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RESORS

DIGITAL ANALYSIS OF REMOTELY SENSED DATA: A BIBLIOGRAPHY WITH EMPHASIS ON CCRS IMAGE ANALYSIS SYSTEMS

R. G. Dixon
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Applications Division

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ABSTRACT

This bibliography has been prepared to aid researchers and users involved in utilizing digital analysis techniques on various forms of remote sensing data. The references have been collated into two main categories - Applications and Techniques. The section on Applications is further subdivided into nine groups, such as Agriculture, Forestry, etc. The section on Techniques is also subdivided into six groups, such as Enhancements, Geometric Correction, etc.

RESUME

Cette bibliographie est destinée aux chercheurs et utilisateurs impliqués dans l'utilisation de techniques d'analyse numérique propres à tous les genres de données télédéfectées. Les ouvrages ont été catalogués d'après les critères suivants: Applications ou Techniques. La section Applications comprend neuf champs d'intérêt tels l'agriculture, la foresterie, etc. tandis que la section techniques en a six. (ex. l'accentuation, la correction géométrique, etc.).

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Appendix A - CCRS Document Order Form

DIGITAL ANALYSIS OF REMOTELY SENSED DATA:
A BIBLIOGRAPHY OF CANADIAN WORK

1. Introduction

This bibliography has been designed to guide users of remote sensing imagery (mainly Landsat) to additional information on digital analysis techniques in their field of interest. The papers and reports included were found by searching the CCRS Remote Sensing on-line Retrieval System (RESORS) and by consulting users who have worked on the two CCRS digital analysis systems, MICA (MAD) or CIAS (I100). The majority of documents resulted from work done on the CCRS analysis systems, but some were based on work with other systems such as those at the Forest Management Institute and Laval University. Most of the material deals with Canadian problems and concerns. The authors intend to update this document on a yearly basis.

2. Description

The reports included have been divided into two main categories, "Applications" and "Techniques". Under Applications, the reports are further subdivided as follows:

1. Agriculture
2. Ecological and Biophysical
3. Forestry
4. Geology
5. Hydrology
6. Land Use
7. Thermography
8. Wildlife
9. Miscellaneous

The reports under Techniques are subdivided as follows:

1. Digital Image Analysis (Classification)
2. Enhancements
3. Equipment
4. Geometric Correction
5. Microwave and Radar Analysis
6. Radiometric and Atmospheric Correction

Within each category or sub-category the information is presented by identifying the problem addressed, followed by all the relevant reports listed alphabetically by author. References which are followed by a seven digit number may be ordered from the CCRS Technical Information Service (TIS) using a copy of the order form which appears at the end of this document (Appendix A).

3. References

3.1 Applications

3.1.1 Agriculture

Problem addressed: Monitoring cereal crops.

Atkinson, T.G., M.D. Rigby, and A.D. Kuzyk. 1975. Monitoring Cereal Cover Crops in South Western Alberta using Colour Infrared Aerial Photography and LANDSAT-1 Data. Canadian Symposium on Remote Sensing, 3rd, Edmonton. 13 pp., 5 refs.
1008842.

Problem addressed: Crop yield and quality.

Chagarlamudi, P. 1977. Global Agricultural Productivity Project: Vol. 1, Section 5, Gregory Geoscience Limited. Ottawa. 55 pp.
1015295

Problem addressed: Thermal infrared for estimation of water contents.

Cihlar, J., T. Sommerfeldt, and B. Paterson. 1979. Soil Water Content Estimation in Fallow Fields from Airborne Thermal Scanner Measurements. Canadian Journal of Remote Sensing, Vol. 5, No. 1, pp. 18-32, Ottawa. 11 refs.
1019628

Problem addressed: Effects of soils and time on the accuracy of crop identification.

Dappah, S.K. 1974. The Effects of Soils and Time on the Accuracy of Crop Identification in Southwestern Ontario from 1974 Satellite Imagery. University of Guelph, Guelph. 113 pp., 16 refs.
1005326

Dappah, S.K. 1974. The Effect of Soil and Seasonal Change on the Accuracy of Crop Identification in Southwestern Ontario from Satellite Imagery Supported by Airborne Photography, 1974. Canadian Advisory Committee on Remote Sensing, Agriculture Working Group. 25 pp., 10 refs.
1008156

Problem addressed: A study on the accuracy of computer classification of cereal crops.

Mack, A.R., F.G. Peet, and L.S. Crosson. 1975. The Cooperative Canada-U.S. Crop Prediction Project (Crop Classification). Canadian Symposium on Remote Sensing, 3rd, Edmonton. 8 pp., 10 refs.
1008843

Problem addressed: Area estimation of potatoes.

