

## RESUME

Assefa M. Melesse, PhD., P.E., BCEE, BC.WRE,  
Distinguished University Professor  
Department of Earth and Environment  
Florida International University

### Summary of main achievements

#### Research

- Over 600 publications (journal articles, books, book chapters and conference abstracts) since 2000
- **Over 245 peer-reviewed journal articles**  
(<https://faculty.fiu.edu/~melessea/publications/journal-articles/>)
- **11 books** (1 authored and 10 edited with Springer and Elsevier (2 are in press)  
(<https://faculty.fiu.edu/~melessea/publications/books/>)
- **Top 2% world Scientist** by citation in 2019, 2020, 2021, 2022 and 2023 (Ranked 277/47,712 in 2021 in the field of Environmental Engineering)  
(<https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/4>)
- H-Index: 80 ([Google scholar](https://scholar.google.com/citations?user=melessea))
- Ranked #1 and #112 in Environmental Science and Engineering research from FIU and US, respectively (<https://www.adscientificindex.com/scientist/assefa-m-melesse/1362161>)
- Over \$20 million research grants as PI, Co-PI and senior Personnel (\$5.5 million over the last 5 years)

#### Publications

| Peer-Review       | Type                                                | Last 5 years<br>2019- | Since I joined FIU<br>(2004) |
|-------------------|-----------------------------------------------------|-----------------------|------------------------------|
| Peer-Reviewed     | <a href="#">Books</a>                               | 6                     | 11                           |
|                   | <a href="#">Journal articles</a>                    | 109                   | 246                          |
|                   | <a href="#">Proceedings</a>                         | 6                     | 43                           |
|                   | <a href="#">Book chapters</a>                       | 31                    | 100                          |
|                   | <a href="#">Edited special issue journals</a>       | 11                    | 21                           |
| Not Peer-Reviewed | <a href="#">Conference presentations</a>            | 72                    | 195                          |
|                   | <a href="#">International conferences organized</a> | 6                     | 7                            |
|                   | Seminars and invited lectures                       |                       | 21                           |
|                   | Research Reports                                    |                       | 16                           |
|                   | Trainings provided                                  |                       | 17                           |
|                   | <b>Total</b>                                        | <b>241</b>            | <b>677</b>                   |
|                   |                                                     |                       |                              |

## Service

- Senior Climate and Environment Fellow, US State Department 2023-2024
- Board of Trustee Member, American Academy of Water Resources Engineers (AAWRE), 2023-
- Fulbright Scholar (2012)
- Fulbright review panel member 2012 - 2013
- FIU's Fulbright Faculty Liaison
- Reviewer of Nature: Sustainability, Nature: Communications and many others
- Editor, Sensors journal since 2008
- Guest editor for **21 Special issues**  
(<https://faculty.fiu.edu/~melessea/publications/edited-special-issues/>)
- Board member, Coalition for Lake Tana Restoration
- Panel member for QUAD Fellowship, NSF, and many other funding agencies

## Graduate students (75 total)

**Since 2007: Graduated: 59 (27 PhD, 32 MSc), Current: 16 PhD**

| Graduate Students                                      | Last 5 years<br>(2019-2024) |     | Since I joined FIU<br>(2004-) |     |
|--------------------------------------------------------|-----------------------------|-----|-------------------------------|-----|
|                                                        | PhD                         | MSc | PhD                           | MSc |
| Graduated/Degree awarded at FIU                        | 9                           | 4   | 14                            | 23  |
| Graduated/Degree awarded at Collaborative universities | 11                          |     | 17                            | 9   |
| Current: FIU                                           | 3 (PhD)                     |     |                               |     |
| Current: Collaborative universities                    | 9 (PhD)                     |     |                               |     |

## Awards and Recognition

- 2025: Honored Listee: Who's Who
- 2025: University recognition for High-Value Award
- 2025: University Top Scholar award for Research
- 2024: College Award for Excellence in Research
- 2024: College Award for Excellence in Service
- 2024: President's Council Outstanding Faculty Award finalist
- Advised/advising over 75 PhD and master students (15 are current PhD students)  
(<https://faculty.fiu.edu/~melessea/students/graduate-students/>)
- Senior Climate and Environment Fellow, Department of State (2023-2024)

- 2023/2024: **Jefferson Science Fellowship**: Awarded by the **National Academies of Science and Engineering**
- 2023: University award as Outstanding Graduate Program Director
- 2023: College Award for Excellence in Engagement
- 2023: College Award for Excellence in Research
- 2022: Faculty Award for Excellence in Engagement
- 2020: Faculty Award for Excellence in Advising and Mentorship
- 2019 IETI Fellow (elected) (International Engineering and Technology Institute)
- 2019: College Award for Excellence in Research
- 2018: FIU recognition as Top Scholar for Mentorship
- 2018: College Award for Excellence in Teaching
- 2017: College Award for Excellence in Community Service
- 2016: College Award for Excellence in Research
- 2013: Faculty Award for Excellence in Advising and Mentorship
- 2012: Fulbright Scholar

## Engagement

- Founder of Nile Talk Forum (<https://faculty.fiu.edu/~melessea/nile-talk-forum/>)
- Founder of the Environment & Society International conference series (<https://eas-conference.fiu.edu/>)
- Chaired and organized **5 international conferences** since 2020 with participants and presented from over 40 countries (<https://faculty.fiu.edu/~melessea/conferences/>)
- Facilitator and Moderator of a 3-day Conference on Pan-African Water monitoring and data sharing using nuclear science and Technology in Morocco, <https://www.crdglobal.org/insights/sdpu-concludes-pan-african-workshop-on-water-monitoring-in-morocco/>

Assefa M. Melesse, Ph.D., P.E., BCEE, BC.WRE & Distinguished University Professor  
Department of Earth and Environment, ECS 339  
Florida International University  
Tel. (305) 348-6518; Fax: (305) 348-3877  
E-mail: [melessea@fiu.edu](mailto:melessea@fiu.edu)  
Website: <http://faculty.fiu.edu/~melessea/>

#### PUBLICATION LINKS

[ORCID](#)   [RESEARCHERID](#)   [Google Scholar](#)   [ResearchGate](#)   [Academia](#)

#### EDUCATION

- **Ph.D.**, Agricultural and Biological Engineering  
Concentration: Hydrologic Sciences  
Minor 1: Environmental Engineering  
Minor 2: Remote Sensing  
University of Florida, 08/1998-08/2002
- **M.E (Master of Engineering)**, Agricultural and Biological Engineering  
Concentration: GIS (Geographic Information Systems)  
Minor: Civil Engineering  
University of Florida, 08/1998-07/2000.
- **M. Eng. Sc (Master of Engineering Science)**., Agricultural Engineering  
National University of Ireland, 09/1989-04/1991.
- **B.Sc.**, Agricultural Engineering  
Alemaya University, 09/1982-08/1986.
- **Graduate Certificates**
  - Interdisciplinary GIS, University of Florida, 2002
  - GPS for Planners, University of Florida & TRIMBLE, 2001

**2026:** Member, Academy of Sciences, Engineering and Medicine of Florida  
**2023/24:** Jefferson Science Fellow-US State Department  
**2011/2012:** Fulbright Scholar (Research and Teaching)  
**2004/2005:** Listed in „Who is Who in Science and Engineering“ 8<sup>th</sup> Edition, 2004  
**2006/2007:** Listed in „Who is Who in Science and Engineering“ 9<sup>th</sup> 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

Board Certified, Water Resources Engineer (BC.WRE)  
Board Certified, Environmental Engineer (BCEE)

## **Awards**

2024: College Award for Excellence in Research  
2024: College Award for Excellence in Service  
2024: President's Council Outstanding Faculty Award finalist  
2023: Jefferson Science Fellowship (2023/2024). Awarded by the National Academies of Science and Engineering  
2023: FIU Excellence Award as Graduate Program Director  
2023: College Award for Excellence in Engagement  
2023: College Award for Excellence in Research  
2022: Faculty Award for Excellence in Engagement  
2020: Faculty Award for Excellence in Advising and Mentorship  
2019: College Award for Excellence in Research  
2018: FIU recognition as Top Scholar for Mentorship  
2018: College Award for Excellence in Teaching  
2017: College Award for Excellence in Community Service  
2016: College Award for Excellence in Research  
2013: Faculty Award for Excellence in Advising and Mentorship

## **WORK EXPERIENCE**

### **1. 08/2025-**

- Distinguished University Professor, Department of Earth and Environment  
Florida International University

### **2. 08/2014- 08/2025**

- Professor, Department of Earth and Environment  
Florida International University

### **3. 08/2008-08/2014**

- Associate Professor, Department of Earth and Environment  
Florida International University

### **4. 08/2004 – 08/2008**

- *Assistant Professor*, Department of Earth and Environment  
Florida International University

### **5. 09/2002 – 08/2004**

- *Assistant Professor & Research 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.

### **6. 08/1998 – 08/2002: *Research Assistant***, Department of Agricultural and Biological Engineering, University of Florida.

### **7. 03/1995 – 05/1998: *Assistant Professor II***, Department of Agricultural Engineering, Alemaya University, Ethiopia.

**8. 09/ 1986 – 03/1995:**

- *Lecturer II (1991-95)*
- *Asst. Lecturer (1988-89),*
- *Graduate Assistant (1986-88),*

Department of Agricultural Engineering, Alemaya University, Ethiopia.

**Affiliated Faculty with:**

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

**SELECTED RESEARCH/EDUCATION GRANTS (Over \$20 million):**

1. 2025: National Park Service: Evaluating Florida Bay Plan, 08/2025-07/2027, \$300,000
2. 2024 SFWMD: Geospatial Data analysis for the Groundwater Exchange Monitoring and Modeling (GEMM) Plan, South Florida, \$240,000
3. 2023 SFWMD: Geospatial Data Inventory and Acquisition for the Groundwater Exchange Monitoring and Modeling (GEMM) Plan, South Florida, \$128,000
4. 2020 Walmart Foundation: Social and Environmental Effects of Produce Supply Chains: Assessment and Intervention Strategies for a Resilient Future, Bhat (PI), Melesse (co-PI) and others, \$437,291
5. NSF (2016-2021): NSF CREST Center for Aquatic Chemistry and Environment, Todd (PI), and others, Melesse (Senior Personnel), \$5,000,000
6. NASA (2009-2014) WaterSCAPES: Science of Coupled Aquatic Processes in Ecosystems from Space, \$5,000,000, F. Miralles (PI), R. Price, A. Melesse (Co-PI), H. Fuentes, R. Garcia, D. DeAngelis, D. Fuller, M. Potts, I. Rodriguez-Iturbe, S. Wdowinski.
7. Caribbean Coastal Scenarios (supplemental funding), IAI (2011-2012), (\$17,252). Melesse, A. (PI), M. McClain, J. FU, D. Webber, J. Ortiz,
8. Florida-Caribbean Consortium for Agriculture Education and Hispanic Workforce Development (FCCAgE), USDA, (2011-2015), \$3.2 million  
Bhat, M., (PI), Jayachandran, Kopter, S., Melesse, A (Senior Personnel)
9. NSF (2010-2011) Water Sustainability and Climate in the Great Lakes Region of East Africa \$136,809, Johnson, T (PI), Melesse (Senior Personnel) and others

10. Internationalization of Biofuel Research, Curriculum and Business, USDA,  
\$100,000, M. Bhat (PI), Jayachandran, A. Melesse (Co-PI) (2008-2011)
11. 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).
12. Geospatial and remote sensing application in mapping hotspots of soil erosion in the  
Minnesota River basin, University of Minnesota, NCED, \$34, 155 (2008-2009) PI
13. 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)
14. Nile Basin Hydrology and Ecology under Extreme Climatic Conditions.  
NSF, (2007-2008), (\$38,048), Melesse, A. (PI), Senay, G.
15. 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)
16. 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
17. Caribbean Coastal Scenarios, IAI (2006-2012), (\$427,426).  
A. Melesse (PI: 2009-2012), M. McClain, J. FU, D. Webber, J. Ortiz,
18. Transboundary Water for Biodiversity in the Mara River Basin, Kenya and Tanzania,  
USAID: (2005-2007), (\$700,000).  
M. McClain (PI), A. Melesse (Co-PI)
19. 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
20. Curricular Development and Capacity Building in Agroecology Sciences, USDA,  
(2005-2007), (\$229,839).  
M. Bhat (PI), Jayachandran, A. Melesse (Co-PI), and S. Kopter
21. Global Water for Sustainability (GLOWS), USAID (PI: McClain), 2004-2009,  
\$3,750,000.

Melesse: Lead Investigator for hydrological modeling component

22. 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, P. Carter, R. Hanley, , G. Johnson, S.  
Laguetta, R. Phillips, S. Seelan, X. Zhang

23. 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, P. Carter, R. Hanley, , G. Johnson, S.  
Laguetta, R. Phillips, S. Seelan, X. Zhang

24. Quantifying Environmental Benefits from Precision Agriculture, USDA-ARS:  
(2003-2004) (\$347, 000)

Seielstad, G.A, R. Phillips (PI) and A. Melesse

25. Team Express: Crop Range Alert System-Phase 4, Raytheon, 2003 (\$ 688,265)

Seielstad, G.A (PI), O. Beerli, P. Carter, A. Melesse, R. Hanley, G. Johnson, S.  
Laguetta, R. Phillips, S. Seelan, X. Zhang

26. Team Express: Crop Range Alert System-Phase 5, Raytheon, 2004 (\$275,000)

Seielstad, G.A (PI), O. Beerli, P. Carter, R. Hanley, A. Melesse, G. Johnson, S.  
Laguetta, R. Phillips, S. Seelan, X. Zhang.

### **Postdocs and students**

#### **Post-docs supervised**

Shimelis G. Setegn, 2009-2012

Mohammad Haji Gholizadeh, 2017-2018

Woubet Alemu, 2018-2020

Khabat Khosravi, 2021-2023

Yared Bayissa 2019-

Getachew Tegegne 2019-



### Graduate Students

|                  | Name                      | Degree | Dept./University                  | Year |
|------------------|---------------------------|--------|-----------------------------------|------|
| <b>Graduated</b> |                           |        |                                   |      |
| 1                | Jason Oberg               | M.Sc   | Civil Engineering (UND)           | 2004 |
| 2                | Pavel Terselich           | M.Sc   | Earth and Environment (FIU)       | 2007 |
| 3                | John Stiefel              | M.Sc   | Earth and Environment             | 2007 |
| 4                | Christina Hoffman         | M.Sc   | Earth and Environment             | 2007 |
| 5                | Himadri Biswas            | M.Sc   | Earth and Environment             | 2008 |
| 6                | Nenpan Tukunda            | M.Sc   | Earth and Environment             | 2009 |
| 7                | Sirikanth Pilli*          | M.Sc   | Civil and Env. Engineering        | 2009 |
| 8                | Luam Azmera*              | M.Sc   | Civil and Env. Engineering        | 2009 |
| 9                | Sejal Kunchwar*           | M.Sc   | Civil and Env. Engineering        | 2009 |
| 10               | Liya Mango                | M.Sc   | Earth and Environment             | 2010 |
| 11               | Fukhrudin K. Maalim       | M.Sc   | Earth and Environment             | 2010 |
| 12               | Matilde Dugue             | M.Sc   | Earth and Environment             | 2010 |
| 13               | Mengistu B. Defersha      | M.Sc   | Earth and Environment             | 2010 |
| 14               | Genevieve Diamond         | M.Sc   | Earth and Environment             | 2011 |
| 15               | Juliana Msagahaa          | M.Sc   | Earth and Environment             | 2012 |
| 16               | Yirgalem A.Chebud         | Ph. D  | Earth and Environment             | 2012 |
| 17               | Shimelis Behailu          | Ph. D  | Earth and Environment             | 2013 |
| 18               | Leigh Ammon               | M.Sc   | Earth and Environment             | 2013 |
| 19               | Cristobal Ceron           | M.Sc   | Earth and Environment             | 2014 |
| 20               | Audrey Becnel*            | M.Sc   | Earth and Environment             | 2014 |
| 21               | Hari Prasad Kandel        | Ph. D  | Earth and Environment             | 2015 |
| 22               | Tara Blakely              | Ph. D  | Earth and Environment             | 2015 |
| 23               | Mohammad Haji Gholizadeh* | Ph. D  | Civil and Environment Engineering | 2016 |
| 24               | Manzar Abbas              | M.Sc   | Earth and Environment             | 2018 |
| 25               | Parker Fink               | M.Sc   | Earth and Environment             | 2019 |
| 26               | Maria Maquez              | M.Sc   | Earth and Environment             | 2019 |
| 27               | Temesgen Kahsai G.        | M.Sc   | Earth and Environment             | 2019 |

|                |                          |      |                       |      |
|----------------|--------------------------|------|-----------------------|------|
| 28             | Anteneh Zewdie Abiy      | Ph.D | Earth and Environment | 2020 |
| 29             | Berhane Gebreamlak       | M.Sc | Earth and Environment | 2020 |
| 30             | Francisco Pena           | Ph.D | Earth and Environment | 2021 |
| 31             | Ikechukwu Onwuka*        | PhD  | Earth and Environment | 2023 |
| 32             | Angelica Moncada         | PhD  | Earth and Environment | 2023 |
| 33             | Samuel Kent              | PhD  | Earth and Environment | 2023 |
| 34             | Ethiopia Zeleke          | PhD  | Earth and Environment | 2026 |
| 35             | Tania Islam              | PhD  | Earth and Environment | 2026 |
| 36             | Priyanka Belbase         | PhD  | Earth and Environment | 2026 |
| 37             | Mekdelawit Messay Deribe | PhD  | Earth and Environment | 2026 |
| <b>Current</b> |                          |      |                       |      |
| 38             | Aujeeta Shehrin Razzaque | PhD  | Earth and Environment | 2026 |
| 39             | Alemayehu Shanko         | PhD  | Earth and Environment | 2026 |
| 40             | Alan E. Gumbs            | PhD  | Earth and Environment | 2028 |
|                |                          |      |                       |      |

\* Co-Advisor

#### **Graduate student supervision at other institutions (International collaboration and research)**

| <b>Graduated</b> |                  |               |                                  |             |
|------------------|------------------|---------------|----------------------------------|-------------|
|                  | <b>Name</b>      | <b>Degree</b> | <b>University</b>                | <b>Year</b> |
| 41               | Mulatie Mekonnen | M.Sc          | Bahir Dar University, Ethiopia   | 2009        |
| 42               | Tigist Bekele    | M.Sc          | Bahir Dar University, Ethiopia   | 2009        |
| 43               | Meaza Tefera     | M.Sc          | Bahir Dar University, Ethiopia   | 2009        |
| 44               | Haile Getachew   | M.Sc          | Bahir Dar University, Ethiopia   | 2012        |
| 45               | Fiseha Behulu*   | Ph.D          | Roma Tre University, Italy       | 2013        |
| 46               | Anwar Assefa     | M.Sc          | Bahir Dar University, Ethiopia   | 2013        |
| 47               | Mulatu Liyew*    | M.Sc          | Addis Ababa University, Ethiopia | 2013        |
| 48               | Solomon Berhane* | M.Sc          | Addis Ababa University, Ethiopia | 2013        |
| 49               | Moges Asfaw*     | M.Sc          | Addis Ababa University, Ethiopia | 2013        |

|                |                    |      |                                                            |      |
|----------------|--------------------|------|------------------------------------------------------------|------|
| 50             | Mahtsente Tibebe*  | M.Sc | Addis Ababa University, Ethiopia                           | 2013 |
| 51             | Hassen Mohamed*    | Ph.D | Harmaya University, Ethiopia                               | 2014 |
| 52             | Fitsum Berhe       | Ph.D | Addis Ababa University, Ethiopia                           | 2015 |
| 53             | Belete Berhanu*    | Ph.D | Addis Ababa University, Ethiopia                           | 2015 |
| 54             | Temesgen Enku      | Ph.D | Bahir Dar University, Ethiopia                             | 2016 |
| 55             | Fikru Fentaw*      | Ph.D | Addis Ababa University, Ethiopia                           | 2018 |
| 56             | Alemu Osore*       | Ph.D | Addis Ababa University, Ethiopia                           | 2019 |
| 57             | Agenagnew Asfaw    | Ph.D | Ethiopian Space Science and Technology Institute, Ethiopia | 2019 |
| 58             | Hagos Gebreselasie | Ph.D | Addis Ababa University, Ethiopia                           | 2020 |
| 59             | Minychil Gitaw     | Ph.D | Bahir Dar University, Ethiopia                             | 2022 |
| 60             | Kirubel Mekonnen   | Ph.D | Addis Ababa University, Ethiopia                           | 2022 |
| 61             | Surafel Mamo*      | Ph.D | Addis Ababa University, Ethiopia                           | 2023 |
| 62             | Mengistu Addis     | Ph.D | Addis Ababa Science and Technology University              | 2023 |
| 63             | Mulugeta Admasu    | Ph.D | Addis Ababa Science and Technology University              | 2023 |
| 64             | Hailay Zeray       | Ph.D | Addis Ababa University, Ethiopia                           | 2023 |
| 65             | Kindie Engidaw     | Ph.D | Addis Ababa University, Ethiopia                           | 2023 |
| 66             | Bahru Mekuria      | Ph.D | Addis Ababa University, Ethiopia                           | 2025 |
| 67             | Paulos Lukas       | Ph.D | Arba Minch University, Ethiopia                            | 2025 |
| 68             | Haile Belay        | Ph.D | Addis Ababa University, Ethiopia                           | 2025 |
| <b>Current</b> |                    |      |                                                            |      |
| 69             | Fekremariam Negash | Ph.D | Addis Ababa Science and Technology University              | 2028 |
| 70             | Gutema Debelo      | Ph.D | Addis Ababa Science and Technology University              | 2028 |
| 71             | Agumase Kinde      | Ph.D | Bahir Dar University, Ethiopia                             | 2028 |
| 72             | Tadela Terefe      | Ph.D | Addis Ababa University, Ethiopia                           | 2028 |
| 73             | Desta Yoseph       | Ph.D | Addis Ababa University, Ethiopia                           | 2026 |
| 74             | Kefale Munye       | Ph.D | Bahir Dar University, Ethiopia                             | 2027 |
| 75             | Melaku Wendachew   | Ph.D | Addis Ababa University, Ethiopia                           | 2027 |

#### Graduate Committee membership

|   | Name                | Degree | Department                             |
|---|---------------------|--------|----------------------------------------|
| 1 | Celeste Diaz-Consul | Ph.D   | Civil and Environment Engineering, FIU |

|    |                        |      |                                         |
|----|------------------------|------|-----------------------------------------|
| 2  | Mehrnoosh Mahmoudi     | Ph.D | Earth and Environment, FIU              |
| 3  | David Lagomasino       | Ph.D | Earth and Environment, FIU              |
| 4  | Adelaide Hummel        | Ph.D | Civil and Environment Engineering , FIU |
| 5  | Yao Yan                | Ph.D | Civil and Environment Engineering, FIU  |
| 6  | Diana K. Ter-Ghazaryan | Ph.D | International Relations, FIU            |
| 7  | Mauro Nalesso          | Ph.D | Civil and Environment Engineering, FIU  |
| 8  | Yu Chen                | Ph.D | Economics, FIU                          |
| 9  | Beth McCarthney        | M.Sc | Earth and Environment, FIU              |
| 10 | George Atisa           | M.Sc | Earth and Environment, FIU              |
| 11 | Erin Hanan             | M.Sc | Earth and Environment, FIU              |
| 12 | Estefania Sandoval     | M.Sc | Earth and Environment, FIU              |
| 13 | Kelly Gustafson        | M.Sc | Earth and Environment, FIU              |
| 14 | John B. Brakeall       | M.Sc | Earth and Environment, FIU              |
| 15 | Elena Neibaur          | M.Sc | Earth and Environment, FIU              |
| 16 | Wondwossen M. Seyoum   | Ph.D | Dept. of Geology, University of Georgia |
| 17 | Mario London           | M.Sc | Earth and Environment, FIU              |
| 18 | Amirmasoud Hamed       | Ph.D | Civil and Environment Engineering, FIU  |
| 19 | Tasnuva Mahjabin       | M.Sc | Civil and Environment Engineering, FIU  |
| 20 | Mohamed Islam          | M.Sc | Civil and Environment Engineering, FIU  |
| 21 | Diana Alexis           | M.Sc | Earth and Environment, FIU              |
| 22 | Daniel Bekele          | Ph.D | Haramaya University, Ethiopia           |
| 23 | Mustafa Kamal Sikder   | M.Sc | Earth and Environment, FIU              |
| 24 | Dillon Reio            | M.Sc | Earth and Environment, FIU              |
| 25 | Michael Kiflai         | Ph.D | Earth and Environment, FIU              |
| 26 | James Dautel           | M.Sc | Earth and Environment, FIU              |
| 27 | Shishir Kumar Sarker   | M.Sc | Earth and Environment, FIU              |
| 28 | Nicolas Charles        | M.Sc | Earth and Environment, FIU              |
| 29 | Eric Cruz              | Ph.D | International Relations, FIU            |
| 30 | Boya Zhang             | Ph.D | Earth and Environment, FIU              |
| 31 | Selena Chavez          | Ph.D | Earth and Environment, FIU              |
| 32 | Abera Assefa           | Ph.D | Haramaya University, Ethiopia           |
| 33 | Alefu Chinasho         | Ph.D | Haramaya University, Ethiopia           |
| 34 | Linlong Bian           | Ph.D | Civil and Environment Engineering, FIU  |
| 35 | Nilima Islam           | Ph.D | Earth and Environment, FIU              |
| 36 | Aida Yahyavi Rahimi    | Ph.D | Civil and Environment Engineering, FIU  |

|    |                |      |                            |
|----|----------------|------|----------------------------|
| 37 | Anurag Sharma  | Ph.D | Earth and Environment, FIU |
| 38 | Moses Kiwanuka | Ph.D | Earth and Environment, FIU |
| 39 | Denise Garcia  | Ph.D | Earth and Environment, FIU |

## **Supervised Research/Independent study projects**

### **Graduate Students**

- Renato Stela, 2016, Geo-Spatial Evaluation of Groundwater Monitoring System in South Florida.
- Genevive Diamond, 2008. Rainwater Harvesting for Agriculture in the Bahamas – A Feasibility Study
- Nenpan Tunkuda, 2008, Utilizing GIS and Remote Sensing for Watershed Analysis in the Milk River basin, Jamaica
- Sejal Kuchwar, 2008, Statistical Downscaling for simulating climate change using SDSM
- Sirikanth Pilli, 2008, Estimation of Evapotranspiration using SEBAL Model for the Landsat 7 ETM+ Imagery of South Florida
- Matilde Dugue, 2008, Evaluation of wildlife's habitat restoration in the Lake Apopka.
- Luam Azmera, 2009. GIS-based estimation of ravines sediment load from upland agricultural field for Le Sueur River watershed in Minnesota.
- Yirgalem A. Chebud, 2009. Lake Tana Stage Level and Volumetric Simulation Using Stochastic Approaches

### **Undergraduate students**

- 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)
- Tania Alfred Dams (2010)

- Tempest Newton      Water usage in renewable energy systems & conventional energy systems, (2014)
- Jessica Egan          The Hydrologic Impacts of Ethiopia: Brought on by and Effecting Human Communities (2014)
- Nathassha Astorga    Fog Harvesting: Technology, sustainability and future Panorama (2014)

