

CURRICULUM VITAE

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PERSONAL INFORMATION

Education

Ph.D University of Lille, Lille, France Dissertation Title: Atmospheric Effects on Satellite Data.	Oct. 1989¹ June 1990²
Master's Degree in Computer Science Ecoles des Hautes Etudes Industrielles, Lille, France Speciality: Industrial Data Processing	June 1987

Appointments

Research Professor	Present
Senior Research Scientist	2007 - 2009
Associate Research Scientist	1997 - 2007
Assistant Research Scientist	1991 - 1997
Research Scientist, University of Lille, Lille, France	1990 - 1991
Air Force Scientist, CERT-DERO, Toulouse, France	1989 - 1990
Research Engineer, University of Lille, Lille, France	1987 - 1989

¹ Requirements completed

² Award date

RESEARCH SCHOLARLY AND CREATIVE ACTIVITIES

Book Chapters

- Vermote E.F.**, and Roger J.C., 1996, "Radiative Transfer Modeling for Calibration and Atmospheric Correction", Chapter 3 of *Advances in the use of NOAA AVHRR for Land Applications*, pp. 49-72, D'Souza, G., Belward, A.S. and Malingreau, J.P (Eds.), 1996, published by Kluwer Academic Press, Dordrecht, 479pp.
- Vermote E.F.** and El Saleous N.Z., 1996, "Absolute Calibration of AVHRR channel 1 and 2", Chapter 4 of *Advances in the use of NOAA AVHRR for Land Applications*, pp. 73-92, D'Souza, G., Belward, A.S and Malingreau, J.P (Eds.), 1996, published by Kluwer Academic Press, Dordrecht, 479pp.
- Vermote E.F.**, El Saleous N.Z., and Holben B.N., 1996 "Aerosol Retrieval and atmospheric correction", Chapter 5 of *Advances in the use of NOAA AVHRR for Land Applications*, pp. 93-124, D'Souza, G., Belward, A.S and Malingreau, J.P (Eds.), 1996, published by Kluwer Academic Press, Dordrecht, 479pp.
- Vermote E.F.**, "Adjacency effect on Remotely Sensed Data: Theory and Correction", 2003, contribution to the *Encyclopedia of optical engineering*, Driggers R.G. and E. Lichtenstein (Eds.), publisher Marcel Dekker, Inc.
- Privette J.L. and **Vermote E.F.**, "The Impact of Atmospheric Effects on Directional Reflectance Measurements", Chapter 6 of *Reflection properties of Vegetation and Soil - with a BRDF Data base*, Maria von Schönemark, Bernhard Geiger, and Hans-Peter Röser (Eds)), 2004, publisher Wissenschaft & Technik Verlag.
- Vermote E.F.** and N.Z. Saleous, Operational Atmospheric Correction of MODIS Visible to Middle Infrared Land Surface Data in the Case of an Infinite Lambertian Target, Book Chapter in "Earth Science Satellite Remote Sensing", J. J.Qu, W. Gao. M. Kafatos, R.E. Murphy, V. V. Salomonson, (Eds), 2006., publisher Springer.

Refereed work: In press/ accepted/submitted

Xiong X., Wolfe R., Barnes W., Guenther B., **Vermote E.**, Saleous N.Z., Salomonson V., “Terra and Aqua MODIS Design, Radiometry and Geometry in Support of Land Remote Sensing”, Chapter 4 of the “Land Remote Sensing and Global Environmental Change: NASA’s Earth Observing System and the Science of ASTER and MODIS), Bhaskar Ramachandran, Chris Justice, Mike Abrams (Eds), *accepted*, Springer-Verlag

E. Vermote and S. Y. Kotchenova, “MODIS Directional surface reflectance product: Method, error estimates and validation”, in “Land Remote Sensing and Global Environmental Change: NASA’s Earth Observing System and the Science of ASTER and MODIS), Bhaskar Ramachandran, Chris Justice, Mike Abrams (Eds), *accepted*, Springer-Verlag

Justice C.O. 1, **Vermote E.**, Privette J.L and Sei A, “ The Evolution of U.S. Moderate Resolution Optical Land Remote Sensing from AVHRR to VIIRS”, in “Land Remote Sensing and Global Environmental Change: NASA’s Earth Observing System and the Science of ASTER and MODIS), Bhaskar Ramachandran, Chris Justice, Mike Abrams (Eds), *accepted*, Springer-Verlag