Mosher, P.N., R.A. Ryerson, and W.M. Strome. 1978. New Brunswick Potato Area Estimation from LANDSAT. International Symposium on Remote Sensing of the Environment, 12th Proceedings, Manila. 3 pp., 1 refs.
1016077

Problems addressed: Yield and growing conditions;
An approach for determining spring wheat acreages.

Schubert, J., and P. Chagarlamudi. 1977. Conclusions and Recommendations on Estimating Current Growing Conditions and Predicting Yields from LANDSAT Data. Global Agricultural Productivity Project: Vol. 1, Section 7, Gregory Geoscience Limited, Ottawa. 6 pp., 30 refs. 1015297

Schubert, J.S., and P. Chagarlamudi. 1976. Evaluation of Classification Procedures and Selection of a Proto-operational Approach for Determining Spring Wheat Acreage from LANDSAT Data. Gregory Geoscience Limited, Ottawa. 134 pp., 7 refs.
1010973

Problems addressed: Bean, potatoes and cropland area estimation on the CIAS;
Ground truth collection to support digital analysis.

Ryerson, R.A., et al. 1978. Three Tests of Agricultural Remote Sensing for Crop Inventory in Eastern Canada: Results, Problems and Prospects. Canadian Symposium on Remote Sensing, 5th Proceedings, Victoria, pp. 441-453, 13 refs.
1018784

Ryerson, R.A., V.R. Wallen, and D. Robert. 1977. Evaluation des Cultures des Fèves Blanches à Partir de Données du LANDSAT et de Données de Télédétection. American Society of Photogrammetry, Proceedings, Fall Meeting, Little Rock, Arkansas. 11 pp., 3 refs.
1020332

Ryerson, R.A., and V.R. Wallen. 1977. Bean Area Estimates from LANDSAT and Airborne Remote Sensing Data. American Society of Photogrammetry, Proceedings, Fall Meeting, Little Rock, Arkansas. 12 pp., 3 refs.
1011614

Ryerson, R.A. 1977. Ground data Collection in Support of Digital Analysis of LANDSAT Data. Remote Sensing in Canada, No. 4, Canada Centre for Remote Sensing, Ottawa. 3 pp.
1020172

Problem addressed: Factors affecting LANDSAT reflection values.

Sibbald Group. 1976. Factors Affecting LANDSAT Reflectance Values of Selected Crop Land in Alberta, Canada in 1975. Sibbald Group, Calgary. 125 pp.
1010220

Problems addressed: Visual and digital analysis for estimation of rangeland productivity and condition; Visual and digital analysis for mapping soil salinity.

Thompson, M.D. 1978. Remote Sensing for Estimation of Rangeland Productivity and Condition at Stavely, Alberta. Intera Environmental Consultants Limited, Calgary. 77 pp., 42 refs.
1018201

Thompson, M.D. 1978. Remote Sensing for Delineation, Mapping and Classification of Soil Salinity in Southern Alberta. Intera Environmental Consultants Limited, Calgary. 76 pp., 33 refs.
1019247

3.1.2 Ecological and Biophysical

Problems addressed: Alberta TarSands environmental monitoring study (see also M.D. Thompson, 1977).

Aronoff, S. 1978. The Application of Remote Sensing to Environmental Monitoring of the Athabasca Oil Sands Region: Satellite Imagery. The Application of Remote Sensing to Environmental Monitoring of the Athabaska Oil Sands Region, Vol. 1, Section 6, pp. 186-225.
1020326

Problem addressed: Biophysical and geomorphological mapping in Baffin Island.

Charron, L., and D. Le Sauteur. 1975. Application of LANDSAT-1 Data in a Biophysical Land Classification and a Geomorphological Study - Auyuittuz National Park, Baffin Island. Canadian Department of Indian Affairs and Northern Development, Ottawa. 22 pp.
1020173

Desloges, C. Auyuittuz National Park. Analysis of LANDSAT-1 Images using "Image 100" to Recognize and Map Plant Communities. Canadian Department of Indian Affairs and Northern Development, Ottawa. 9 pp.
1020293

Problem addressed: Environmental mapping in the Arctic

Howarth, P.J. 1974? Mapping of the Canadian High Arctic Environment from LANDSAT-1 Digital Data. McMaster University, Department of Geography, Hamilton. 3 pp.
1015090

Problems addressed: Vegetation and soil mapping;
Monitoring ecosystems in the Rocky Mountains.

