020382006346MPS00	20061212	202	38	L5	31.74	-7.88	Y
LS-340	LT52020392006346MPS00	20061212	202	39	L5	30.31	-5.17	Y
LS-341	LT50370342006358PAC01	20061224	37	34	L5	37.48	-111.32	N
LS-342	LT50170272006362EDC00	20061228	17	27	L5	47.40	-77.10	N
LS-343	LT50170262006362EDC00	20061228	17	26	L5	48.90	-76.50	Y
LS-344	LT50170282006362EDC00	20061228	17	28	L5	46.00	-77.60	Y
LS-345	LT52000382006364MPS00	20061230	200	38	L5	31.74	-4.79	N
LS-346	LT50170272007077GNC01	20070318	17	27	L5	47.40	-77.10	Y
LS-347	LT50170282007077GNC01	20070318	17	28	L5	46.00	-77.60	Y
LS-348	LT50170292007077GNC01	20070318	17	29	L5	44.60	-78.10	Y
LS-349	LT50170242007109GNC01	20070419	17	24	L5	51.70	-75.30	Y
LS-350	LT50170252007109GNC01	20070419	17	25	L5	50.30	-75.90	Y
LS-351	LT50450182007113PAC01	20070423	45	18	L5	60.10	-114.00	Y
LS-352	LT50170222007125GNC01	20070505	17	22	L5	54.50	-73.90	Y
LS-353	LT50170232007125GNC01	20070505	17	23	L5	53.10	-74.60	Y
LS-354	LT50170242007125GNC01	20070505	17	24	L5	51.70	-75.30	Y
LS-355	LT51690132007134MOR00	20070514	169	13	L5	66.90	60.19	Y

LS-ID	ENTITY ID	ACQUISITION		PATH	ROW	SENSOR ID	LAT	LON	CLOUDS
		DATE							
		(YYYYMMDD)							
LS-356	LT50440162007138PAC01	20070518		44	16	L5	62.90	-110.40	N
LS-357	LT51490122007138IKR00	20070518		149	12	L5	68.28	92.60	N
LS-358	LT51490152007138IKR00	20070518		149	15	L5	64.23	88.48	N
LS-359	LT51540122007141IKR00	20070521		154	12	L5	68.28	84.87	Y
LS-360	LT50450152007145PAC01	20070525		45	15	L5	64.20	-110.80	Y
LS-361	LT51340102007145IKR00	20070525		134	10	L5	70.92	119.36	Y
LS-362	LT51320102007147IKR00	20070527		132	10	L5	70.92	122.45	N
LS-363	LT51940122007149MOR00	20070529		194	12	L5	68.28	23.07	Y
LS-364	LT50440242007154PAC01	20070603		44	24	L5	51.70	-117.00	Y
LS-365	LT50360172007162PAC01	20070611		36	17	L5	61.50	-99.10	Y
LS-366	LT51480092007163IKR00	20070612		148	9	L5	72.21	99.88	Y
LS-367	LT50450142007177PAC01	20070626		45	14	L5	65.60	-109.60	N
LS-368	LT50450132007177PAC00	20070626		45	13	L5	66.90	-108.20	Y
LS-369	LT50440062007250GLC00	20070907		44	6	L5	75.90	-90.90	Y
LS-370	LT50450212008084PAC01	20080324		45	21	L5	55.90	-116.50	Y
LS-371	LT50170272008096GNC01	20080405		17	27	L5	47.40	-77.10	Y
LS-372	LT50170292008096GNC01	20080405		17	29	L5	44.60	-78.10	Y
LS-373	LT50290222008100PAC01	20080409		29	22	L5	54.51	-92.48	N
LS-374	LT50170242008112GNC01	20080421		17	24	L5	51.70	-75.30	N
LS-375	LT50170252008112GNC01	20080421		17	25	L5	50.30	-75.90	Y
LS-376	LT51450202008113BJC01	20080422		145	20	L5	57.31	89.80	N
LS-377	LT50450182008116PAC02	20080425		45	18	L5	60.10	-114.00	Y