Refereed Articles

- Roy, D.P., Ju, J., Kline, K., Scaramuzza, P.L., Kovalsky, V., Hansen, M.C., Loveland, T.R., **Vermote, E.F.**, Zhang, C., 2010, Web-enabled Landsat Data (WELD): Landsat ETM+ Compositing Mosaics of the Conterminous United States, *Remote Sensing of Environment*, 114: 35-49.
- Cao, C., **E. Vermote**, and X. Xiong (2009), Using AVHRR lunar observations for NDVI long-term climate change detection, *J. Geophys. Res.*, 11410.1029/2009jd012179.
- Vermote, E.**, E. Ellicott, O. Dubovik, T. Lapyonok, M. Chin, L. Giglio, and G. J. Roberts (2009), An approach to estimate global biomass burning emissions of organic and black carbon from MODIS fire radiative power, *J. Geophys. Res.*, 11410.1029/2008jd011188.
- Ellicott, E., **E. Vermote**, L. Giglio, and G. Roberts (2009), Estimating biomass consumed from fire using MODIS FRE, *Geophys. Res. Lett.*, 36, L13401, doi:10.1029/2009GL038581.
- Huang, C., S. Goward, J. Masek, F. Gao, **E. Vermote**, N. Thomas, K. Schleeuwis, R. Kennedy, Z. Zhu, J. Eidenshink, and J. Townshend (2009), Development of time series stacks of Landsat images for reconstructing forest disturbance history, *International Journal of Digital Earth*, 2(3), 195-218.
- Hutchison, K. D., R. L. Mahoney, **E. F. Vermote**, T. J. Kopp, J. M. Jackson, A. Sei, and B. D. Iisager (2009), A Geometry-Based Approach to Identifying Cloud Shadows in the VIIRS Cloud Mask Algorithm for NPOESS, *Journal of Atmospheric and Oceanic Technology*, 26(7), 1388-1397
- Eck, T. F., B. N. Holben, J. S. Reid, A. Sinyuk, E. J. Hyer, N. T. O'Neill, G. E. Shaw, J. R. Vande Castle, F. S. Chapin, O. Dubovik, A. Smirnov, **E. Vermote**, J. S. Schafer, D. Giles, I. Slutsker, M. Sorokine, and W. W. Newcomb (2009), Optical properties of boreal region biomass burning aerosols in central Alaska and seasonal variation of aerosol optical depth at an Arctic coastal site, *J. Geophys. Res.*, 114
- E. Vermote**, C. Justice, F.M. Bréon, (2009) "Towards a generalized approach for correction of the BRDF effect in MODIS directional reflectances", in *IEEE Transactions in Geoscience and Remote Sensing*, 47, 898-908.
- Ellicott, E., **Vermote, E.**, Petitcolin, F. and Hook, S.J. (2009) Validation of a New Parametric Model for Atmospheric Correction of Thermal Infrared Data. *Geoscience and Remote Sensing, IEEE Transactions on Geoscience and Remote Sensing*, 47, 295-311.
- Nagol, J.R., **Vermote, E.F.** and Prince, S.D. (2009) Effects of atmospheric variation on AVHRR NDVI data. *Remote Sensing of Environment*, 113, 392-397.
- Vermote, E. F.**, and S. Kotchenova (2008), "Atmospheric correction for the monitoring of land surfaces", *J. Geophys. Res.*, 113, D23S90, doi:10.1029/2007JD009662.
- C. E. Woodcock, R. Allen, M. Anderson, A. Belward, R. Bindschadler, W. Cohen, F. Gao, S. N. Goward, D. Helder, E. Helmer, R. Nemani, L. Oreopoulos, J.

- Schott, P. S. Thenkabail, **E. F. Vermote**, J. Vogelmann, M. A. Wulder, R. Wynne, and L. S. Team, "Free access to Landsat imagery", 2008, *Science*, vol. 320, pp. 1011-1011
- S. Y. Kotchenova, **E. F. Vermote**, R. Levy, and A. Lyapustin, "Radiative transfer codes for atmospheric correction and aerosol retrieval: intercomparison study," 2008, *Appl. Opt.*, vol. 47, pp. 2215-2226, 2008.
- F. Maignan, FM Bréon, **E. Vermote**, Ph Ciaï, N. Viovy , 2008, "Mild winter and spring 2007 over Western Europe led to a widespread early vegetation onset", *GEOPHYSICAL RESEARCH LETTERS*, VOL. 35, L02404, doi:10.1029/2007GL032472.
- S. Y. Kotchenova and **E. Vermote**, 2007, "Validation of a vector version of the 6S radiative transfer code for atmospheric correction of satellite data. Part II: Homogeneous Lambertian and anisotropic surfaces", 2007, *Applied Optics*, Vol. 46, Issue 20, pp. 4455-4464
- Levy, R. C., L. Remer, S. Mattoo, **E. Vermote**, and Y. J. Kaufman, 2007: Second-generation algorithm for retrieving aerosol properties over land from MODIS spectral reflectance. *JOURNAL OF GEOPHYSICAL RESEARCH*, VOL. 112, D13211, doi:10.1029/2006JD007811, 2007
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- Alexander Sinyuk A., Dubovik O., Holben B.N., Eck T.F., Breon F., Martonchik J., Kahn R., Diner D.J., **Vermote E.F.**, Roger J.C., Lapyonok T. and Slutsker I., 2007, Simultaneous retrieval of aerosol and surface properties from a combination of AERONET and satellite data, *Remote Sensing of Environment* , Vol 107,1-2,90-108.
- Vermote E.F.** and Saleous N.Z., 2006, Calibration of NOAA16 AVHRR over a desert site using MODIS data, *Remote Sensing of Environment*, Volume 105, 3, 214-220
- S. Y. Kotchenova, **E. F. Vermote**, R. Matarrese, & F. Klemm, 2006 Validation of a new vector version of the 6S radiative transfer code for atmospheric correction of MODIS data: Part I – Path Radiance, *Applied Optics*, Vol 45., No. 26, 6762-6774..
- Roger J.C., M. Mallet, P. Dubuisson, H. Cachier, **E. Vermote**, O. Dubovik, S. Despiou, 2006, Application to an urban zone during the Expérience sur Site pour Contraindre les Modèles de Pollution et de Transport d'Emission (ESCOMPTE) experiment, *J. Geophys. Res.*, Vol. 111, No. D13, D13208