Jaques, D. 1977. Investigations into the Capabilities of Computer-processed LANDSAT Imagery for Reconnaissance Surveys of Ecosystems in the Rocky Mountains of Alberta, 1977. University of Calgary, Environmental Sciences Centre (Kananaskis), Calgary. 249 pp., 91 refs.
1016328

Jaques, D. 1977. Effects of Livestock Grazing on Mixed Prairie Range and Wildlife in PFRA Pastures, Suffield Military Reserve. Canadian Wildlife Service, Edmonton. 321 pp., 69 refs.
1014037

Problem addressed: Ecological Land Classification in Alberta.

Karpuk, E.W. 1978. Ecological Land Classification South-east of Lesser Slave Lake, Alberta using Airborne and LANDSAT Remote Sensing. McMaster University, Hamilton. 290 pp., 54 refs.
1017748

Problem addressed: Biophysical mapping in north-west Ontario.

Kozlovic, N.J., and P.J. Howarth. 1977. Biophysical Mapping in Northwestern Ontario from Aircraft and Satellite Remote Sensing Data. Canadian Symposium on Remote Sensing, 4th Proceedings, Quebec City. 10 pp., 16 refs. 1014369

Kozlovic, N.J. 1977. Aircraft and Satellite Remote Sensing for Biophysical Analysis at Pen Island, Northwestern Ontario. McMaster University, Department of Geography, Hamilton. 232 pp., 108 refs. 1014865

Problem addressed: Radar analysis of vegetation.

Schuchman, R., and R.T. Lowry. 1977. Vegetation Classification with Digital X-Band and L-Band Dual Polarized SAR Imagery. Canadian Symposium on Remote Sensing, 4th Proceedings, Quebec City. 15 pp., 10 refs. 1014402

Problem addressed: Alberta TarSands ecological habitat mapping (see also A. Aronoff, 1978).

Thompson, M.D., M.C. Wride, and M.E. Kirby. 1977. Ecological Habitat Mapping of the AOSERP Study Area - Phase 1. Alberta Department of the Environment, Edmonton. 192 pp., 108 refs. 1019827

Problem addressed: Environmental monitoring.

Wickware, G.M. 1978. Wetland Mapping and Environmental Monitoring using Digital LANDSAT Data. Canadian Symposium on Remote Sensing, 5th Proceedings, Victoria, p.p. 150-157. 8 pp., 18 refs. 1018753

3.1.3 Forestry

Problems addressed: Spruce budworm analysis;
multidate forest analysis.

Audirac, H., G. Rochon, and J. Beaubien. 1978. Detection of Spruce-budworm Damage to Conifers by Multidate Analysis of LANDSAT Data. Université Laval, Ste-Foy. 15 pp., 8 refs. 1019092

Audirac, H. 1978. Considerations sur l'Analyse Multidate des Données Numériques LANDSAT pour la Cartographie des Changements du Milieu Forestier. Université Laval, Ste-Foy. 92 pp., 31 refs. 1018824

Problems addressed: forest type mapping;
forest mapping;
forest inventory.

Beaubien, J. 1979. Forest Type Mapping from LANDSAT Digital Data. Photogrammetric Engineering and Remote Sensing, Vol. 45, No. 8, pp. 1135-1144. 18 refs.
1019984

Beaubien, J. 1978. Forest Type Mapping from Satellites Six Years After. Canadian Symposium on Remote Sensing, 5th Proceedings, Victoria, pp. 7-15. 9 refs.
1018740

Beaubien, J., and S.J. Daus. 1977. Le Traitement Numérique des Données de LANDSAT pour la Cartographie. Canadian Symposium on Remote Sensing, 4th Proceedings, Quebec City. 8 pp., 13 refs.
1014368

Beaubien, J. 1976. Le Traitement Numérique des Données du Satellite LANDSAT pour Inventorier nos Forêts. Forêt-Conservation, Vol. 42, Septembre 1976, Association Forestière Québécoise, Québec. 10 pp., 11 refs.
1011497

Problem addressed: Forest fire analysis.

Harrington, J.B. 1976. LANDSAT Imagery Applied to the Ecology of the Canadian Boreal Forest. Fire and Forest Meteorology, Conf., 4th Proceedings, St.Louis. 3 pp., 6 refs.
1020217

Problem addressed: Forest damage analysis.

Harris, J.W.E., A.F. Dawson, and D. Goodenough. 1978. Evaluation of LANDSAT Data for Forest Pest Detection and Damage Appraisal Surveys in British Columbia. Canadian Forestry Service, 12 pp. Hull. 12 refs.
1017713

Problems addressed: Thematic mapping for forestry;
Multidate thematic mapping for forestry.

