

RESUME

Assefa M. Melesse, Ph.D., P.E., D. WRE
Associate Professor
Department of Environmental Studies, ECS 339
Florida International University
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EDUCATION

- **Ph.D.**, Agricultural and Biological Engineering
Concentration: Hydrologic Sciences
Minor 1: Environmental Engineering
Minor 2: Remote Sensing
University of Florida, 2002

Dissertation: Spatially Distributed Storm Runoff Modeling using Remote Sensing and GIS. *Chair:* Prof. Wendy Graham
- **M.E (Master of Engineering)**, Agricultural and Biological Engineering
Concentration: GIS (Geographic Information Systems)
Minor: Civil Engineering
University of Florida, 2000.
- **M.Eng.Sc (Master of Engineering Science)**., Agricultural Engineering
National University of Ireland, 1991.
- **B.Sc.**, Agricultural Engineering
Alemaya University, 1986.
- **Graduate Certificates**
 - Interdisciplinary GIS
University of Florida, 2002
 - GPS for Planners
University of Florida & TRIMBLE, 2001

2004/05: Listed in „**Who is Who in Science and Engineering**“ 8th Edition, 2004
2006/07: Listed in „**Who is Who in Science and Engineering**“ 9th Edition, 2006
Selected for “ **Who is Who in America**”, 2007
Selected for “**Who is Who in American Education**”, 2007

REGISTRATION/CERTIFICATION: Professional Engineer (Civil)

- Florida: License#: 58699
- North Dakota: License#: 4980

Diplomate, Water Resources Engineer (D. WRE)

WORK EXPERIENCE

1. **2008-**
 - Associate Professor, Department of Environmental Studies
Florida International University
2. **2004 – 2008**
 - *Assistant Professor*, Department of Environmental Studies
Florida International University
3. **2002 - 2004**
 - *Research Assistant Professor & Assistant Professor*, Earth System Science
Institute, School of Aerospace Sciences, University of North Dakota
 - *Adjunct Asst. Professor*, Department of Civil Engineering, School of Engineering and
Mines, University of North Dakota.
4. **1998 - 2002:** *Research Assistant*, Department of Agricultural and Biological
Engineering, University of Florida.
5. **March 1995 - May 1998:** *Assistant Professor II*, Department of Agricultural
Engineering, Alemaya University, Ethiopia.
6. **Sep. 1986 - March 1995:**
 - *Lecturer II (1991-95)*
 - *Asst. Lecturer (1988-89)*,
 - *Graduate Assistant (1986-88)*,Department of Agricultural Engineering, Alemaya University.

Affiliated Faculty with:

- Department of Civil and Environmental Engineering, FIU
- Department of Earth Sciences, FIU
- Honors College (Research), FIU

RESEARCH/EDUCATION GRANTS:

1. Internationalization of Biofuel Research, Curriculum and Business, USDA, \$100,000, M. Bhat (PI), Jayachandran, A. Melesse (Co-PI) (2008-20119)
2. Curriculum Enrichment, Instrumentation and Experiential Learning in Agroecology, USDA, \$292,000, M. Bhat (PI), Jayachandran, A. Melesse (Co-PI), and S. Kopter, J. Onsted. (2008-2011)
3. Geospatial and remote sensing application in mapping hotspots of soil erosion in the Minnesota River basin, University of Minnesota, NCED, \$30, 155 (2008-2009) PI
4. Transboundary Water for Biodiversity and Human Health in the Mara River Basin, Kenya and Tanzania, USAID: (2008-2010), (\$1,200,000) (Renewal).
M. McClain (PI), A. Melesse (Co-PI),
5. Nile Basin Hydrology and Ecology under Extreme Climatic Conditions.