### **International Research Scientists and Visiting Scholars hosted**

- Meron L Tefera, University of Sassari, Faculty of Agriculture Science , Italy, July 1-August 31, 2024
- Prem Rangsiwanichpong, Visiting Scholar 2022, Kasetsart University, Bangkok, Thailand.
- Agenagnew Asfaw (visiting Scholar), Ethiopian Space Science and Technology Institute, June 17-August 16, 2018
- Fikru Fentaw (Visiting Scholar), Addis Ababa Institute of Technology, Addis Ababa University, November 17, 2017-Januray 17, 2018.
- Antonio Anis, (Visiting Scholar), September, 2016-February, 2017, University of Florence, Italy.
- Belete Berhanu, (Courtesy Research Associate), Addis Ababa Institute of Technology, Addis Ababa University, August 1- October 31, 2013.
- Fitsum Tesfaye, (Courtesy Research Associate), Addis Ababa Institute of Technology, Addis Ababa University, September 1-Nov. 30, 2011.
- Orville Grey, University of West Indies at Mona (Ph. D student), Jamaica, July 2011
- Fiseha Behulu (Courtesy Research Associate), Civil Engineering Department, Roma Tre University, Nov. 2010-October 2011
- P. K. Singh (Fulbright Scholar), Maharana Pratap University of Agriculture and Technology, India, Sep. 2009-Jan. 2010
- Flavio Lupia, Italian National Institute for Agricultural Economics, Italy, July-

August, 2009

- Shimelis G. Setegn, Royal Institute of Technology, Sweden, March –Nov. 2009

## **COURSES**

GIS 3043 Int. to GIS (Certified as High Quality Panther course)

GIS 5050/EVR 4934 Environmental GIS

EVR 3010 Energy Flow

EVR 4211 Water Resources

EVR 4920 Senior Seminar

EVR 5219 Water Resources Assessment

EVR 7056 GIS in Water Resources

EVR 6268 Remote Sensing in Hydrology

### **Courses taught at University of North Dakota**

GLY 427

Groundwater Modeling

Fall 2003

### **Courses taught at Alemaya University, Ethiopia**

| <b>Course #</b> | <b>Course</b>                    | <b>Year</b> |
|-----------------|----------------------------------|-------------|
| Ag En 201       | Int. to Agricultural Engineering | (1986-87)   |
| Ag En 211       | Descriptive Geometry             | (1987-89)   |
| 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
- Climate change and water resources variability
- Integration of hydrological models and remote sensing data into GIS

- Surface and groundwater interactions modeling
- Sediment transport
- Spatial and temporal land cover dynamics and scaling, spatial analysis
- Watershed characterization and modeling using Remote sensing and GIS
- Ecohydrology
- Climate change water resources variability
- ANN, Neuro-fuzzy and data fusion techniques
- Water, carbon and energy flux coupling
- Evapotranspiration estimation using satellite imagery

#### **Research geographic area and basin**

- Nile River basin (Blue Nile River, Ethiopia)
- Mara River basin (Lake Victoria basin, Kenya & Tanzania)
- South Florida: Everglades, USA
- Caribbean hydrology
  - Jamaica: Rio Cobre River and Great River watersheds
  - Dominican Republic: Haina River and Yuna River watersheds
  - Puerto Rico: Rio Manati and Rio Plat Watersheds

#### **PROFESSIONAL AND UNIVERSITY SERVICE**

- Board of Trustee Member, American Academy of Water Resources Engineers (AAWRE), 2023-
- Editor-in-Chief, [Sensors](#), Remote Sensor section, 2008-
- Editor, Nile River: Climate, land use and hydrology, Springer Science Book
- Guest Editor, Special Issue: Climate, weather and hydrology of East African Highlands" as part of the journal [Hydrology and Earth System Sciences \(HESS\)](#)
- Editor, Special Issue, Sensors journal: [Advances in Remote Sensors for Earth Observation and Modeling of Earth Processes](#)
- Editor, Remote Sensing journal: [Remote Sensing of Water Resources Monitoring, Parametrization and Modeling](#)
- Editor, Special Issue, Sensors: [10 Years Sensors – A Decade of Publishing](#)



- *Special Issue:* [Hydrologic System Analysis, Patterns, and Predictions for Arid and Semi-arid Environment](#), Water
- *Special Issue:* [Sensors and Sensing in Water Quality Assessment and Monitoring](#), Sensors
- Member, Fulbright Panel Review committee, Fulbright, 2012
- Member, Southwest Florida Water Management District (SWFWMD) Agricultural Advisory Committee
- Guest Editor, Special Issue: Climate change, land-use dynamics and ecohydrology of the Nile River basin, [Hydrological Processes](#)
- Member, Editorial Advisory Board, [J. of Spatial Hydrology](#), 2009-2012
- Editor-in-Chief, [J. of Spatial Hydrology](#) (2006-2009)
- 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.
- Guest Editor, Special issue [Land Surface Fluxes](#), Remote Sensing journal
- Member, Editorial Advisory Board for [Sensors](#) journal (RS section)
- FIU's Fulbright Faculty Liaison 2018-
- Member, Editorial Board, [Remote Sensing](#) journal
- Member, Graduate Admission Committee (EVR) (2004-2008), 2009-2011
- Member, University-wide Mentor Advisory Board
- Faculty Senate, Alternate Member
- Library Representative, E & E, 2012
- Chair, Curriculum Committee (EVR) 2008-2009
- Member, Curriculum Committee (EVR) (2007-2011)
- Member, Human Resources Committee (E & E) (2012)
- 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 search committee (Climatology position) (2011)
- Member faculty search committee (Meteorology position) (2010)
- Member, Faculty Advisory Council for Center for African New World Studies
- Director, Graduate Program of Earth and Environment 2019-
- Director, Graduate Certificate in Water, Environment, and Development Studies (WEDev) Program, (EVR)
- Director, Undergraduate Certificate in Environmental Studies Program
- Director, Graduate Certificate in GIS Program (FIU) 2017-
- Member, Coordinating Committee for Certificate in Agroecology, (EVR)
- Member, Graduate Certificate in GIS Program (FIU) 2007-2017
- Member, Sustainability Degree Committee, CAS
- 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)
- Faculty Advisor, FIU AWRA Student Chapter
- Member, EORSA Program Committee, Second International Workshop on Earth Observation and Remote Sensing Applications (EORSA 2012), Tongji University, Shanghai City from June 8 to June 11, 2012.
- Advisory Committee member, [4<sup>th</sup> International Symposium on Sensor Science \(I3S2015\)](#)
- Advisory Committee member, [5<sup>th</sup> International Symposium on Sensor Science \(I3S2016\)](#)
- Advisory Board member, Preprints.org

## **PROFESSIONAL MEMBERSHIP**

- Board of Trustee Member, Academy of American Water Resource Engineers, ASCE
- Member American Society of Civil Engineers (ASCE)
- Member, American Association of Environmental Engineers
- Member, International Water Resources Association (IWRA) 2021-

- Member International Water Association (IWA)
- Member, International Association for Hydro-Environment Engineering and Research (IAHR)
- Order of the Engineer, 2000 – present.
- Member, American Geophysical Union (AGU), (1999 - present)
- Member, American Society of Agricultural Engineers (ASAE),
- Member, Gamma Beta Chapter of Alpha Epsilon, (2000 - present)

## **JOURNAL/BOOK CHAPTER REVIEWER**

- Nature: Sustainability
- Nature: Communications
- Water Resources Research
- Hydrology and Earth System Sciences (HESS)
- Advances in Water Resources
- Journal of Hydrology
- Remote Sensing of Environment
- Hydrological Processes
- Journal of Environmental Management
- Brazilian Geophysical Society
- Sensors
- Geocarta International
- Natural Hazards Review
- 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

- Atmospheric Research
- Photogrammetric Engineering and Remote Sensing (PE&RS)
- Journal of Coastal Research
- Journal of Environmental Quality

#### **Book/Book Chapter Review**

- Book Review, Springer
- Book Review CRC Press/Taylor & Francis Group
- Scaling issue in Remote sensing, Book review, John Wiley & Sons
- Book Proposal Review, Elsevier (5)

#### **Dissertation/Thesis Review**

- SRM Institute of Science and Technology, Tamilnadu, India
- Addis Ababa University
- University of Engineering and Technology, Texila, 3 dissertations
- Bahir Dar University, 3 theses
- University of United Arab Emirates
- Conference of Southern Graduate Schools Thesis Award
- University of Florence, Italy, Dissertation Review
- Ethiopian Space Science and Technology Institute

#### **PANEL MEMBER/PROPOSALS REVIEWER**

- NSF SBIR, Panel
- Quad Fellowship Panel, 2022
- NSF (Panel Review), 2019
- NSF EPSCoR RSV (Panel Review)
- NSF EPSCoR RII,Track-1 Program (Panel Review)
- Oak Ridge Associate Universities (ORAU), Ralph Powe Award Program Review
- Belgian Earth Observation Programme, STEREO III Programme
- Washington Fellowship for Young African Leaders, President Obama Initiative

- Fulbright US Scholar Program Regional Panel Review 2012
- Fulbright African Scholar Program Regional Panel Review 2013
- Fulbright US Scholar Program Discipline Review 2018
- NASA Postdoc Program Review
- Steering Committee Member, HiWET, Belgium, 2016-2018
- REACH, Global Advisory Panel member, 2018-2023
- NSF Environmental Sustainability Program (Panel Review)
- Netherlands Space Office (NSO)
- NSF, Geography and Regional Science Program
- United States Department of Agriculture (USDA)
- U.S. Civilian Research & Development Foundation, Cooperative Grants Program
- The Netherlands Organization for Scientific Research
- National Institute for Space Research Program, Bureau External Research (The Netherlands), Earth Observation Research
- BARD, the United States - Israel Binational Agricultural Research & Development Fund
- NIWR-USGS National Competitive Grants Program
- Cooperative Institute for Coastal and Estuarine Environmental Technology (CICEET)
- Wageningen Institute for Environment and Climate Research (WIMEK,) Wageningen University, Netherlands
- AWRA's Richard A. Herbert Scholarship Award
- International Science Foundation (IFS)
- National Center for Science and Technology Evaluation, Kazakhstan
- Member, Pharmaco-Kinesis Scientific Advisory Board, 2016
- United Arab Emirates University (UAEU)
- Swiss National Science Foundation (SNSF)
- Mississippi-Alabama Sea Grant
- Puerto Rico Science, Technology, and Research Trust (Panel, 2020 and 2023)

- South Central Climate Adaptation Science Center, USGS

### International Conferences and Forum Organized

1. Workshop on Pan-African Water monitoring and data sharing using nuclear science and Technology, <https://www.crdfglobal.org/insights/sdpu-concludes-pan-african-workshop-on-water-monitoring-in-morocco/>, January 14-16, 2025, Rabat, Morocco
2. [2025 International Conference of Nile Regional cooperation post GERD and CFA](#), February 6-7, 2025.
3. [2023 International Conference on Nile River Basin and The Sudd Wetlands: Climate Change Adaptability and sustainability](#), March 20-21, 2023
4. [2022 International Conference on Water, Food and Energy Security in the face of Human Disasters](#), July 4-6, 2022, Addis Ababa, Ethiopia
5. [2021 International conference on Watershed Processes in the face of Dynamic Landscapes and Climate Change](#), November 21-22, 2021
6. [2020 International conference on Nile and Grand Ethiopian Renaissance Dam \(GERD\)](#), August 20-21, 2020
7. [Nile Talk Forum](#), A monthly international webinar series on Nile and transboundary water issues organized by IoE, FIU
8. [International conference on the Ecohydrology and climate of the Nile Basin](#), June, 2008, Ethiopia (NSF funded).

### PUBLICATIONS

600+ books, journal articles, book chapters, proceedings, edited special issues, conference abstracts/presentations

### PUBLICATION LINKS

[Google Scholar](#) [ORCID](#) [RESEARCHERID](#) [RESEARCHGATE](#) [ACADEMIA](#)

\*Post-doctoral, \*\*Graduate student advised, \*\*\*Undergraduate student advised

### **Books (11)**

1. Melesse, A.M, Gesesse, B, Zewdie, W. 2025. [\*Abbay River Basin: Biophysical Setting, Environmental Degradation, Hydropolitics and Development Potential\*](#), Springer
2. Melesse, AM, Deribe, M., Zeleke, EB (2024) [\*Land and Water Degradation in Ethiopia: Climate and Land Use Change Implications\*](#), (Springer)

3. Rahmati, O, Melesse, A.M, Naghibi, A. 2025. Drought and Water Scarcity Management: Towards Application of Artificial Intelligence and Earth Observation Data, (Elsevier coming soon)
4. Melesse, A.M, Rahmati, O, Khosravi, K. 2023. [\*Remote Sensing of Soil and Land Surface Processes: Monitoring, Mapping, and Modeling\*](#), Elsevier, 2023, eBook ISBN: 9780443153426
5. Melesse, A., Abtew, W., Moges, S.. (Editors), 2020. [\*Nile and Grand Ethiopian Renaissance Dam - Past, Present and Future\*](#), Springer Nature (525p) ISBN: 978-3-030-76436-4 [[Access Book](#)]
6. Melesse, A., Abtew, W., Senay, S. (Editors), 2019. [\*Extreme Hydrology and Climate Variability: Monitoring, Modeling, Adaptation and Mitigation\*](#), ISBN: 9780128159989, 600p, Elsevier [[Access Book](#)]
7. Melesse, A., Abtew, W. (Editors). 2016. [\*Landscape Dynamics, Soil and Hydrological Processes in varied Climates\*](#), ISBN 978-3-319-18787-7, Springer Science Publishers, pp839.
8. Melesse, A.M., Abtew, W., Setegn, S. (Editors). 2013 [\*Nile River Basin; Ecohydrological Challenges, Climate Change and Hydropolitics\*](#), Springer Science Publishers, ISBN 978-3-319-02720-3, DOI: 10.1007/978-3-319-02720-3, 718p
9. Abtew, W, and **Melesse, AM** 2012. [\*Evaporation and Evapotranspiration: Measurements and Estimations\*](#), Springer Science Publishers ISBN 978-94-007-4737-1, DOI: 10.1007/978-94-007-4737-1, 206p.
10. Melesse, AM. (Editor), 2011. [\*Nile River Basin: Hydrology, Climate and Water Use\*](#), Springer Science Publisher, 433p. ISBN 978-94-007-0689-7, DOI 10.1007/978-94-007-0689-7, 419p.
11. Abtew, W, and **Melesse, AM**. (Editors) 2008, [\*Proceedings of the Nile Workshop on the hydrology and ecology of the Nile River under extreme conditions\*](#), Aardvark Global Publishing, 387p. ISBN 978-1-4276-3150-3

### **Peer-reviewed published/in-press journal articles (230)**

2026

1. \*\*AA Biratu, B Bedadi, FA Mamo, SG Gebrehiwot, T Hordofa, W Abera, Melesse, AM. 2026. The impact of climate-smart practices on ecosystem function/services in the agricultural landscape of central Ethiopia, *Ecosystem Services* 81 (101887)

2. \*\*A Shanko, Melesse, AM. 2026. Comparative Analysis of LSTM and Random Forest Algorithms for Streamflow Prediction: A Case Study of Diverse River Basins in the United States, *Water* 18 (14), 1768
3. AB Mengesha, T Enku, AM Melesse,, \*\*MG Dersseh, 2026. Hydrological and Water Quality Implications of Water Hyacinth: A Case Study of Lake Tana, Ethiopian Highlands, *Water* 18 (1247)
4. \*\*AA Biratu, B Bedadi, SG Gebrehiwot, F Ademe, T Hordofa, DK Asmamaw, ..., 2026. Modeling the impacts of climate-smart practices on soil–water interaction and wheat yield under climate change in central Ethiopia, *Scientific Reports*
5. \*\*T Islam, EB Zeleke, **AM Melesse**, 2026. High-Resolution Urban Flood Susceptibility Mapping in Miami-Dade County: An AHP-Based GIS and Multi-Criteria Decision Analysis Approach, *Earth* 7 (2), 36.
6. AE Gumbs, AD Shanko, A Tosin-Orimolade, **AM Melesse**, 2026. Anticipated Compound Flooding in Miami-Dade Under Extreme Hydrometeorological Events *Hydrology* 13 (1), 34
7. \*\*Gashaw TT, **Melesse AM**, Abate B. Performance Assessment of Satellite-Based Rainfall Products in the Abbay Basin, Ethiopia. *Remote Sensing*. 2026; 18(1):2. <https://doi.org/10.3390/rs18010002>
8. \*\*EB Zeleke, CJ Chawanda, **AM Melesse**, 2025. Using a Standardized Event-Based Tool for Drought Analysis: Application to Propagation Predictability Patterns *Environmental Modelling & Software*, 106745

## 2025

9. ML Tefera, EB Zeleke, M Pirastru, **AM Melesse**, G Seddaiu, H Awada, 2025. Satellite-Based Machine Learning for Soil Moisture Prediction and Land Conservation Practice Assessment in West African Drylands. *Remote Sensing*, *Remote Sensing* 17 (21), 365
10. M Kiwanuka, R Leslie, A Gidudu, JP Obubu, **AM Melesse**, ... 2025. Evaluating Eutrophication and Water Clarity on Lake Victoria's Ugandan Coast Using Landsat Data, *Sustainability* 17 (20), 9056
11. \*\*AS Razzaque, **AM Melesse**, 2025. Global Insights into Micro- and Nanoplastic Pollution in Surface Water: A Review, *Hydrology* 12 (10), 265
12. \*\*W Girma, AG Awoke, H Hailu, **AM Melesse** 2025. Multi-criteria decision analysis for optimal placement of pumped hydro-energy storages: the case of existing hydropower reservoirs of Ethiopia, *Applied Water Science* 15 (9), 234,
13. \*\*W Girma, AG Awoke, H Hailu, **AM Melesse**, 2025. Evaluation of water extraction indices for spatial mapping of surface water bodies using Sentinel-2: GIS



and remote sensing approaches: the case of Ethiopia, H2Open Journal, h2oj2025002

14. \*\*Lukas, P., **AM Melesse**, TT Kenea, 2025. Spatiotemporal response of water balance components under projected land use/land cover change in the Upper Omo-Gibe River Basin, Ethiopia, *Ecohydrology and HydroBiology*
15. \*\*Lukas, P., **AM Melesse**, ., & Kenea, T. T. (2025). Integrating Land Use/Land Cover and Climate Change Projections to Assess Future Hydrological Responses: A CMIP6-Based Multi-Scenario Approach in the Omo–Gibe River Basin, Ethiopia. *Climate*, 13(3), 51. <https://doi.org/10.3390/cli13030051>
16. \*\*Belay, H.; **AM Melesse**, Tegegne, G.; Kassaye, S.M. 2025. Flood Inundation Mapping Using the Google Earth Engine and HEC-RAS Under Land Use/Land Cover and Climate Changes in the Gumara Watershed, Upper Blue Nile Basin, Ethiopia. *Remote Sens.* 2025, 17, 1283. <https://doi.org/10.3390/rs17071283>
17. \*\*T Islam, EB Zeleke, M Afroz, **AM Melesse**, 2025. A Systematic Review of Urban Flood Susceptibility Mapping: Remote Sensing, Machine Learning, and Other Modeling Approaches, *Remote Sensing* 17 (3), 524
18. \*\*EB Zeleke, **AM Melesse**, P Zhu, et al. 2025. Spatial variability and relative influence of seasonal rainfall drivers in Ethiopia, *Theoretical and Applied Climatology* 156 (131), <https://doi.org/10.1007>
19. \*\*H Belay, **AM Melesse**, G Tegegne, H Tamiru 2025. Identifying Flood Source Areas and Analyzing High-Flow Extremes Under Changing Land Use, Land Cover, and Climate in the Gumara Watershed, Upper Blue Nile Basin, Ethiopia, *Climate* 13 (7).
20. \*Y Bayissa, R Srinivasan, J Hunink, D Nyolei, S Moges, DA Costa, **Melesse, A.M** 2025. Evaluating the potential of Nature-based solutions to mitigate land use and climate change impacts on the hydrology of the Gefersa and Legedadi watersheds in Ethiopia, *Journal of Hydrology: Regional Studies* 57 (2025), 102130
21. \*\*DY Wodebo, **AM Melesse**, TA Woldesenbet, K Mekonnen, A Amdihun, ...2025. Comprehensive performance evaluation of satellite-based and reanalysis rainfall estimate products in Ethiopia: For drought, flood, and water resources applications, *Journal of Hydrology: Regional Studies* 57 (2025), 102150.

## 2024

22. \*\*Haile, B., **Melesse, AM.**, and Tegegne, G., 2024. Evaluation and comparison of the performances of the CMIP5 and CMIP6 models in reproducing extreme rainfall in the Upper Blue Nile basin of Ethiopia, *Theoretical Applied Climatology*,

<https://doi.org/10.1007/s00704-024-05187>

23. \*\*Deribe MM, **Melesse AM**, Kidanewold BB, Dinar S, Anderson EP. Assessing International Transboundary Water Management Practices to Extract Contextual Lessons for the Nile River Basin. *Water*. 2024; 16(14):1960. <https://doi.org/10.3390/w16141960>
24. \*\*Admas M, **Melesse AM**, Tegegne G. Predicting the Impacts of Land Use/Cover and Climate Changes on Water and Sediment Flows in the Megech Watershed, Upper Blue Nile Basin. *Remote Sensing*. 2024; 16(13):2385. <https://doi.org/10.3390/rs16132385>
25. \*\*Aga, A.O., **Melesse, A.M.** An alternative soil erodibility estimation approach for data-scarce regions: a case study in Ethiopian Rift Valley Lake Basin. *J. Sediment. Environ.* (2024). <https://doi.org/10.1007/s43217-024-00179-5>
26. \*\*Lukas, P., M. **Melesse, AM.**, Kenea, TT., 2024. Predicting reservoir sedimentation using multilayer perceptron – Artificial neural network model with measured and forecasted hydrometeorological data in Gibe-III reservoir, Omo-Gibe River basin, Ethiopia, *Journal of Environmental Management*, Volume 359, 2024, 121018, ISSN 0301-4797, <https://doi.org/10.1016/j.jenvman.2024.121018>
27. Aqnouy, M., Ommame, Y., Ouallali, A. *et al.* Evaluation of TRMM 3B43 V7 precipitation data in varied Moroccan climatic and topographic zones. *Med. Geosc. Rev.* (2024). <https://doi.org/10.1007/s42990-024-00116-8>
28. \*\*Haile, B., **Melesse, AM.**, and Tegegne, G., 2024. "Scenario-Based Land Use and Land Cover Change Detection and Prediction Using the Cellular Automata–Markov Model in the Gumara Watershed, Upper Blue Nile Basin, Ethiopia" *Land* 13, no. 3: 396. <https://doi.org/10.3390/land13030396>
29. ZM Nigatu, W You, **Melesse, AM.** 2024. Drought Dynamics in the Nile River Basin: Meteorological, Agricultural, and Groundwater Drought Propagation, *Remote Sensing* 16 (5), 919

2023

30. \*\*Gebeyehu BM, Tegegne G, **Melesse AM**. Reliability-weighted approach for streamflow prediction at ungauged catchments. *Journal of Hydrology*. 2023;624:129935.
31. \*\*Onwuka IS, Scinto LJ, Price RM, **Melesse AM**. Dynamics of particles and phosphorus in canals of the lower everglades, Florida, USA. *Science of The Total Environment*. 2023;166508.

32. Ibrahimou B, Burchfield S, Sun N, al. . . E. Unplanned hysterectomy: a comprehensive analysis of race, ethnicity, sociodemographic factors, pregnancy complications, and cardiovascular disease risk factors. *Ethnicity & Health*. 2023;(13557858.2023.2249273):1-15.
33. Kebede, L.; Temesgen, M.; Fanta, A.; Kebede, A.; Rockström, J.; **Melesse, A.M.** Effect of Locally Adapted Conservation Tillage on Runoff, Soil Erosion, and Agronomic Performance in Semiarid Rain-Fed Farming in Ethiopia. *Land* 2023, 12, 593. <https://doi.org/10.3390/land12030593>.
34. \*\*Jemberie, M.A.; **Melesse, A.M.**; Abate, B. Urban Drainage: The Challenges and Failure Assessment Using AHP, Addis Ababa, Ethiopia. *Water* 2023, 15, 957. <https://doi.org/10.3390/w15050957>
35. \*\*Admas, M.; **Melesse, A.M.**; Abate, B.; Tegegne, G. Impacts of Best Management Practices on Runoff, Soil Loss, and Sediment Yield in the Megech Watershed, Ethiopia. *Water* 2023, 15, 788. <https://doi.org/10.3390/w15040788>
36. \*\*Lukas, P., **Melesse, A.M.**, and Kenea, TT., 2023, Prediction of Future Land Use/Land Cover Changes Using A Coupled CA-ANN Model in the Upper Omo–Gibe River Basin, Ethiopia, *Remote Sensing*, 15 (4), 1148, <https://doi.org/10.3390/rs15041148>.
37. \*Tegegne, G., **Melesse, A.M.** 2023. Multimodel ensemble projection of precipitation over South Korea using the reliability ensemble averaging. *Theor Appl Climatol* 151, 1205–1214 (2023). <https://doi.org/10.1007/s00704-022-04350-8>
38. DN Reio, RM Price, **AM Melesse**, M Ross, 2023. Quantification of Evapotranspiration and Water Chemistry in a Remediated Wetland in Everglades National Park, USA, *Water* 15 (4), 611
39. \*\*BM Gebeyehu, AK Jabir, G Tegegne, **AM Melesse**, 2023. Subbasin Spatial Scale Effects on Hydrological Model Prediction Uncertainty of Extreme Stream Flows in the Omo Gibe River Basin, Ethiopia, *Remote Sensing* 15 (3), 611
40. \*\*F Peña, J Obeysekera, R Jane, F Nardi, C Maran, A Cadogan, F de Groen, **Melesse, A.M.** 2022. Investigating compound flooding in a low elevation coastal karst environment using multivariate statistical and 2D hydrodynamic modeling, *Weather and Climate Extremes*, 100534

## 2022

41. \*\*H Belay, **Melesse, A.M.**, G Tegegne, 2022, Merging Satellite Products and Rain-Gauge Observations to Improve Hydrological Simulation: A Review, *Earth* 3 (4), 1275-1289
42. Z Kayhomayoon, S Ghordoyee-Milan, A Jaafari, N Arya-Azar, **Melesse, A.M.**, ..., 2022. How does a combination of numerical modeling, clustering, artificial

intelligence, and evolutionary algorithms perform to predict regional groundwater levels?, Computers and Electronics in Agriculture 203, 107482

43. TG Andualem, M Yibeltal, DA Malede, **Melesse, AM**, FT Teshome, ..., 2022. Assessment of Agricultural Land Suitability for Surface Irrigation Using Geospatial Techniques in the Lower Omo Gibe Basin, Ethiopia, Water 14 (23), 3887
44. KH Gonfa, T Alamirew, **Melesse, AM**, 2022. Hydro-Climate Variability and Trend Analysis in the Jemma Sub-Basin, Upper Blue Nile River, Ethiopia, Hydrology 9 (12), 209
45. \*\*M Admas, **Melesse, AM**, B Abate, G Tegegne, 2022. Soil Erosion, Sediment Yield, and Runoff Modeling of the Megech Watershed Using the GeoWEPP Model, Hydrology 9 (12), 208
46. \*K Khosravi, A Golkarian, PM Saco, MJ Booij, **Melesse, AM**, 2022. Model Identification and Accuracy for Estimation of Suspended Sediment Load, Geocarto International, 1-27
47. \*\*Abiy, A.Z.; Wiederholt, R.P.; Lagerwall, G.L.; **Melesse, A.M.**; Davis, S.E. 2022. Multilayer Feedforward Artificial Neural Network Model to Forecast Florida Bay Salinity with Climate Change. Water 2022, 14, 3495. <https://doi.org/10.3390/w14213495>
48. Seka, A.M., Zhang, J., Prodhan, F.A., **Melesse, AM**. et al. Hydrological drought impacts on water storage variations: a focus on the role of vegetation changes in the East Africa region. A systematic review. Environ Sci Pollut Res (2022). <https://doi.org/10.1007/s11356-022-23313-0>
49. \*\*Woldegebrael, S.M.; Kidanewold, B.B, **AM Melesse**, 2022. Seasonal Flow Forecasting Using Satellite-Driven Precipitation Data for Awash and Omo-Gibe Basins, Ethiopia, Remote Sensing 14 (4518) 2022
50. \*\*HZ Tedla, AT Haile, DW Walker, **AM Melesse**, 2022. Evaluation of factors affecting the quality of citizen science rainfall data in Akaki catchment, Addis Ababa, Ethiopia, Journal of Hydrology 612 (128284), <https://doi.org/10.1016/j.jhydrol.2022.128284>
51. \*\*AA Biratu, B Bedadi, SG Gebrehiwot, **AM Melesse**, TH Nebi, W Abera, ... 2022. Impact of Landscape Management Scenarios on Ecosystem Service Values in Central Ethiopia, Land 2022, 11, 1266. <https://doi.org/10.3390/land11081266>
52. \*\*KE Tadesse, **AM Melesse**, AA Awas, HB Lakew, 2022. Evaluation of Merging Method for CHIRP Satellite Rainfall Estimate Over Wabi Shebelle River Basin, Ethiopia, Journal of the Indian Society of Remote Sensing, <https://doi.org/10.1007/s12524-022-01584-x>