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- Reto Stöckli, **Eric F. Vermote**, Nazmi Saleous, Robert Simmon, And David Herring, 2006, "True Color Earth Data Set Includes Seasonal Dynamics", *EOS-Vol87*, Number 5, Pages 49-55.
- Tucker C.J., Pinzon J.E., Brown M.E., Slayback D.A., Pak E.W., Mahoney R., **Vermote E.F.**, Saleous N.E., 2005, "An extended AVHRR 8km NDVI dataset compatible with MODIS and SPOT Vegetation NDVI data", *International Journal of Remote Sensing*, 26, (20), 4485-4498.
- Eric F. Vermote** and Elizabeth A Satterfield, 2005, Cover: Southern Africa, 2 February 2002 to 16 May 2002, Moderate Resolution Imaging Spectroradiometer (MODIS) 500m land surface reflectance, *International Journal of Remote Sensing*, 26, (9), 4137-4139 .
- Rong-Rong Li Lorraine Remer, Yoram J. Kaufman, Shana Mattoo, Bo-Cai Gao, and **Eric Vermote**, 2005, Snow and Ice Mask for the MODIS Aerosol Product, *IEEE Geoscience and Remote Sensing Letters*, 2 (3) 306-310.
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- Roger J.C. and **Vermote E.F.**, 1997, Computation and use of the reflectivity at 3.75 μ m from AVHRR thermal channels, *Remote Sensing Reviews*, 15: 75-98.
- Vermote E.F.**, El Saleous N.Z., Kaufman Y.J., Dutton E., 1997, Stratospheric aerosol perturbing effect on the remote sensing of vegetation: Correction method for the composite NDVI after the Pinatubo eruption, *Remote Sensing Reviews*, 15: 7-21.
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Conference Proceeding

- Roger J.C., Mallet M., Dubuisson P., Cachier H., Cœur C., **Vermote E.**, Despiau S., Putaud J.P., Van Dingenen R., and Dubovik O., Synergetic approach for estimating the local direct aerosols forcing. Application to the ESCOMPTE experiment, IGAC, Heraklion, Crete, September 2002
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- Vermeulen A., **Vermote E.F.**, Holben B.N., Descloitres J., Mao-Che I., Mapping monthly estimation of aerosol optical thickness from sun-photometer and satellite measurements , *Proceeding of the Conference and Workshop on the contribution of POLDER and the new generation of spaceborne sensors to global change studies*, Meribel, France, January 1999.
- Descloitres J. and **Vermote E.F.**, Operational retrieval of the spectral surface reflectance and vegetation index at global scale from SeaWiFS data, *Proceeding of the Conference and Workshop on the contribution of POLDER and the new generation of spaceborne sensors to global change studies*, Meribel, France, January 1999.
- Sobrino J.A., Dempere L., **Vermote E.F.**, Cuenca, J., Correction For Aerosol Effects On Satellite Sea Surface Temperatures, *Proceeding of SPIE, International Society for Optical Engineering*, Volume 3495, 1999 (In press).
- Jacqueline Le Moigne, Nazmi El Saleous , **Vermote E. F.**, Iterative Edge- and Wavelet-Based Image Registration of AVHRR and GOES Satellite Imagery, *Proceedings of Image Registration Workshop (USRA-NASA/GSFC-IEEE/GRSS)*, NASA/GSFC, Nov. 20-21 1997.
- Ouaidrari H., **Vermote E. F.**, El Saleous N., Roy D., 1997 , AVHRR Pathfinder II data set: Evaluation and improvements, *Proceedings of the 7th International Symposium on physical measurements and signatures in remote sensing*, Courchevel, France
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- Roger J.C. and **Vermote E.F.**, 1994, Computation and use of the reflectivity at 3.75 μ m from AVHRR thermals channels, *VI^e International Colloquium: Physical measurements and signatures in remote sensing*, Val d'Isère, France, January 17-21, 817-824.
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- Roger J.C., **Vermote E.F.**, El Saleous N.Z., 1994, Atmospheric Correction of MAS data during SCAR-A experiment, *Atmospheric Sensing and Modeling*, Rome, Italy, September 29-30, SPIE proceedings, Vol. 2311, 83-89.
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Recent Presentations/Posters