- NSF, (2007-2008), (\$38,048), Melesse, A. (PI), Senay, G.
6. Multicultural Undergraduate Scholars in Agroecology and Urban Landscape at Florida International University: An Interdisciplinary Approach, USDA, (2007-2012) (\$150,000)
Jayachandran (PI), M. Bhat, A. Melesse (Co-PI)
 7. Limits to Growth in Agriculture and Emerging Sustainable Farming Systems in Developing Countries, USDA (2006-2008), (\$100, 000).
M. Bhat (PI), Jayachandran, A. Melesse (Co-PI), M. Allen and A. Ravinet
 8. Caribbean Coastal Scenarios, IAI (2006-2010), (\$427,426).
M. McClain (PI), J. FU. J. Gebalin, A. Melesse (Co-PI), F. Vicioso, I. Gonzales, Webber, F. But, J. Ortiz, L. Talaue-McManus
 9. Transboundary Water for Biodiversity in the Mara River Basin, Kenya and Tanzania, USAID: (2005-2007), (\$700,000).
M. McClain (PI), A. Melesse (Co-PI),
 10. Planning visit to study the effects of vegetation and cropping pattern on soil moisture dynamics and river flow in the Upper Blue Nile Basin, Ethiopia, NSF, (2005-2006) (\$9,896). A. M. Melesse (PI), G. Senay
 11. Curricular Development and Capacity Building in Agroecology Sciences, USDA, (2005-2007), (\$229,839).
M. Bhat (PI), Jayachandran, A. Melesse (Co-PI), and S. Kopter
 12. Global Water for Sustainability (GLOWS), USAID (PI: McClain), 2004-2009, \$3,750,000.
Melesse: Lead Investigator and team leader for hydrological modeling component,
 13. Northern Great Plains Center for People and the Environment - Year 3, NASA (2003- 04), (\$2,700,000)
Seielstad, G.A (PI), O. Beerli, A. Melesse (Co-PI), P. Carter, R. Hanley, , G. Johnson, S. Laguette, R. Phillips, S. Seelan, X. Zhang
 14. Northern Great Plains Center for People and the Environment - Year 4. NASA (2004-05), (\$2,149,000)
Seielstad, G.A (PI), O. Beerli, A. Melesse (Co-PI), P. Carter, R. Hanley, , G. Johnson, S. Laguette, R. Phillips, S. Seelan, X. Zhang
 15. Quantifying Environmental Benefits from Precision Agriculture, USDA-ARS: (2003-2004) (\$347, 000)
Seielstad, G.A, R. Phillips (PI) and A. Melesse (Co-PI)
 16. Team Express: Crop Range Alert System-Phase 4, Raytheon, 2003 (\$ 688,265)
Seielstad, G.A (PI), O. Beerli, P. Carter, A. Melesse (Co-PI), R. Hanley, G. Johnson, S. Laguette, R. Phillips, S. Seelan, X. Zhang
 17. Team Express: Crop Range Alert System-Phase 5, Raytheon, 2004 (\$275,000)
Seielstad, G.A (PI), O. Beerli, P. Carter, R. Hanley, A. Melesse (Co-PI), G. Johnson, S. Laguette, R. Phillips, S. Seelan, X. Zhang

Graduate Students

Name	Degree	Dept./University	Graduation
Jason Oberg	M.Sc	Civil Engineering (UND)	2004
Pavel Terselich	M.Sc	Environmental Studies (FIU)	2007
John Stiefel	M.Sc	Environmental Studies (FIU)	2007
Himadri Biswas	M.Sc	Environmental Studies (FIU)	2007
Christina Hoffman	M.Sc	Environmental Studies (FIU)	2007
Gaby Orihuela Lopez	M.Sc	Environmental Studies (FIU)	2009
William Bob Harris	M.Sc	Environmental Studies (FIU)	2008
Nenpan Tukunda	M.Sc	Earth Sciences (FIU)	2009
Yirgalem Assegid	Ph. D	Earth Sciences (FIU)	2010
Yao Yan*	Ph. D	Civil and Env. Engineering	2010
Liya Mango	M.SC	Environmental Studies (FIU)	2010
Genevieve Diamond	M.Sc	Environmental Studies (FIU)	2010
Fukhrudin Khalif Maalim	M.Sc	Environmental Studies (FIU)	2010
Sirikanth Pilli*	M.Sc	Civil and Env. Engineering	2010
Luam Azmera*	M.Sc	Civil and Env. Engineering	2010
Sejal Kunchwar*	M.Sc	Civil and Env. Engineering	2010
Matilde Dugue	M.Sc	Environmental Studies (FIU)	2010
Shimelis Behailu	M.Sc	Earth Sciences (FIU)	2011

* Co-Advisor

Committee member for

Diana K. Ter-Ghazaryan	Ph. D	International Relations (FIU)
Celeste Diaz-Consul	Ph. D	Civil and Environmental Engineering (FIU)
Mauro Nalesso	Ph. D	Civil and Environmental Engineering (FIU)
Beth McCarthney	M.Sc	Environmental Studies (FIU)
George Atisa	M.Sc	Environmental Studies (FIU)
Erin Hanan	M.Sc	Environmental Studies (FIU)

Undergraduate students advised for semester long project

Debra Deras	Coastal Flooding mapping using GIS (2006)
Imrul Hack	Climate change and water resources of South Florida (2006)
Melisa Miano	Land-use change analysis of South Florida (2006)
Ashley Thomas	Sediment analysis and estimation in the Le Suer River, Minnesota (2008)

Courses developed/taught at FIU

GIS 5050/EVR 4934 Environmental GIS
 EVR 3010 Energy Flow
 EVR 4211 Water Resources
 EVR 5215 Water Resources Assessment

EVR 7056 GIS in Water Resources
EVR 4905 Independent Study
EVR 5907 Independent Study
EVR 6970 Thesis Research
EVR 6971 Masters Thesis