53. Ayele, G.T.; Seka, A.M.; Taddese, H.; Jemberrie, M.A.; Ndehedehe, C.E.; Demissie, S.S.; Awange, J.L.; Jeong, J.; Hamilton, D.P.; **Melesse, A.M.** 2022. Relationship of Attributes of Soil and Topography with Land Cover Change in the Rift Valley Basin of Ethiopia. *Remote Sens.* 2022, 14, 3257. <https://doi.org/10.3390/rs14143257>
54. \*\*Woldegebrael, S.M.; Kidanewold, B.B.; **Melesse, A.M.** 2022. Development and Evaluation of a Web-Based and Interactive Flood Management Tool for Awash and Omo-Gibe Basins, Ethiopia. *Water* 2022, 14, 2195. <https://doi.org/10.3390/w14142195>
55. P Rangsiwanichpong, **AM Melesse**, 2022. Analyzing the Benefit-Cost Ratio of Sediment Resources by Remote Sensing Data in the Ping River Basin, Thailand, *Water* 14 (2021)
56. \*Khosravi, K., Golkarian, A., **Melesse, A.M.**, Deo, R. 2022. Suspended sediment load modeling using advanced hybrid Rotation Forest based Elastic Network approach, *Journal of Hydrology* 610 (2022) 127963.
57. B Ghasemian, H Shahabi, A Shirzadi, N Al-Ansari, A Jaafari, M Geertsema, **Melesse, AM.**, S K Singh, A Ahmad, 2022. Application of Novel Hybrid Machine Learning Algorithm in Shallow Landslide Susceptibility Mapping in a Mountain Area, *Frontiers in Environmental Science*, 657.
58. \*\*E Bisrat Zeleke, **AM Melesse**, BB Kidanewold, 2022. Assessment of Climate and Catchment Control on Drought Propagation in the Tekeze River Basin, Ethiopia, *Water* 14 (1564).
59. \*\*KE Tadesse, **AM Melesse**, A Abebe, HB Lakew, P Paron, 2022. Evaluation of Global Precipitation Products over Wabi Shebelle River Basin, Ethiopia, *Hydrology* 9 (5), 66.
60. \*\*K Mekonnen, **AM Melesse**, TA Woldesenbet, 2022. Merging satellite rainfall estimates and daily rain gauge observations for improved flood simulation in MelkaKuntire catchment, upper Awash Basin, Ethiopia, *Remote Sensing Applications: Society and Environment* 25, 100701
61. K Khosravi, ZS Khozani, **AM Melesse**, BM Crookston, 2022. Intelligent flow Discharge computation in a rectangular channel with free overfall condition, *Neural Computing and Applications*, 1-16
62. Shojaei, S., Ashofteh, P., Dwijendra, N. K. A., Melesse, A. M., Shahvaran, A. R., Shojaei, S., & Homayoonnezhad, I. (2022). Impacts on Global Temperature During the First Part of 2020 Due to the Reduction in Human Activities by COVID-19. *Air, Soil and Water Research*. <https://doi.org/10.1177/11786221221101901>
63. \*\*F Peña, F Nardi, **AM Melesse**, J Obeysekera, F Castelli, RM Price, T Crowl, 2022. Compound flood modeling framework for surface–subsurface water interactions, *Natural Hazards and Earth System Sciences* 22 (3), 775-793

64. S Schismenos, D Emmanouloudis, GJ Stevens, ND Katopodes, **AM Melesse**. 2022. Soil governance in Greece: A snapshot, *Soil Security* 6 (100035)
65. ZM Nigatu, D Fan, W You, **AM Melesse**, L Pu, X Yang, X Wan, Z Jiang, 2022. Crop production response to soil moisture and groundwater depletion in the Nile Basin based on multi-source data, *Science of The Total Environment*, 154007
66. A Mosavi, M Golshan, S Janizadeh, B Choubin, AM Melesse, AA Dineva, 2022. Ensemble models of GLM, FDA, MARS, and RF for flood and erosion susceptibility mapping: a priority assessment of sub-basins, *Geocarto International* 37 (9), 2541-2560
67. \*\*Dersseh MG, Steenhuis TS, Kibret AA, Eneyew BM, Kebedew MG, Zimale FA, Worqlul AW, Moges MA, Abebe WB, Mhired DA, **Melesse AM** and Tilahun SA (2022) Water Quality Characteristics of a Water Hyacinth Infested Tropical Highland Lake: Lake Tana, Ethiopia. *Front. Water* 4:774710. doi: 10.3389/frwa.2022.774710.
68. \*\*K Mekonnen, **AM Melesse**, TA Woldesenbet, 2021. How suitable are satellite rainfall estimates in simulating high flows and actual evapotranspiration in MelkaKunitre catchment, Upper Awash Basin, Ethiopia? *Science of The Total Environment* 806, 150443.
69. \*\*AA Biratu, B Bedadi, SG Gebrehiwot, **AM Melesse**, TH Nebi, W Abera, ... 2022. Ecosystem Service Valuation along Landscape Transformation in Central Ethiopia, *Land* 11 (500).

## 2021

70. Ayele, G.T.; Kuriqi, A.; Jemberrie, M.A.; Saia, S.M.; Seka, A.M.; Teshale, E.Z.; Daba, M.H.; Ahmad Bhat, S.; Demissie, S.S.; Jeong, J.; **Melesse, A.M.** Sediment Yield and Reservoir Sedimentation in Highly Dynamic Watersheds: The Case of Koga Reservoir, Ethiopia. *Water* **2021**, *13*, 3374. <https://doi.org/10.3390/w13233374>
71. H Tao et al. 2021. Artificial intelligence models for suspended river sediment prediction: state-of-the art, modeling framework appraisal, and proposed future research directions, *Engineering Applications of Computational Fluid Mechanics* 15 (1), 1585-1612.
72. M Panahi et al. 2021. Corrigendum to “Cumulative infiltration and infiltration rate prediction using optimized deep learning algorithms: A study in Western Iran”[J. Hydrol. Reg. Stud. 35 (2021) 100825], *Journal of Hydrology: Regional Studies*, 100950
73. L Zhang, J Chanussot, **A Melesse**, X Li, 2021. Special Section Guest Editorial: Multitemporal Remote Sensing Data Processing and Applications, *Journal of Applied Remote Sensing* 15 (4), 042401

74. Bian, L.; **Melesse, A.M.**; Leon, A.S.; Verma, V.; Yin, Z. 2021. A Deterministic Topographic Wetland Index Based on LiDAR-Derived DEM for Delineating Open-Water Wetlands. *Water*, 13, 2487, <https://doi.org/10.3390/w13182487>
75. \*\*Moncada, **A.M.**; **Melesse, A.M.**; Vithanage, J.; Price, R.M. 2021. Long-Term Assessment of Surface Water Quality in a Highly Managed Estuary Basin. *Int. J. Res. Public Health* 2021, 18, 9417. <https://doi.org/10.3390/ijerph18179417>
76. \*Bayissa, Y.; **Melesse, A.**; Bhat, M.; Tadesse, T.; Shiferaw, A. Evaluation of Regional Climate Models (RCMs) Using Precipitation and Temperature-Based Climatic Indices: A Case Study of Florida, USA. *Water* 2021, 13, 2411.
77. \*\*F Peña, F Nardi, **A M Melesse**, J Obeysekera, 2021. *Assessing geomorphic floodplain models for large scale coarse resolution 2D flood modelling in data scarce regions*, *Geomorphology* 389, 107841 2021
78. \*\*Agumase K. Tefera, Abraham Bayeh Wassie, Berhanu G. Sinshaw, Dessalew T. Defersha, Tesfahun Aleka Takele, Simir Birhan Atanaw, Aniley T. Tesfaye, Edmealem Getu, Habtamu M. Fenta, Haimanot B. Atinkut, Temesgen Enku, Dejene Sahilu, **AM. Melesse** 2021. *Groundwater quality evaluation of the alluvial aquifers using GIS and water quality indices in the Upper Blue Nile Basin, Ethiopia*, *Groundwater for Sustainable Development* 14 (100636) 2021
79. D Bekele, T Alamirew, A Kebede, G Zeleke, **AM Melesse** 2021, *Modeling the impacts of land use and land cover dynamics on hydrological processes of the Keleta watershed, Ethiopia*, *SUSTAINABLE ENVIRONMENT* 7 (1), 1-14 2021
80. \*\*MA Jemberie, **AM Melesse**, 2021. *Urban Flood Management through Urban Land Use Optimization Using LID Techniques, City of Addis Ababa, Ethiopia*, *Water* 13 (1721)
81. \*\*Mekonnen, K., **Melesse, AM.**, Woldesenbet, T.A., 2021 Effect of temporal sampling mismatches between satellite rainfall estimates and rain gauge observations on modelling extreme rainfall in the Upper Awash Basin, Ethiopia, *Journal of Hydrology*, Volume 598, 126467.
82. \*Bayissa Y, Moges S, **Melesse AM**, Tadesse T, Abiy AZ, Worqlul A. Multi-Dimensional Drought Assessment in Abbay/Upper Blue Nile Basin: The Importance of Shared Management and Regional Coordination Efforts for Mitigation. *Remote Sensing*. 2021; 13(9):1835. <https://doi.org/10.3390/rs13091835>
83. Mahdi Panahi Khabat Khosravi, Sajad Ahmad, Chang-Wook Lee, **Melesse, AM.**, Chang-Wook Lee, 2021. Cumulative Infiltration and Infiltration rate prediction using optimized deep learning algorithms: A study in Western Iran, *Journal of Hydrology: Regional Studies*, in press
84. M Tesfaye, S Moges, **Melesse, AM**, Z Agide, 2021., Long-term water–energy–food



security and resources sustainability: a case study of Ethiopia by 2030 and 2050  
International Journal of Energy and Water Resources, 1-14

85. \*G Tegegne, **Melesse, AM**, 2021. Comparison of Trend Preserving Statistical Downscaling Algorithms Toward an Improved Precipitation Extremes Projection in the Headwaters of Blue Nile River in Ethiopia, *Environmental Processes* 8 (1), 59-75.
86. \*\*AA Biratu, B Bedadi, SG Gebrehiwot, T Hordofa, DK Asmamaw, **Melesse, AM**. 2021. Implications of land management practices on selected ecosystem services in the agricultural landscapes of Ethiopia: a review, *International Journal of River Basin Management*, 1-18
87. Z Nigatu, D Fan, W You, **Melesse, AM**, 2021. Hydroclimatic Extremes Evaluation Using GRACE/GRACE-FO and Multidecadal Climatic Variables over the Nile River Basin, *Remote sensing* 13, 651
88. \*\*M Hajigholizadeh, A Moncada, S Kent, **Melesse, AM**, 2021. Land–Lake Linkage and Remote Sensing Application in Water Quality Monitoring in Lake Okeechobee, Florida, USA, *Land* 10 (2), 147.
89. \*\*AA Gessesse, **Melesse, AM**, AZ Abiy, 2021. Land use dynamics and base and peak flow responses in the Choke mountain range, Upper Blue Nile Basin, Ethiopia *International Journal of River Basin Management* 19 (1), 109-121
90. AN Samani, M Farzin, O Rahmati, S Feiznia, GA Kazemi, G Foody, **Melesse, AM**. 2021. Scrutinizing Relationships between Submarine Groundwater Discharge and Upstream Areas Using Thermal Remote Sensing: A Case Study in the Northern Persian Gulf, *Remote Sensing* 13 (3), 358.

## 2020

91. Esmali Ouri, A.; Golshan, M.; Janizadeh, S.; Cerdà, A.; **Melesse, A.M.** 2020. *Soil Erosion Susceptibility Mapping in Kozetopraghi Catchment, Iran: A Mixed Approach Using Rainfall Simulator and Data Mining Techniques*. *Land* 2020, 9, 368.
92. Band, S.S.; Janizadeh, S.; Chandra Pal, S.; Saha, A.; Chakraborty, R.; **Melesse, A.M.**; Mosavi, A., 2020. *Flash Flood Susceptibility Modeling Using New Approaches of Hybrid and Ensemble Tree-Based Machine Learning Algorithms*. *Remote Sens.* 2020, 12, 3568.
93. Band, S.S.; Janizadeh, S.; Pal, S.C.; Chowdhuri, I.; Siabi, Z.; Norouzi, A.; **Melesse, A.M.**; Shokri, M.; Mosavi, A., 2020. *Comparative Analysis of Artificial Intelligence Models for Accurate Estimation of Groundwater Nitrate*



*Concentration. Sensors* **2020**, *20*, 5763.

94. Melesse, A.M.; Khosravi, K.; Tiefenbacher, J.P.; Heddam, S.; Kim, S.; Mosavi, A.; Pham, B.T. 2020. *River Water Salinity Prediction Using Hybrid Machine Learning Models. Water* **2020**, *12*, 2951.
95. \*\*K Mekonnen, AM Melesse, TA Woldesenbet, 2020. *Spatial evaluation of satellite-retrieved extreme rainfall rates in the Upper Awash River Basin, Ethiopia, Atmospheric Research* *249*, 105297.
96. A Mosavi, M Golshan, S Janizadeh, B Choubin, AM Melesse, AA Dineva, 2020. *Ensemble models of GLM, FDA, MARS, and RF for flood and erosion susceptibility mapping: a priority assessment of sub-basins, Geocarto International*, 1-16.
97. \*G Tegegne, AM Melesse, DH Asfaw, AW Worqlul, 2020, *Flood Frequency Analyses over Different Basin Scales in the Blue Nile River Basin, Ethiopia, Hydrology* *7* (3), 44, 2020.
98. \*G Tegegne, AM Melesse, T Alamirew, 2020. *Projected changes in extreme precipitation indices from CORDEX simulations over Ethiopia, East Africa, Atmospheric Research*, 105156, 2020.
99. \*G Tegegn, AM Melesse, 2020. *Multimodel Ensemble Projection of Hydro-climatic Extremes for Climate Change Impact Assessment on Water Resources*, Water Resources Management, DOI: 10.1007/s11269-020-02601-9
100. Ayehu, G.; Tadesse, T.; Gessesse, B.; Yigrem, Y.; Melesse, A.M *Combined Use of Sentinel-1 SAR and Landsat Sensors Products for Residual Soil Moisture Retrieval over Agricultural Fields in the Upper Blue Nile Basin, Ethiopia. Sensors* *2020*, *20*, 3282.
101. \*WG Alemu, GM Henebry, AM Melesse 2020. *Land Cover and Land Use Change in the US Prairie Pothole Region Using the USDA Cropland Data Layer, Land* *9* (166).
102. \*\*MG Dersseh, SA Tilahun, AW Worqlul, MA Moges, WB Abebe, DA Mihret, Melesse, AM. 2020. *Spatial and Temporal Dynamics of Water Hyacinth and Its Linkage with Lake-Level Fluctuation: Lake Tana, a Sub-Humid Region of the Ethiopian Highlands, Water* *12* (1435).
103. \*\*SM Woldegebrael, BB Kidanewold, B Zaitchik, AM Melesse. 2020.

***Rainfall and Flood Event Interrelationship - A Case Study of Awash and Omo-Gibe Basins, Ethiopia, International Journal of Scientific & Engineering Research 11 (1), 332-343.***

104.       \*\*Osore, A, **Melesse, AM**. Chane, B. 2020. ***An Alternative Empirical Model to Estimate Watershed Sediment Yield Based on Hydrology and Geomorphology of the Basin in Data-Scarce Rift Valley Lake Regions, Ethiopia.*** Geoscience, in press
105.       \*\*Enku, T., **Melesse, AM**., Ayana, E., Tilahun, S., Abate, M., and Steenhuis. T. 2020. ***Groundwater Use of a Small Eucalyptus Patch During the Dry Monsoon Phase,*** Biologia, 1-12.
106.       Shahabi, H.; Shirzadi, A.; Ghaderi, K.; Omidvar, E.; Al-Ansari, N.; Clague, J.J.; Geertsema, M.; \*Khosravi, K.; Amini, A.; Bahrami, S.; Rahmati, O.; Habibi, K.; Mohammadi, A.; Nguyen, H.; **Melesse, A.M.**; Ahmad, B.B.; Ahmad, A. ***Flood Detection and Susceptibility Mapping Using Sentinel-1 Remote Sensing Data and a Machine Learning Approach: Hybrid Intelligence of Bagging Ensemble Based on K-Nearest Neighbor Classifier.*** Remote Sens. 2020, 12, 266.
107.       \*\*Gebreslassie, H., **Melesse, AM**., Bishop, K., .Gebreyohannes, A.G 2020. ***Linear spectral unmixing algorithm for modeling suspended sediment concentration of flash floods, upper Tekeze River, Ethiopia, Int. J. of Sediment Research, 35(1):79-90., <https://doi.org/10.1016/j.ijsrc.2019.07.007>***
108.       \*Tegegne, G., **Melesse, AM**., Worqlul, AW. 2020. ***Development of multi-model ensemble approach for enhanced assessment of impacts of climate change on climate extremes,*** Science of The Total Environment, 704, 135357.
109.       \*Alemu W.G. & **Melesse A.M.**, 2020. ***Impacts of Long-term Conservation Measures on Ecosystem Services in Northwest Ethiopia,*** International Soil and Water Conservation Research 8 (1), 47-55.

## 2019

110.       Nohani, E.; Moharrami, M.; Sharafi, S.; Khosravi, K.; Pradhan, B.; Pham, B.T.; Lee, S., **Melesse, AM**. 2019. ***Landslide Susceptibility Mapping Using Different GIS-based Bivariate Models,*** Water 2019, 11, 1402; doi:10.3390/w11071402
111.       Shawul, AA, Chakma, S., **Melesse, AM**. 2019. ***The response of water balance components to land cover change based on hydrologic modeling and partial least squares regression (PLSR) analysis in the Upper Awash Basin,*** Journal of Hydrology: Regional Studies 26 (100640).
112.       \*\*Gebreslassie, HG, Melesse, AM, Gebremariam, AG. 2019. ***Double-stage linear spectral unmixing analysis for improving accuracy of sediment concentration estimation from MODIS data: the case of Tekeze River, Ethiopia,*** Modeling Earth Systems and Environment, 1-10

113. \*Alemu, W., Henebry, G., **Melesse, AM.** 2019. *Land Surface Phenologies and Seasonalities in the US Prairie Pothole Region Coupling AMSR Passive Microwave Data with the USDA Cropland Data Layer, Remote Sensing* 11 (2550).
114. \*\*Dersseh, M.G.; Kibret, A.A.; Tilahun, S.A.; Worqlul, A.W.; Moges, M.A.; Dagneu, D.C.; Abebe, W.B.; **Melesse, A.M.** *Potential of Water Hyacinth Infestation on Lake Tana, Ethiopia: A Prediction Using a GIS-Based Multi-Criteria Technique.* Water 2019, 11, 1921.
115. \*\*Gesesse, A.A. **Melesse, AM.**, Abera. F. Abiy. AZ. 2019. *Modeling Hydrological Responses to Land Use Dynamics, Choke, Ethiopia, Water Conservation Science and Engineering*, DOI: 10.1007/s41101-019-00076-3
116. Lee, S.; Panahi, M.; Pourghasemi, H.R.; Shahabi, H.; Alizadeh, M.; Shirzadi, A.; \*Khosravi, K.; **Melesse, A.M.**; Yekrangnia, M.; Rezaie, F.; Moeini, H.; Pham, B.T.; Bin Ahmad, B. *SEVUCAS: A Novel GIS-Based Machine Learning Software for Seismic Vulnerability Assessment.* Appl. Sci. 2019, 9, 3495.
117. \*\*Osore, A, **Melesse, AM.** Chane, B. 2019. *An Alternative Soil Erodibility (Ket) Estimation Approach For Data Scarce Regions: A Case Of Ethiopian Rift Valley Lake Basin*, J. of Arid Land, accepted
118. \*\*Abbas, MM, **Melesse, AM.**, Scinto, LJ, Rehage, JS. 2019. *Satellite Estimation of Chlorophyll-a Using Moderate Resolution Imaging Spectroradiometer (MODIS) Sensor in Shallow Coastal Water Bodies: Validation and Improvement*, Water 11(1621), DOI: 10.3390/w11081621
119. Nohani, E., Moharrami, M., Sharafi, S., Khosravi, K., Pradhan, B., Thai Pham, B., Tien Bui, D., \*Khosravi, K., Shahabi, H., Daggupati, P., Adamowski, JF, **Melesse, AM**, Thai Pham, B., Pourghasemi, HR., Mahmoudi, M., Bahrami, S., Pradhan, B., Shirzadi, A., Chapi, K., Lee, S., 2019. *Flood spatial modeling in northern Iran using remote sensing and GIS: A comparison between evidential belief functions and their ensemble with multivariate logistic regression models*, Remote Sens.2019,11, 1589; doi:10.3390/rs11131589
120. Arabameri, A., Yamani, M., Pradhan, B., **Melesse, AM.**, Shirani, K., Tien Bui, D., 2019. *Novel ensembles of COPRAS Multi-criteria decision-making with logistic regression, boosted regression tree, and random forest for spatial prediction of gully erosion susceptibility*, Science of The Total Environment, 688:903-916
121. \*\*Abiy, A.Z.; **Melesse, A.M.**; Abtew, W. 2019. *Teleconnection of Regional Drought to ENSO, PDO, and AMO: Southern Florida and the Everglades.* Atmosphere 2019, 10, 295.
122. Rahmati, O., Samadi, M., Shahabi, H., Azareh, A., Rafiei-Sardooi, E., Alilou, H., **Melesse, A.M.**, Pradhan, B., Chapi, K., Shirzadi, A., 2019. *SWPT: An automated*

*GIS-based tool for prioritization of sub-watersheds based on morphometric and topo-hydrological factors*, *Geoscience Frontiers*,  
<https://doi.org/10.1016/j.gsf.2019.03.009>.

123. \*\*AZ Abiy, **Melesse, A.M.**, W Abtew, D Whitman 2019. *Rainfall trend and variability in Southeast Florida: Implications for freshwater availability in the Everglades*, *PloS one* 14 (2), e0212008.
  124. \*\*Osore, A, **Melesse, AM**. Chane, B. 2019. *Modeling Sediment Flux and Budget of a Data Limited Rift Valley Lake in Ethiopia*, *Hydrology* 6 (1),  
doi:10.3390/hydrology6010001
  125. \*\*Dessu, S.,**Melesse, A.M.**, Bhat, M, Seid, A., Debebe, S., McClain, M.2019. *Development and Application of Priority Rated Optimization Model (PROM) for Multi-Sector Water Resource Management System*, *Environmental Modelling and Software*, 113 (84-97) <https://doi.org/10.1016/j.envsoft.2018.11.014> .
- 2018**
126. \*\*Bekele, D, Tena Alamirew, Asfaw Kebede, Gete Zeleke, **Melesse, A.M.**, 2018. *Land Use and Land Cover Dynamics in the Keleta Watershed, Awash River Basin, Ethiopia*, *Environmental Hazards*, doi:10.1080/17477891.2018.1561407
  127. \*\*Aga, A. O, Chane, B.,**Melesse, A.M.**, 2018. *Soil Erosion Modelling and Risk Assessment in Data Scarce Rift Valley Lake Region, Ethiopia*, *Water* , 10, 1684; doi:10.3390/w10111684
  128. Rahmati, R., Naghibi, SA., Shahabi, H., Bui, DT., Pradhan, B., Elham, AA., Aliakbar Nazari Samani, R., **AM Melesse** 2018. Groundwater spring potential modelling: comprising the capability and robustness of three different modeling approaches, *J. of Hydrology* 565: 248-261 <https://doi.org/10.1016/j.jhydrol.2018.08.027>
  129. \*\*F Fentaw, D Hailu, A Nigussie, **AM Melesse** 2018. Climate Change Impact on the Hydrology of Tekeze Basin, Ethiopia: Projection of Rainfall-Runoff for Future Water Resources Planning, *Water Conservation Science and Engineering*, 1-12, <https://doi.org/10.1007/s41101-018-0057-3>.
  130. DG Zelelew, **AM Melesse**, 2018. Applicability of a Spatially Semi-Distributed Hydrological Model for Watershed Scale Runoff Estimation in Northwest Ethiopia  
*Water* 10 (923), doi:10.3390/w100709
  131. \*\*D Bekele, T Alamirew, A Kebede, G Zeleke, **AM Melesse** 2018. Modeling Climate Change Impact on the Hydrology of Keleta Watershed in the Awash River Basin, Ethiopia, *Environmental Modeling & Assessment*,  
<https://doi.org/10.1007/s10666-018-9619-1>

132. K Khosravi, M Sartaj, FTC Tsai, VP Singh, N Kazakis, **AM Melesse**, 2018. A comparison study of DRASTIC methods with various objective methods for groundwater vulnerability assessment, *Science of The Total Environment* 642, 1032-1049.
  133. \*\*Hajigholizadeh, M., **Melesse, A.M.** and Fuentes, HR, 2018. *Raindrop-Induced Erosion and Sediment Transport Modelling in Shallow Waters: A Review*, J Soil Water Sci 2018, 1(1):15-25
  134. Omid Rahmati, Aiding Kornejady, Mahmood Samadi, Antonio Donato Nobre, **Melesse, AM**. 2018. *Development of an automated GIS tool for reproducing the HAND terrain model*, Environmental Modelling & Software 102:1-12.
  135. \*\*Hajigholizadeh, M., **Melesse, AM** and Fuentes, HR, 2018. *Erosion and Sediment Transport Modelling in Shallow Waters: A Review on Approaches, Models and Applications*, Int. J. Environ. Res. Public Health 15, 518; doi:10.3390/ijerph15030518
  136. Zelelew, D.G., Ayimute, T.A. & **Melesse, A.M.** 2018. *Evaluating the Response of In Situ Moisture Conservation Techniques in Different Rainfall Distributions and Soil-Type Conditions on Sorghum Production and Soil Moisture Characteristics in Drought-Prone Areas of Northern Ethiopia*, Water Conserv Sci Eng, 3(3):157-167. <https://doi.org/10.1007/s41101-018-0045-7>
  137. \*\*Fikru Fentaw Abera, Dereje Hailu Asfaw, Agizew Nigussie Engida and **Melesse, AM** 2018. *Optimal Operation of Hydropower Reservoirs under Climate Change: The Case of Tekeze Reservoir, Eastern Nile*, Water, 10, 273; doi:10.3390/w10030273
- 2017**
138. \*\*Gholizadeh MH, **Melesse, AM** (2017) *Study on Spatiotemporal Variability of Water Quality Parameters in Florida Bay Using Remote Sensing. J Remote Sensing & GIS* 6: 207. doi: 10.4172/2469-4134.1000207
  139. \*\*Tibebe, M., **Melesse, AM**. Hailu, D., 2017. *Rainfall-Runoff Relation and Runoff Estimation for Holetta River, Awash subbasin, Ethiopia using SWAT model*, Int. Journal of Water Resources and Environmental Engineering, 9(5): 102-112.
  140. Alemu, M. L., Geset, M., Mosa, H. M., Zemale, F. A., Moges, M. A., Giri, S. K., Tillahun, S. A., **Melesse, A. M.**, Ayana, E. K., and Steenhuis, T. S. (2017) *Spatial and Temporal Trends of Recent Dissolved Phosphorus Concentrations in Lake Tana and its Four Main Tributaries*. Land Degrad. Develop., 28: 1742–1751. doi: 10.1002/ldr.2705.
  141. \*\*Abiy, A., **Melesse, A.M.**, 2017. *Evaluation of Watershed Scale Changes in Groundwater and Soil Moisture Storage with the application of GRACE Satellite*

*Imagery data*, Catena, 153:50–60, <http://dx.doi.org/10.1016/j.catena.2017.01.036>.