- Crystal Schaaf, **Eric Vermote**, “Reflectance, Anisotropy and Albedo Land Products from MODIS”, GlobAlbedo User Consultation Meeting, ESRIN, Italy, October 2008.
- Justice C., **E. Vermote**, “A surface reflectance standard product from LDCM and supporting activities: Update”, LDCM Science Team Meeting, July 2008.
- Vermote E.**, “Toward establishing a Land Climate Data Record”, NASA/GSFC, Greenbelt, MD, July 11 2008.
- John Jackson, **Eric Vermote**, Eric Shettle, “NPOESS Aerosol product retrievals from the VIIRS instrument”, IGARSS 2008, July 6-11, 2008, Boston Massachusetts, USA, oral presentation.
- Vermote E.**, “Reflective band vicarious calibration of the MODIS and AVHRR sensors using Ocean, Clouds and Desert Observations”, IGARSS 2008, July 6-11, 2008, Boston Massachusetts, USA, **Invited talk.**
- Vermote E.**, “Atmospheric correction in the solar spectrum: Methods and Validation”, IGARSS 2008, July 6-11, 2008, Boston Massachusetts, USA, **Invited talk.**
- Vermote E.**, “Using MODIS and POLDER data to develop a generalized approach for correction of the BRDF effect”, MODIS Science Team Meeting, plenary session, Baltimore, MD, May 2008.
- Vermote E.**, “Terra/Aqua band 1 and 2 calibration evaluation over Libyan desert site”, MODIS Science Team Meeting, MCST Breakout session, Baltimore, MD, May 2008.
- Vermote E.** and Justice C., “A surface reflectance standard product from LDCM and supporting activities”, LDCM Science Team Meeting, June 2007.

Vermote E., “Atmospheric correction for the monitoring of land surfaces”, Yoram J. Kaufman Symposium On Aerosols, Clouds and Climate, May 30, 31, and June 1, 2007, NASA GSFC.

Vermote E. (on behalf of Justice C.), “NOAA MODIS Land Processing”, Potential NESDIS Operational Products from MODIS Workshop, NOAA/NESDIS June 9th 2007

Vermote E., Schaaf C. (presenting) , “Atmospheric Correction in the Reflective Domain of MODIS and AVHRR Data Uncertainties Analysis and Evaluation of AERONET Sites”, LANDFLUX Assessment and Organization Workshop , June, 2007, Toulouse, France

Schaaf C., Strahler A., Liu J., **Vermote E.** And Kotchenova S., “Retrieving Surface Reflectance Anisotropy and Albedo Land Products from MODIS (Collection 5)”, GCOS AOPC/TOPC Joint Working Group on Land-Surface/Atmosphere Issues (WG-LSA) 1st meeting, European Commission Joint Research Centre, Ispra (VA), Italy, 14-15 February 2007.

Justice C. and **Vermote E.**, “Atmospheric correction for the monitoring of land surfaces”, Direct Readout Land/Vegetation workshop ,Mexico City, October 10 & 11, 2007.

Levy R.C., Remer L.R., **Vermote E.**, Castanho A. and Kahn R., “Toward a synergistic MODIS retrieval of aerosol optical depth over cities”, A Train Meeting, Lille, France, October, 2007.

Sinyuk A., Dubovik O., **Vermote E.**, Roger J.C., Eck T.F. and Holben B., “Using joint inversion of AERONET and satellite observations to validate surface reflectance assumptions employed in the version 2 AERONET aerosol retrieval algorithm”, A Train Meeting, Lille, France, October, 2007.

Ellicott E., **Vermote E.**, Layponok T., Chin M. and Dubovik O., “Global Estimates Of Biomass Burning Particulate Matter Using Fire Radiative Power”, Association Of American Geographers (AAG) Annual Meeting San Francisco, CA April 17th – 20th, 2007.

S. Korontzi, **E. Vermote**, L. Giglio, C. Justice, I.Z. Gitas, A.I. Polychronaki, T.G. Katagis and G. Mallinis ,” The 2007 Fire Season in Greece” , 6th International Workshop of the EARSEL Special Interest Group on Forest Fires and Fire IT planning meeting, 27 - 29 September 2007.