Kalensky, Z. 1976. Automation of Thematic Mapping Based on Remote Sensing and Computerized Image Interpretation. UN/FAO Training Seminar on Remote Sensing, Lenggries. 8 pp., 3 refs.
1009871

Kalensky, Z., and J.M. Wightman. 1976. Automatic Forest Mapping using Remotely Sensed Data. IUFRO World Congress, XVI, Oslo. 22 pp., 59 refs.
1009870

Kalensky, Z. 1974. ERTS Thematic Map from Multidate Digital Images. Symposium on Remote Sensing and Photo Interpretation, Proc., Banff, Alberta, International Society for Photogrammetry (ISP), Commission VII. 18 pp., 7 refs.
1005858

Kalensky, Z., and L. Sayn-Wittgenstein. 1974. Thematic Map of Larose Forest from ERTS-1/MSS Digital Data. The Canadian Surveyor, Vol. 28, No. 2, pp. 113-118.

Problems addressed: Multistage forest inventory;
Forest inventory and management.

Kirby, C.L., and P.I. Van Eck. 1977. A Basis for Multistage Forest Inventory in the Boreal Forest Region. Canadian Symposium on Remote Sensing, 4th Proceedings, Quebec City. 24 pp., 29 refs.
1014374

Kirby, C.L., et al. 1975. LANDSAT Imagery for Banff and Jasper National Parks Inventory and Management. Canadian Symposium on Remote Sensing, 3rd, Edmonton. 19 pp., 14 refs.
1008821

Problem addressed: Forest fire fuel type mapping;
Forest fire management.

Kourtz, P.H., and J.B. Todd. 1977. Forest Fire Fuel Type Mapping in Southwestern Quebec using LANDSAT Satellite Data. Symposium Québécois sur la Télédétection, Papers, 1st, Montreal. 11 pp.

Kourtz, P.H., and A.J. Scott. 1978. An Improved Image Enhancement Technique and its Application to Forest Fire Management. Canadian Symposium on Remote Sensing, 5th Proceedings, Victoria. pp. 72-78.
1018747

Problem addressed: Forest cutting zones.

Laframboise, P., and P. Bedard. 1977. Evaluation d'une Méthode d'Interprétation semi-automatique pour la Cartographie des Zones de Coupe dans le sud du Territoire de la Baie James. Canadian Symposium on Remote Sensing, 4th Proceedings, Quebec City. 4 pp.
1014373

Problems addressed: Renewable resource and management system for the Yukon;
Douglas-fir Tussock moth defoliation;
Forest Classification;
Clear cut and uncut mature timber stand estimation.

Lee, Y.J., D. Hunt, and T.G. Honer. 1978. Yukon RRAMS - An Information Retrieval System for Renewable Resource and Management Statistics. Canadian Forestry Service, Pacific Forest Research Centre, Victoria. 16 pp., 11 refs. 1018142

Lee, Y.J., and J.F. Wear. 1978. Microdensitometry to Identify Douglas-fir Tussock Moth Defoliation on Color IR Aerial Photos. Symposium on Remote Sensing for Vegetation Damage Assessment, Seattle. 16 pp., 3 refs. 1015556

Lee, Y.J., et al. 1977. Computer-assisted Forest Land Classification Methods on the CCRS Image-100. Canadian Symposium on Remote Sensing, 4th Proceedings, Quebec City. 10 pp., 9 refs. 1014370

Lee, Y.J. 1976. Computer-assisted Forest Classification in British Columbia and the Yukon Territory: A Case Study. ASP, Proceedings, Fall Convention, Seattle. 11 pp., 6 refs. 1015834

Lee, Y.J. 1975. Reliability of Estimating Clear-cut and Uncut Mature Timber Areas using LANDSAT Imagery. Canadian Symposium on Remote Sensing, 3rd, Edmonton. 8 pp., 4 refs. 1008827

Problem addressed: Radar analysis for forestry.

Schuchman, R.A., et al. 1978. Multi-channel Synthetic Aperture Radar Sensing of Forest Tree Species. Canadian Symposium on Remote Sensing, 5th Proceedings, Victoria, pp. 373-381., 9 refs. 1018776

Problem addressed: Feasibility study for forest type mapping.

Zsilinszky, V., and S. Pala. 1977. Digital Analysis of LANDSAT Data for Selective Forest Stand Typing - An Initial Feasibility Study. Ontario Centre for Remote Sensing, Toronto. 17 pp., 17 refs. 1016331

3.1.4 Geology

Problem addressed: Small scale terrain mapping.