Courses taught at University of North Dakota

GLY 427 Groundwater Modeling Fall 2003

Courses taught at Alemaya University

Ag En 201	Int. to Agricultural Engineering	(1986-87)
Ag En 211	Descriptive Geometry	(1986-87)
Ag En 222	Technical Drawing	(1987-89)
Ag En 331	Engineering Materials	(1991-92)
Ag En 561	Design of Farmstead Structures	(1992-96)
Ag En 332	Strength of Materials	(1994-96)
Agri 162	Int. to Agri. and Forestry	(1995-96)

RESEARCH EXPERIENCE AND INTERESTS

- Spatially distributed hydrologic modeling and scaling
- Integration of hydrological models and remote sensing data into GIS
- Surface and groundwater interactions modeling
- Spatial and temporal land cover dynamics and scaling, spatial analysis
- Watershed characterization and modeling using Remote sensing and GIS
- Ecohydrology
- ANN, Neurofuzzy and data fusion techniques
- Water, carbon and energy flux coupling
- Evapotranspiration estimation using satellite imagery

AWARDS AND HONORS

- Diplomate of Water Resources Engineering by American Academy of Water Resources Engineering, 2007-
- Dean's Honor List (1983), Alemaya University.
- Graduated with distinction (1986), Alemaya University.
- Irish Government Fellowship (1989 - 91).
- Promoted to the rank of Asst. Professor II (March 1995), Alemaya University.

PROFESSIONAL AND UNIVERSITY SERVICE

- Guest Editor, Special Issue: Climate change, land-use dynamics and ecohydrology of the Nile River basin, **Hydrological Processes**
- Editor-in-Chief, **J. of Spatial Hydrology**
- Guest Editor, *Special Issue*: [Remote Sensing of Natural Resources and the Environment](#) for **Sensors** journal

- Editor, Proceedings of the Nile workshop on the hydrology and ecology of the Nile River under extreme conditions.
- Member, Editorial Advisory Board for [Remote Sensing Sensors](#) journal
- Member, Southwest Florida Water Management District (SWFWMD) Agricultural Advisory Committee
- Member, Graduate Admission Committee (EVR) (2004-2008)
- Chair, Curriculum Committee (EVR) 2008-
- Member, Curriculum Committee (EVR) (2007-2008)
- Secretary, Departmental Faculty Meeting (2005/06)
- Member, Science Task Force (EVR) (2005-2006)
- Member, University-wide Remote Sensing and GIS Advisory Committee (FIU)2004-
- Member of College-wide School of the Environment exploratory Committee (2005)
- Member, Faculty Advisory Council for Center for African New World Studies
- Member Advisory Panel, Energy Environment Transect Sustainability, (ARC, FIU)
- Member, Coordinating Committee for Graduate Certificate in Water, Environment, and Development Studies (WEDev), (EVR)
- Member, Coordinating Committee for Certificate in Agroecology, (EVR)
- Member, Coordinating Committee for Certificate in GIS (FIU)
- Florida Chapter Representative in SWFWMD, American Society of Agricultural and Biological Engineers (ASABE).
- Alternate FIU Representative, Consortium of Universities for the Advancement of Hydrological Science (CUAHSI)

PROFESSIONAL MEMBERSHIP

- Member, American Geophysical Union (AGU), (1999 - present)
- Member, American Society of Agricultural Engineers (ASAE), (1999 - present)
- Member, Gamma Beta Chapter of Alpha Epsilon, (2000 - present)

KNOWLEDGE OF SOFTWARES/PROGRAMS/MODELS

- **Water Resources Models:** HEC-1, AnnGNPS, TOPMODEL, MODFLOW, PMWIN, SWAT, PRSM and WMS
- **Image processing/GIS:** Arc/Info, ArcGIS, Arcview, ERDAS, ENVI, Earth
- **Statistical:** Surfer, GS+, SPSS, SAS, and SYSTAT
- **Programming:** Matlab, C and Avenue

JOURNAL/BOOK CHAPTER REVIEWER

- Journal of Hydrology
- Journal of Environmental Management
- Journal of American Water Resources Association
- Transactions of American Society of Agricultural Engineers: Soil and Water Division
- Transactions of American Society of Agricultural Engineers: Information & Electrical Technologies Division
- Hydrobiologia
- Hydrological Sciences Journal
- Journal of Water Resources Management

- Hydrological Processes
- Photogrammetric Engineering and Remote Sensing (PE&RS)
- Journal of Coastal Research
- Journal of Environmental Quality
- CRC Press/Taylor & Francis Group
- Conference of Southern Graduate Schools Thesis Award

PROPOSALS REVIEWED FOR

- NSF (Panel Review), Environmental Sustainability Program
- U.S. Civilian Research & Development Foundation, Cooperative Grants Program
- National Institute for Space Research Program, Bureau External Research (The Netherlands), Earth Observation Research
- Cooperative Institute for Coastal and Estuarine Environmental Technology (CICEET)
- BARD, the United States - Israel Binational Agricultural Research & Development Fund
- NIWR-USGS National Competitive Grants Program
- NSF, Geography and Regional Science Program
- USDA