142. \*\*Mohammad Haji Gholizadeh, **Melesse, A.M.** 2017 *The Evaluation of Spatiotemporal Variations in Surface Water Quality of South Florida Using Discriminant Analysis and Cluster Analysis*, Catena, 151:247–258, <http://dx.doi.org/10.1016/j.catena.2016.12.018>.
- 2016**
143. \*\*Enku,T., **Melesse, A.M.**, Admasu, S., Ayana, E., Abate, M., Steenhuis, T.2016 *Surface-groundwater interactions in sub-humid monsoon climate: The Lake Tana floodplain, Ethiopia*, Land Degradation and Development, doi: 10.1002/ldr.2650.
144. \*\*Tara Blakey, **Melesse, A.M.** , Michael C. Sukop, Georgio Tachiev, Dean Whitman, and Fernando Miralles-Wilhelm, *Developing benthic class specific, chlorophyll-a retrieving algorithms for optically-shallow water using SeaWiFS*, Sensors 2016, 16, 1749; doi:10.3390/s16101749
145. Bekele, D., Tena Alamirew, Asfaw Kebede, Gete Zeleke, **Melesse, A.M.**, 2016. *Analysis of rainfall trend and variability for agricultural water management in Awash River Basin, Ethiopia*, Journal of Water and Climate Change; 8 (1) 127-141; DOI: 10.2166/wcc.2016.044.
146. \*\*Mohammad Haji Gholizadeh, **Melesse, A.M.**, and Reddi. L 2016. *A Comprehensive Review of Water Quality Assessment Using Remote Sensing Techniques*, Sensors, 16:1298, doi:10.3390/s16081298.
147. Omid Rahmati, Hamid Reza Pourghasemi, **Melesse, A.M** *Assessment of groundwater potentiality and quality with a new methodological framework: application of Dempster–Shafer theory and GIS/RS*, Science of the Total Environment 568 (2016) 1110–1123
148. \*\*Mohammad Haji Gholizadeh, **Melesse, A.M.**, and Reddi. L.2016 *Water Quality Assessment and Apportionment of Pollution Sources using APCS-MLR receptor modeling technique in three major rivers of South Florida*, Science of the Total Environment, 566-567: 1552–1567, <http://dx.doi.org/10.1016/j.scitotenv.2016.06.046>.
149. \*\*Mohammad Gholizadeh, **Melesse, A.M.**, and Reddi. L 2016. *Discriminant Analysis Application in Spatiotemporal Evaluation of Water Quality in South Florida*, Journal of Hydroinformatics, 18 (6) 1019-1032; DOI: 10.2166/hydro.2016.023
150. Sandoval1, E., Price, R.M., Whitman, D., **Melesse, A.M** 2016. : *Long-Term (11 Years) Study of Water Balance, Flushing Times and Water Chemistry of a Coastal Wetland Undergoing Restoration, Everglades, Florida, USA*, Catena 144:74-83.



151. \*\*Mohammed, H., **Melesse, A.M.**, Zeleke, G., Alamirew, T., 2016. *Streamflow prediction uncertainty analysis and verification of SWAT model in a tropical watershed*, Environmental Earth Sciences, 75(9), 1-16
  152. \*\*Mohammad Gholizadeh, **Melesse, A.M.**, **Lakshmi Reddi**. 2016. *Application of Spaceborne and Airborne Sensors in Water Quality Assessment*, Int. J. of Remote Sensing, 37:14, 3143-3180.
  153. \*\*Kandel, H., **Melesse, A.M.**, Whitman, D. 2016. *Urban Heat Island Delineation using Radiosonde Profiles and Landsat Imagery in South Florida*, International Journal of Remote Sensing 36(10):2141-2165
  154. \*\*Birhanu, B., Seleshi, Y, Demessie, S., **Melesse, A.M** 2016. *Bias Correction and Characterization of Climate Forecast System Reanalysis Daily Precipitation in Ethiopia Using Fuzzy Overlay*. Met. Apps. doi: 10.1002/met.1549.
- 2015**
155. Omid Rahmati, Hamid Reza Pourghasemi, **Melesse, A.M.**, 2015. *Application of GIS based data driven random forest and maximum entropy models for groundwater potential mapping*, CATENA 137:360–372.
  156. Gebere, S., Alamirew, T., Merkel, B, M. **Melesse, A.M** 2015. *Performance of High Resolution Satellite Retrieved Rainfall Products over Data Scarce Complex Terrain of Eastern Ethiopia*, Remote Sens. 2015, 7, 11639-11663; doi:10.3390/rs70911639.
  157. \*\*Birhanu, B., Seleshi, Y, Demessie, S., **Melesse, AM.** 2015. *Flow Regime Classification and Hydrological Characterization of Ethiopian Rivers*, Water 7, 3149-3165; doi:10.3390/w7063149.
  158. \*\*Blakey, T, **Melesse, A.M.**, Cecile S. Rousseaux. 2015. *Toward connecting subtropical algal blooms to freshwater nutrient sources using a long-term, spatially distributed, in situ chlorophyll-a record*, CATENA 133, 119-127.
  159. \*\*Blakey, T, **Melesse, A.M.**, Hall, M. 2015. *Supervised classification of time-series benthic reflectance in shallow subtropical waters using image-based end-members*, Remote Sens. 2015, 7(5), 5098-5116; doi:10.3390/rs70505098
  160. \*\*Cereon, C., **Melesse, A.M.**, Price, R., Dessu, S.B, Kandell, H 2015. *Operational Actual Wetland Evapotranspiration Estimation for the Everglades Using MODIS Imagery*, Remote Sens. 2015, 7, 3613-3632; doi:10.3390/rs70403613
  161. \*\*Hassen M. Yesuf, Mohammed Assen, **Melesse, A.M** , Tena Alamirew. 2015. *Detecting land use/land cover changes in the Lake Hayq (Ethiopia) drainage basin, 1957–2007*, Lakes & Reservoirs: Research and Management, 20:1-18

162. Ehsan Olyaiea, Hossein Banejad, **Melesse, A.M.**, K.W.Chau. 2015. *A comparison of various softcomputing approaches performance for estimating suspended sediment load of river systems*, Environmental Monitoring Assessment (2015) 187:189  
DOI 10.1007/s10661-015-4381-1.
  163. Mekonnen, M, **Melesse, AM**. 2015 *Evaluating sediment storage dams: structural off-site sediment trapping measures in northwest Ethiopia*, Cuadernos de Investigación Geográfica, 41: 7-22.
  164. \*\*Mohammed, H., Alamirew, T., Assen, M., **Melesse, A.M** 2015. *Modeling of sediment yield in Maybar gauged watershed using swat, northeast Ethiopia*, CATENA, 127, 191–205.
  165. Essayas K. Ayana, William D. Philpot, **Melesse, A.M.**, Tammo S. Steenhuis, 2015. *Assessing Potential of MODIS Images Generated Data in Modeling Total Suspended Solid Emission to Lake Tana, Ethiopia*, International Journal of Applied Earth Observation and Geoinformation, 36: 13-21.
- 2014**
166. David Lagomasino, Rene M. Price, Dean Whitman, **Melesse, AM**, Steven Oberbauer. 2014 *Spatial and temporal variability in spectral-based evapotranspiration measured from Landsat 5TM across two mangrove ecotones*, Agricultural and Forest Meteorology, 213: 304–316.
  167. David Lagomasino, Rene M. Price, Dean Whitman, Petya K.E. Campbell, **Melesse, AM**. 2014. *Estimating major ion and nutrient concentrations in two coastal mangrove estuaries using leaf and satellite reflectance*, Remote Sensing of Environment 154 (2014) 202–218
  168. Grey, O.P. Dale F. St. G. Webber, S. G. Setegn, and **A. M. Melesse** 2014. *Application of the Soil and Water Assessment Tool (SWAT Model) on a Small Tropical Island State (Great River Watershed, Jamaica) as a tool in Integrated Watershed and Coastal Zone Management*, International Journal of Tropical Biology and Conservation, 62(3): 293-305.
  169. \*\*Assegid, Y., **Melesse, A. M.** and Naja, G. M. 2014, *Spatial relationship of groundwater–phosphorus interaction in the Kissimmee River basin, South Florida*. Hydrol. Process. doi:10.1002/hyp.10241
  170. \*Setegn, S., **Melesse, A.M.**, Grey, Haiduk. A., O., Webber, D, Wang, X., McClain, M. 2014 *Spatiotemporal distribution of fresh water availability in the Rio Cobre Watershed, Jamaica*, CATENA, 120:81-90.  
(<http://dx.doi.org/10.1016/j.catena.2014.04.005>)



171. \*\*Behulu, F., Setegn, S., **Melesse A.M**, Romano, E., Fiori A. 2014. *Impact of climate change on the Hydrology of Upper Tiber River Basin Using Bias Corrected Regional Climate Model*, Water Resources Management, 1 - 17  
doi: 10.1007/s11269-014-0546-x
172. Ambachew S., Alamirew, T., **Melesse, A.M**, 2014. *Performance of Mungbean to Deficit Irrigation Application under Semi-arid Highlands of Ethiopia*, Agricultural Water Management 136 (2014) 68–74.
173. \*\*Dessu, S. B., **Melesse, A.M**, Bhat, M., McClain, M. 2014 *Assessment of Water Resources Availability and Demand in the Mara River Basin*, CATENA 115 104–114.

## 2013

174. \*\*Berhe, F., **Melesse, A.M**, Hailu, D., Seleshi, Y. 2013. *Water use allocation modeling using MODISM in the Awash River basin*, Catena, 109: 118–128.  
DOI: 10.1016/j.catena.2013.04.007
175. Michael E McClain, Amanda L Subalusky, Elizabeth P Anderson, Shimelis Behailu Dessu, **Assefa M Melesse**, Preksedis M Ndomba, Joseph OD Mtamba, Rashid A Tamatamah, Cosmas Mligo. 2013 *Comparing flow regime, channel hydraulics and biological communities to infer flow-ecology relationships in the Mara River of Kenya and Tanzania*, Hydrological Sciences Journal, DOI:10.1080/02626667.2013.853121
176. \*\*Berhe, **Melesse, A.M**, F., Fanta, A., Alamirew, T., 2013 *Characterization of the effect of tillage practices on furrow irrigation hydraulics and soil water storage*, Catena (110): 161-175, DOI: 10.1016/j.catena.2013.06.003.
177. \*\*Mohammed, H., Alamirew, A., Assen, M., **Melesse, A.M**. 2013. *Bathymetry Study of Lake Haik, Ethiopia*, Lakes and Reservoirs: Research and Management, 18(2): 155–165, DOI: 10.1111/lre.12024.
178. \*\*Enku, T., **Melesse, A.M**, 2013. *A simple temperature method for the estimation of evapotranspiration*, Hydrological Processes, 28 (6): 2945 - 2960  
doi: 10.1002/hyp.9844
179. \*\* Maalim, Fukhrudin K., **Melesse, A.M**, 2013. *Modeling the impacts of subsurface drainage systems on Runoff and Sediment Yield in the Le Sueur Watershed, Minnesota*, Hydrological Sciences Journal, 58 (3), 1–17.
180. \*\* Maalim, F. K., **Melesse, A.M**, Belmont, P., , Gran, K., 2013 *Modeling the impact of land use changes on runoff and sediment yield in the Le Sueur Watershed, Minnesota using GeoWEPP*, Catena 107 (2013) 35–45.

181. \*\*Berhanu, B., Melesse, A.M. Silesh, Y. 2013. *GIS-based hydrological zones and soil geo-database of Ethiopia*, CATENA, 104: 21–31.

## 2012

182. \*\*Chebud, Y., Melesse, A.M. 2012. *Spatiotemporal surface-groundwater interaction simulation in South Florida*, Water Resour Manage. 26(15), 4449–4466, DOI 10.1007/s11269-012-0156-4.
183. \*\*Dessu, S, B., Melesse, A.M., 2012. *Impact and Uncertainties of Climate change on the Hydrology of the Mara River Basin*, (Hydrological Processes, 27(20): 2973–2986, DOI: 10.1002/hyp.9434).
184. \*\*Berhe, F., Fanta, A., Alamirew, T., Melesse, A.M. 2012, *The effect of tillage practices on and water use efficiency and grain yield*, Catena 100: 128–138.
185. \*\*Behulu, F., Melesse A.M., Romano, E., Fiori A. 2012. *Statistical Downscaling of Precipitation and Temperature for the Upper Tiber Basin (Central Italy)*, DOI: 10.5772/52890: Int. J Water Sciences, Vol. 1, 3:1-14.
186. \*\*Mohammed, H., Alamirew, A., Assen, M., Melesse, A.M. 2012. *Generation of Lake Hardibo Bathymetry Using Sonar, Northeast Ethiopia*, International Journal of Water Science, DOI: 10.5772/52886: Int. J Water Sciences, Vol. 1, 1:1-9.
187. \*\*Haile E. Getachew, Melesse, A.M., 2012. *Impact of Land Use /Land Cover Change on the Hydrology of Angereb Watershed*, Ethiopia, International Journal of Water Science, DOI: 10.5772/56266, Vol. 1, 4:1-7.
188. \*\*Chebud, Y., G.M. Naja, R. Rivero, Melesse, A.M 2012. *Water quality monitoring using a remote sensing and artificial neural network*, Water, Air, & Soil Pollution, 223(8): 4875–4887. DOI: 10.1007/s11270-012-1243-0
189. \*\*Defersha, M, Melesse, A.M. 2012. *Field-scale investigation of the effect of land use on sediment yield and surface runoff using runoff plot data and models in the Mara River basin, Kenya*, CATENA 89: 54–64, doi:10.1016/j. CATENA.2011.07.010
190. \*\*Defersha, M., Melesse, A.M. 2012. *Effect of rainfall intensity, slope and antecedent moisture content on sediment concentration and sediment enrichment ratio*, CATENA, 90 (2012) 47–52.
191. \*\*Dessu. S.B, Melesse, A.M. 2012. *Modeling the Rainfall-Runoff process of the Mara River Basin using SWAT*, Hydrological Processes, DOI: 10.1002/hyp.9205, 26(26): 4038–4049.
192. \*\*Behulu, F., Setegn, G., Melesse, A.M., and Fiori A. 2012. *Hydrological*

- analysis of the Upper Tiber Basin: A Watershed Modeling Approach*, Hydrological Processes, 27(16): 2339–2351 DOI: 10.1002/hyp.9234).
193.       \*\*Chebud, Y., Melesse, A.M. 2012. *Stage Level, Volume, and Time-frequency change information content of Lake Tana using Stochastic Approaches*, Hydrological Processes, 27(10): 1475–1483 DOI: 10.1002/hyp.9291
  194.       Gala.T.S., Melesse, A.M., 2012. *Monitoring Prairie Wet Area with an integrated LANDSAT ETM+, RADARSAT 1 SAR and Ancillary data from LIDAR*, CATENA 95 (2012) 12–23.
  195.       \*\*Defersha, M., Melesse, A.M., McClain, M. 2012. *Watershed scale application of WEPP and EROSION 3D models for assessment of potential sediment source areas and runoff flux in the Mara River Basin, Kenya*, CATENA 95: 63–72.
  196.       Wondie, M., Schneider, W., Melesse, A.M., and Teketay, D. 2012. *Relationship among Environmental Variables and Land Cover in the Simen Mountains National Park, a World Heritage Site in Northern Ethiopia*. International Journal of Remote Sensing Applications (IJRSA) Vol.2 Iss. 2, pp36-43.
- 2011**
197.       \*\* Defersha, M. B., Quraishi, S., and Melesse, A.M. 2011. *The effect of slope steepness and antecedent moisture content on interrill erosion, runoff and sediment size distribution in the highlands of Ethiopia*, Hydrol. Earth Syst. Sci., 15, 2367-2375, doi:10.5194/hess-15-2367-2011.
  198.       \*\*Mango, L., Melesse, A.M., M. E. McClain, D. Gann, and S. G. Setegn, 2011. *Land use and climate change impacts on the hydrology of the upper Mara River Basin, Kenya: Results of a modeling study to support better resource management*, Special Issue: Climate, weather and hydrology of East African Highlands, Hydrol. Earth Syst. Sci., 15, 2245-2258, doi:10.5194/hess-15-2245-2011.
  199.       \*\*Chebud, Y., Melesse, A.M. 2011 *Operational Prediction of Groundwater Fluctuation in South Florida using Sequence based Markovian Stochastic Model*, Water Resources Management, 25(9): 2279-2294, DOI: 10.1007/s11269-011-9808-z
  200.       \*Setegn, S., David Rayner, Melesse, A.M., Bijan Dargahi, Ragahavan Srinivasan, 2011 *Impact of climate change on the hydro-climatology of Lake Tana basin, Ethiopia* Water Resour. Res., VOL. 47, W04511, 13 PP., 2011 doi:10.1029/2010WR009248.
  201.       Melesse, A.M., Ahmad, S., McClain, M., Wang, X., Lim, H., 2011 *Sediment Load prediction in Large Rivers: ANN Approach*, Agricultural Water Management

98: 855–86.

202. Wondie, M., Schneider, W., **Melesse, A.M.**, and Teketay, D. 2011. ***Spatial and Temporal Land Cover Changes in the Simen Mountains National Park, a World Heritage Site in Northwestern Ethiopia***, Remote Sens. 2011, 3, 752-766; doi:10.3390/rs3040752.

## **2010**

203. Wang, X., Shiyong Shang, Zhongyi Qu, Tingxi Liu, **Melesse, A.M.** 2010 ***Simulated Wetland Conservation-Restoration Effects on Water Quantity and Quality at Watershed Scale***, J. of Environmental Management, 91(7): 1511-1525.
204. Wang, X., Tingxi Liu, Shiyong Shang, Dawen Yang, and **Melesse, A.M.** 2010 ***Estimation of Design Discharge for an Ungauged Overflow Receiving Watershed Using One-Dimensional Hydrodynamic Model***, International Journal of River Basin Management (JRBM), 8(1):79-92.
205. \*Setegn, S.G., Bijan Dargahi, B., Srinivasan, R., 2010. **Melesse, A. M.** ***Modelling of Sediment Yield from Anjeni Gauged Watershed, Ethiopia Using SWAT***, JAWRA, 46(3): 514-526.

## **2009**

206. Melesse, A.M, Abtew, W., Desalegne, T. 2009. ***Evaporation estimation of Rift Valley Lakes in Ethiopia: Comparison of Models***, Sensors 9(12), 9603-9615; doi:10.3390/s91209603.
207. Melesse, A.M, Athanasios G. Loukas, Gabriel Senay, Muluneh Yitayew, 2009. ***Climate change, land-cover dynamics and ecohydrology of the Nile River Basin***, Hydrological Processes, Special Issue: Nile Hydrology 23(26): 3651-3652.
208. Melesse, A.M, Abtew, W., Desalegne, T. and Wang, X. 2009. ***Low and High Flow Analysis and Wavelet Application for Characterization of the Blue Nile River System***, Hydrological Processes, 24(3): 241 – 252.
209. \*\*Chebud, Y.A., **Melesse, A.M.**, 2009. ***Numerical Modeling of the Groundwater Flow System of the Gumera Sub-Basin in Lake Tana Basin, Ethiopia***, Hydrological Processes, Special Issue: Nile Hydrology 23(26): 3694-3704.
210. \*Setegn, S.G., Srinivasan, R., Dargahi1 ,B., **Melesse, A.M.**, 2009. ***Spatial Delineation of Soil Erosion Prone Areas: Application of SWAT and MCE Approaches in the Lake Tana Basin, Ethiopia***, Hydrological Processes, Special Issue: Nile Hydrology 23(26): 3738-3750.

211. Abtew, W., **Melesse, A.M.**, Desalegn, T. 2009. *El Niño Southern Oscillation link to the Blue Nile River Basin hydrology*, *Hydrological Processes*, Special Issue: Nile Hydrology, 23(26): 3653-3660.
212. \*Setegn, S.G., Srinivasan, R., **Melesse, A.M.**, Dargahil, B., 2009. *SWAT model application and prediction uncertainty analysis in the Lake Tana Basin, Ethiopia*, *Hydrological Processes*, 24(3): 357 – 367.
213. \*\*Stiefel, J., **Melesse, A.M.**, McClain, M., Price, R.M., Anderson, A.P., Chauhan, N.K. 2009. *Effects of rainwater harvesting induced artificial recharge on the groundwater of wells in Rajasthan, India*, *Hydrogeology Journal* 17(8): 2061-2073.
214. \*\*Chebud, Y.A., **Melesse, A.M.**, 2009. Modeling Lake Stage and Water Balance of Lake Tana, Ethiopia, *Hydrological Processes*, 23(25): 3534-3544.
215. Abtew, W., **Melesse, A.M.**, Desalegn, T 2009. *Spatial, inter and intra-annual variability of the Blue Nile River Basin Rainfall*, *Hydrological Processes*, 23(21): 3075-3082.

## **2008**

216. Wang, X., Shang, S. Yang, W., and **Melesse, A.M.**, 2008. *Simulation of an Agricultural Watershed Using an Improved Curve Number Method in SWAT*, *Tans. of American Society of Agri. and Bio. Engineers*, **51(4)**: 1323-1339.
217. Wang, X., Yang, W., **Melesse, A.M.**, 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.
218. Melesse, A., Weng, Q., Thenkabail, P., Senay, G. 2008.. *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.
219. Senay, G.B., J. P. Verdin, R. Lietzow, **Melesse, A.M.** 2008. *Global Daily Reference Evapotranspiration Modeling and Validation* *J. of the Amer. Water Resources Association (JAWRA)* 44(4):969-979.
220. Melesse, Jayachandran, K., Zhang, K. 2008. *Modeling Coastal Eutrophication at Florida Bay using neural networks*. *Journal of Coastal Research*, 24:190–196
221. 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*, 29(11): 3325 –

3341.

**2007**

222. 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
223. Senay, G.B, , M. Budde, J.P. Verdin, **Melesse, A.M.** 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 7, 979-1000
224. 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

**2006**

225. 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.
226. 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.
227. 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.
228. 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.
229. 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.



230. 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.
231. \*\*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.
232. 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.
233. 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.

## 2005

234. 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.
235. Melesse, A. M., Hanley, R. 2005. *Artificial Neural Network Application for Multi-Ecosystem Carbon Flux Simulation*, Ecological Modeling 189: 305–314.
236. Melesse, A., Nangia, V., 2005. *Spatially distributed surface energy flux estimation using remotely-sensed data from agricultural fields*. Hydrological Processes 19 (14): 2653-2670.
237. 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.

## 2004

238. 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.
239. 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)
240. 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.

## **2003**

241. 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.
242. 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.

## **2002**

243. Melesse, A. M., S. F. Shih, 2002. *Spatially Distributed Storm Runoff Depth Estimation using Landsat Images and GI*, Computers and Electronics in Agriculture, Vol. 37: 173 – 183.
244. 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, 68(9): 905-911.

## **2000**

245. 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.

## **1997**

246. Melesse, A.M., Hailu, N., 1997. Soil as a building material: A study to improve aggregate stability and comprehensive strength of earthen materials. Agricultural Mechanization in Asia, Africa and Latin America, Vol. 28(3): 68-71.