Boydell, A.N. 1974. Evaluation of the Potential Uses of Earth Resources Technology Satellite (ERTS-1) Data for Small Scale Terrain Mapping. Geological Survey of Canada, Ottawa. 15 pp., 1 refs.
1005333

Problem addressed: Rock outcrop discrimination.

Chagarlamudi, P. 1979. An Automatic Method of Discrimination Rock Outcrop using LANDSAT Data. Paper presented to the Workshop on Remote Sensing and Mineral Exploration, 22nd Cospar Meeting, Bangalore. 4 pp., 4 refs.
1020349

Problem addressed: Surficial geology.

Singhroy, V., and B. Bruce. 1977. Surficial Geology in the Pas Area of Manitoba: An Application of Digital LANDSAT Data. Canadian Symposium on Remote Sensing, 4th Proceedings, Quebec City. 10 pp., 6 refs.
1014372

3.1.5 Hydrology

Problems addressed: Water column movements;
Particulate pattern distribution;

Abiodun, A.A., and H.A. Adeniji. 1978. Movement of Water Columns in Lake Kainji. Remote Sensing of the Environment, Vol. 7, No. 3, 1978, pp. 227-234. 8 refs.
1016533

Abiodun, A.A. 1976. Satellite Survey of Particulate Distribution Patterns in Lake Kainji. Remote Sensing of Environment, Vol. 5, No. 2, 1976, pp. 109-123. 14 refs.
1011210

Abiodun, A.A. 1975. Space Survey of Particulate Distribution Patterns in Lake Kainji. Canada Centre for Remote Sensing, Ottawa. 21 pp., 10 refs.
1009858

Problems addressed: Water quality monitoring by LANDSAT chromaticity techniques;
LANDSAT MSS high gain mode;
Snow mapping;
Detection of turbidity phenomena.

Alföldi, T.T., and D. Jaques. 1979. LANDSAT Chromaticity Techniques Applied to Water Quality Monitoring and Speculations on their Application in Agriculture. Symposium on Remote Sensing, 3rd Proceedings, Warsaw. 14 pp., 9 refs.
1019089

Alföldi, T.T., and J.C. Munday. 1978. Water Quality Analysis by Digital Chromaticity Mapping of LANDSAT Data. Canadian Journal of Remote Sensing, Vol. 4, No. 2. 19 pp., 29 refs.
1016464

Alföldi, T.T., A. Sas-Uhrynowski, and T. Majeher. 1978. Canadian 1976 Experiment of LANDSAT MSS High Gain Mode. Conference on Earth Observation from Space and Management of Planetary Resources, Toulouse, France. 7 pp., 10 refs.
1015376

Alföldi, T.T., and J.C. Munday. 1977. Toward a LANDSAT Water Quality Monitoring System. Canadian Symposium on Remote Sensing, 4th Proceedings, Quebec City. 16 pp., 28 refs. 1011906

Alföldi, T.T., and K.P. Thomson. 1977. Snow Mapping from LANDSAT Digital Data. Seventeenth International Scientific Technical Meeting on Space, Rome, pp. 74-80. 32 refs. 101158

Alföldi, T.T. 1976. Digital Analysis of LANDSAT MSS Imagery for Snow Mapping Applications. Canada Centre for Remote Sensing, Ottawa. 46 pp., 32 refs.
1010120

Alföldi, T.T. 1974. Remote Sensing of Turbidity Phenomena in Lake St. Clair. Report to the Working Group on Abatement and Control of Pollution from Dredging Activities in the Great Lakes, Task Force No. 8, 29 pp., 5 refs.
1008180

Problem addressed: Determination of suspended sediment concentration.

Amos, C.L., and T.T. Alföldi. 1979. The Determination of Suspended Sediment Concentration in a Macrotidal System using LANDSAT Data. Journal of Sedimentary Petrology, Vol. 49, No. 1, pp. 159-173. 46 refs.
1019090

Problem addressed: Lake dynamics.

Jones, G., et al. 1977. Etude de la Dynamique des Eaux du Lac Saint-Jean au Québec, à l'Aide des Satellites LANDSAT-1 et LANDSAT-2. Canadian Symposium on Remote Sensing, 4th Proceedings, Quebec City. 8 pp. 3 refs. 1014393

Problem addressed: Hydrologic modeling for watersheds.

Lairer, R. 1977. Satellite Data Applied to Hydrologic Models for Regional Watersheds: A Case Study, Apure Llanos, Venezuela. McMaster University, Hamilton, Ontario, Masters' Thesis. 105 pp., 47 refs. 1019192

Problems addressed: Suspended sediment measurement (multidate); Diffuse reflectance models for turbidity analysis.