Vermote E. and Kotchenova S.Y., “Atmospheric correction of MODIS data in the visible and shortwave infrared: method, error estimates and validation”, Branch seminar at NASA GSFC, May 16, 2007.

Kotchenova S.Y. and **Vermote E.**, “A vector version of the 6S radiative transfer code for atmospheric correction of satellite data”, the ARFL Transmission meeting, 29th Annual review of atmospheric transmission models, Lexington, Massachusetts, USA, July 13-14, 2007, **Invited talk**.

S.Y. Kotchenova, **E. Vermote** , R. Levy and A. Lyapustin, “Radiative Transfer codes for atmospheric correction and aerosol retrieval: Intercomparison study”, AEROCENTER, Fall seminar series, NASA GSFC, Greenbelt, Maryland, USA, October, 2, 2007.

Pedely, J.; Devadiga, S.; Masuoka, E.; Brown, M.; Pinzon, J.; Tucker, C.; **Vermote, E.**; Prince, S.; Nagol, J.; Justice, C.; Roy, D.; Junchang J.; Schaaf, C.; Jicheng L.; Privette, J. and Pinheiro, A., "Generating a long-term land data record from the AVHRR and MODIS Instruments," Geoscience and Remote Sensing Symposium, 2007. IGARSS 2007. IEEE International , vol., no., pp.1021-1025, 23-28 July 2007

Morisette, JT and Wolfe, RE and Tan, B. and Gao, F. and Pedely, J. and Nightingale, J. and Ederer, G. and **Vermote, E.**, 2007, “North American Landscape Phenology: a 250m spatial resolution product derived from MODIS”, American Geophysical Union, Fall Meeting 2007.

Pedely, J., **Vermote, E.**, Devadiga, S., Roy, D., Schaaf, C., Privette, J., and Pinheiro, A. Prince, S., Justice, C., Nagol, J., and others “Generating a Long-term Land Data Record from the AVHRR and MODIS Instruments”, American Geophysical Union, Fall Meeting 2007

Nagol, J.R., **Vermote, E.** and Prince, S. and Brown, M., “Investigation of uncertainty in surface reflectance measures derived from AVHRR caused by orbital drift and variations in viewing geometry””, American Geophysical Union, Fall Meeting 2007

Eric Shettle, R. Halthore, **E. Vermote**, and J. M. Jackson, “Aerosol Measurements from the VIIRS Instrument During NPOESS”, AMS Meeting, January, 2007.

Vermote E., “Surface reflectance”, MODIS Land Collection 5/LTDR Workshop UMUC Inn and Conference Center, January 17 - 18, 2007

Vermote E., “Theoretical basis of the algorithms,”, Workshop on Progress in Development of the NASA CAN Project “0.05 Degree Global Climate Interdisciplinary Long-Term Data Set from AVHRR, MODIS and VIIRS Instruments”, UMUC Inn and Conference Center, January 17 - 18, 2007

Ellicott, E.A., **Vermote E.F.**, Petitcolin, F., Hook, S.I., 2006, “Validation of A New Parametric Radiative Transfer Model For Atmospheric Correction of Thermal Infrared Channels”, AGU, 87(52), Fall Meeting.

Jackson, .M., **Vermote E.**, Shettle, E. P., 2006, “Measurements of Atmospheric Aerosols by the VIIRS Instrument for NPOESS”, AGU, 87(52), Fall Meeting.

Vermote E.F., Ellicott E., Lapyonok T., Chin M., Dubovik O., 2006, “Evaluation of Global Biomass Burning Carbon Emission Estimates using Fire Radiative Power” , AGU, 87(52), Fall Meeting.

Vermote E.F. , Dubovik O. ,Nazmi Saleous N., Petitcolin F., Lapyonok T., Kaufman Y.J. , Chin M., Giglio L., Ellicott E., “Evaluation of Global Biomass Burning Carbon Emission Estimates using Fire Radiative Power and Aerosol products from MODIS”, MODIS Science Team Meeting, October 2006, presentation at the atmosphere session.

S. Kotchenova, **E.F. Vermote**, R. Matarrese, & F. Klemm, 2006 ‘Validation of a new vector version of the 6S radiative transfer code for atmospheric correction of MODIS data: Part II – Lambertian and anisotropic surfaces’ MODIS science team meeting, Baltimore, Maryland, USA, January 4-6, 2006.. Poster.

N.Z. Saleous and **E.F. Vermote**, “Evaluation of MODIS Collection 5 surface reflectance product using AERONET”. MODIS science team meeting, Baltimore, Maryland, USA, January 4-6, 2006. Poster.