### **Edited special issues as Guest Editor (21)**

247. **Editor, Sensors Feature Papers in Remote Sensors 2024**
248. **Editor, Remote Sensing: [Analyzing the Influence of Environmental Change on Water and Terrestrial Vegetation Using Satellite Data](#)**
249. **Editor, Special Issue, Land journal: [Water, Food and Energy Security in the Face of Human Disasters](#)**
250. **Editor, Special Issue with Sensors: [Sensors 2022](#)**



251. Editor, Special Issue, Land journal: [Watershed Processes in the Face of Dynamic Landscapes and Climate Change](#)
252. Editor, Special Issue with Water: [Extreme Hydrology: Induced Impacts and Vulnerability of Water Resources](#)
253. Editor, Special Issue, J. of Applied Remote Sensing: [Multitemporal Remote Sensing Data Processing and Applications](#)
254. Editor, Special Issue with Sensors: [Sensors in 2021](#)
255. Editor, Special Issue with Remote Sensing: [Geocomputation Using Remote Sensing Techniques under Data-Scarcity Conditions](#)
256. Editor, Special Issue with Water: [Drought Monitoring and Forecasting at Regional and Global Scale Using Remote Sensing, Ground Observations and Global Climate Datasets](#)
257. Editor, Special Issue with Land: [Watershed Processes in the Face of Dynamic Landscapes and Climate Change](#)
258. Editor, Special Issue with Sensors ["Sensors: 20th Anniversary"](#)
259. Editor, Special Issue with Sensors: [Advances in Remote Sensors for Earth Observation and Modeling of Earth Processes](#)
260. Editor, Remote Sensing journal: [Remote Sensing of Water Resources Monitoring, Parametrization and Modeling](#)
261. Editor, Special Issue with [Sensors](#): [Sensors and Sensing in Water Quality Assessment and Monitoring](#)
262. Editor, Special Issue: [Hydrologic System Analysis, Patterns, and Predictions for Arid and Semi-arid Environment](#), [Water journal](#)
263. Editor, Special Issue, Sensors: [10 Years Sensors - A Decade of Publishing](#)
264. Editor, Special Issue: Climate, weather and hydrology of East African Highlands" part of the journal [Hydrology and Earth System Sciences \(HESS\)](#)
265. Editor, Climate change, land-use dynamics and ecohydrology of the Nile River basin, for [Hydrological Processes](#)
266. Editor, [Remote Sensing of Natural Resources and the Environment](#) for [Sensors](#) journal

267. Editor, [Land Surface Fluxes](#) with [Remote Sensing](#) journal

### **Book Chapters**

268. O Rahmati, **AM Melesse**, A Naghibi, 2026. Preface: Water Scarcity Management: Towards the Application of Artificial Intelligence and Earth Observation Data, In: Water Scarcity Management: Towards the Application of Artificial Intelligence
269. O Rahmati, **AM Melesse**, A Naghibi, 2026. Water scarcity crisis: overview of challenges and solutions, Water Scarcity Management, 1-12
270. \*Tegegne, G., **Melesse, A.M.** (2025). Hydrology of the Abbay River Basin, Ethiopia. In: Melesse, A., Gessesse, B., Zewdie, W. (eds) Abbay River Basin. Springer Geography. Springer, Cham. [https://doi.org/10.1007/978-3-031-65241-7\\_8](https://doi.org/10.1007/978-3-031-65241-7_8)
271. Gessesse, B., **Melesse, A.M.**, Zewdie, W. (2025). Abbay Basin: A Geographical Overview. In: Melesse, A., Gessesse, B., Zewdie, W. (eds) Abbay River Basin. Springer Geography. Springer, Cham. [https://doi.org/10.1007/978-3-031-65241-7\\_1](https://doi.org/10.1007/978-3-031-65241-7_1)
272. \*Tegegne, G., **Melesse, A.M.** (2025). Quantifying Spatiotemporal Drought Dynamics Under Climate Change in the Abbay River Basin, Ethiopia. In: Melesse, A., Gessesse, B., Zewdie, W. (eds) Abbay River Basin. Springer Geography. Springer, Cham. [https://doi.org/10.1007/978-3-031-65241-7\\_13](https://doi.org/10.1007/978-3-031-65241-7_13)
273. Zeleke, E.B., Deribe, M.M., **Melesse, A.M.** (2024). Introduction. In: Melesse, A.M., Deribe, M.M., Zeleke, E.B. (eds) Land and Water Degradation in Ethiopia. Springer Geography. Springer, Cham. [https://doi.org/10.1007/978-3-031-60251-1\\_1](https://doi.org/10.1007/978-3-031-60251-1_1)
274. Tegegne, B.M., Taye, M.A., Leyew, S.M., **Melesse, A.M.** (2024). Effects of Climate Variability on Crop Diversity Over the Agroecological Zones of Gumara Watershed, Northwest Ethiopia. In: Melesse, A.M., Deribe, M.M., Zeleke, E.B. (eds) Land and Water Degradation in Ethiopia. Springer Geography. Springer, Cham. [https://doi.org/10.1007/978-3-031-60251-1\\_10](https://doi.org/10.1007/978-3-031-60251-1_10)
275. Yadeta, D., **Melesse, A.**, Abate, M. (2024). Analysis of Climate Variability and Agricultural Drought and their Implications for Rainfed Agriculture at Selected Stations in the Hadiya Zone, Ethiopia. In: Melesse, A.M., Deribe, M.M., Zeleke, E.B. (eds) Land and Water Degradation in Ethiopia. Springer Geography. Springer, Cham. [https://doi.org/10.1007/978-3-031-60251-1\\_12](https://doi.org/10.1007/978-3-031-60251-1_12)
276. Assefa, Y.T., Babel, M.S., Sušnik, J., **Melesse, A.M.** (2024). Developing a

- Multilinear Regression Water Consumption Model: A Case Study of Addis Ababa City, Ethiopia. In: Melesse, A.M., Deribe, M.M., Zeleke, E.B. (eds) Land and Water Degradation in Ethiopia. Springer Geography. Springer, Cham. [https://doi.org/10.1007/978-3-031-60251-1\\_13](https://doi.org/10.1007/978-3-031-60251-1_13)
277. Melesse, A.M, Rahmati, O, Khosravi, K. 2023. Introduction to Soils and Sediments, Chapter 1, In: Remote Sensing of Soil and Land Surface Processes: Monitoring, Mapping, and Modeling, Elsevier, 2023, eBook ISBN: 9780443153426
  278. Moges S.A., Abteu W., **Melesse A.M.** (2021) Introduction. In: Melesse A.M., Abteu W., Moges S.A. (eds) Nile and Grand Ethiopian Renaissance Dam. Springer Geography. Springer, Cham. [https://doi.org/10.1007/978-3-030-76437-1\\_1](https://doi.org/10.1007/978-3-030-76437-1_1)
  279. Tesfaye M., Moges S.A., **Melesse A.M.**, Agide Z. (2021) Water–Energy–Food (WEF) Nexus Modelling Application to Estimate WEF Investment Portfolio in Ethiopia: A Case Study Applicable to Future Cooperative Investment in the Nile Basin. In: Melesse A.M., Abteu W., Moges S.A. (eds) Nile and Grand Ethiopian Renaissance Dam. Springer Geography. Springer, Cham. [https://doi.org/10.1007/978-3-030-76437-1\\_11](https://doi.org/10.1007/978-3-030-76437-1_11).
  280. Abera W. et al. (2021) Scientific Misconduct and Partisan Research on the Stability of the Grand Ethiopian Renaissance Dam: A Critical Review of a Contribution to Environmental Remote Sensing in Egypt (Springer, 2020). In: Melesse A.M., Abteu W., Moges S.A. (eds) Nile and Grand Ethiopian Renaissance Dam. Springer Geography. Springer, Cham. [https://doi.org/10.1007/978-3-030-76437-1\\_15](https://doi.org/10.1007/978-3-030-76437-1_15)
  281. Leyew S.M., G/Michael T., Mullu A., **Melesse A.M.** (2021) Soil and Water Conservation Technology and Sediment Retention Assessment. In: Melesse A.M., Abteu W., Moges S.A. (eds) Nile and Grand Ethiopian Renaissance Dam. Springer Geography. Springer, Cham. [https://doi.org/10.1007/978-3-030-76437-1\\_17](https://doi.org/10.1007/978-3-030-76437-1_17)
  282. Mesfin S., Mullu A., **Melesse A.M.** (2021) Rainfall-Runoff and Sediment Yield Modeling in Headwater Catchments of Lake Tana Sub-Basin, Ethiopia. In: Melesse A.M., Abteu W., Moges S.A. (eds) Nile and Grand Ethiopian Renaissance Dam. Springer Geography. Springer, Cham. [https://doi.org/10.1007/978-3-030-76437-1\\_19](https://doi.org/10.1007/978-3-030-76437-1_19)
  283. Jemberie M.A., **Melesse A.M.** (2021) Water Conservation Through Decentralized Rainwater Harvesting Under Climate Uncertainty. In: Melesse A.M., Abteu W., Moges S.A. (eds) Nile and Grand Ethiopian Renaissance Dam. Springer Geography. Springer, Cham. [https://doi.org/10.1007/978-3-030-76437-1\\_20](https://doi.org/10.1007/978-3-030-76437-1_20)
  284. Assegid Y., **Melesse A.M.** (2021) Restoring Lake Tana Through Reduction of Outflow and Compensation of the Power Gap with an Alternative Energy Source. In: Melesse A.M., Abteu W., Moges S.A. (eds) Nile and Grand Ethiopian Renaissance

Dam. Springer Geography. Springer, Cham. [https://doi.org/10.1007/978-3-030-76437-1\\_22](https://doi.org/10.1007/978-3-030-76437-1_22)

285. Mesfin S., Adem A.A., Mullu A., **Melesse A.M.** (2021) Historical Trend Analysis of Rainfall in Amhara National Regional State. In: Melesse A.M., Abtew W., Moges S.A. (eds) Nile and Grand Ethiopian Renaissance Dam. Springer Geography. Springer, Cham. [https://doi.org/10.1007/978-3-030-76437-1\\_25](https://doi.org/10.1007/978-3-030-76437-1_25)
286. F Mirzaei-Nodoushan, O Bozorg-Haddad, **AM Melesse** 2021. Shared Water Resources. Management, Economical, Political, and Social Issues in Water Resources, 153-189.
287. Dersseh M.G. et al. (2020) *Dynamics of Eutrophication and Its Linkage to Water Hyacinth on Lake Tana, Upper Blue Nile, Ethiopia: Understanding Land-Lake Interaction and Process*. In: Habtu N., Ayele D., Fanta S., Admasu B., Bitew M. (eds) Advances of Science and Technology. ICAST 2019. Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering, vol 308. Springer, Cham, [https://doi.org/10.1007/978-3-030-43690-2\\_15](https://doi.org/10.1007/978-3-030-43690-2_15)
288. Omid Rahmati, Bahram Choubin, Sayed Hussein Roshun, Farzaneh Sajedi-Hosseini, **Assefa M. Melesse** and Vijay P. Singh, 2019. Effects of large-scale climate signals on snow cover in Khersan watershed, Iran, Ch 1, pp 1-10, In: Extreme Hydrology and Climate Variability: Monitoring, Modelling, Adaptation and Mitigation, editors, Melesse, AM, Abtew, W and Senay, G, Elsevier, p580.
289. Agenagnew Gesesse, **Assefa M. Melesse**, 2019. Temporal Relationships between Time Series CHIRPS-Rainfall Estimation and eMODIS-NDVI Satellite Images in Amhara Region, Ethiopia, pp 81-92, Ch 8, In: Extreme Hydrology and Climate Variability: Monitoring, Modelling, Adaptation and Mitigation, Editors, Melesse, AM, Abtew, W, Senay, G, Elsevier, p580.
290. Animut Molla Alem, Seifu Admassu Tilahun, Mamaru Moges and **Assefa M. Melesse**, 2019. A Regional Hourly Maximum Rainfall Extraction Method for Part of Upper Blue Nile Basin, Ethiopia, pp 93-102, Ch 9, In: Extreme Hydrology and Climate Variability: Monitoring, Modelling, Adaptation and Mitigation, Editors, Melesse, AM, Abtew, W, Senay, G, Elsevier, p580.
291. Fikru Fentaw Abera, **Assefa M. Melesse**, Dereje Hailu and Agizew Nigussie, 2019. Precipitation and streamflow variability in Tekeze River Basin, Ethiopia pp 103-122, Ch 10, In: Extreme Hydrology and Climate Variability: Monitoring, Modelling, Adaptation and Mitigation, Editors, Melesse, AM, Abtew, W, Senay, G, Elsevier, p580.
292. Getachew Welelaw Belay, Mulugeta Azeze Belete and **Assefa M. Melesse**, 2019. Reservoir Operation Analysis for Ribb Reservoir in the Blue Nile Basin, pp 191-212, Ch 16, In: Extreme Hydrology and Climate Variability: Monitoring, Modelling, Adaptation and Mitigation, Editors, Melesse, AM, Abtew, W, Senay, G,

Elsevier, p580.

293. Bahram Choubin, Freidoon Soleimani, Abdollah Pirnia, Farzaneh Sajedi-Hosseini, Hossein Alilou, Omid Rahmati, **Assefa M. Melesse**, Vijay P. Singh and Himan Shahabi Sr., 2019. Effects of drought on vegetative cover changes: Investigating spatiotemporal patterns, pp 213-222, Ch 17, In: Extreme Hydrology and Climate Variability: Monitoring, Modelling, Adaptation and Mitigation, Editors, Melesse, AM, Abtew, W, Senay, G, Elsevier, p580.
294. Minychl Gitaw Dersseh, **Assefa M. Melesse**, Seifu Admassu Tilahun, Mengiste Abate and Dessalegn Chanie Dagnaw, 2019. Water Hyacinth: Review of its Impacts on Hydrology and Ecosystem Services - Lessons for Management of Lake Tana, pp 237-252, Ch 19, In: Extreme Hydrology and Climate Variability: Monitoring, Modelling, Adaptation and Mitigation, Editors, Melesse, AM, Abtew, W, Senay, G, Elsevier, p580.
295. Anteneh Zewdie Abiy, **Assefa M. Melesse**, Wondwosen M. Seyoum and Wossenu Abtew, 2019. Drought and teleconnection and drought monitoring, pp 275-296, Ch 22, In: Extreme Hydrology and Climate Variability: Monitoring, Modelling, Adaptation and Mitigation, Editors, Melesse, AM, Abtew, W, Senay, G, Elsevier, p580.
296. Mahshid Karimi, **Assefa M. Melesse**, Khabat Khosravi, Melkamu Mamuye and Jiahua Zhang, 2019. Analysis and prediction of meteorological drought using SPI index and ARIMA model in the Karkheh river basin, Iran, pp 343-354, Ch 26, In: Extreme Hydrology and Climate Variability: Monitoring, Modelling, Adaptation and Mitigation, Editors, Melesse, AM, Abtew, W, Senay, G, Elsevier, p580.
297. Surafel Mamo Woldegebrael, Belete Berhanu and **Assefa M. Melesse**, 2019. Historical Flood Events and hydrological extremes in Ethiopia, pp 379-384, Ch 29, In: Extreme Hydrology and Climate Variability: Monitoring, Modelling, Adaptation and Mitigation, Editors, Melesse, AM, Abtew, W, Senay, G, Elsevier, p580.
298. Khabat Khosravi, Maryam Rostaminejad, James R. Cooper, Luca Mao and **Assefa M. Melesse**, 2019. Dam Break Analysis and Flood Inundation Mapping: The Case Study of Sefid-Roud Dam, Iran, pp 395-406, Ch 31, In: Extreme Hydrology and Climate Variability: Monitoring, Modelling, Adaptation and Mitigation, Editors, Melesse, AM, Abtew, W, Senay, G, Elsevier, p580.
299. Mamaru Moges, Temeselew Woldesemat Yeshitila, Tesfaye Ababu and **Assefa M. Melesse**, 2019. Climate Induced Flood Inundation in Fogera-Dera Flood Plain, Lake Tana Basin, Ethiopia, pp 407-418, Ch 32, In: Extreme Hydrology and Climate Variability: Monitoring, Modelling, Adaptation and Mitigation, Editors, Melesse, AM, Abtew, W, Senay, G, Elsevier, p580.
300. \*Khabat Khosravi, Himan Shahabi Sr., Ataollah Shirzadi, Kamran Chapi and **Assefa M. Melesse**, 2019. Flood susceptibility mapping at Ningdu Catchment, China

using Bivariate and Data Mining Techniques, pp 419-434, Ch 33, In: Extreme Hydrology and Climate Variability: Monitoring, Modelling, Adaptation and Mitigation, Editors, Melesse, AM, Abtew, W, Senay, G, Elsevier, p580.

301. Gebiaw T Ayele, Solomon S Demessie, Kassa T Mengistu, Seifu A Tilahun, **Assefa M. Melesse** 2016. *Multi-temporal Land Use/Land Cover Change Detection for the Batena Watershed, Rift Valley Lakes Basin, Ethiopia*. Landscape Dynamics, Soils and Hydrological Processes in Varied Climates, Edited by **Melesse, Assefa M.** and Abtew, Wossenu, 01/2016: pages 51-72; Springer International Publishing.
302. \*Shimelis G. Setegn, **Assefa M. Melesse**, Orville Grey, Dale Webber. 2015. *Understanding the spatiotemporal Variability of Hydrological Processes for sustainable watershed management in the Great River Basin, Jamaica*; in Sustainability of Integrated Water Resources Management (IWRM): Water Governance, Climate and Echo-hydrology, S. Setegn and M. Donoso (Ed.), Springer, 2015, Ch 28: 533-561, ISBN 978-3-319-12193-2.
303. \*\*Matilde Duque, **Assefa M. Melesse** 2016. *Runoff and Soil Loss Estimation Using N-SPECT in the Rio Grande de Anasco Watershed, Puerto Rico*. ISBN: 9783319187860
304. \*\*Belete Berhanu, Yilma Seleshi, Melkamu Amare, **Assefa M. Melesse** 2016. *Upstream–Downstream Linkages of Hydrological Processes in the Nile River Basin*. Landscape Dynamics, Soils and Hydrological Processes in Varied Climates, Edited by **Melesse, Assefa M.** and Abtew, Wossenu, 01/2016: pages 207-223; Springer International Publishing., ISBN: 9783319187860
305. \*\*Luam A. Azmera, Fernando Miralles-Wilhelm, **Assefa M. Melesse** 2016. *Sediment Production in Ravines in the Lower Le Sueur River Watershed, Minnesota*. Landscape Dynamics, Soils and Hydrological Processes in Varied Climates, Edited by **Melesse, Assefa M.** and Abtew, Wossenu, 01/2016: pages 485-522; Springer International Publishing., ISBN: 9783319187860
306. \*\*Shimelis B Gebere, Tena Alamirew, Broder J Merkel, **Assefa M. Melesse** 2016. *Land Use and Land Cover Change Impact on Groundwater Recharge: The Case of Lake Haramaya Watershed, Ethiopia*. Landscape Dynamics, Soils and Hydrological Processes in Varied Climates, Edited by **Melesse, AM.** and Abtew, Wossenu, 01/2016: pages 93-110; Springer International Publishing.
307. Tewodros Assefa Nigussie, Beyhan E Yeugen, **Assefa M. Melesse** 2016. *Performance Evaluation of Synthetic Unit Hydrograph Methods in Mediterranean Climate. A Case Study at Guvenc Micro-watershed, Turkey*. Landscape Dynamics, Soils and Hydrological Processes in Varied Climates, Edited by **Melesse, Assefa M.** and Abtew, Wossenu, 01/2016: pages 293-315; Springer International Publishing.
308. Ayalkibet M. Seka, Adane A. Awass, **Assefa M. Melesse**, Gebiaw T. Ayele, Solomon S. Demissie: *Evaluation of the Effects of Water Harvesting on Downstream Water Availability Using SWAT*. Landscape Dynamics, Soils and Hydrological Processes in Varied Climates, Edited by **Melesse, Assefa M.**



- and Abtew, Wossenu, 01/2016: pages 763-787; Springer International Publishing., ISBN: 9783319187860
309. Melesse, AM., Wossenu Abtew 2016. *Introduction*. Landscape Dynamics, Soils and Hydrological Processes in Varied Climates, Edited by **Melesse, Assefa M.** and Abtew, Wossenu, 01/2016: pages 1-5; Springer International Publishing., ISBN: 9783319187860
  310. \*\*Himadri Biswas, **Assefa M. Melesse** 2016. *Regional Scale Groundwater Flow Modeling for Wakel River Basin: A Case Study of Southern Rajasthan*. Landscape Dynamics, Soils and Hydrological Processes in Varied Climates, Edited by **Melesse, Assefa M.** and Abtew, Wossenu, 01/2016: pages 385-409; Springer International Publishing.
  311. Abiy Fantaye, Abebe Fanta, **Assefa M. Melesse** 2016. *Effect of Filter Press Mud on Compaction and Consistency of Aquert and Fluvent Soils in Ethiopia*. Landscape Dynamics, Soils and Hydrological Processes in Varied Climates, Edited by **Melesse, Assefa M.** and Abtew, Wossenu, 01/2016: pages 523-547; Springer International Publishing., ISBN: 9783319187860
  312. Getachew Engdayehu, Getachew Fisseha, Mulatie Mekonnen, **Assefa M. Melesse** 2016. *Evaluation of Technical Standards of Physical Soil and Water Conservation Practices and Their Role in Soil Loss Reduction: The Case of Debre Mewi Watershed, North-west Ethiopia*. Landscape Dynamics, Soils and Hydrological Processes in Varied Climates, Edited by **Melesse, AM.** and Abtew, Wossenu, 01/2016: pages 789-818; Springer International Publishing., ISBN: 9783319187860
  313. Abiy Fantaye, Abebe Fanta, **Assefa M. Melesse** 2016. *Effect of Filter Press Mud Application on Nutrient Availability in Aquert and Fluvent Soils of Wonji/Shoa Sugarcane Plantation of Ethiopia*. Landscape Dynamics, Soils and Hydrological Processes in Varied Climates, Edited by **Melesse, AM.** and Abtew, Wossenu, 01/2016: pages 549-563; Springer International Publishing., ISBN: 9783319187860
  314. \*\*Mengistu A Jemberie, Adane A Awass, **Melesse, AM** Gebiaw T Ayele, Solomon S Demissie 2016. *Seasonal Rainfall--Runoff Variability Analysis, Lake Tana Sub-Basin, Upper Blue Nile Basin, Ethiopia*. Landscape Dynamics, Soils and Hydrological Processes in Varied Climates, Edited by **Melesse, Assefa M.** and Abtew, Wossenu, 01/2016: pages 341-363; Springer International Publishing.
  315. OrvilleP. Grey, DaleF.G. Webber, Shimelis Setegn, **Assefa M. Melesse** 2016. *Estimation of Climate Change Impacts on Water Resources in the Great River Watershed, Jamaica*. Landscape Dynamics, Soils and Hydrological Processes in Varied Climates, Edited by **Melesse, Assefa M.** and Abtew, Wossenu, 01/2016: pages 703-723; Springer International Publishing., ISBN: 9783319187860
  316. \*\*G Diamond, **A M Melesse** 2016. *Water Resources Assessment and Geographic Information System (GIS)-Based Stormwater Runoff Estimates for Artificial Recharge of Freshwater Aquifers in New Providence, Bahamas*.

- Landscape Dynamics, Soils and Hydrological Processes in Varied Climates, Edited by **Melesse, Assefa M.** and Abteu, Wossenu, 01/2016: pages 411-434; Springer International Publishing.
317. Rahel S Asres, Seifu A Tilahun, Gebiaw T Ayele, **Assefa M. Melesse** 2016. *Analyses of Land Use/Land Cover Change Dynamics in the Upland Watersheds of Upper Blue Nile Basin*. Landscape Dynamics, Soils and Hydrological Processes in Varied Climates, Edited by **Melesse, Assefa M.** and Abteu, Wossenu, 01/2016: pages 73-91; Springer International Publishing.
  318. \*\*Fiseha Behulu, **Melesse, AM**, Aldo Fiori 2016. *Climate Change Impact Assessment on Groundwater Recharge of the Upper Tiber Basin (Central Italy)*. Landscape Dynamics, Soils and Hydrological Processes in Varied Climates, Edited by **Melesse, Assefa M.** and Abteu, Wossenu, 01/2016: pages 675-701; Springer International Publishing., ISBN: 9783319187860
  319. \*\*Shimelis Behailu Dessu, Abdulkarim Hussein Seid, Anteneh Z Abiy, **Melesse, AM**, 2016. *Flood Forecasting and Stream Flow Simulation of the Upper Awash River Basin, Ethiopia Using Geospatial Stream Flow Model (GeoSFM)*. Landscape Dynamics, Soils and Hydrological Processes in Varied Climates, Edited by **Melesse, Assefa M.** and Abteu, Wossenu, 01/2016: pages 367-384; Springer International Publishing.
  320. \*\*Mulatie Mekonnen, **Assefa M. Melesse**, SaskiaD. Keesstra 2016. *Spatial Runoff Estimation and Mapping of Potential Water Harvesting Sites: A GIS and Remote Sensing Perspective, Northwest Ethiopia*. Landscape Dynamics, Soils and Hydrological Processes in Varied Climates, Edited by **Melesse, Assefa M.** and Abteu, Wossenu, 01/2016: pages 565-584; Springer International Publishing., ISBN: 9783319187860
  321. \*\*Temesgen Enku, **Melesse, AM**, Essayas K. Ayana, Seifu A. Tilahun, Gete Zeleke, Tammo S. Steenhuis 2016. *Watershed Storage Dynamics in the Upper Blue Nile Basin: The Anjeni Experimental Watershed, Ethiopia*. Landscape Dynamics, Soils and Hydrological Processes in Varied Climates, Edited by **Assefa M. Melesse** and Wossenu Abteu, 01/2016: chapter 13: pages 261-278; Springer Geography., ISBN: 978-3-319-18786-0
  322. \*\*Mulatie Mekonnen, Tsegaye Sewunet, Mulu Gebeyehu, Bayleyegn Azene, **Assefa M. Melesse** 2016. *GIS and Remote Sensing-Based Forest Resource Assessment, Quantification, and Mapping in Amhara Region, Ethiopia*. Landscape Dynamics, Soils and Hydrological Processes in Varied Climates, Edited by **Melesse, Assefa M.** and Abteu, Wossenu, 01/2016: pages 9-29; Springer International Publishing., ISBN: 9783319187860
  323. Wossenu Abteu, **Assefa Melesse** 2016. *Landscape Impact on Regional Hydrology and Climate*. Landscape Dynamics, Soil and Hydrological Processes in Varied Climates, 2015 edited by **Assefa M. Melesse**, Wossenu Abteu, 08/2015: chapter 3; Springer., ISBN: 978-3-319-18786-0
  324. \*\*Anteneh Zewdie Abiy, Anteneh Z. Abiy, **Melesse, AM**, Yewendwesen Mengistu Behabtu, Birlew Abebe 2016. *Groundwater Vulnerability Analysis*



- of the Tana Sub-basin: An Application of DRASTIC Index Method*. Landscape Dynamics, Soils and Hydrological Processes in Varied Climates, Edited by **Melesse, Assefa**, Abteu, Wossenu (Eds, 07/2015: ISBN: <http://www.springer.com/us/book/9783319187860>
325. \*\*Anteneh Z. Abiy, Solomon S. Demissie, Charlotte MacAlister, Shimelis B. Dessu, **Assefa M. Melesse** 2016. *Groundwater Recharge and Contribution to the Tana Sub-basin, Upper Blue Nile Basin, Ethiopia* .. Landscape Dynamics, Soils and Hydrological Processes in Varied Climates, Edited by **Melesse, A.**, Abteu, Wossenu (Eds, 07/2015; <http://www.springer.com/series/10180>.
  326. \*\*Anwar A. Adem, Seifu A. Tilahun, Essayas K. Ayana, Abeyou W. Worqlul, Tewodros T. Assefa, Shimelis B. Dessu, **Assefa M. Melesse** 2016. *Climate Change Impact on Stream Flow in the Upper Gilgel Abay Catchment, Blue Nile basin, Ethiopia*. Landscape Dynamics, Soils and Hydrological Processes in Varied Climates, Edited by **Assefa M. Melesse**, Wossenu Abteu, 07/2015: chapter 29: pages 615-673; Springer International Publishing., ISBN: 978-3-319-18786-0
  327. \*\*Mulatu L. Berihun, **Assefa M. Melesse**, Birhanu Zemadim 2016. *Spatiotemporal Variability of Hydrological Variables of Dapo Watershed, Upper Blue Nile Basin, Ethiopia*. Landscape Dynamics, Soils and Hydrological Processes in Varied Climates, edited by **Assefa M. Melesse**, Wossenu Abteu, 01/2016, pages 141-161; Springer International Publishing., ISBN: 978-3-319-18787-7
  328. \*\*Anwar A. Adem, Seifu A. Tilahun, Essayas K. Ayana, Abeyou W. Worqlul, Tewodros T. Assefa, Shimelis B. Dessu, **Assefa M. Melesse** 2016. *Climate Change Impact on Sediment Yield in the Upper Gilgel Abay Catchment, Blue Nile Basin, Ethiopia*. Landscape Dynamics, Soils and Hydrological Processes in Varied Climates, Edited by **Assefa M. Melesse**, Wossenu Abteu, 07/2015: chapter 28: pages 615-644; Springer International Publishing., ISBN: 978-3-319-18787-7
  329. \*\*Solomon Berhane, Birhanu Zemadim, **Assefa M. Melesse** 2016. *Rainfall–Runoff Processes and Modeling: The Case of Meja Watershed in the Upper Blue Nile Basin of Ethiopia*. Landscape Dynamics, Soils and Hydrological Processes in Varied Climates. Springer Geography, 2016 Edited by **Assefa M. Melesse**, Wossenu Abteu, 3-319-18787-7
  330. \*\*Mahtsente Tibebe, **Assefa M. Melesse**, Birhanu Zemadim 2016. *Runoff Estimation and Water Demand Analysis for Holetta River, Awash Subbasin, Ethiopia Using SWAT and CropWat Models*. Landscape Dynamics, Soils and Hydrological Processes in Varied Climates, 2016 edited by **Assefa M. Melesse**, Wossenu Abteu, 07/2015: pages 113-140; Springer International Publishing., ISBN: 978-3-319-18787-7
  331. Alemayehu A. Shawul, Tena Alamirew, **Melesse, A.M.**, Sumedha Chakma 2016. *Climate Change Impact on the Hydrology of Weyb River and Watershed, Bale Mountainous Area, Ethiopia*. Landscape Dynamics, Soils Hydrological Processes in Varied Climates, Edited by **Assefa M. Melesse**,