Munday, J.C., T.T. Alföldi, and C.L. Amos. 1979. Verification and Application of a System for Automated Multidate LANDSAT Measurement of Suspended Sediment. William T. Pecora Symposium on Satellite Hydrology, 5th Annual Proceedings, Sioux Falls, VIMS Contribution No. 909. 54 pp., 42 refs. 1019512

Munday, J.C., and T.T. Alföldi. 1979. LANDSAT Test of Diffuse Reflectance Models for Aquatic Suspended Solids Measurement. Remote Sensing of Environment, Vol. 8, No. 2, pp. 169-183. 33 refs. 1019233

Problems addressed: Transformation model: radiances into reflectances to analyze water quality; Automatic lake analysis; LANDSAT study of Lake Huron and Georgian Bay.

Rochon, G., et al. 1978. Analysis of a Transformation Model of Satellite Radiances into Reflectances. International Symposium on Remote Sensing of Environment, 12th Proceedings, Manila, pp. 1267-1277. 13 refs. 1017507

Rochon, G. 1977. Un Système Automatisé d'Analyse des Caractéristiques des Lacs par Satellite. Canadian Symposium on Remote Sensing, 4th Proceedings, Quebec City. 12 pp. 1014394

Rochon, G. 1976. Etude des Données de ERTS sur le Lac Huron et la Baie Georgienne. Université Laval, Centre de Recherches sur l'Eau, Ste-Foy. 93 pp., 16 refs.
1011058

Rochon, G., and E.J. Langham. 1975. Conversion of Radiances into Reflectances for Study of Water Quality. Univ. Laval, Centre de Recherches sur l'Eau, Ste-Foy. 18 pp., 10 refs.
1016410

Problem addressed: Spatial and temporal distribution of surficial waters and the assessment of their regimes (also under Wildlife).

Steffensen, R., A.M. Smith. 1978. An Analysis of the Spatial and Temporal Distribution of Surficial Waters in the Minnedosa Wetland District of Manitoba, Canada. International Symposium on Remote Sensing of Environment, 12th Proceedings, Manila, ERIM, Ann Arbor. Vol. 2, pp. 1015-1024. 9 refs.
1017485

Steffensen, R. 1977. Development of a Methodology for Assessing the Regime of Surficial Waters in Wetland Areas of Western Canada using LANDSAT Images. Geostudio Consultants Limited, Ottawa. 132 pp., 16 refs.
1015143

Problem addressed: Ice monitoring and mapping.

Loersen, P., and W.M. Strome. 1975. Ice Reconnaissance by Satellite. Canadian Symposium on Remote Sensing, 3rd, Edmonton.
1008815

Problems addressed: Hydro-electric developments - lake surveillance problems;
Snow cover.

Thomson, K.P.B., C. Pare, and M.D. Roy. 1975. Digital Analysis of Multispectral Satellite Data Applied to Lake Surveillance Problems in large Hydro Electric Developments. Canadian Symposium on Remote Sensing, 3rd, Edmonton. 12 pp., 7 refs.
1008836

Thomson, K.P.B. 1975. Snow Cover and the Image-100. Remote Sensing of Snow Cover Workshop. Canada Centre for Remote Sensing (DEMR), Ottawa. 10 pp.
1008113

3.1.6 Land Use

Problem addressed: Coastal resource inventory.

Alföldi, T.T., and G.E. Beanlands. 1975. Towards an Operational Inventory of Coastal Regions. Canadian Symposium on Remote Sensing, 3rd, Edmonton. 8 pp., 2 refs. 1006386

Alföldi, T.T. 1975. The Use of Satellite Imagery for an Inventory of Coastal Resources in the Atlantic Provinces. Canada Centre for Remote Sensing (DEMR), Ottawa. 101 pp., 22 refs.
1013107

Problem addressed: Land use mapping in Venezuela.

Lairer, J.C. 1977. An Evaluation of LANDSAT Imagery for Land Use Mapping in the Valencia Lake Basin, Venezuela. McMaster University, Hamilton. 107 pp., 59 refs. 1019184

Problem addressed: Coastal analysis from LANDSAT.

Prout, N.A. 1978. Analysis of LANDSAT Imagery for Coastal Nova Scotia. Canadian Symposium on Remote Sensing, 5th Proceedings, Victoria, pp. 169-173. 10 refs. 1018756

Problems addressed: Change detection;
Land use monitoring;
Land classification.