Eric F. Vermote, Oleg Dubovik, Nazmi Z. Saleous, Francois Petitcolin, Tatyana Lapyonok, Yoram J. Kaufman, Mian Chin, and Louis Giglio, “Fire disturbance in the Earth-Atmosphere system”. MODIS science team meeting, Baltimore, Maryland, USA, January 4-6, 2006. Poster.

Eric F. Vermote, Jean-Claude Roger, Alexander Sinyuk, Nazmi Saleous and Oleg Dubovik, 2005, “Fusion of MODIS-MISR aerosol inversion for estimation of aerosol absorption”, Terra Fusion Meeting I, Williamsburg, VA, August 15-17, 2005, Poster.

E.F Vermote & S. Kotchenova, MODIS science team meeting, Baltimore, Maryland, USA, March 22-24, 2005. ‘Validation of the 6S radiative transfer code for atmospheric correction of MODIS data’. Presentation & Poster.

Vermote et al., Long Term Land Data Record from AVHRR/MODIS/VIIRS, NASA Land Cover Land Use Change Meeting, University of Maryland, January, 2005.

Software

AVHRR LTDR processing software, version 2, 2007

Landsat TM/ETM+ surface reflectance version 2 software, 2007

Direct Broadcast version of the MODIS MOD09 Collection 5 Product (Surface reflectance), 2007.

“6S Vectorial version, Beta version released July **2005**, “ available on <http://6s.ltdri.org/>

CD ROM “An introductory multidisciplinary set of MODIS data products for the earth science community”, 2002.

Version 4 of MODIS MOD09, software (surface reflectance, fire) and level 3 composite products (Version 4), delivered to SDST, 2002.

Vermote E., Tanré D., Deuzé J.L., Herman M. Morcrette J.J, Second Simulation of the satellite signal in the solar spectrum (6S), Software, Version 4.1, Department of Geography, University of Maryland and Laboratoire d'Optique Atmosphérique, U.S.T.L., available from anonymous ftp (kratmos.gsfc.nasa.gov), ~160 registered users, 1999.

SeaWiFS Processing System for surface reflectance and aerosol products, Beta Version (with Nazmi El Saleous),1998.

GIMMS Advance Processing System for AVHRR, Version 3.5 (with Nazmi El Saleous),1997.

AVHRR land Pathfinder II software, Version 1.0, (with Nazmi El Saleous),1997.

Vermote E.F., 1996, Software for atmospheric correction of Landsat TM data, Version 1.0, delivered to LTER on June 96.

Vermote E.F. and El Saleous N.Z., 1994, Multi-media interface for the MODIS project (integrated in the NASA/Digital Library).

RESEARCH GRANTS

P.I or Co-PI:

- Vermote E., "MODIS/NPP VIIRS surface and top of the atmosphere reflectances evaluation, maintenance, validation and refinement", 12/18/07-12/17/10 (\$978,299)
- Vermote E. (PI for UMD subcontract), "Web-enabled Landsat data (WELD) - a consistent seamless near real time MODIS-Landsat data fusion for the terrestrial user community", 2008, . , PI D. Roy, South Dakota State University, 4/1/2008-4/1-2013 (UMD budget \$383,697)
- Vermote E.F. and Justice C.O., 2006, "A Surface Reflectance Standard Product from LDCM and supporting activities", USGS, 9/15/06 to 9/14/11, (\$503,305)
- Vermote et al., 2005, Using MODIS Ocean Bands to Augment Direct Satellite Estimation of Terrestrial Carbon Flux: A Novel Approach, NASA, 9/1/04-8/31/07, (\$133,594)
- Vermote et al., 2004, Evaluation of NPP/VIIRS Land Surface Earth Data Record with respect to climate change objectives, NASA, 01/01/04-12/31/06, (\$545,482)
- Vermote et al., 2004, Refinement of MODIS Land surface reflectance in the visible to middle infrared and associated products, NASA, 03/15/04-03/14/07, (\$1,368,510)
- Vermote et al., 2004, Fires as a disturbance in the Earth-Atmosphere system, a pilot study using MODIS data and experimental algorithms, NASA, 03/15/04-03/14/07, (\$314,996)
- Vermote et al., 2003, A 0.05 degree global climate/interdisciplinary long term data set from AVHRR, MODIS and VIIRS instruments, NASA, 10/15/03-10/14/08, (\$854,157)
- Vermote E.F., 1996: "A Global Land Surface Reflectance Product for use in MODIS land algorithms", NASA, July 96 to October 2002, (\$2,628,102).
- Roy, D. (Principal Investigator), Vermote, E.F. (Co-Principal Investigator), A study of the development of remote sensing algorithms, NASA Cooperative Agreement NCC5449-C, Total Budget \$405,644 for 01/01/2000-12/31/2002.
- Townshend J.G.R., Vermote E.F., Justice C.O., Tucker C.J., Goward S.N., El Saleous N.Z., 1995: "A Version 2 AVHRR Multi-resolution Land Pathfinder Data Set". NASA NRA-944-MTPE-06, July 95 to June 99 (\$990,000).
- Vermote E.F., Van de Castle J., Roger J.C., Holben B.N., Justice C.O., and Tucker C.J..1994: "Development and Testing of Operational Atmospheric Correction of Satellite Data for the NSF-LTER Sites", 1995.NASA Office of Mission to Planet Earth, April 95 to March 97 (\$200,000).
- Vermote E.F., Roger J.C., Tucker C.J., Justice C.O.1995: "VEGETATION Instrument and MODIS: a joint research and development project on terrestrial monitoring", Accepted by The VEGETATION International Users Committee, Feb 95 to Nov 98 (\$42,000).