- Wossenu Abtew, 07/2015: chapter 27: pages 587-613; Springer International Publishing., ISBN: 978-3-319-18786-0
332. \*\*Mohammed, H., Alamirew, A., Assen, M., **Melesse, A.** 2013. *Spatiotemporal mapping of land cover in Lake Hardibo Drainage Basin, Northeast Ethiopia: 1957-2007*, In: Water Conservation: Practices, Challenges and Future Implications, Nova Publishers, published.
  333. \*\*Berhanu, B., **Melesse, A.M.**, 2014. *Surface and Ground water resources of Ethiopia: Its potential and challenges for future development*, In: *Nile River Basin: Ecohydrological Challenges, Climate Change and Hydropolitics*, A. M. Melesse et al. (eds.), DOI 10.1007/978-3-319-02720-3\_2, 7, Springer International Publishing Switzerland, 97-118.
  334. \*\*Dessu, S. B., **Melesse, A.M.** 2013. *Simple Evaluation techniques of Satellite Estimates and GCMs Outputs as Alternative Rainfall information Sources in data scarce regions*, T. Younos and C.A. Grady (eds.), Climate Change and Water Resources, Env Chem (2013) 25: 29–46, DOI 10.1007/698\_2013\_219, Springer-Verlag
  335. Essayas K. Ayana, William D. Philpot, **Melesse, A.M.** 2014. *Bathymetry, lake area and volume mapping – Remote sensing perspective*, In: *Nile River Basin: Ecohydrological Challenges, Climate Change and Hydropolitics*, A. M. Melesse et al. (eds.), DOI 10.1007/978-3-319-02720-3\_2, 7, Springer International Publishing Switzerland, 253-268.
  336. \*\*Assefa, Anwar, **Melesse, A.M.**, Admasu, S. 2014. *Climate Change in Upper Gilgel Abay River Catchment, Blue Nile Basin Ethiopia*, In: *Nile River Basin: Ecohydrological Challenges, Climate Change and Hydropolitics*, A. M. Melesse et al. (eds.), DOI 10.1007/978-3-319-02720-3\_2, 7, Springer International Publishing Switzerland, 363-388.
  337. Assefa, T., Fanta, A., **Melese, A.** 2014 *Modeling Rainfall Erosivity From Daily Rainfall Events, Upper Blue Nile Basin, Ethiopia*, In: *Nile River Basin: Ecohydrological Challenges, Climate Change and Hydropolitics*, A. M. Melesse et al. (eds.), DOI 10.1007/978-3-319-02720-3\_2, 7, Springer International Publishing Switzerland, 307-337.
  338. Melesse, A.M., Abtew, W., Setegn, S., 2014 A Scarce and Shared Resource: Hydrologic Threats, Trends and Challenges, In: *Nile River Basin: Ecohydrological Challenges, Climate Change and Hydropolitics*, A. M. Melesse et al. (eds.), DOI 10.1007/978-3-319-02720-3\_2, 7, Springer International Publishing Switzerland, 1-6.
  339. Melesse, A.M., Abtew, W., Setegn, S., 2014 **Preface**, In: *Nile River Basin: Ecohydrological Challenges, Climate Change and Hydropolitics*, A. M. Melesse et al. (eds.), DOI 10.1007/978-3-319-02720-3\_2, 7, Springer International Publishing Switzerland,

340. Abtew, W., **Melesse, A.M.**, 2014. *Nile River Basin Hydrology*, In: *Nile River Basin: Ecohydrological Challenges, Climate Change and Hydropolitics*, A. M. Melesse et al. (eds.), DOI 10.1007/978-3-319-02720-3\_2, 7, Springer International Publishing Switzerland, 7-22.
341. Abtew, W., **Melesse, A.M.**, 2014. *Climate Teleconnections and Water Management*, In: *Nile River Basin: Ecohydrological Challenges, Climate Change and Hydropolitics*, A. M. Melesse et al. (eds.), DOI 10.1007/978-3-319-02720-3\_2, 7, Springer International Publishing Switzerland, 685-706.
342. Abtew, W., **Melesse, A.M.**, 2014. *Water treaties in the Nile*, In: *Nile River Basin: Ecohydrological Challenges, Climate Change and Hydropolitics*, A. M. Melesse et al. (eds.), DOI 10.1007/978-3-319-02720-3\_2, 7, Springer International Publishing Switzerland, 565-580.
343. \*Setegn, S., **Melesse, A. M.** 2014. Climate Change Impact on Water Resources and Adaptation Strategies in the Blue Nile River Basin, In: *Nile River Basin: Ecohydrological Challenges, Climate Change and Hydropolitics*, A. M. Melesse et al. (eds.), DOI 10.1007/978-3-319-02720-3\_2, 7, Springer International Publishing Switzerland, 389-420.
344. \*\* Msagahaa, J., Ndomba, **Melesse, A.M.**, 2014. *Modeling Sediment dynamics: Effect of land use, topography and land management*, In: *Nile River Basin: Ecohydrological Challenges, Climate Change and Hydropolitics*, A. M. Melesse et al. (eds.), DOI 10.1007/978-3-319-02720-3\_2, 7, Springer International Publishing Switzerland, 165-192.
345. \*\*Enku T, van der Tol, **Melesse, A.M.**, Semu Ayalew Moges. 2014 Multi-model and approach for spatial Evapotranspiration mapping: Comparison of models performance for different ecosystems, In: *Nile River Basin: Ecohydrological Challenges, Climate Change and Hydropolitics*, A. M. Melesse et al. (eds.), DOI 10.1007/978-3-319-02720-3\_2, 7, Springer International Publishing Switzerland, 285-306.
346. Abtew, W.; **Melesse, AM**; 2013. Introduction, 1-4, In: *Evaporation and Evapotranspiration: Measurements and Estimations* (Editors: Abtew and Melesse), 202p. ISBN 978-94-007-4737-1 Springer Science Publishers, Dordrecht.
347. Abtew, W.; **Melesse, AM**; 2013. Meteorological Parameter Monitoring and Data Quality, 5-27, In: *Evaporation and Evapotranspiration: Measurements and Estimations* (Editors: Abtew and Melesse), 202p. ISBN 978-94-007-4737-1 Springer Science Publishers, Dordrecht.
348. Abtew, W.; **Melesse, AM**; 2013. Evaporation and evapotranspiration

- measurement, 29-42, *In: Evaporation and Evapotranspiration: Measurements and Estimations* (Editors: Abtew and Melesse), 202p.ISBN 978-94-007-4737-1 Springer Science Publishers, Dordrecht.
349. Abtew, W.; **Melesse, AM**; 2013. Energy Requirements of Dew Evaporation, 43-51, *In: Evaporation and Evapotranspiration: Measurements and Estimations* (Editors: Abtew and Melesse), 202p.ISBN 978-94-007-4737-1 Springer Science Publishers, Dordrecht.
  350. Abtew, W.; **Melesse, AM**; 2013. Vapor pressure calculation methods, 53-62, *In: Evaporation and Evapotranspiration: Measurements and Estimations* (Editors: Abtew and Melesse), 202p.ISBN 978-94-007-4737-1 Springer Science Publishers, Dordrecht.
  351. Abtew, W.; **Melesse, AM**; 2013. Evaporation and Evapotranspiration Estimation Methods, 63-91, *In: Evaporation and Evapotranspiration: Measurements and Estimations* (Editors: Abtew and Melesse), 202p.ISBN 978-94-007-4737-1 Springer Science Publishers, Dordrecht.
  352. Abtew, W.; **Melesse, AM**; 2013. Wetland evapotranspiration, 93-108, *In: Evaporation and Evapotranspiration: Measurements and Estimations* (Editors: Abtew and Melesse), 202p.ISBN 978-94-007-4737-1 Springer Science Publishers, Dordrecht.
  353. Abtew, W.; **Melesse, AM**; 2013. Lake evaporation, 109-132, *In: Evaporation and Evapotranspiration: Measurements and Estimations* (Editors: Abtew and Melesse), 202p.ISBN 978-94-007-4737-1 Springer Science Publishers, Dordrecht.
  354. Abtew, W.; **Melesse, AM**; 2013. Reference and Crop Evapotranspiration, 133-140, *In: Evaporation and Evapotranspiration: Measurements and Estimations* (Editors: Abtew and Melesse), 202p.ISBN 978-94-007-4737-1 Springer Science Publishers, Dordrecht.
  355. Abtew, W.; **Melesse, AM**; 2013. Spatially Distributed Surface Energy Flux Modeling, 141-159, *In: Evaporation and Evapotranspiration: Measurements and Estimations* (Editors: Abtew and Melesse), 202p.ISBN 978-94-007-4737-1 Springer Science Publishers, Dordrecht.
  356. Abtew, W.; **Melesse, AM**; 2013. Crop Yield Estimation Using Remote Sensing and Surface Energy Flux Model, 161-175, *In: Evaporation and Evapotranspiration: Measurements and Estimations* (Editors: Abtew and Melesse), 202p.ISBN 978-94-007-4737-1 Springer Science Publishers, Dordrecht.
  357. Abtew, W.; **Melesse, AM**; 2013. Wetland restoration assessment using remote sensing-and surface energy budget-based evapotranspiration, 177-195, *In: Evaporation and Evapotranspiration: Measurements and Estimations* (Editors: Abtew and Melesse), 202p.ISBN 978-94-007-4737-1 Springer Science Publishers,

Dordrecht.

358. Abtew, W.; **Melesse, A.M.**; 2013. Climate change and evapotranspiration, 197-202, *In: Evaporation and Evapotranspiration: Measurements and Estimations* (Editors: Abtew and Melesse), 202p. ISBN 978-94-007-4737-1 Springer Science Publishers, Dordrecht.
359. Wang, X., Garza, J. Whitney, M. **Melesse, A.M.**, and Yang, W. 2008. *Prediction of Sediment Source Areas within Watersheds as Affected by Soil Data Resolution*, In: Environmental Modelling: New Research (ed. Paul N. Findley; ISBN: 978-1-60692-034-3), Ch. 7, p151-185, Nova Science Publishers, Inc., Hauppauge, NY 11788.
360. \*\*Hofmann, C. **Melesse, A.**, McClain, M. 2011. *Hydrological, water availability and demand analysis within the Mara River Basin. In Nile River Basin: Hydrology, Climate and Water Use*, (Editor Melesse, A.), Springer Science Publisher, Chapter 18, 359-382, DOI: 10.1007/978-94-007-0689-7\_18
361. \*\* Mekonnen, M., **Melesse, A.**, 2011. *Soil Erosion Mapping and Hotspot Area Identification using GIS and Remote Sensing in northwest Ethiopian highlands, near Lake Tana*, In: *Nile River Basin: Hydrology, Climate and Water Use*, (Editor Melesse, A.), Springer Science Publisher Chapter 10, 207-224, DOI: 10.1007/978-94-007-0689-7\_10
362. Melesse, A., Bekele, S., McCornick, P. 2011. *Hydrology of the Niles in the face of land-use and climate dynamics. In Nile River Basin: Hydrology, Climate and Water Use*, (Editor Melesse, A.), Springer Science Publisher, vii-xvii, DOI: 10.1007/978-94-007-0689-7
363. Melesse, A. Abtew, W., Setegn, S., and Dessalegne, T. 2011. *Hydrological variability and climate of the Upper Blue Nile River Basin In: Nile River Basin: Hydrology, Climate and Water Use e*, (Editor Melesse, A.), Springer Science Publisher Chapter 1, 3-37, DOI: 10.1007/978-94-007-0689-7\_1.
364. \*Setegn, S. G., **Melesse, A.M.**, Rayner, D., Dargahi, B., Srinivasan, R., Wörman, 2011. *A Climate Change impact on Agricultural Water Resources Variability in the Highlands of Ethiopia*. In: *Nile River Basin: Hydrology, Climate and Water Use*, (Editor Melesse, A.), Springer Science Publisher, Chapter 12, 241-265, DOI: 10.1007/978-94-007-0689-7\_12.
365. Yitayew, M., **Melesse, A.M.** 2011. *Critical Water Resources Management Issues in Nile River Basin*, In: *Nile River Basin: Hydrology, Climate and Water Use*, (Editor Melesse, A.), Springer Science Publisher, Chapter 20, 401-416, DOI: 10.1007/978-94-007-0689-7\_20.
366. \*\*Mango, L., **Melesse, A.M.**, M. E. McClain, D. Gann, and S. G. Setegn 2011. *Hydro-meteorology and water budget of Mara River basin, Kenya: A*

*land use change scenarios analysis*, In: *Nile River Basin: Hydrology, Climate and Water Use*, (Editor Melesse, A.), Springer Science Publisher, Chapter 2, 39-68, DOI: 10.1007/978-94-007-0689-7\_2.

367. Melesse, A., Wang, X., and McClain, M. 2010. *Effects of land management and topography on land surface fluxes under different altitudes*. In: Modeling Hydrologic Effects of Microtopographic Features at Watershed Scale, Editor: Xixi Wang, Nova Science Publishers.
368. Melesse, A., & Scinto, L. (2010). *Water degradation*. In B. Warf (Ed.), Encyclopedia of geography. (pp. 3053-3057). Thousand Oaks, CA: SAGE Publications, Inc. doi: <http://dx.doi.org/10.4135/9781412939591.n1226>
369. Melesse, A., and Wang, X., 2007. *Impervious Surface Area Dynamics and Storm Runoff Response, in Remote Sensing of Impervious Surfaces*, CRC Press/Taylor & Francis, Ch. 19: 369-384.

### **PEER-REVIEWED CONFERENCE PROCEEDINGS**

370. L Bian, Z Yin, V Verma, W Campbel, AS . Leon, **AM Melesse**, 2022., *Estimating the Potential Wetland Storage Capacity for Flood Mitigation by Using Deterministic Topographic Wetland Index*, World Environmental and Water Resources Congress 2022
371. \*\*Fekremariam Negash Wakeyo, **Melesse, AM**, Brook Abate, *Trends of Hydrometeorological Indices in Tendaho Catchment Part of Awash River Basin, Ethiopia*, (doi:10.3390/ecas2020-08127)
372. \*Alemu, W., **Melesse, AM**, Senay, G. 2020. *Assessment of Drought Dynamics in East Africa Using Satellite Passive Microwave Integrated Drought Indices*, IALE-North America Annual Meeting, May 11-14, 2020, Toronto, Canada.
373. \*\*Francisco Febronio Peña, Gabriele Freni, Fernando Nardi, Fabio Castelli, **Assefa Melesse**, 2020. *The effects of spatial resolution and building geometry in coupled 2D hydraulic algorithms for urban flood modeling*, HIC2020 (14th International Conference on Hydroinformatics), July 26–30, Mexico City, Mexico.
374. \*\*Francisco Febronio Peña, Jayantha Obeysekera, Fernando Nardi, **Assefa Melesse** and Fabio Castelli, 2020. *Modeling complex coastal urban flooding through 2D hydraulic modeling: The case study of Miami (Arch Creek Basin)*, HIC2020 (14th International Conference on Hydroinformatics), July 26–30, Mexico City, Mexico.
375. \*\*Minychl G. Dersseh, Aron Ateka, Fasikaw A. Zimale, Abeyou W. Worqlul,



- Mamaru M. Ayalew, Dessalegn C. Dagnew, Seifu A. Tilahun, **Assefa Melesse**, 2019. *Dynamics of eutrophication and its linkage with to Water hyacinth on Lake Tana, Upper Blue Nile, Ethiopia: Understanding Land-Lake linkage interaction and process*, ICAST 2019, 7th EAI International Conference on Advancements of Science and Technology, August 2-4, 2019.
376. \*\*Enku,T., **Melesse, A.M**, Ayana, E.K., Tilahun,S.A., Abate,M., Steenhuis,T.S., 2016. *Groundwater table response to consumptive use of eucalyptus plantations in a tropical climate, Lake Tana basin, Ethiopia*, 4th International Conference On The Advancements of Science and Technology,in Civil and Water Resources Engineering.(ICAST-CWRE-2016) from 17-18 June 2016, Bahir Dar, Ethiopia.
377. \*\*Berhane, S., Zemadim, B., Haile, D. and **Melesse, A.M** *Understanding runoff generation processes and rainfall runoff modelling in the Meja watershed of Ethiopia*.In: Wolde Mekuria. (ed). 2013. Rainwater management for resilient livelihoods in Ethiopia: Proceedings of the Nile Basin Development Challenge science meeting, Addis Ababa, 9–10 July 2013. NBDC Technical Report 5. Nairobi, Kenya: International Livestock Research Institute.
378. \*\*M Tibebe, B Zemadim, D Haile, **Melesse, A.M.** , 2013. *Runoff estimation and water management for the Holetta river in Ethiopia*, Rainwater management for resilient livelihoods in Ethiopia: Proceedings of the Nile Basin Development Challenge Science Meeting, Addis Ababa, 9–10 July 2013, pp187-191.
379. \*\*Enku T, **Melesse, A.M.**,Semu Ayalew Moges, Birhanu Zemadim , 2013. Watershed storage dynamics in upper Blue Nile, Ethiopia: A case of two experimental watersheds, International Conference on Science and Technology towards the Development of East Africa- ICST 2013, May 17-19, 2013, Bahir Dar, Ethiopia.
380. \*\*Enku T., van der Tol, **Melesse, A.M**, Moges, S. A. 2013. *Multi-model and approach for spatial Evapotranspiration mapping: Comparison of models performance for different ecosystems*, International Conference on Science and Technology towards the Development of East Africa- ICST 2013, May 17-19, 2013, Bahir Dar, Ethiopia.
381. \*\*Berhanu, B., **Melesse, A. M** and Yilma Seleshi, 2012. *GIS Based Hydrological Zones of Ethiopia*, Proc. of 12<sup>th</sup> Symposium on Sustainable water resource development, Arba Minch University, Arba Minch, 26-27 June 2012.
382. \*\*Enku, T., **Melesse, A.M.**, 2012 *A simple temperature method for the estimation of evapotranspiration: Application to Rift valley*, Proc. of 12<sup>th</sup> Symposium on Sustainable water resource development, Arba Minch University, Arba Minch, 26-27 June 2012.



383. \*\*Enku, T., **Melesse, A.M.**, 2012 ***A simple temperature method for the estimation of evapotranspiration***, NCSTI-2012 conference 16-18 May 2012, Bahir Dar University, 10p.
384. Melesse, A., Miralles, F. 2011. ***Assessing the hydrologic response of wetlands to restoration: A remote sensing perspective***. Proceeding of Conference on Remote Sensing natural hazards and Environmental Change, Editors, J.C. Thouret, S.C Liew and A. Gupta, Singapore, 28-29 July, 2011, p69-70.
385. Wang, X., Tingxi Liu, Zhongyuan Zhu, Shengwei Zhang, and **Melesse, A.M.**, 2011 ***Development of a modified rational equation for arid region runoff estimation***, ASCE-EWRI. World Environmental and Water Resources Congress, Palm Springs, CA, May 22-26, 2011, 15pp, ASCE Conf. Proc. doi:10.1061/41173(414)490.
386. \*\*Duque, M., **Melesse, A.M.**, 2010 ***Runoff and Soil Loss Estimation using N-SPECT in the Rio Grande Anasco Watershed (PR)***, 2010 AWRA Summer Specialty Conference, Tropical Hydrology & Sustainable Water Resources in a Changing Climate, Rio Grande, Puerto Rico, August 30 - September 1, 2010.
387. \*\*Hoffman, C., **Melesse, A.M.**, M. McClain 2009. ***Geospatial Mapping and Analysis of Water Availability-Demand-Use within the Mara River Basin***, AWRA Spring Specialty Conference: Managing Water Resources & Development in a Changing Climate, Anchorage, AK, May 4-6, 2009.
388. Wang, X., Shiyong Shang, **Melesse, A.M.**, and Dawen Yang, 2009 ***Estimation of design discharge for an ungauged overflow-receiving watershed using HEC-RAS hydrodynamic model***, ASCE-EWRI. World Environmental and Water Resources Congress, Kansas City, Missouri, May 17-21, 2009, 20pp.
389. Melesse, A., Abtew, W., Desalegne, T. ***Simple Model and Remote Sensing Methods for Evaporation Estimation of Rift Valley Lakes in Ethiopia***, Proceedings of the Nile Hydrology and Ecology under Extreme Conditions Workshop, June 16-19, 2008, Addis Ababa, Ethiopia, pp 262-274.
390. Melesse, A., Abtew, W., Desalegne, T. ***Flow analysis and characterization of the Blue Nile River system***, Proceedings of the Nile Hydrology and Ecology under Extreme Conditions Workshop, June 16-19, 2008, Addis Ababa, Ethiopia, pp 113-126.
391. \*\*Chebud, Yirgalem., **Melesse, A. M.**, ***Hydrological Water Balance of Lake Tana***, Proceedings of the Nile Hydrology and Ecology under Extreme Conditions Workshop, June 16-19, 2008, Addis Ababa, Ethiopia, pp 181-198.

392. \*\*Chebud, Yirgalem., Melesse, A.M., 2008. *Groundwater Simulation of lake Tana*, Proceedings of the Nile Hydrology and Ecology under Extreme Conditions Workshop, June 16-19, 2008, Addis Ababa, Ethiopia, pp 145-158.
393. Abtew, W., Melesse, A.M., Desalegne, T. 2008. *Blue Nile Basin Hydrology Relationship to Climatic Indices* Proceedings of the Nile Hydrology and Ecology under Extreme Conditions Workshop, June 16-19, 2008, Addis Ababa, Ethiopia, pp 76-89.
394. Melesse,A.M., Wossenu Abtew and Gabriel Senay, 2008. *Ecohydrology and Climate Change Science: A Challenge and Opportunity In Understanding The Nile Basin System*, Proceedings of the Nile Hydrology and Ecology under Extreme Conditions Workshop, June 16-19, 2008, Addis Ababa, Ethiopia, pp 1-3.
395. Michael McClain, Joseph Ayieko, Melesse, AM., Praxedis Ndomba, Jay O'Keeffe, Leah Onyango, Rashid Tamatamah and D. Victor Wasonga, 2008. *Understanding the Nile Basin System Securing Water for the Environment in the Mara River of Lake Victoria Catchment, Kenya and Tanzania*, Proceedings of the Nile Hydrology and Ecology under Extreme Conditions Workshop, June 16-19, 2008, Addis Ababa, Ethiopia, pp 7-9.
396. Abtew, W., Melesse, A.M., Desalegne, T. 2008. *Analysis of monthly and annual rainfall of the Blue Nile River basin* Proceedings of the Nile Hydrology and Ecology under Extreme Conditions Workshop, June 16-19, 2008, Addis Ababa, Ethiopia, pp 249-261.
397. Melesse, A., McClain, M. Abira, W. Mutayoba, 2008. *Hydrometeorology 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, pp. 1-9, ([doi](https://doi.org/10.1061/40976(316)589) 10.1061/40976(316)589).
398. Melesse, A., McClain, M., M. Abira, W. Mutayoba, Wang, X. M. *Modeling the Impact of Land-Cover and Rainfall Regime Change Scenarios on the Flow of Mara River, Kenya* ASCE-EWRI. World Environmental and Water Resources Congress, Honolulu, Hawaii, May 13-16, 2008, pp. 1-9 ([doi](https://doi.org/10.1061/40976(316)558) 10.1061/40976(316)558)
399. \*\*Stiefel, J.M., Melesse, A.M., M.E. McClain, R.M. Price, N.K. Chauhan. 2008 *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
400. \*\*Stiefel, J., Melesse, A.M., M. McClain , R. Price , 2007. *Rainwater Harvesting*

- In Rajasthan, India: Recharge Estimation Using Tracers***, 13<sup>th</sup> International Rainwater Catchment Systems Conference and 5<sup>th</sup> International Water Sensitive Urban Design Conference, 21-23 August 2007. Sydney, Australia, 8pp (CD proceeding).
401. 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.
  402. 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).
  403. \*\*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.
  404. 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 23<sup>rd</sup> Asian Conference on Remote Sensing, November 25-29, 2002 Kathmandu, Nepal, 8pp.
  405. 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, 11pp (CD proceeding).
  406. 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, 11pp (CD proceeding).
  407. 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).
  408. 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).
  409. 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).
410. 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).
411. 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.
412. 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

413. A Melesse, E Zeleke, A Shanko, T Islam, R Price, 2026. Surface Water–Groundwater Interactions and Flow Variability in the Everglades: Implications for Freshwater Delivery to Florida Bay, EGU General Assembly 2026, doi.org/10.5194/egusphere-egu26-7674
414. Huang, W., T. Zarin, R. Price, J. Obeysekera, F. Khatun, and **A. Melesse**. Hydrologic Connectivity between the Greater Everglades and Florida Bay through the Taylor River Slough Modified by Environmental Stressors and Water Management Activities. Oral Presentation. National Conference on Ecosystem Restoration, April 13-16, 2026. Omaha, Nebraska.
415. Shanko, A.D, Huang W., Obeysekera, J., Khatun. F., **Melesse A.** (2026). The future of Florida Bay: Modeling and Managing Flow for Healthy Bay [Oral Presentation]. National Conference on Ecosystem Restoration, Omaha, April 13-16, 2026. Omaha, Nebraska. United States <https://conference.ifas.ufl.edu/ncer/index.php>
416. Deribe, M; Kidanewold, B; **Melesse, A.M.** 2025. Assessing Total Renewable Water Resources in the Nile Basin: Insights from an Integrated Basin-Wide Model, H21E-01, 2025 AGU Fall Meeting, New Orleans, LA, USA
417. Zeleke, E., Chawanda, CJ, **Melesse, A.M.** 2025. Predictive Modeling of Drought Propagation in Heterogeneous Hydrologic Systems, H33Q-1529, 2025 AGU

Fall Meeting, New Orleans, LA, USA

418. Razzaque, A, **Melesse, A.M.** 2025. SPATIOTEMPORAL DYNAMICS OF MICROPLASTIC: AN EMERGING POLLUTANT IN ATLANTIC OCEAN, GULF OF AMERICA AND FLORIDA KEYS, H41O-1389, 2025 AGU Fall Meeting, New Orleans, LA, USA
419. Shanko, A, Castelli, F., **Melesse, A.M.**, 2025. Integrating hydrodynamic modelling and System Dynamics: A Framework for Assessing the Dynamic Resilience of Socio-Economic Systems to Flooding, NH11C-0377, 2025 AGU Fall Meeting, New Orleans, LA, USA
420. Islam, T., Zeleke, E, **Melesse, A.M.**, 2025. Mapping urban flood risk in Miami-Dade County, NH43C-0470, 2025 AGU Fall Meeting, New Orleans, LA, USA
421. M Deribe, **AM Melesse**, G Senay, 2024. Characterizing Irrigation Water Use Dynamics in the Nile River basin using Open-Source Remote Sensing-based Datasets, AGU Fall Meeting, Washington DC, December 09-13, 2024.
422. ML Tefera, EB Zeleke, **AM Melesse**, G Seddaiu, H Awada 2024 A Machine Learning Integration of Satellite and Ground Data to Evaluate the Impact of Stone Bunds on Moisture Retention, AGU Fall Meeting, Washington DC, December 09-13, 2024
423. KS Thamae, HZ Tedla, **AM Melesse**, JR Marunye, 2024. Integrated catchment management in Lesotho: challenges and synergistic opportunities, 25th WaterNet/WARFSA/GWPSA Symposium
424. H Zeray Tedla, KS Thamae, **AM Melesse**, 2024, Predicting urban water pollution and hazards in the Maqalika reservoir through innovative techniques 25th WaterNet/WARFSA/GWPSA Symposium
425. EB Zeleke, BB Kidanewold, **AM Melesse**, 2024. Examining how Drought Signals Evolve during Propagation across Watersheds, AGU Fall Meeting, Washington DC, December 09-13, 2024
426. T Islam, EB Zeleke, **AM Melesse** 2024. Overview of Urban Flood Susceptibility Mapping, AGU Fall Meeting, Washington DC, December 09-13, 2024
427. T Shibeshi, **AM Melesse**, B Tefera, 2024 Improving Sub-Seasonal to Seasonal Streamflow Forecasting for Hydrological Drought Forecasting in the Rhine River Basin Using Machine Learning, AGU Fall Meeting, Washington DC, December 09-13, 2024
428. Zeleke, E, **Melesse, AM.** 2023. Enhancing Seasonal Rainfall Predictions in Ethiopia: Utilizing Random Forest Classification to Address the Spatial Variability