Rubec, C.D. 1978. Land Use Change Detection using LANDSAT Digital Data. Canadian Lands Directorate, Hull. 52 pp., 56 refs.
1016188

Rubec, C.D., and G.M. Wickware. 1978. Automated Land Classification in the Boreal Zone using LANDSAT Digital Data. Canadian Symposium on Remote Sensing, 5th, Victoria, pp. 127-135. 22 refs.
1016336

Rubec, C.D., and J. Thie. 1978. Land Use Monitoring with LANDSAT Digital Data in Southwestern Manitoba. Canadian Symposium on Remote Sensing, 5th, Victoria, pp. 136-149. 15 refs.
1016335

Problem addressed: Canada land inventory land use mapping.

Schubert, J.S. 1978. Computer Processing of LANDSAT Data for Canada Land Inventory Land Use Mapping. The Canada Land Inventory Report No. 13, 1978, Gregory Geoscience Limited, Ottawa. 80 pp., 28 refs.
1016189

Schubert, J.S. 1976. Computer Processing of LANDSAT Data as a Means of Mapping Land Use for the Canada Land Use Inventory. Environment Canada, Lands Directorate, Interim Report 76-3, Gregory Geoscience Limited, Ottawa. 196 pp., 27 refs.
1010039

Problem addressed: Terrain classification.

Steffensen, R. 1975. An Evaluation of Earth Resources Technology Satellite (ERTS) Data for Terrain Classification. Geostudio Consultants Limited, Ottawa. 85 pp., 13 refs. 1004515

3.1.7 Thermography

Problem addressed: Building heat loss.

Brown, R.J., P.M. Teillet, and J. Cihlar. 1978. The Effects of Attic Ventilation on Residential Heat Loss Analysis. Canadian Symposium on Remote Sensing, 5th Proceedings, Victoria, pp. 219-225. 6 refs.
1018762

3.1.8 Wildlife

Problem addressed: Vegetation mapping for wildlife (Caribou) studies (see also Thompson, D.C.).

Cihlar, J., D.C. Thompson, and G.H. Klassen. 1978. Mapping Vegetation at 1:1 Million from LANDSAT Imagery. Canadian Symposium on Remote Sensing, 5th Proceedings, Victoria, pp. 427-440. 7 refs.
1018783

Problem addressed: Waterfowl nesting habitat in the Yukon.

Russell, D., D. Mossop, and C. Goodfellow. 1978. Remote Sensing for Waterfowl Nesting and Nesting Old Crow Flats, Yukon Territory, Canada. Applications of Remote Sensing Data to Wildlife Management, Pecora IV, Conf., Sioux Falls. 6 pp., 3 refs.
1017309

Problem addressed: Surficial Water mapping for wildlife studies.

Steffensen, R., and A.M. Smith. 1978. An Analysis of the Spatial and Temporal Distribution of Surficial Waters in the Minnedosa Wetland District of Manitoba, Canada. International Symposium on Remote Sensing of Environment, 12th Proceedings, Manila, ERIM, Ann Arbor. 10 pp., 9 refs.

1017485

Steffensen, R. 1977. Development of a Methodology for Assessing the Regime of Surficial Waters in Wetland Areas of Western Canada using LANDSAT Images. Geostudio Consultants Limited, Ottawa. 132 pp., 16 refs.

1015143

Problem addressed: Studies in Caribou habitats (see also Cihlar, J., 1978.)

Thompson, D.C., G.H. Klassen, and C.A. Fisher. 1978. Ecological Studies of Caribou in the Southern District of Keewatin, 1977. Renewable Resources Consulting Services Limited. 126 pp., 101 refs.

1020875

3.1.9 Miscellaneous

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Problem addressed: A remote sensing text and overview.

Harper, D. 1976. Handling the Data. Eye in the Sky: Introduction to Remote Sensing, Chapter 6, Multi-science Publications Limited, Montreal. 20 pp.

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Problem addressed: Oil spill analysis.

Kirby, M.E. 1979. An Analysis of Digital LANDSAT Techniques for the Detection and Mapping of the Scott Inlet. Intera Environmental Consultants Limited, Ottawa. 43 pp., 13 refs.

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Kugler-Gagnon, M. 1977. Etude de la Dynamique de l'Impact de l'Aéroport International de Mirabel. Canadian Symposium on Remote Sensing, 4th Proceedings, Quebec City. pp. 47-56. 7 refs.
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Problem addressed: LANDSAT image evaluation.

Rivest, J. 1975. Test d'Identification de l'Imagerie ERTS. Riffret, Rivest et Associés, Quebec City, (1975). 31 pp.
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Problem addressed: Geographic LANDSAT information interfacing.