PEER-REVIEWED JOURNAL ARTICLES

Published/in-press/accepted

1. Wang, X., Yang, W. , Melesse. A., 2008. *Using hydrologic equivalent wetland concept within SWAT to estimate streamflow in watersheds with numerous wetlands* Tans. of American Society of Agri. and Bio. Engineers **Vol. 51(1): 55-72**
2. Melesse,A., Weng, Q., Thenkabail, P., Senay,G. 2007.. *Remote Sensing Sensors and Applications in Environmental Resources Mapping and Modeling*, Special Issue: Remote Sensing of Natural Resources and the Environment, *Sensors*, 7, 3209-3241.
3. Wang, X., Garza, J. Whitney, M. Melesse, A.M., and Yang, W. *Prediction of Sediment Source Areas Within Watersheds as Affected by Soil Data Resolution*, NovaPublisher (accepted as Book Chapter)
4. Senay, G.B, J.P. Verdin, R. Lietzow , A.M. Melesse 2008. *Global Daily Reference Evapotranspiration Modeling and Validation* J. of American Water Resources Association (in press)
5. Melesse, A, Nangia, V. Wang, X., McClain, M. 2007. *Wetland Restoration Response Analysis using MODIS and Groundwater Data* Special Issue: Remote Sensing of Natural Resources and the Environment, *SENSORS*, 7: 1916-1933
6. Senay, G.B, , M. Budde, J.P. Verdin, A.M. Melesse 2007. *A Coupled Remote Sensing and Simplified Energy Balance Approach to Estimate Actual Evapotranspiration from Irrigated Fields* Special Issue: Remote Sensing of Natural Resources and the Environment, *SENSORS* journal 7, 979-1000

7. Melesse, A., Frank, A, Nangia, V, Liebig, M and Hanson, J. 2008. **Analysis of Energy Fluxes and Land Surface Parameters in Grassland Ecosystem: Remote Sensing Perspective** Int. Journal of Remote Sensing (in press)
8. Wang, X., **Melesse, A.M.** McClain, M. 2007. **Water quality changes as result of coalbed methane development in a Rocky Mountain watershed**, J. of American Water Resources Association 43 (6): 1383-1399
9. Melesse, A., and Wang, X., **2007. Impervious Surface Area Dynamics and Storm Runoff Response**, Book Chapter in Remote Sensing of Impervious Surfaces, CRC Press/Taylor & Francis, Ch. 19: 369-384.
10. Melesse Jayachandran, K., Zhang, K. 2008. **Modeling Coastal Eutrophication at Florida Bay using neural networks**. Journal of Coastal Research ,24:190–196
11. Wang, X., **Melesse, A.M** and Yang, W. 2006. **Influences of Potential Evapotranspiration Estimation Methods on SWAT's Hydrologic Simulation in a Northwestern Minnesota Watershed**. Transactions of the ASAE. 49(6): 1755-1771.
12. Wang, Xixi, **Melesse, A.M.** Kelsch, S.W., and Yang, W 2006. **DISCUSSION: “Adapting Existing Models to Examine Effects of Agricultural Conservation Programs on Stream Habitat Quality,” by F. Douglas Shields, Jr., Eddy J. Langendoen, and Martin W. Doyle**. J. of American Water Resources Association 42(6):1711-1713.
13. Wang, Xixi, **Melesse, A.M.**, Yang, W., 2006. **Development of a Multivariate Regression Model for Soil Nitrate-Nitrogen Content Prediction** J. of Spatial Hydrology 6(2): 38-56
14. Melesse, A.M., Wang X. **2006. Multi-temporal scale hydrograph prediction using Artificial Neural Networks**, J. of American Water Resources Association 42(6) 1647-1657.
15. Melesse, A.M., Nangia, V., Wang, X. 2006, **Hydrology and Water Balance of Devils Lake Basin: Part 1. Hydrometeorological Analysis and Lake Surface Area Mapping**, J. of Spatial Hydrology, 6(1): 120-132.
16. Melesse, A. M., Nangia, V., Wang, X., 2006., **Hydrology and Water Balance of Devils Lake Basin: Part 2. Grid-Based Spatial Surface Water Balance Modeling** J. of Spatial Hydrology, 6(1): 133-144.
17. *Oberg, J., **Melesse, A. M.**. 2006. **Evapotranspiration Dynamics at an Ecohydrological Restoration Site: An Energy Balance and Remote Sensing Approach**, J. of American Water Resources Association 42(3): 565-582.