- and Effects of Global Climate Drivers, AGU Fall 2023 meeting, December 11-15, 2023, San Francisco, CA.
429. Deribe, M, Berhanu, B., **Melesse, AM**. 2023 Evaluation of Transboundary Water Sharing Rules and Principles: The Case of the Nile River Basin, AGU Fall 2023 meeting, December 11-15, 2023, San Francisco, CA.
  430. Islam, T, **Melesse, AM**, 2023. Identifying Flood Prone Areas in Miami-Dade County: A GIS based approach, AGU Fall 2023 Meeting, December 11-15, 2023, San Francisco, CA.
  431. AS Razzaque, ME Hossain, **AM Melesse**, 2023. Banana Peel: A Sustainable and Cost-Effective Solution for Removal of Pb (II) and Cr (VI) from Natural Wastewater, AGU Fall 2023 Meeting, December 11-15, 2023, San Francisco, CA.
  432. Biratu, AA, Bedadi, B., **Melesse, AM**. 2023. Impacts of land management practices on selected Ecosystem services under changing climate of central Rift Valley, Ethiopia. *2023 International Conference on Nile River Basin and The Sudd Wetlands: Climate Change Adaptability and Sustainability, March 20-21, 2023, Miami, USA.*
  433. Deribe, Mekdelawit, **Melesse, AM**. 2023. Climate Change Mitigation, Adaptation and Sustainability, *2023 International Conference on Nile River Basin and The Sudd Wetlands: Climate Change Adaptability and Sustainability, March 20-21, 2023, Miami, USA*
  434. Deribe, Mekdelawit, **Melesse, AM**. 2023. International law and transboundary water management experiences across the world, *2023 International Conference on Nile River Basin and The Sudd Wetlands: Climate Change Adaptability and Sustainability, March 20-21, 2023, Miami, USA.*
  435. Deribe, Mekdelawit, **Melesse, AM**. 2023. The Sudd and the Nile, *2023 International Conference on Nile River Basin and The Sudd Wetlands: Climate Change Adaptability and Sustainability, March 20-21, 2023, Miami, USA.*
  436. Lukas, Paulos, **Melesse, AM**. 2023 Land use/land cover change evaluation and prediction using MOLUSCE plugin in QGIS: The case of Upper Omo-Gibe River Basin, Ethiopia, *2023 International Conference on Nile River Basin and The Sudd Wetlands: Climate Change Adaptability and Sustainability, March 20-21, 2023, Miami, USA.*
  437. Admas, Mulugeta, **Melesse, AM**. 2023 Impacts of Best Management Practices on Runoff, Soil Loss, and Sediment Yield in the Megech Watershed, *2023 International Conference on Nile River Basin and The Sudd Wetlands: Climate Change Adaptability and Sustainability, March 20-21, 2023, Miami, USA.*
  438. Jemberie, MA, **Melesse, AM**, Abate, Brook, 2023. Urban Drainage: The Challenges and Failure Assessment using AHP, Addis, Ababa, Ethiopia, 2023



439. Negash, Fekremariam, **Melesse, AM**, Abate, Brook, 2023 Impacts of climate change on the inflow flood for dam safety in the Upper Awash Subbasin, Ethiopia, 2023 *International Conference on Nile River Basin and The Sudd Wetlands: Climate Change Adaptability and Sustainability, March 20-21, 2023, Miami, USA.*
440. Mekuria, B, Jabier, AK, Tegegne, G, **Melesse, AM**. 2023. Choosing an interpolation approach to cover deficient Climate data: A case study of sparsely gauged Omo-Gibe River Basin, Ethiopia, 2023 *International Conference on Nile River Basin and The Sudd Wetlands: Climate Change Adaptability and Sustainability, March 20-21, 2023, Miami, USA.*
441. Desta, H, Tegegne, G, **Melesse, AM**. 2023. Recent and future spatiotemporal variability and trends of extreme rainfall in the Gumara Watershed, Upper Blue Nile River Basin, Ethiopia, 2023 *International Conference on Nile River Basin and The Sudd Wetlands: Climate Change Adaptability and Sustainability, March 20-21, 2023, Miami, USA.*
442. Tadesse, KE, **Melesse, AM**, Awas, Adane, 2023. Evaluation of merging method for CHIRP satellite rainfall estimate over Wabi Shebelle River Basin, Ethiopia, 2023 *International Conference on Nile River Basin and The Sudd Wetlands: Climate Change Adaptability and Sustainability, March 20-21, 2023, Miami, USA.*
443. Gashu, MW, Tegegne, G, **Melesse, AM**. 2023. Assessment of River bank overtopping problem, 2023 *International Conference on Nile River Basin and The Sudd Wetlands: Climate Change Adaptability and Sustainability, March 20-21, 2023, Miami, USA.*
444. Zeleke, EB, **Melesse, AM**. 2023. A Random Forest Classification Algorithm for Predicting Seasonal Rainfall Magnitude in Regions of Ethiopia at Variable Lead Times, 2023 *International Conference on Nile River Basin and The Sudd Wetlands: Climate Change Adaptability and Sustainability, March 20-21, 2023, Miami, USA.*
445. Melesse, AK, Kent, S, Moncada, A. 2023. Remote sensing and mapping of environmental quality of Coastal water resources, *AOGS Meeting July 30-August 4, 2023, Singapore*
446. Kent, A, **Melesse, AM**. 2023. Horticultural nurseries-based pollution dynamics and apportionment in canals of South Miami Dade, Florida, *GEER Meeting, April 17-20, 2023, Coral Gables, Miami, USA*
447. EB Zeleke, BB Kidanewold, **AM Melesse**, C Michailovsky, S Seyoum, 2022. A Soil Moisture Water Balance Approach for Tracing Green and Blue



Evapotranspiration using Open Access Satellite Dataset, *AGU Fall 2022 Meeting, Chicago, IL, USA*

448. Abtew, W.; **Melesse, A.M.**; Deribe, M.M., 2022. [Rainfed Agriculture in the Blue Nile Basin and the Grand Renaissance Dam \(GERD\) Negotiations](#)  
2022 EAS International Conf. on Water, Energy and Food Security, July 4-5, 2022, Addis Ababa, Ethiopia.
449. Setegn, S., **Melesse, A.M.** 2022. [Impact of climate change on the Nile Basin](#)  
2022 EAS International Conf. on Water, Energy and Food Security, July 4-5, 2022, Addis Ababa, Ethiopia.
450. Admas, M.; **Melesse, AM.**, Abate, B. 2022, [Soil erosion, sediment yield and runoff modeling of Megech watershed using physically based GeoWEPP](#)  
2022 EAS International Conf. on Water, Energy and Food Security, July 4-5, 2022, Addis Ababa, Ethiopia.
451. Debelo, G., **Melesse, AM.**, Tegegn, G., 2022. [Application of GIS and RS Technique for Soil Loss estimation with Integrated RUSLE in Fincha Catchment, Ethiopia](#)  
2022 EAS International Conf. on Water, Energy and Food Security, July 4-5, 2022, Addis Ababa, Ethiopia.
452. Biratu. AA., Bedadi, B; Gebrehiwot, SG; Hordofa, T; Asmamaw, DK, ; **Melesse, AM.** 2022. [Implications of land management practices on selected ecosystem services in the agricultural landscapes of Ethiopia, 2022](#) International Conf. on Water, Energy and Food Security, July 4-5, 2022, Addis Ababa, Ethiopia.
453. Wakeyo, F., **Melesse, AM.**, Abate, B. 2022, [Impacts of climate change on the inflow flood for dam safety in the Upper Awash Sub-basin, Ethiopia](#)  
2022 EAS International Conf. on Water, Energy and Food Security, July 4-5, 2022, Addis Ababa, Ethiopia.
454. Biratu. AA., Bedadi, B; Gebrehiwot, SG; Hordofa, T; **Melesse, AM.**, 2022. [Future landscape management scenarios related ecosystem services trade-offs and synergies in Central Ethiopia](#)  
2022 EAS International Conf. on Water, Energy and Food Security, July 4-5, 2022, Addis Ababa, Ethiopia.
455. Mengistu Addis, M., **Melessea, AM.**, 2022. [Urban Drainage Challenges and Failure Assessment, Addis Ababa City, Ethiopia](#)  
2022 EAS International Conf. on Water, Energy and Food Security, July 4-5, 2022, Addis Ababa, Ethiopia.
456. Tedla, H; Haile, AT.; Walker, DW., **Melesse, AM.**, 2022. [Evaluation of factors affecting the quality of citizen science rainfall data in Akaki catchment, Addis](#)

[Ababa, Ethiopia, 2022](#) International Conf. on Water, Energy and Food Security, July 4-5, 2022, Addis Ababa, Ethiopia.

457. Peña, F., Obeysekera, J., Nardi, F., **Melesse, A.**, Jane, R., Price, R., Castelli, F., Crowl, T., Gonzalez-Ramirez, N., & Annis, A., The importance of surface-subsurface water interactions in low elevation coastal zones, **Association of State Floodplain Managers, Orlando, Florida 15-19 May 2022**
458. Peña, F., Obeysekera, J., Nardi, F., **Melesse, A.**, Jane, R., Price, R., Castelli, F., Crowl, T., Gonzalez- Ramirez, N., & Annis, A., Compounding effects of surface-subsurface water interactions and sea level rise in North Miami, **UF Water Institute Symposium 2022, Gainesville, Florida 22-23 February 2022**
459. Peña, F., Obeysekera, J., Jane, R., Nardi, F., & **Melesse, A.**, Understanding compound flood extremes from a probabilistic and 2D hydraulic modeling perspective. The case study of the Arch Creek Basin in North Miami, Florida (US), **American Geophysical Union Annual Meeting 2021, New Orleans, U.S.A., 13-17 December 2021**
460. Peña, F., Obeysekera, J., Jane, R., Nardi, F., & **Melesse, A.**, Compound flooding potential in the Arch Creek Basin, Miami-Dade County Florida, **2021 International Conference on Environment and Society, Miami, Florida., 22-23 November 2021**
461. Peña, F., Freni, G., Nardi, F., Castelli, F., & **Melesse, A.**, The effects of spatial resolution and building geometry in coupled 2D hydraulic algorithms for urban flood modeling, **International Conference on Hydroinformatics. Mexico City, Mexico, 11-15 January 2021.**
462. L Bian, V Verma, Z Yin, AS Leon, **AM Melesse**, A Cell Size Sensitivity Study on the Accuracy of Wetland Delineation by Using Deterministic Topographic Wetland Index, AGU Fall Meeting 2021
463. Peña, F., Obeysekera, J., Nardi, F., Castelli, F., & **Melesse., A.** Modeling complex coastal urban flooding through FLO-2D: The Case study of Miami (Arch Creek Basin), **International Conference on Hydroinformatics. Mexico City, Mexico, 11-15 January 2021.**
464. Abera Assefa Biratu, **Melesse, AM.** et al., 2021. *Ecosystem services valuation of landscapes in transition in Central Ethiopia*, **2021 International Conference on Environment and Society, Miami, Florida., 22-23 November 2021.**
465. Abera Assefa Biratu, **Melesse, AM.** et al., 2021. *Ecosystem services valuation of landscapes in transition in Central Ethiopia*, **2021 International Conference on Environment and Society, Miami, Florida., 22-23 November 2021.**

466. Mengistu Addis, **Melesse, AM.** et al., 2021 *Urban flood management through urban land use optimization using LID Techniques, City of Addis Ababa, Ethiopia*, 2021 International Conference on Environment and Society, Miami, Florida., 22-23 November 2021.
467. Kirubel Mekonnen, **Melesse, AM.** et al., 2021 *Effect of temporal sampling mismatches between Satellite rainfall estimates and rain gauge observations on modeling extreme rainfall in the Upper Awash Basin, Ethiopia*, 2021 International Conference on Environment and Society, Miami, Florida., 22-23 November 2021.
468. Gebiaw T. Ayele, **Melesse, AM.** et al., 2021 *Prediction of Sediment Yield and Reservoir Sedimentation in Highly Dynamic Watersheds: The Case of Koga Reservoir, Ethiopia*, 2021 International Conference on Environment and Society, Miami, Florida., 22-23 November 2021.
469. Kindie E Tadesse, **Melesse, AM.** et al., 2021 *Performance of satellite precipitation estimate over Ethiopia ( A case study over Wabi Shebelle River Basin)*, 2021 International Conference on Environment and Society, Miami, Florida., 22-23 November 2021.
470. Kindie E Tadesse, **Melesse, AM.** et al., 2021 *A review on assessment of the Water-Energy-Food Nexus for the transboundary Nile river, Eastern Nile River Basin*, 2021 International Conference on Environment and Society, Miami, Florida., 22-23 November 2021.
471. Fikremariam Wakeyo, **Melesse, AM** et al. 2021. *Climate change and Hydrological Variability*, 2021 International Conference on Environment and Society, Miami, Florida., 22-23 November 2021.
472. Peña, F., Nardi, F., Obeysekera, J., & **Melesse, A.**, Integrating compound flood conditions through 2D hydraulic modeling for simulating flood risk processes in North Miami, **American Geophysical Union Annual Meeting 2020, San Francisco, U.S.A., 7-11 December 2020**
473. Peña, F., Obeysekera, J., Nardi, F., Castelli, F., & **Melesse, A.** Building flood resilience through integrated 2D flood modeling: The case study of Arch Creek Basin, **11th Annual Southeast Florida Regional Climate Leadership Summit 2019. Key West, Florida, 3-5 December 2019.**
474. Peña, F., Freni, G., Nardi, F., Castelli, F., & **Melesse, A.**, Innovative 1D-2D urban flood models for effective water risk management. The case study of Palermo, Italy, **ESRI Italy Conference. Rome, Italy. 10-11 April 2019.**
475. \*\*Aby, A, **Melesse, AM.** 2021. Century-Long Hydroclimate Variability and Teleconnection: Implications for Long Term Freshwater Availability in The Everglades, Southeast Florida, **GEER Conference, April 19-29, 2021, Florida, USA.**

476.       \*\*MG Dersseh, SA Tilahun, A Wale, M Moges, AM Melesse, 2020. *Water Quality Deterioration and its Linkage with Water Hyacinth Expansion in Lake Tana, Ethiopia*, 2020 International Conference on the Nile and GERD, Florida International University, Miami, USA, August 20-21, 2020.
  
477.       \*G Tegegn, AM Melesse, 2020. *Advances in Water Resources Assessment and Optimal Management of Multipurpose Cascade Reservoirs in the Nile River Basin*, 2020 International Conference on the Nile and GERD, Florida International University, Miami, USA, August 20-21, 2020.
  
478.       W Abtew, AM Melesse, 2020. *Land Surface Characteristics and the Hydrology Process*, 2020 International Conference on the Nile and GERD, Florida International University, Miami, USA, August 20-21, 2020.
  
479.       W Abera, N Haregeweyn, Y Dile, AA Fenta, ML Berihun, B Demissie, AM Melesse, 2020. *Scientific Misconduct and Partisan Research on the Stability of the Grand Ethiopian Renaissance Dam: A Critical Review of a Contribution to Environmental Remote Sensing in ...*, 2020 International Conference on the Nile and GERD, Florida International University, Miami, USA, August 20-21, 2020.
  
480.       S Moges, AM Melesse, 2020. *Beyond GERD: Hydropolitical, Hydrological, Technological and Investment (HHTI) Imperatives for Sustained Economic Cooperation*, 2020 International Conference on the Nile and GERD, Florida International University, Miami, USA, August 20-21, 2020.
  
481.       S Setegn, AM Melesse, 2020. *Impact of Climate Change on the Ecohydrology of the Nile River Basin*, 2020 International Conference on the Nile and GERD, Florida International University, Miami, USA, August 20-21, 2020.
  
482.       Y Bayissa, SA Moges, AM Melesse, T Tadesse, AZ Abiy, 2020. *Multi-Dimensional Nature of Drought in Abbay/Upper Blue Nile Basin and the Importance of Regional Coordination Efforts for Mitigation*, 2020 International Conference on the Nile and GERD, Florida International University, Miami, USA, August 20-21, 2020.
  
483.       Y Asegid, AM Melesse, 2020. *Restoring Lake Tana Through Reduction of Outflow and Compensation of the Power Gap with An Alternative Energy Source*, 2020 International Conference on the Nile and GERD, Florida International University, Miami, USA, August 20-21, 2020.
  
484.       \*\*Francisco Febronio Peña, Jayantha Obeysekera, Fernando Nardi, Assefa Melesse and Fabio Castelli, 2019. *Building flood resilience through integrated 2D flood modeling: The case study of Arch Creek Basin*, 11th Southeast Florida Regional Climate Leadership Summit, Key West Florida, December, 2019.
  
485.       \*Alemu, W. Melesse, AM., Senay, G. 2019. *Drought Monitoring in East*

*Africa using Integrated Satellite Passive Microwave Drought Indices*, AGU Fall meeting, San Francisco, CA.

486. \*\*Alemu Osore Aga, Assefa M. Melesse, Bayu Chane, 2019. *Modeling Lake Basin sediment budget to estimate lake lifetime: A case study of Lake Ziway, Ethiopia*, 1<sup>st</sup> national Conference on Advancements of Science and Technology for Sustainable Development (ASTSD-19), Debre Markos Institute of Technology, Debre Markos University, Ethiopia, June 1-2, 2019.
487. \*\*Alemu Osore Aga, Assefa M. Melesse, Bayu Chane, 2019. *Estimating sediment flux and budget for data limited Rift Valley Lake in Ethiopia*, National Conference on Agriculture, Natural Resources and Climate Change (NCANRCC), Hawassa University, Ethiopia, June 13-14, 2019.
488. Melesse, A.M., Blakey, T., Gholizadeh. M.H., Abbas, M.M., 2019. *Modeling chlorophyll-a concentration using remote sensing in shallow water systems: Comparison of sensors*, JpGU, 2019, May 26-30, 2019, Chiba, Japan.
489. Melesse, A.M., Aga, A.O., Gebreselassie, H., 2019. *Multi-site and multi-approach sediment transport modeling in tropical watersheds*, JpGU, 2019, May 26-30, 2019, Chiba, Japan.
490. \*\*Hagos Gebreslessie, Melesse, A.M., Kevin Bishop, and Azage Gebreyohanse, 2019. *Integrating linear spectral unmixing analysis and hydrologic model for enhancing sediment yield prediction, the case of data scarce upper Tekeze basin, Ethiopia*, A regional conference on Tekeze-Atbara Water Related Studies, 24-25 March 2019 in Khartoum, Sudan.
491. Abiy, A, Sukop, M., Melesse, AM., *Groundwater Head Fluctuation of the Biscayne Aquifer in Response to Seasonal Changes and Pumping Stress*, AGU Fall Meeting Abstract, H51J-1430, December 10-14, 2018, Washington DC.
492. Kent, SA, Melesse, AM., *Horticultural nurseries-based pollution dynamics in canals of South Miami Dade, Florida*, AGU Fall Meeting Abstract, H43I-2571, December 10-14, 2018, Washington DC.
493. Moncada, A, Melesse, AM., *Spatiotemporal Variability of Water Quality Parameters in the St. Lucie Estuary Basins, Florida*, AGU Fall Meeting Abstract, OS41C-2028, December 10-14, 2018, Washington DC.
494. \*\*Hagos Gebreslessie, Melesse, A.M., Kevin Bishop, and Azage Gebreyohanse, 2018. Linear spectral unmixing algorithm for modeling suspended sediment concentration of flash flood, upper Tekeze River, Ethiopia, 18<sup>th</sup> International Symposium on Sustainable Water Resources Development, Arba Minch, Ethiopia, June 8-9, 2018.
495. \*\*Hagos Gebreslessie, Melesse, A.M., Kevin Bishop, and Azage Gebreyohanse,

2018. Linear spectral unmixing algorithm for modeling suspended sediment concentration of flash flood, upper Tekeze River, Ethiopia First National annual research conference on Geoscience for sustainable natural resources development, Bahir Dar University, Ethiopia, June 1-2, 2018.
496. \*\*Abiy, A., **Melesse, A.M.**, 2018. *Historical drought variability in Southeast Florida and teleconnections to ENSO, PDO, and AMO*, EGU Meeting, Vienna, Austria, April 08-13, 2018.
497. \*\*Fikru Fentaw, **Melesse, A.M.**, Dereje Asfaw, Agizew Nigussie 2018. *Impacts of Climate Changes on the Water Resources of Tekeze River Basin part of Eastern Nile, Ethiopia*, EGU Meeting, EGU2018-3102, 2018, Vienna, Austria, April 08-13, 2018.
498. **Melesse, A.M.**, Tara Blakey, Mohammad Haji Gholizadeh, Mohd Manzar Abbas, and Anteneh Abiy, 2018. *Near-shore shallow water algal bloom mapping using Remote sensing tools: Challenges and opportunities*, EGU Meeting, Vienna, Austria, April 08-13, 2018.
499. \*\*Abiy, A., Wossenu Abtew, **Melesse, A.M.**, *Evaluation of regional hydroclimate variability and links to the hydrology and saltwater intrusion in South Florida*. GEER 2017, April 17-20, 2017.
500. \*\*Enku, T., **Melesse, A.M.**, Essayas K Ayana, Seifu A Tilahun, Mengiste Abate, Tammo S Steenhuis, 2017. *Response of Groundwater table to Eucalyptus Plantations in a Tropical Monsoon Climate, Lake Tana Basin, Ethiopia*, EGU Meeting, Vienna, Austria, April 23-28, 2017.
501. Mekonnen H. Daba, Kassa Tadele, Andualem Shimelis, **Melesse, A.M.**, 2017. Hydrological Response to Climate Change Impacts and Adaptation Strategies for Upper Awash Sub-basin, in the Awash Basin, Ethiopia, IW2017 -The international conference on climate -change impacts for scientists & stakeholders, 11- 13 October 2017, Potsdam, Germany
502. Melesse, AM., Mohammad Haji Gholizadeh, Blakey, T. 2017. *Inland-coastal water interaction: Remote sensing application for shallow-water quality and algal blooms modeling*, EGU Meeting, Vienna, Austria, April 23-28, 2017.
503. \*\* Kandel, H., Melesse, A.M, 2016. *A Remote Sensing Analysis on the Spatiotemporal Variation of Land Surface Albedo and Emissivity in South Florida: An Implication for Surface-Atmosphere Energy and Water Transfer*, AGU Fall Meeting, 12-16 Dec., 2016, San Francisco CA.
504. \*\*Mohammad Haji Gholizadeh, **Melesse, A.M.**, and Reddi. L. 2016. *Comparison of Space and Air-borne Sensors Capabilities in Water Quality Monitoring*, World Environmental & Water Resources Congress 2016, West Palm Beach, Florida | May 22-26, 2016.



505. \*\*Mohammad Haji Gholizadeh, **Melesse, A.M.**, and Reddi. L. 2016. *Analysis of Spatiotemporal trends of Water Quality Parameters Using Cluster Analysis in South Florida*, World Environmental & Water Resources Congress 2016, West Palm Beach, Florida | May 22-26, 2016.
506. \*\*Abiy, A., **Melesse, A.M.**, 2016. *Evaluation of Watershed Scale Change in Groundwater Storage using Landscape and GRACE Data*, World Environmental & Water Resources Congress 2016, West Palm Beach, Florida | May 22-26, 2016.
507. \*\*Abiy, A., **Melesse, A.M.**, 2016. *Modeling Groundwater Recharge and Contribution to the Tana Sub-basin, Upper Blue Nile Basin, Ethiopia*, World Environmental & Water Resources Congress 2016, West Palm Beach, Florida | May 22-26, 2016.
508. Abteu, W., **Melesse, A.M.**, 2016. *Landscape Dynamics and Evapotranspiration*, World Environmental & Water Resources Congress 2016, West Palm Beach, Florida | May 22-26, 2016.
509. \*\*Mohammad Haji Gholizadeh, **Melesse, A.M.**, and Reddi. L. 2016. *Analysis of Spatiotemporal trends of Water Quality Parameters Using Cluster Analysis in South Florida*, Graduate Student Symposium, FIU.
510. \*\*Enku, T. and **Melesse, A.M** 2015 *Temperature based Evapotranspiration estimation method: A case study for Rift valley of Ethiopia*, in Exceed International: 7-10 September, 2015, Zomba, Malawi.
511. \*\* Enku, Temesgen, **Assefa M Melesse**, Essayas K Ayana , Seifu A Tilahun, Tammo S Steenhuis 2015. *Dynamic surface-groundwater interactions in the semi humid environment of the Lake Tana sub-basin, Ethiopia: A case of Fogera floodplain*. 10th Alexander von Humboldt International Conference, Water-Food-Energy River and Society in the Tropics, Addis Ababa | Ethiopia | 18 – 20 November 2015
512. \*\*Juliana J. Msaghaa, **Melesse, A.M.** 2015. *Sediment Yield modeling and Identification of Erosion hotspots in Tropical watersheds: The case of Upper Ruvu catchment in Tanzania*, OpenWater2015 Symposium, Addis Ababa, Ethiopia, September 14-17, 2015.
513. Melesse, AM 2015. *Sensors and Role of Remote Sensing in Coastal and Wetland Studies*, 4th International Symposium on Sensor Science, July 13-16, 2015, Basel, Switzerland.
514. \*\*Enku T, **Melesse, A.M.**, Essayas K.A., Seifu A.T., T.S. Steenhuis, 2015. *Dynamics of watershed storage in the distinct wet seasons of the Anjeni watershed, upper Blue Nile basin*, Ethiopia, 3<sup>rd</sup> International Conference on



Advancement of Science and Technology May 8-9, 2015, Bahir Dar, Ethiopia.

515. \*\*Enku, T., AM Melesse, EK Ayana, SA Tilahun, G Zeleke, TS. Steenhuis, 2015. *Watershed Storage Dynamics in the Upper Blue Nile Basin: The Anjeni Experimental Watershed, Ethiopia*. 3rd International forum on Water July 13-16, 2015, Athens Institute for Education and Research, Athens, Greece.
516. \*\*Enku, T., AM Melesse, Essayas K Ayana, Seifu A Tilahun, and Tammo S Steenhuis, 2015. *Surface-groundwater interactions in semi humid environment in the Lake Tana sub-basin, Ethiopia: A case of Fogera floodplain*. 10<sup>th</sup> Alexander von Humboldt International Conference, November 18 – 20, 2015, Addis Ababa, Ethiopia
517. \*\*Enku, Temesgen, AM Melesse, Essayas K Ayana, Seifu A Tilahun, and Tammo Steenhuis 2016. *Quantifying groundwater evapotranspiration in semi humid environment using groundwater level observation and remote sensing data in the in the upper Blue Nile basin, Ethiopia*, May 2016, 4th International Conference on the Advancements of Science and technology (ICAST-2016) Bahir Dar University, Bahir Dar, Ethiopia.
518. \*\* Kandel, H., Melesse, A.M, 2014. *Alteration of Surface Energy Balance in South Florida Driven by Land Use Land Cover Change*, AWRA Annual Conference,, VA, Nov. 3-6, 2014.
519. Melesse, A.M., Cereon, C. 2014. *Operational actual wetland evapotranspiration estimation for the Everglades using MODIS imagery*. EGU Meeting, Vienna, Austria, April 28-May 02, 2014.
520. \*\*Mekonnen, M., Sewunet, T., Gebeyehu, M., Azene, B., Melesse, A.M. 2014, GIS and Remote Sensing Based Forest Resource Assessment, Quantification and Mapping in Amhara Region, Ethiopia, Ethiopian Forestry Society 3rd National Conference, Bahir Dar, Ethiopia
521. Muluken L. Alemu, Tewodros Tafesse, Fasikaw Atanaw, Seifu A. Tillahun, Assefa Melesse, Essayas K. Ayana, Shree K. Giri, and Tammo S. Steenhuis, 2014. *Analysis of patterns in dissolved phosphorus concentration in the Lake Tana basin, Ethiopia*, ICAST-2014, May 16-17, 2014. Bahir Dar, Ethiopia.
522. \*\*Liyew, B.Mulatu, B.Zemadim AM.Melesse, Moges, A. Semu. *Analysis of Hydrological Process in Dapo Watershed, Upper Blue Nile Basin, Ethiopia*, ICAST-2014, May 16-17, 2014. Bahir Dar, Ethiopia.
523. \*\*Blakey, T., Melesse, A.M, 2013 *Algal blooms and freshwater nutrient sources in Florida Bay*, GIS Symposium: Exploring and

Exchanging Spatial Knowledge, October 24, 2013, Naples, FL.