Ryerson, R.A., and D.G. Goodenough. 1978. The Remote Sensing - Cartography Interface. Remote Sensing of the Electromagnetic Spectrum, Vol. 5, No. 3, July, pp. 13-20. 16 refs. 1019274

Problem addressed: LANDSAT aerial photographs and maps of data banks on soils for terrain analysis.

Schreier H., and L.M. Lavkulich. 1979. A Numerical Approach to Terrain Analysis for Off-road Trafficability. Photogrammetric Engineering and Remote Sensing, Vol. 45, No. 5, May 1979, pp. 635-642. 18 refs.
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Problems addressed: Accuracy of the Image-100;
Classification programs at CCRS.

Economy, R., et al. 1974. Classification Accuracy of the Image-100. Canadian Symposium on Remote Sensing, 2nd Proceedings, Guelph. 9 pp., 6 refs.
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Goldberg, M., and P.M. Narendra. 1977. An Efficient Algorithm for Classification of LANDSAT Data. Canadian Symposium on Remote Sensing, 4th Proceedings, Quebec City. 11 pp., 7 refs.
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Problems addressed: Principal components enhancement programs on the MICA system and the CIAS.

Taylor, M.M. 1978. Guide to LANDSAT Image Enhancement Programs on the CCRS Decsystem-10/MAD Display. Defence and Civil Institute of Environmental Medicine, Downsview, DCIEM Technical Report 78-X-22. 58 pp.
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Cihlar, J., and K.P.B. Thomson. 1975. Image Analysis Equipment in Use at the Canada Centre for Remote Sensing. Workshop on Remote Sensing of Wildlife, Quebec City. 16 pp.
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Problem addressed: LANDSAT geometric adjustments.

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Shlien, S. 1977. Geometric Correction, Registration, and Resampling of LANDSAT Imagery. Canada Centre for Remote Sensing, Ottawa. 21 pp., 29 refs.
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Strome, W.M., et al. 1978. Landsat Imagery - A Cartographic Reference Base. Canada Centre for Remote Sensing, Ottawa. 6 pp., 14 refs.
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Problem addressed: Microwave and optical wavelength study.

Ahern, F.J., et al. 1978. Simultaneous Microwave and Optical Wavelength Observations of Agriculture Targets. Canadian Journal of Remote Sensing, Vol. 4, No. 2, 1978, pp. 127-142. 11 refs.
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Problem addressed: Radar analysis programs on the CIAS.

Lowry, R.T., S. Shlien, and D.G. Goodenough. 1978. A CCRS System for Synthetic Aperture Radar Imagery Analysis. Canadian Symposium on Remote Sensing, 5th Proceedings, Victoria, pp. 363-372.
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Teillet, P.M., et al. 1979. Preliminary Report on the SAR/MSS Analysis Experiment (SURSAT 88.72.2 and 52.72.1). Canada Centre for Remote Sensing, Ottawa. 38 pp., 9 refs.
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Teillet, P.M. 1978. Digital Analysis of Multi-Channel Radar Data at CCRS. Surveillance of Environmental Pollution and Resources by Electromagnetic Waves, pp. 381-385. D. Reidel, Publisher. 5 pp., 8 refs. 1017873

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Park, A.B., and W.M. Strome. 1978. A Review of Current Remote Sensing Satellite Reception and Preprocessing Technology. International Symposium on Remote Sensing of the Environment, 12th Proceedings, Manila, Vol. 1, pp. 355-369.
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Vishnubhatla, S.S. 1977. Radiometric Correction
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Problem addressed: Aerial photography hot spot correction.

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APPENDIX A

RESORS PHOTOCOPY REQUEST

FROM:

MAIL TO:

NAME:

CANADA CENTRE FOR REMOTE SENSING

ADDRESS:

2464 SHEFFIELD ROAD
OTTAWA, ONTARIO. K1A 0Y7
ATTN: FINANCIAL SERVICES

REQUESTS - CHARGEABLE

CCRS NO	AUTHOR	PAGES
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TOTAL PAGES CHARGEABLE _____

REQUESTS - NON-CHARGEABLE

CCRS NO	NAME	Instructions
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1. All requests must be accompanied by a cheque or money order payable to the Receiver General of Canada.
2. The charge for photocopying is \$0.22 per page (\$2.20 minimum for 10 pages or less).
3. It is the responsibility of users to separate chargeable from non-chargeable requests. Papers authored by CCRS staff are non-chargeable. Service to Federal Government users is non-chargeable.
4. RESORS does not provide copies from microfiche originals.

RESORS

DATE RECEIVED SEP 01 1980

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