18. Wang, Xixi, **Melesse, A.M** 2006. *Effects of STATSGO and SSURGO as Inputs on SWAT Model's Snowmelt Simulation*, J. of American Water Resources Association Vol. 42 (5): 1217-1236.
19. Melesse, A.M., J. Oberg, O. Beerli, Nangia, V., Baumgartner, D..2006, *Spatiotemporal Dynamics of Evapotranspiration and Vegetation at the Glacial Ridge Prairie Restoration*, Hydrological Processes, 20(7): 1451-1464.
20. Wang, Xixi, **Melesse, A.M**. 2005 *Evaluations of the SWAT Model's Snowmelt Hydrology in a Northwestern Minnesota Watershed*. Trans. of ASAE 48(4): 1359 – 1376.
21. Melesse, A. M., Hanley, R. 2005. *Artificial Neural Network Application for Multi-Ecosystem Carbon Flux Simulation*, Ecological Modeling 189, 305–314
22. Melesse, A., Nangia, V., 2005. *Spatially distributed surface energy flux estimation using remotely-sensed data from agricultural fields*. Hydrological Processes 19 (14): 2653-2670.
23. Melesse, A. M., Hanley, R., 2005, **Energy and Carbon Flux Coupling: Multi-ecosystem Comparisons Using Artificial Neural Network** American Journal of Applied Sciences 2 (2): 491-495.
24. Melesse, A. M., W. D. Graham 2004. *Storm runoff prediction using spatially distributed travel time concept utilizing remote sensing and GIS*. J. of American Water Resources Association 40(4): 863-879.
25. Melesse, A. 2004. *Spatiotemporal Dynamics of land surface parameters in the Red River of the North Basin*. Physics and Chemistry of Earth, 29: 795-810. (Special Issue: Anthropogenic impacts on catchment processes)
26. Melesse, A. 2004. *DEM-RS-GIS based storm runoff response study of Heart River sub-basin, Missouri River Basin*. J. of Environmental Hydrology, No. 4, Vol. 12.
27. Melesse, A. M., J. D. Jordan 2003. *Spatially Distributed Watershed Mapping and Modeling: Land Cover and Microclimate Mapping using Landsat Imagery Part 1*, J. of Spatial Hydrology (e-journal), Vol. 3, No. 2.
28. Melesse, A. M., W. D. Graham 2003. *Spatially Distributed Watershed Mapping and Modeling: GIS-Based Storm Runoff Response and Hydrograph Analysis Part 2*, J. of Spatial Hydrology (e-journal), Vol. 3, No. 2.
29. Melesse, A. M., S. F. Shih, 2002. *Spatially Distributed Storm Runoff Depth Estimation using Landsat Images and GIS*. Computers and Electronics in Agriculture, Vol. 37: 173 – 183.
30. Melesse, A. M., J. D. Jordan, 2002. *A Comparison of Fuzzy vs. Augmented-ISODATA Classification Algorithm for Cloud and Cloud-Shadow*

Discrimination in Landsat Imagery. Photogrammetric Engineering and Remote Sensing, Vol. 68(9): 905-911.

31. Melesse, A. M., S. F. Shih, 2000. *Remote Sensing and GIS Database for Runoff Curve Number Change Assessment*. Soil and Crop Science Society of Florida Proceedings, Vol. 59: 141-146.

In review/accepted pending revision

32. *Stiefel, J.; Melesse, A., McClain, M., Price, R.M., Anderson, A.P., Chauhan, N.K., *Effects of rainwater harvesting induced artificial recharge on the groundwater of wells in Rajasthan, India*, J. of Hydrology, in review
33. Melesse, A.M., Ahmad, S., McClain, M., Wang, X., Lim, H., Nangia, V. *Sediment Load prediction in Large Rivers: ANN Approach*. (in review)
34. Wang, X., Pacchai, S. Melesse. A., *Analysis of Depression Storage in a Glaciated Watershed Using Topographic Datasets With Different Resolutions* Trans. of Geographic Information System (March 2007)
(Accepted pending minor revision: revised version submitted)

CONFERENCE PROCEEDINGS

* = Supervised graduate student
** undergraduate student advised

1. Melesse, A., Abteu, W. Desalegne, T. *Evapotranspiration modeling of Lake Ziway, Ethiopia*
To be presented at the Regional Nile Hydrology and Ecology under Extreme Conditions Workshop, June 16-19, 2008, Addis Ababa, Ethiopia (accepted).
2. Melesse, A., Abteu, W. Desalegne, T. *Flow analysis and characterization of the Blue Nile River system*
To be presented at the Regional Nile Hydrology and Ecology under Extreme Conditions Workshop, June 16-19, 2008, Addis Ababa, Ethiopia (accepted).
3. *Chebud, Yirdalem., Melesse, A., *Hydrological Water Balance of Lake Tana*
To be presented at the Regional Nile Hydrology and Ecology under Extreme Conditions Workshop, June 16-19, 2008, Addis Ababa, Ethiopia (accepted).
4. *Chebud, Yirdalem., Melesse, A., *Groundwater Simulation of lake Tana*
To be presented at the Regional Nile Hydrology and Ecology under Extreme Conditions Workshop, June 16-19, 2008, Addis Ababa, Ethiopia (accepted).
5. Abteu, W., Melesse, A., Desalegne, T. *Teleconnections and Blue Nile Hydrology*
To be presented at the Regional Nile Hydrology and Ecology under Extreme Conditions Workshop, June 16-19, 2008, Addis Ababa, Ethiopia (accepted).