LS-ID	ENTITY ID	ACQUISITION		ROW	SENSOR ID	LAT	LON	CLOUDS
		DATE	PATH					
		(YYYYMMDD)						
LS-378	LT50450192008116PAC02	20080425	45	19	L5	58.70	-114.90	Y
LS-379	LT51500182008116BJC01	20080425	150	18	L5	60.09	83.80	Y
LS-380	LT50940122008123GLC00	20080502	94	12	L5	68.30	177.60	N
LS-381	LT50940132008123GLC00	20080502	94	13	L5	66.90	176.10	N
LS-382	LT50170222008128GNC01	20080507	17	22	L5	54.50	-73.90	Y
LS-383	LT50170232008128GNC01	20080507	17	23	L5	53.10	-74.60	Y
LS-384	LT50170242008128GNC01	20080507	17	24	L5	51.70	-75.30	Y
LS-385	LT50960162008137GLC00	20080516	96	16	L5	62.90	169.20	Y
LS-386	LT50440152008141PAC02	20080520	44	15	L5	64.20	-109.30	Y
LS-387	LT50440162008141PAC02	20080520	44	16	L5	62.90	-110.40	Y
LS-388	LT51010142008141GLC00	20080520	101	14	L5	65.60	163.90	N
LS-389	LT50810112008144GLC00	20080523	81	11	L5	69.61	-160.65	Y
LS-390	LT50970142008144GLC00	20080523	97	14	L5	65.60	170.10	Y
LS-391	LT50440242008285PAC01	20081011	44	24	L5	51.70	-117.00	N
LS-392	LT50420212009049PAC01	20090218	42	21	L5	55.91	-111.84	Y
LS-393	LT51590192009053KHC00	20090222	159	19	L5	58.71	69.00	N
LS-394	LT51570202009055KHC00	20090224	157	20	L5	57.31	71.26	N
LS-395	LT50430202009056PAC01	20090225	43	20	L5	57.31	-112.60	Y
LS-396	LT50420202009065PAC01	20090306	42	20	L5	57.31	-111.06	N
LS-397	LT50170272009082GNC01	20090323	17	27	L5	47.40	-77.10	N
LS-398	LT50170282009082GNC01	20090323	17	28	L5	46.00	-77.60	N
LS-399	LT50170292009082GNC01	20090323	17	29	L5	44.60	-78.10	N

LS-ID	ENTITY ID	ACQUISITION		ROW	SENSOR ID	LAT	LON	CLOUDS
		DATE	PATH					
		(YYYYMMDD)						
LS-400	LT50450212009102PAC01	20090412	45	21	L5	55.90	-116.50	Y
LS-401	LT50450182009118PAC01	20090428	45	18	L5	60.10	-114.00	N
LS-402	LT50450202009118PAC01	20090428	45	20	L5	57.30	-115.70	N
LS-403	LT50450192009118PAC01	20090428	45	19	L5	58.70	-114.90	Y
LS-404	LT50170222009130GNC01	20090510	17	22	L5	54.50	-73.90	Y
LS-405	LT50170232009130GNC01	20090510	17	23	L5	53.10	-74.60	Y
LS-406	LT50170242009130GNC01	20090510	17	24	L5	51.70	-75.30	Y
LS-407	LT50830122009144GLC00	20090524	83	12	L5	68.28	-165.43	Y
LS-408	LT50740112009145GLC01	20090525	74	11	L5	69.61	-149.83	Y
LS-409	LT51930282009163MOR00	20090612	193	28	L5	46.03	10.48	Y
LS-410	LT50170162009178GNC00	20090627	17	16	L5	62.90	-68.70	Y
LS-411	LT50170162009258GNC00	20090915	17	16	L5	62.90	-68.70	Y
LS-412	LT50370342009334PAC01	20091130	37	34	L5	37.48	-111.32	N
LS-413	LT5181028201006MTI00	20100307	181	28	L5	46.03	29.02	N
LS-414	LT51810242010082MTI00	20100323	181	24	L5	51.69	31.33	Y
LS-415	LT51810262010082MTI00	20100323	181	26	L5	48.87	30.12	Y
LS-416	LT51550212010092KHC00	20100402	155	21	L5	55.91	73.57	Y
LS-417	LT51690232010094KHC00	20100404	169	23	L5	53.10	50.52	N
LS-418	LT51850312010094MTI00	20100404	185	31	L5	41.76	21.35	Y
LS-419	LT51850322010094MTI00	20100404	185	32	L5	40.33	20.89	Y
LS-420	LT50430202010107PAC01	20100417	43	20	L5	57.31	-112.60	Y
LS-421	LT50560122010134PAC01	20100514	56	12	L5	68.28	-123.71	Y