Fraser R.S. and Vermote E.F., 1995, “Calibration of Ocean Color Sensors and the Optical Properties of Aeolian Dust”, NASA Office of Mission to Planet Earth, June 95 to June 97 (\$220,000).

Co-I:

Remer L.A., Co-PI, Kaufman Y.J., Co-PI, Feingold G., Co-I , Vermote E.F., Co-I , El Saleous N.Z., Co-I, “Satellite Study of the Smoke Indirect Radiative Forcing”, NASA, October 97 to October 2000, (\$300,000).

Townshend J.G.R., “Land Cover Earth Science Information Partnership”, April 1998 to April 2001 (\$3,850,000).

Ja’Ja’ Joseph, “Center of Excellence at University of Maryland”, 1997 (\$430,000).

Jasme M., Lemoigne J., Vermote E.F., "Co Registration of multi sensor data using wavelet transform",1995, NASA Directorate Discretionary Fund, Jan 95-Jan 96 (\$39,000).

Walthall C.L., Irons J.R., Vermote E.F.,1992, “Advanced Solid-state Array Spectrometer Data Analysis for Estimation of Photosynthetically Active Radiation and Hemispherical Reflectance”, May 1992 to April 1994 (\$210,000).

Holben B.N., Kaufman Y.J., Eck T.F., Tanré D., Vermote E.F.,1991, “Correction of the NOAA-AVHRR Imagery for Atmospheric Effects and Calibration Deterioration”, July 1991 to July 1993 (\$460,000).

Markham B.L., Holben B.N., Kaufman Y.J., Halthore R.N., Eck T.F., Vermote E.F., 1992, “Characterization of Atmospheric Optical Properties for BOREAS”, Jan 1993 to Dec 1996 (\$511,000).

TEACHING AND ADVISING

- Instructor for GEOG-445 “Climatology”, taught Spring 2009.
- Co-Advisor of one Master student in the Department of Geography, University of Maryland, 2007-2008
- Co-Advisor of two Phd Candidates in the Department of Geography, University of Maryland, 2004-present
- Main instructor for GEOG-788 seminar course “Advances in remote sensing of terrestrial global change: past, present & future”, taught Fall 2006, group teaching.
- Coordination of GEOG-788 seminar course “Advances in remote sensing of terrestrial global change: past, present & future”, taught Fall 2004, coordinated by Vermote E. and Roy D.P.
- 3 Lectures given for Master program of physics of University of Bari, “Advanced Remote Sensing”, October 2003.
- Reviewer of Phd Thesis for Marc Mallet, ”Study of the microphysical and optical properties of the aerosol in suburban area during the ESCOMPTE experiment: Estimation of the direct radiative forcing”, January, 2003.
- Lecture given for the International Summer School on Atmospheric and Oceanic Science, l’Aquila, Italy, August, 2002.
- Lectures given for MIT/Goddard Short Course “Remote Sensing of the Earth’s Environment from Terra”, January 2002.
- Guest lecture given for UMD/ GEOG 609 “Global Terrestrial Satellite Observing Systems course”. September, 2001.
- Lecture given for NASA Summer Internship Program on “MODIS data use for land atmosphere remote sensing”, July 2001.
- Lectures given to the Georges Mason University workshop: “Earth Science Remote Sensing Data Processing, Analysis & Applications”, June 2001.
- Reviewer of Phd Thesis for Catherine Schmetig, ”Atmospheric Corrections for land surfaces, application to the ENVISAT/MERIS Sensor”, October 2000.
- Taught GEOG480, GEOG788M, “Advanced Remote Sensing”, University of Maryland, Dept of Geography, Fall Semester 1998.
- Vermote E. F., “NOAA-AVHRR-PM channel 1 and 2 calibration results from 1982 to present”, (GSFC), presentation for University of Maryland GEOG 789 course: The Impacts of El Nino taught by John Townshend, Jim Tucker and Bruce Douglas, April 4th, 1998.
- Lecture for MIT students, Independent Activity Period (IAP) Course 12.265, 12.565, Techniques in Remote Sensing, “AVHRR and SeaWiFS Global Product”, January, 29th, 1998.
- Advisor for NASA Summer Faculty Fellowship of Misrak Gezmu from University of West Virginia, subject “Development of statistical tools for remote sensing data analysis”, 1998.
- Supervisor for Summer Internship with Anne Vermeulen of Isabelle Mao-Che from University of Paris, “Remote sensing of atmospheric aerosol properties by sun-photometry: Application to satellite imagery”, Summer 1998.