6. Abtew, W., Melesse, A., Desalegne, T. *Analaysi sof monthly and annual rainfall of the Blue Nile River basin*
To be presented at the Regional Nile Hydrology and Ecology under Extreme Conditions Workshop, June 16-19, 2008, Addis Ababa, Ethiopia (accepted).
7. Melesse, A., McClain, M. Abira, W. Mutayoba, *Hydrometrology of the Mara River Basin, Kenya/Tanzania: Trend analysis and Wavelet application*, ASCE-EWRI. World Environmental and Water Resources Congress, Honolulu, Hawaii, May 13-16, 2008 (accepted).
8. Melesse, A., McClain, M., M. Abira, W. Mutayoba, Wang, X. M. *SWAT application for evaluation of future land cover and rainfall regime change scenarios on the flow of Mara River, Kenya/Tanzania*, ASCE-EWRI. World Environmental and Water Resources Congress, Honolulu, Hawaii, May 13-16, 2008 (accepted).
9. *Stiefel, J.M., A. M. Melesse, M.E. McClain, R.M. Price, N.K. Chauhan. *The Impact of Artificial Recharge from Rainwater Harvesting Structures on the Groundwater of Nearby Wells in Rural Rajasthan*. International Groundwater Conference on Groundwater Dynamics and Global Change, March 11 –14, 2008, Jaipur, India
10. *Stiefel, J., A. M. Melesse, M. McClain, R. Price, 2007. *Rainwater Harvesting In Rajasthan, India: Recharge Estimation Using Tracers*, 13th International Rainwater Catchment Systems Conference and 5th International Water Sensitive Urban Design Conference, 21-23 August 2007. Sydney, Australia, 8pp (CD proceeding).
11. Melesse, A., McClain, M., Nangia, V., and Wang, X. 2007. *Kissimmee River Basin Restoration: Analysis of Fractional Vegetation Cover and Latent heat dynamics using MODIS Data*, EWRI-ASCE Annual Meeting, May 15-19, Tampa, FL. (CD proceeding). 10 pp.
12. Melesse, A.M., Hanley, R., *Energy and Carbon Flux Coupling: Multi-ecosystem Comparisons*
ASAE Annual International Meeting, ASAE Paper # 05-3023, July 17-20, 2005, Tampa, Florida, 11pp (CD proceeding).
13. *Oberg, J. W., Melesse, A.M., 2004. *Evapotranspiration Changes at the Glacial Ridge Prairie Restoration Project: A Remote Sensing Perspective*, Self-Sustaining Solutions for Streams, Watersheds and Wetlands Conference, Proc. of the ASAE Conference, Sep. 15-18, St. Paul, MN, pp.199-206.
14. Tan, C.H., Melesse, A.M., S.S. Yeh, *Remote Sensing and Geographic information system in Runoff Coefficient Estimation in China Taipei*. Proc. of the 23rd Asian Conference on Remote Sensing, November 25-29, 2002 Kathmandu, Nepal, 8pp.
15. Melesse, A. M., C. Tien., J. D. Jordan, J. Judge, C H. Tan, 2002. *Runoff Change Study*

Using Remote Sensing and GIS in Southern Taiwan

ASAE Paper # 02-2215, Annual International ASAE Meeting, Chicago, IL, July 2002, 11 pp (CD proceeding).

16. Melesse, A. M., Wendy D. Graham, and Jonathan D. Jordan, 2002. ***DEM-GIS Based Spatially Distributed Storm Runoff Response Study Using Remotely sensed Data.*** ASAE Paper # 02-2005, Annual International ASAE Meeting, Chicago, IL, July 28-July 31, 2002, 11 pp (CD proceeding).
17. Melesse, A. M., J. D. Jordan, 2001. ***Fuzzy Classification to Unmix Cloud-Shadow Spots on Landsat Images.*** Proceedings of the Third International Conference on Geospatial Information in Agriculture and Forestry (ICGIAF), 5-7 Nov. 2001, Denver, CO (CD proceeding).
18. Melesse, A. M., J. D. Jordan, 2001. ***Assessing Spatial and Temporal Changes of Runoff Response using Remote Sensing and GIS.*** ASAE Paper # 01-2218, American Society of Agricultural Engineers, Annual International Meeting, July 30-August 1, 2001, Sacramento, CA, 10 pp (CD proceeding).
19. Melesse, A. M., J. D. Jordan, W. D. Graham, 2001. ***Landsat Imagery in Runoff Volume Estimation.*** American Society of Civil Engineers, World Water and Environmental Resources Congress, May 20-24, 2001, Orlando, FL. Section 1, chapter 261, (doi 10.1061/40569(2001)84) (CD proceeding).
20. Melesse, A. M., J. D. Jordan, W. D. Graham, 2001. ***Enhancing Land Cover Mapping using Landsat derived Surface Temperature and NDVI.*** American Society of Civil Engineers, World Water and Environmental Resources Congress, May 20-24, 2001, Orlando, FL. Section 1, chapter 144, (doi 10.1061/40569(2001)439) (CD proceeding).
21. Melesse, A. M., S. F. Shih, 2000. ***Assessment of Spatially Distributed Storm Runoff using Remote Sensing and GIS.*** Proceedings of the AWRA Annual Water Resources Conference, Water Quantity and Quality Issues in Coastal Urban Areas, 6-9 Nov. 2000, Miami, FL, pp. 259-262.
22. Melesse, A. M., S. F. Shih, 2000. ***Geomorphic GIS Database for Runoff Coefficient Determination.*** Proceedings of the Second International Conference on Geospatial Information in Agriculture and Forestry (ICGIAF), 10-12 January 2000, Lake Buena Vista, FL, vol. I, pp. 505-512.