LS-ID	ENTITY ID	ACQUISITION		PATH	ROW	SENSOR ID	LAT	LON	CLOUDS
		DATE							
		(YYYYMMDD)							
LS-422	LT50440162010146PAC02	20100526	44	16	L5	62.90	-110.40	Y	
LS-423	LT50600112010146PAC01	20100526	60	11	L5	69.60	-128.20	N	
LS-424	LT50810112010149GLC00	20100529	81	11	L5	69.61	-160.65	Y	
LS-425	LT50560122010150PAC02	20100530	56	12	L5	68.28	-123.71	Y	
LS-426	LT50360172010154PAC01	20100603	36	17	L5	61.50	-99.10	N	
LS-427	LT50350172010163EDC00	20100612	35	17	L5	61.48	-97.56	N	
LS-428	LT50350122010179PAC00	20100628	35	12	L5	68.28	-91.26	Y	
LS-429	LT50440242010274PAC01	20101001	44	24	L5	51.70	-117.00	Y	
LS-430	LT50440242010290PAC01	20101017	44	24	L5	51.70	-117.00	N	
LS-431	LT52010382011033MPS00	20110202	201	38	L5	31.74	-6.33	Y	
LS-432	LT51860202011088KIS00	20110329	186	20	L5	57.31	26.45	Y	
LS-433	LT51860212011088KIS00	20110329	186	21	L5	55.91	25.68	Y	
LS-434	LT51580232011100KHC00	20110410	158	23	L5	53.10	67.52	Y	
LS-435	LT51620142011128KIS00	20110508	162	14	L5	65.59	69.64	N	
LS-436	LT51940122011128KIS00	20110508	194	12	L5	68.28	23.07	Y	
LS-437	LT51880122011134KIS00	20110514	188	12	L5	68.28	32.34	Y	
LS-438	LT50460132011147PAC01	20110527	46	13	L5	66.94	-109.77	Y	
LS-439	LT50780112011147GLC00	20110527	78	11	L5	69.61	-159.10	Y	
LS-440	LT50440142011149PAC01	20110529	44	14	L5	65.59	-108.05	N	
LS-441	LT50440132011149PAC01	20110529	44	13	L5	66.94	-106.68	Y	
LS-442	LT51930272011233MOR00	20110821	193	27	L5	47.45	11.02	Y	
LS-443	LT51930282011265MOR00	20110922	193	28	L5	46.03	10.48	Y	

LS-ID	ENTITY ID	ACQUISITION		PATH	ROW	SENSOR ID	LAT	LON	CLOUDS
		DATE							
		(YYYYMMDD)							
LS-444	LC81950282013108LGN01	20130418		195	28	L8	46.03	22.84	Y
LS-445	LC81950292013108LGN01	20130418		195	29	L8	44.61	6.87	Y
LS-446	LC81930272013158LGN00	20130607		193	27	L8	47.45	11.02	Y
LS-447	LC81920272013215LGN00	20130803		192	27	L8	47.45	12.56	Y
LS-448	LC81920272013247LGN00	20130904		192	27	L8	47.45	12.56	Y
LS-449	LC81930282013350LGN00	20131216		193	28	L8	46.03	10.48	Y
LS-450	LC81940272013357LGN00	20131223		194	27	L8	47.45	9.47	Y
LS-451	LC81930272014001LGN00	20140101		193	27	L8	47.45	11.02	Y
LS-452	LC81930282014001LGN00	20140101		193	28	L8	46.03	10.48	Y
LS-453	LC81930282014065LGN00	20140306		193	28	L8	46.03	10.48	Y
LS-454	LC81940272014072LGN00	20140313		194	27	L8	47.45	9.47	N
LS-455	LC81940282014072LGN00	20140313		194	28	L8	46.03	8.94	N
LS-456	LC81940272014088LGN00	20140329		194	27	L8	47.45	9.47	N
LS-457	LC81930272014097LGN00	20140407		193	27	L8	47.45	11.02	Y
LS-458	LC81930282014097LGN00	20140407		193	28	L8	46.03	10.48	Y
LS-459	LC81940282014104LGN00	20140414		194	28	L8	46.03	8.94	Y

3. REFERENCES

- [1] Landsat 7 – Science Data User Handbook, Level 1 G Product, http://landsathandbook.gsfc.nasa.gov/data_prod/prog_sect11_3.html (13.10.2015)
- [2] Landsat 4-7 Climate Data Record (CDR) Surface Reflectance, Product Guide, Department of the Interior U.S. Geological Survey http://landsat.usgs.gov/documents/cdr_sr_product_guide.pdf, Version 6, Sept 2015