Supervisor for Summer Internship of Laura Dempere Marco from University of Valencia, subject “Determination and Evaluation of the aerosol effect on surface temperature estimation from remote sensing data”,1997

Advisor for NASA Summer Faculty Fellowship of Misrak Gezmu from University of West Virginia, subject “Development of statistical tools for remote sensing data analysis”,1997.

Vermote E.F., “6S: Second Simulation of the Satellite Signal in the Solar Spectrum, an overview”, presentation and Lab at UMD/Dept of Geography for Physical Fundamentals of Remote Sensing course, April 10th 1996.

Lectures on Remote Sensing and Radiative transfer modelling, Advances in the use of NOAA AVHRR for Land Applications, EUROCOURSES, Courses organized by the Commission of the European Communities on Remote Sensing, Joint Research Centre Ispra, Italy, December 6-12,1993.

Taught classes on introduction of numerical analyses and programming, undergraduate level school of engineering, HEI, Lille, France, September 1987-1989.

Taught classes on using Spread Sheet and Relational Database software, undergraduate level school of pharmacy, Lille, France, spring semester, 1987.

COMMUNITY SERVICE

Associate Editor

Associate Editor for the Canadian Journal of Remote Sensing (Current)

Review activities

Reviewer for Remote Sensing of Environment, International Journal of Remote Sensing, Journal of Geophysical Research, IEEE Transactions on Geoscience and Remote Sensing, Applied Optics, International Journal of Chemistry and Ecology, Advances in Space Research,, Journal of Zhejiang University-SCIENCE A, ISPRS Journal of Photogrammetry and Remote Sensing, Journal of the Optical Society of America, IEEE Geoscience and Remote Sensing Letters, Geophysical Research Letters, Atmospheric Research (22 papers reviewed in 2007 and one book chapter)

Reviewer for NOAA Research Program/ Member of the review panel (2007)

Reviewer for NASA Research Program (2007)

Review 6 Research proposals (2007)

Reviewer for ~ 30 proposals in addition to the panel review (2003)

Panel review member for NASA (2 panels) and NOAA (1 panel) (2003)

Review panel member for NASA Headquarter, 2001.

Reviewer of Grant Proposals for NASA and NSF, 2001.

Reviewer for the Centre for Earth Observation (CEO) European program for the “New Applications Feasibility Studies”, 1998-1999.

Member of the specialist panel at “IGBP Global 1km AVHRR Data Set Evaluation Workshop”, April 15th-16th, 1998.

Member of the Climate Change Data and detection / NOAA Pathfinder Program Panel, 1995.

International Working Group

Member of the GCOS (Global Climate Observing System) AOPC/TOPC Joint Working Group on Land Surface and Atmospheric issues (Current)

Department of Geography Committee Chair

Chair of the Research Faculty Advisory Committee, 2005-2007

Awards

University of Maryland “Rainmaker” designation for level of research funding won (2004, 2005, 2006,2007,2008)

NASA group achievement award (signed by the NASA administrator), Group Achievement Award Aqua Mission Team, August 27 2003, In recognition of the talent, care, energy and devotion your outstanding group of civil servants, members of academia, and contractor personnel put into the Aqua Mission. (2003)

NASA Goddard Space Flight Center (GSFC) group achievement award (signed by the NASA GSFC director), Outstanding Teamwork Earth Observing (EOS) Aqua Mission Team, May 16 2003, In recognition of the talent, care, energy and devotion this outstanding team of civil servants, contractors, scientists, and academia put into the Aqua Mission. (2003)

Customer Service Excellence Award, Moderate Resolution Imaging Spectroradiometer (MODIS) Support Team, April 2003, In recognition of your support for the calibration/characterization of the MODIS instrument on the Terra spacecraft. (2003)

Others

LDCM Science Team Member (Current)

MODIS Science Team Member (Current)

NPOESS/VIIRS Science Team Member. (Current)

POLDER Science Team member and MODIS representative. (Past)

VEGETATION Science Team member and MODIS representative. (Past)

Chairman of IEEE Geoscience and Remote Sensing Society, Washington DC/ Virginia Chapter, Sept 95 to Sept 96, received an IEEE award for this activity. (Past)