CONFERENCE PRESENTATIONS WITH ABSTRACTS

- 1) Melesse, A. M., W. D. Graham, J. D. Jordan 2002. ***A GIS-DEM based spatially distributed storm runoff response study using remotely-sensed data.*** ASAE Paper # 02-2005, International ASAE Meeting, Chicago, IL, July 2002.

- 2) Melesse, A. M., W. D. Graham. 2002. *Stream flow prediction using spatially distributed travel time method utilizing remote sensing and GIS*. EOS Transactions, 83(47), H51B-0782, AGU Meeting, San Francisco, CA.
- 3) Tien, Kai-Jen, **A. M. Melesse**, J. D. Jordan, C.H. Tan. 2002. *Agricultural Land use/Land cover Classification Using Landsat 7 ETM+ Imagery in Taiwan*. EOS Transactions, 83(19), B22B-02. AGU Meeting, San Francisco, CA.
- 4) Melesse, A.M., J. D. Jordan, 2003. *Thermal maps and vegetation indices to enhance land cover and surface microclimate mapping*. Geophysical Research Abstracts, Vol. 5, 04511 European Geophysical Society
- 5) Melesse, A.M., W. D. Graham, J. D. Jordan, 2003. *Spatially distributed travel time approach for runoff hydrograph prediction*. Geophysical Research Abstracts, Vol. 5, 04571 European Geophysical Society
- 6) Melesse, A. M., Nangia, V., 2003. *Surface energy flux estimation using remotely-sensed data for agricultural fields*. ASAE/CSAE North-Central Intersectional Conference, 3-4 Oct, 2003, Fargo, ND.
- 7) Melesse, A. M., Nangia, V., 2003. *Spatial Water Balance and Hydrologic Analysis of Devils Lake*. ASAE/CSAE North-Central Intersectional Conference, 3-4 Oct, 2003, Fargo, ND.
- 8) Melesse, A. M., Nangia, V., 2003. *Study on latent heat flux from crop fields*. AWRA Annual Conference, 3-6 Nov, 2003, San Diego, CA.
- 9) Seielstad, G.A, O. Beerli, P. Carter, B. Dahlen, R. Hanley, A. Johnson, G. Johnson, S. Laguette, **A.M. Melesse**, D. Olsen, R. Phillips, R. Schultz, S. Seelan, W. Semke, C. Won, X. Zhang. 2003. *Applications for Crop and Range Management with New Sensors*. 30th International Symposium of Environment, Honolulu, Hawaii.
- 10) Melesse, A. M., 2003. *Analysis of land surface parameters and flood data of the Red River of the North Basin*. EOS Transactions, 84(46), H41B-05 AGU Meeting, San Francisco, CA.
- 11) Melesse, A. M., McClain, M. *Hydrological Modeling and Model Selection*. Caribbean Coastal Scenarios Workshop, Sep.30-Oct. 1, 2004, Santa Domingo, Dominican Republic.
- 12) Melesse, A., V. Nangia, Baumgartner, D. 2004. *Grid-based Surface Water Balance mapping using Remote Sensing and GIS*, AWRA Annual Conference, 1-4 Nov, 2004, Orlando FL.
- 13) Melesse, A.M., J. Oberg, Nangia, V., Baumgartner, D. 2004. *Wetland Evapotranspiration and Vegetation Dynamics at the Glacial Ridge*

Ecological Restoration Site, AWRA Annual Conference, 1-4 Nov, 2004, Orlando FL.

- 14) Melesse, A.M. ***Multi-temporal scale flood prediction using Artificial Neural Network: A case study for Devils lake and Red River of the North Basins***
ASAE Annual International Meeting, July 17-20, 2005, Tampa, Florida.
- 15) Melesse et al. 2006. ***Analysis of Energy Fluxes and Land Surface Parameters in Grassland Ecosystem: Remote Sensing Perspective***. Presented at the Joint Annual Conference of the Florida State Horticultural Society and the Soil and Crop Science Society of Florida. June 4-6, 2006, Tampa, Florida.
- 16) Melesse and Wang, 2007. ***Landsat-Based Impervious Surface Mapping And Storm Runoff Response***, Joint AGU Meeting, May 21-25, 2007, Acapulco, Mexico.
- 17) Melesse, McClain, Ahmed, Wang, Nangia and Lim. 2007. ***Suspended Sediment Load Prediction Using Artificial Neural Networks Approach***
Joint AGU Meeting, May 21-25, 2007, Acapulco, Mexico.
- 18) *Biswas, H., Melesse, A., and McClain, M. 2007. ***Remote sensing and-GIS based approach for delineation of groundwater prospect zones in a semi-arid area in Rajasthan, India***, Annual AWRA meeting, Albuquerque, NM, November 2007
- 19) **Deras, D, Melesse, A. 2007. ***Geospatial mapping of sea level rise-induced coastal zone inundation and associated economic loss analysis: The case of Miami-Dade County in South Florida***, Annual AWRA meeting, Albuquerque, NM, November 2007
20. Wang,X. Wanhong Yang, and Melesse, A. ***Prediction Of Sediment Source Areas Within Watersheds As Affected By Soil Data Quality***
ASCE-EWRI. World Environmental and Water Resources Congress, Honolulu, Hawaii, May 13-16, 2008 (accepted).
21. *Treslich, P, Melesse, A. ***Soil quality analysis of the Everglades Restoration Area***
American Geophysical Union (AGU) Spring Conference, Ft. Lauderdale, May 2008 (accepted)
22. *Chebud, Y., Melesse, A., ***Spatial water balance of Lake Tana, Ethiopia***, American Geophysical Union (AGU) Spring Conference, Ft. Lauderdale, May 2008 (accepted)
23. *Tunkuda, N., Melesse, A., ***Delineation of flood-prone areas of the Rio Minho Watershed, Jamaica using topographic index and watershed physical parameters***, American Geophysical Union (AGU) Spring Conference, Ft. Lauderdale, May 2008 (accepted)
- 24) *Biswas, H., Melesse, A., McClain, M. Sukop, M. ***Groundwater flow modeling using PMWIN model in the Wakal River basin, Rajasthan, India***, American Geophysical Union (AGU) Spring Conference, Ft. Lauderdale, May 2008 (accepted)

Professional trainings/seminars given

1. SWAT application to watershed modeling in the Mara River basin
June 26-27, 2006, Kissimu, Kenya
2. SWAT: Theory and application, May 17-18, 2008, Quito, Ecuador.
3. SWAT application in the Caribbean Islands. May 26-27, 2009, Santa Domingo,
Dominican Republic
4. SWAT application in the Caribbean Islands. May 29-30, 2009, Kingston Jamaica.

Invited Seminars/Lectures

1. **Understanding the ecohydrological response of impacted watersheds to restoration: Remote sensing and GIS application**, National Center for Earth-Surface Dynamics, An NSF Center of Excellence, Oct. 30, 2006: University of Minnesota.
2. **Evapotranspiration mapping using remote sensing** (Videoconference Lecture), April 2005, Department of Earth Systems and Policy, University of North Dakota.
3. **Evapotranspiration mapping using remote sensing** (Videoconference Lecture), April 2006, Department of Earth Systems and Policy, University of North Dakota.
4. **The role of science in integrated water resources management**, July 2006, Alemaya University, Ethiopia.
5. **Water Resources Research: Challenges and opportunities**, 2006, Civil and Environmental Engineering, FIU.
6. **The role of GIS and remote sensing in water resources Research**, 2006, Honor's College, FIU.
7. **GIS and remote sensing in water resources research: Application examples**, Feb. 2006, GIS day, FIU.
8. **Impervious surface area dynamics and storm runoff response**, Sep. 2006, Environmental Studies, FIU.
9. **Impervious surface Dynamics in South Florida**, Oct. 2006, Applied Research Center, FIU.

Attended invited Workshops/Conferences

2003. ASAE Annual International Meeting, July, 2003, Las Vegas, Nevada
2004. InSAR Workshop, October 20-22, 2004, Oxnard, CA.
2006. Facilitating Sustainable Agriculture: A Participatory National Conference on Post-Secondary Education, 23-25 Jan, 2006, Pacific Grove, CA.

Technical Reports and Manual

1. Melesse, A., Judge, J., Jordan, J. ***Remote Sensing and Geographic Information System in Runoff Coefficient Estimation for Irrigated Regions in southern Taiwan.***
Final Report for Tsao-Jiin Research Project Grant, March 2002.
2. Melesse, A., Tien, K., Judge, J., Jordan, J. ***Remote Sensing and Geographic Information System in Land Cover Study and Runoff Coefficient Estimation for Irrigated Regions in southern Taiwan.***
User's Manual for Tsao-Jiin Research Project Grant, **April 2002**
3. ***Hydrometrological Analysis and Hydrological studies of Mara River Basin***
First Year Report, Nov. 2005.