524. \*\* Kandel, H., **Melesse, A.M.**, 2013. **Effect of Land use/ land covers change on radar relectivity based convective precipitation in south Florida**, GSA Meeting, October 27-30, 2013, Denver, CO.
525. \*\*Blakey, T., **Melesse, A.M.**, 2013 **Connecting Florida Bay algal blooms to freshwater nutrient sources** , Fall AGU Meeting, San Francisco, CA Dec, 9-13, 2013
526. \*\* Kandel, H., **Melesse, A.M.**, 2013. Human Induced Changes on Land Surface Temperature and Convective Rainfall in South Florida, AWRA Annual Conference, Portland, OR, Nov. 4-7, 2013.
527. Sandoval1, E., Price, R.M., Whitman, D., **Melesse, A.M.**, 2013 Effects of Hydrologic Restoration on the Residence Times and Water Quality of a Coastal Wetland in the Florida Everglades,. AGU Meeting of the Americas, May 14-17, 2013, Cancun, Mexico.
528. \*\*Dessu, S.B., **Melesse, A.M.**, Bhat, M., 2013. How much does it cost to dry-up a river? Florida AWRA Conference, Jan. 25, 2013, Ft. Meyers, FL.
529. \*\* Kandel, H., **Melesse, A.M.**, 2013. Land Cover Change and Its Hydro-climatic Impact in South Florida, Florida AWRA Conference, Jan. 25, 2013, Ft. Meyers, FL.
530. Sandoval1, E., Price, R.M., Whitman, D., **Melesse, A.M.** 2012. *Ten year study on restoration projects and their effects on flushing times, water quality, water chemistry, and water sources in the coastal Everglades*, 2012 GSA Annual Meeting in Charlotte (4–7 November 2012).
531. \*\* Dessu , S.B., **Melesse, A.M.**, Evaluation Of Satellite Estimates And GCMs Outputs As Alternative Rainfall Data Sources In The Mara River Basin, Kenya/Tanzania, AWRA Meeting, Tallahassee, FL, Nov. 12-15, 2012
532. \*\* Dessu S.B. and **Melesse A.M.** (2012), Assessment of Climate Change and Hydrological Responses of the Mara River Basin, Kenya/Tanzania (Paper number H31I-1275), American Geophysical Union, Fall meeting, AGU, San Francisco, California, Dec 03-07, 2012.
533. \*\*Dessu, S.B. and **Melesse A.M.** (2012). Performance of GCM and Satellite Rainfall estimates in the Mara River Basin, Kenya/Tanzania, Graduate Research Symposium, Department of Earth and Environment, MARC Pavilion, FIU, Miami, Florida, April 11, 2012
534. \*\* Kandel, H., **Melesse, A.M.**, Change in minimum temperature as a response to land cover change in south Florida, , AGU Fall Meeting, 3-7 Dec., 2012, San

Francisco CA.

- 535. \*\*Ammon, L; **Melesse, A.** 2012. DRASTIC Vulnerability Index for the Broward County Portion of the Biscayne Aquifer, GIS Symposium: Discovering technology-based Solutions, October 17, 2012, Naples, FL.
- 536. \*\*Kandel, H., **Melesse, A.M.**, 2012. Pre and Post-drainage South Florida: Land Cover Change and Temperature Response, GIS Symposium: Discovering technology-based Solutions, October 17, 2012, Naples, FL.
- 537. Melesse, A. 2012. Blue Nile River Basin: State of knowledge, gaps, challenges and opportunities, Presented at the National Workshop on “Challenges & Opportunities of Water Resources Management in Tana Basin, Upper Blue Nile Basin, Ethiopia” 26 - 27 March 2012.
- 538. Sandoval, E., Price, R.M., Whitman, D., **Melesse, A.M.** 2012. Water Residence Time and Water Quality in Taylor Slough – Everglades National Park, FL, USA, INTECOL Conference, Orlando, FL from June 3-8, 2012
- 539. \*Setegn, S., **Melesse, A.M.**, 2011 Combined land use and climate change impact on Surface and Ground water resources in the Rio Cobre and Great River basin, Jamaica, AGU Fall Meeting, San Francisco, CA, Dec. 5-9, 2011.
- 540. \*\*Behulu, F., Setegn, S., **Melesse, A.**, Aldo, F., 2011. Impact of climate Change on Groundwater Recharge in the Tiber River Basin (Central Italy) Using Regional Climate model Outputs, AGU Fall Meeting, San Francisco, CA, Dec. 5-9, 2011.
- 541. \*\*Kandel, H., **Melesse, A.M.**, 2011. Analysis of Land Use Change and Possible Influence on Rainfall Pattern in South Florida, GIS Symposium: Inspiration Through Technology and Networking, November 9, 2011, Naples, FL.
- 542. \*Setegn, S., **Melesse, A.M.**, Vicioso, F., Veloz, R., Nunez, F., 2011. Assessment of land use change impact on water resources variability using GIS and hydrological model, GIS Symposium: Inspiration Through Technology and Networking, November 9, 2011, Naples, FL.
- 543. \*\*Msaghaa, J., **Melesse, A.M.** 2011. Integration of GIS technology and Soil erosion models towards tropical watershed management GIS Symposium: Inspiration Through Technology and Networking, November 9, 2011, Naples, FL.
- 544. \*\*Ammon. L., **Melesse, A.**, 2011. Spatiotemporal Trends of Contaminants in the Broward County Portion of the Biscayne Aquifer GIS Symposium: Inspiration Through Technology and Networking, November 9, 2011, Naples, FL
- 545. Melesse, A., Miralles, F. 2011. Assessing the hydrologic response of wetlands to

restoration: A remote sensing perspective. International Conference on Remote Sensing natural hazards and Environmental Change, Singapore, 28-29 July, 2011.

546. \*Setegn, S., **Melesse, A.M.**, 2011. Application of a Semi-Distributed Model and Its Prediction Uncertainty for Simulation of Streamflow in the Rio Grande De Manati River Basin, Puerto Rico, Florida Section American Society of Agricultural and Biological Engineers 2011 Annual Conference, 15-18 June 2011, Naples, FL, USA.
547. \*Setegn, S., **Melesse, A.M.**, 2011. Hydrologic Impacts of Land use/Land cover Changes in the Rio Cobre Watershed, Jamaica, Florida Section American Society of Agricultural and Biological Engineers 2011 Annual Conference, 15-18 June 2011, Naples, FL, USA.
548. \*Setegn, S., **Melesse, A.M.**, 2011. Climate Change Impact on Water Resources Variability in the Yuna Basin, Dominican Republic, Florida Section American Society of Agricultural and Biological Engineers 2011 Annual Conference, 15-18 June 2011, Naples, FL, USA.
549. \*Setegn, S G., **Melesse. A.M.**, 2011. *Climate change and its impact on the hydrological processes in the Caribbean islands of Puerto Rico, Jamaica and Dominican Republic*. CIMR an international symposium on: Climate Information for Managing Risks - Local or Regional Adaptation and Mitigation Strategies, May 24-27, 2011, Orlando, Florida, USA.
550. \*\* Dessu , S.B., **Melesse, A.M.**, Bhat, M., McClain, M. 2010 *Application of Method of Variation to Predict Human Induced Modifications of Water Resource systems*, AGU Fall Meeting, San Francisco, CA, Dec. 13-17, 2010.
551. \*Setegn, S., **Melesse. A.M.**, 2010 *Climate Change Trend in the Tropical and Caribbean Regions and its Hydrological Impacts*, AGU Fall Meeting, San Francisco, CA, Dec. 13-17, 2010.
552. \*\*Chebud Y and **Melesse A.**, 2010. *Application of Remote Sensing and Neural Network Approaches For Prediction of Chlorophyll-a over the Shallow Water Bodies of South Florida*, Presented at the WaterSCAPES, NASA Project, Meeting, FIU, USA.
553. \*Setegn, S., **Melesse. A.M.**, McClain, X. Wang, 2010. *Tropical Hydrology under a changing Land Use Dynamics: Development of sustainable watershed conservation scenarios in the Reo Cobre Watershed, Jamaica*, 2010 AWRA Summer Specialty Conference, Tropical Hydrology & Sustainable Water Resources in a Changing Climate, Rio Grande, Puerto Rico, August 30 - September 1, 2010.

554. \*Setegn, S., Melesse, A.M., M. McClain, X. Wang, 2010. *Hydrological response of watershed systems to combined land use and climate changes in the in Rio Haina Basin, Dominica Republic*, 2010 AWRA Summer Specialty Conference, Tropical Hydrology & Sustainable Water Resources in a Changing Climate, Rio Grande, Puerto Rico, August 30 - September 1, 2010.
555. \*Setegn, S., Melesse, A.M., 2010. *Impact of climate changes on the water resources variability in Rio Grande De Manati and Plata River Basins, Puerto Rico, USA*, 2010 AWRA Summer Specialty Conference, Tropical Hydrology & Sustainable Water Resources in a Changing Climate, Rio Grande, Puerto Rico, August 30 - September 1, 2010.
556. Melesse, A., Miralles, F. 2010 *Impact of Tropical Storms on the Vegetation Biomass of Everglades and Chl-a Concentration in Coastal Waters of Everglades: Application of MODIS and SeaWiFS Sensors*, AGU Meeting of the Americas 08–13 August 2010, Foz do Iguassu, Brazil.
557. \*\*Maalim, Fukhrudin K., Melesse. A. M., Belmont, P. 2010. *Modeling Upland Erosion Potential in the Le Sueur Watershed: A GIS Mediated Application of the WEPP Model*, AWRA Spring Specialty Conference: GIS & Water Resources VI, March 29-31, 2010, Orlando, FL.
558. Melesse, A, Miralles, F. 2010 *Fractional vegetation and impervious surface dynamics in the wetland-urban-agriculture interfaced systems of south Florida: A remote sensing perspective*, AWRA Spring Specialty Conference: GIS & Water Resources VI, March 29-31, 2010, Orlando, FL.
559. Melesse, A., Miralles, F. Thomas, A. 2010 *SeaWIFS-based chlorophyll-a concentration in coastal waters of Everglades*, AWRA Spring Specialty Conference: GIS & Water Resources VI, March 29-31, 2010, Orlando, FL.
560. \*\*\*Thomas, A., Melesse. A. M., M., Setegn, S., Nunez, F, Chalas, J, Castillo, A.G 2010. *The effect of reservoir on spatial variation of water quality parameters in Yuna River watershed, Dominican Republic*, AWRA Spring Specialty Conference: GIS & Water Resources VI, March 29-31, 2010, Orlando, FL.
561. \*\*Mekonnen, M, Melesse, A.M., 2010. *Spatial Runoff and Mapping of Potential Water Harvesting Areas: A GIS and Remote Sensing Perspective*, 2010 Water Resources Conference in Ethiopia, Jan. 12-16, 2010, Addis Ababa, Ethiopia.
562. Melesse, A., McClain, M. Miralles, F. Wang, X 2010. *Surface energy fluxes: Reflection of vegetation dynamics and land management*, 2010 Water Resources Conference in Ethiopia, Jan. 12-16, 2010, Addis Ababa, Ethiopia.

563. \*\*Defersha, M., Melesse. A.M., , McClain, M., 2010 *GIS based application of Erosion-3D model for identification of potential sediment source areas and derivation of site related measures to minimize erosion*, AWRA Spring Specialty Conference: GIS & Water Resources VI, March 29-31, 2010, Orlando, FL.
564. \*\*Defersha, M., Quraishi, S., Melesse. A.M., , McClain, M., 2010 *Interrill erosion, runoff and sediment size distribution as affected by slope steepness and antecedent moisture content*, AWRA Spring Specialty Conference: GIS & Water Resources VI, March 29-31, 2010, Orlando, FL.
565. \*\*Defersha, M., Quraishi, S., Melesse. A.M., McClain, M., 2010 *Evaluation of interrill erosion models and slope steepness factors using laboratory rainfall simulator data*, 2010 Water Resources Conference in Ethiopia, Jan. 2-16, 2010, Addis Ababa, Ethiopia.
566. \*\*\*Thomas, A., Melesse, A., M., Setegn, S., Nunez, F, Chalas, J, Castillo, A.G 2010 *The effect of land use/ management on spatial variation of water quality parameters in Yuna and Haina River watersheds*, Dominican Republic, AWRA Spring Specialty Conference: GIS & Water Resources VI, March 29-31, 2010, Orlando, FL.
567. \*\*Mango, L., Melesse. A.M., McClain, M., Gann, D. 2010. *Modeling the Effect of Land Use/ Land Cover Change and rainfall on the Hydrology of the Upper Mara River Basin*, AWRA Spring Specialty Conference: GIS & Water Resources VI, March 29-31, 2010, Orlando, FL
568. \*\*Dessu, S., Melesse. A.M., McClain, M., 2010. *Modeling the Influence of Vegetation Dynamics on the hydrology of Mara River Basin using Semi-distributed Hydrologic Models*, AWRA Spring Specialty Conference: GIS & Water Resources VI, March 29-31, 2010, Orlando, FL
569. \*Setegn, S., Melesse. A.M., Wang, X., Vicioso, F., Nunez, F.,2010. *Calibration and Validation of ArcSWAT model for prediction of hydrological water balance of Rio Haina Basin, Dominica Republic*, AWRA Spring Specialty Conference: GIS & Water Resources VI, March 29-31, 2010, Orlando, FL
570. \*\*Diamond, G, Melesse. A.M. 2010. *Water resources assessment and GIS-based Stormwater Runoff estimates for Artificial Recharge of Freshwater Aquifers in New Providence, Bahamas*, AWRA Spring Specialty Conference: GIS & Water Resources VI, March 29-31, 2010, Orlando, FL.
571. \*Setegn, S., Chebud, Y.,Melesse. A.M., 2010. *Analysis of Spatial Distribution of Climate Data Impact on Prediction of the Hydrology of Beles Basin, Ethiopia: Application of Remote Sensing, GIS and*



**Hydrological Model**, AWRA Spring Specialty Conference: GIS & Water Resources VI, March 29-31, 2010, Orlando, FL.

572. Melesse. A., Setegn, S., M. McClain, X. Wang, 2009 ***Sensitivity Analysis and Validation of SWAT Model for Prediction of Stream Flow and Sediment Yield in the Rio De La Plata Basin, Puerto Rico***, Eos Trans. AGU, 90(52), Fall Meet. Suppl., Abstract **H41A-0876**
573. \*Setegn, S., Melesse, A.M., M. McClain, X. Wang, 2009. ***SWAT model application to quantify water resources availability in Caribbean islands and its prediction uncertainty analysis: A case study in the Rio Grande De Manati River Basin, Puerto Rico***, Eos Trans. AGU, 90(52), Fall Meet. Suppl., Abstract **H41F-0953**
574. \*\*Azmera. L, Miralles. F., Garcia. R., Belmont, P., Melesse. A.M. 2009 ***Modeling of Ravine sediment loading and budget in the lower Le Sueur River, Minnesota River Basin***, AGU Fall Meeting, San Francisco, CA, Dec. 14-18, 2009.
575. Melesse, A.M., M. McClain, X. Wang, 2009. ***Energy fluxes as function of topography, land management and landscape features under different latitudes***, International Conference on Land Surface Radiation and Energy Budgets: Observations, Modeling and Analysis, Beijing, China, March 18-20, 2009.
576. Melesse, A.M., Miralles, F., X. Wang, 2009 ***Energy flux and surface parameters in an urban-agriculture-wetland interfaced area: The case of South Florida***, International Conference on Land Surface Radiation and Energy Budgets: Observations, Modeling and Analysis Beijing, China, March 18-20, 2009.
577. \*\*Mango, L., Melesse, A.M., McClain. M., Onsted, J., Gann, D. 2009. ***Modeling the Effect of Land-Use Change and Soil and Water Management Practices on the Water and Sediment Flux in the Mara River Basin***, AWRA Spring Specialty Conference: Managing Water Resources & Development in a Changing Climate, Anchorage, AK, May 4-6, 2009
578. \*Setegn, S.G., Melesse, A.M., Dargahi, B., Srinivasan, R. 2009 ***Water Resources Variability as a Result of Changing Climate: A Case Study in the Lake Tana Basin, Blue Nile Ethiopia***, AWRA Spring Specialty Conference: Managing Water Resources & Development in a Changing Climate, Anchorage, AK, May 4-6, 2009
579. \*Setegn, S.G., Melesse, A.M., Dargahi, B., Srinivasan, R. 2009 ***Effect of downscaling Methods on the Assessment of the Impact of Climate Change in watershed Scale Management Models***, AWRA Spring Specialty Conference: Managing Water Resources & Development in a Changing Climate, Anchorage, AK, May 4-6, 2009.



580. \*Setegn, S.G., **Melesse, A.M.**, Dargahi, B, Srinivasan, R., Abbaspour, K. 2009. *Changing Climate Effect on Water Resources Variability in the Lake Tana Basin, Ethiopia*. First Annual Nile Basin Research Conference organized by the Applied Training Project (ATP) of the Nile Basin Initiative (NBI) and the Nile Basin Research Programme (NBRP), University of Bergen Norway, 8-11 June 2009, Dar es Salaam, Tanzania.
581. \*\* Chebud., Y; **Melesse, A.M.** Lessons from Four Decades of Water Resources Development in the Blue Nile Basin. Presented at the Agroecology Symposium at Florida International University, Miami, February 2009.
582. \*\*Treslich, P, Leding, P, Sullivan, E, Marcus, W, **Melesse, A.M.** *Soil quality analysis of the Everglades Restoration Area* Eos Trans.AGU, 89(23), Jt. Assem. Suppl., Abstract H33A-06, Ft. Lauderdale, May 2008
583. \*\*Chebud, Y., **Melesse, A.M.**, *Spatial water balance of Lake Tana, Ethiopia*, Eos Trans. AGU, 89(23), Jt. Assem. Suppl., Abstract H43C-03, Ft. Lauderdale, May 2008.
584. \*\*Tunkuda, N., **Melesse, A.M.**, *Delineation of flood-prone areas of the Rio Minho Watershed, Jamaica using topographic index and watershed physical parameters*, Eos Trans. AGU, 89(23), Jt. Assem. Suppl., Abstract H43A-06, Ft. Lauderdale, May 2008.
585. \*\*Biswas, H., **Melesse, A.M.**, McClain, M. Sukop, M. *Groundwater flow modeling using PMWIN model in the Wakal River basin, Rajasthan, India*, Eos Trans. AGU, 89(23), Jt. Assem. Suppl., Abstract H41B-04, Ft. Lauderdale, May 2008.
586. McClain, M., Joseph Ayieko, **Melesse, A.M.**, Praxedis Ndomba, Jay O'keeffe, Leah Onyango, Rashid Tamatamah and D.Victor Wasonga 2008. *Securing Water for the Environment in the Mara River of Lake Victoria Catchment, Kenya and Tanzania*. Proc. of the Nile Hydrology and Ecology under Extreme Conditions Workshop, June 16-19, 2008, Addis Ababa, Ethiopia, pp 7-9.
587. Belmont, P., E Viparelli, G Parker, W Lauer, C Jennings, K Gran, P Wilcock, **Melesse, A.M** 2008. *Parameterization of a complex landscape for a sediment routing model of the Le Sueur River, southern Minnesota*, AGU Fall Meeting, 15-19 December, 2008, INVITED.
588. \*\*\*Thomas, A., C Jennings, F Khalif, L Azmera, **Melesse, A.M.**, P Belmont, 2008. *Sediment Dynamics in the Agricultural Le Sueur River Watershed*,

***Southern Minnesota: Tile Drain Influence on Sediment Transport***, AGU Fall Meeting, 15-19 December, 2008

589. \*\* Maalim, F.K, **Melesse, A.M.**, A R Thomas, P Belmont, \*\*L Azmera, C E Jennings, ***Delineating the Erosion-Potential of Agricultural Lands within the Le Sueur Watershed using Remotely Sensed Data and GIS***, AGU Fall Meeting, 15-19 December, 2008
590. \*\* Azmera, L.A., F R Miralles-Wilhelm, **Melesse, A.M.**, P Belmont, C E Jennings, A Thomas, F Khalif, ***Estimation of Ravine Sediment production using MIKE 11 model, in the lower Le Sueur Watershed, Minnesota***, AGU Fall Meeting, 15-19 December, 2008.
591. Melesse, A.M. and Wang, 2007. ***Landsat-Based Impervious Surface Mapping and Storm Runoff Response***, Joint AGU Meeting, May 21-25, 2007, Acapulco, Mexico.
592. Melesse, A.M., 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.
593. \*\*Biswas, H., **Melesse, A.M.**, 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.
594. 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.
595. Jayachandran, K., M. Bhat, G. Bobeche\*, C. Clark-Cuadrado\*, and **A.M. Melesse**. Agroecology Program at Florida International University. Paper presented at the ASA-CSSA-SSSA International Annual Meetings, Indianapolis, November 12-16, 2006.
596. 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.
597. 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.
598. 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.

599. Melesse, A. M., McClain, M. ***Hydrological Modeling and Model Selection***. Caribbean Coastal Scenarios Workshop, Sep.30-Oct. 1, 2004, Santa Domingo, Dominican Republic.
600. 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  
EGS-AGU-EUG Joint Assembly, 06-11 April 2003, Nice, France.
601. 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, EGS-AGU-EUG Joint Assembly, 06-11 April 2003, Nice, France.
602. 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.
603. 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.
604. Melesse, A. M., Nangia, V., 2003. ***Study on latent heat flux from crop fields***. AWRA Annual Conference, 3-6 Nov, 2003, San Diego, CA.
605. Seielstad, G.A, O. Beerli, P. Carter, B. Dahlen, R. Hanley, A. Johnson, G. Johnson, S. Laguette, Melesse, A.M., D. Olsen, R. Phillips, R. Schultz, S. Seelan, W. Semke, C. Won, X. Zhang. 2003. ***Applications for Crop and Range Management with New Sensors***. 30<sup>th</sup> International Symposium of Environment, Honolulu, Hawaii.
606. 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.
607. 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.
608. 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.

609. Tien, Kai-Jen, **Melesse, A.M.**, 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.

### Technical Reports and Manual

610. Melesse, A., Setegn, S., McClain, M., Vicioso, F., Veloz, F., Fu, J, Webber, D., Ortiz, J, Nunez, F. “Caribbean Coastal Scenarios Project”, Final Report submitted to IAI under the agreement CRN II-061, Department of Earth and Environment, Florida International University, May 30, 2012, pp 75.
611. Bhat, M. G., K. Jayachandran, **Melesse, A.M.**, J. Onsted, and S. Koptur. “Curriculum Enrichment, Instrumentation, Experiential Learning in Agroecology: Annual Report for Period ending July 2011.” Submitted to the Department of Agriculture under the Cooperative Agreement 2008-38422-19209, Department of Earth and Environment, Florida International University, Miami, October 2011.
612. Melesse, A., Setegn, S., McClain, M., Vicioso, F., Veloz, F., Fu, J, Webber, D., Ortiz, J, Nunez, F. “Caribbean Coastal Scenarios Project”, Fifth year Final Report submitted to IAI under the agreement CRN II-061, Department of Earth and Environment, Florida International University, May 2011, pp 104.
613. Melesse, A., Setegn, S., McClain, M., Vicioso, F., Veloz, F., Fu, J, Webber, D., Ortiz, J, Nunez, F. “Caribbean Coastal Scenarios Project”, Fifth year Interim Progress Report submitted to IAI under the agreement CRN II-061, Department of Earth and Environment, Florida International University, February 2011, pp 41.
614. Bhat, M. G., G. Philippidis, K. Jayachandran, and **Melesse, A.M.** “Internalization of biofuel research, curriculum, and business promotion: Annual Progress Report for Period ending August 2010.” Submitted to the Department of Agriculture under the Cooperative Agreement 2008-51160-04356, Department of Earth and Environment, Florida International University, Miami, August 2010.
615. Karen Gran, Patrick Belmont, Stephanie Day, Carrie Jennings, Andrea Johnson, Wes Lauer, Gary Parker, Enrica Viparelli, Peter Wilcock, Fukhrudin Khalif, Luam Azmera, **Assefa Melesse**, 2010. Watershed Watershed-scale sediment budget in the scale sediment budget in the Le Sueur River, Minnesota, for turbidity management and future rehabilitation efforts, Final Report Submitted to Minnesota Pollution Control Agency
616. Bhat, M. G., K. Jayachandran, **Melesse, A.M.**, J. Onsted, and S. Koptur. “Curriculum Enrichment, Instrumentation, Experiential Learning in

Agroecology: Annual Progress Report for Period ending July 2010.”  
Submitted to the Department of Agriculture under the Cooperative Agreement  
2008-38422-19209, Department of Earth and Environment, Florida  
International University, Miami, July 2010.

617. Melesse, A., Setegn, S., McClain, M., Vicioso, F., Veloz, F., Fu, J, Webber, D., Ortiz, J, Nunez, F. “Caribbean Coastal Scenarios Project”, Fourth year annual Progress Report submitted to IAI under the agreement CRN II-061, Department of Earth and Environment, Florida International University, July 2010.
618. Melesse, A., McClain, M., Vicioso, F., Veloz, F., Fu, J, Webber, D., Ortiz, J, Nunez, F. “Caribbean Coastal Scenarios Project”, Third year annual Progress Report submitted to IAI under the agreement CRN II-061, Department of Earth and Environment, Florida International University, June 2009.
619. McClain, M., Vicioso, F., Veloz, F., Fu, J, **Melesse, A.M.**, Webber, D., Ortiz, J, Nunez, F. “Caribbean Coastal Scenarios Project”, Second year annual Progress Report submitted to IAI under the agreement CRN II-061, Department of Environmental Studies, Florida International University, June 2008.
620. Bhat, M. G., K. Jayachandran, **Melesse, A.M.**, and S. Koptur. “Curriculum Development, Curricular Development and Capacity Building in Agroecology Sciences.” Annual Progress Report Submitted to the US Department of Agriculture under the Cooperative Agreement 2005-38422-15940, Department of Environmental Studies, Florida International University, Miami, October 2006.
621. Bhat, M. G., K. Jayachandran, **Melesse, A.M.**, and S. Koptur. “Curriculum Development, Curricular Development and Capacity Building in Agroecology Sciences.” Annual Progress Report Submitted to the US Department of Agriculture under the Cooperative Agreement 2005-38422-15940, Department of Environmental Studies, Florida International University, Miami, January 2008.
622. Bhat, M. G., K. Jayachandran, **Melesse, A.M.**, and S. Koptur. “Curriculum Development, Curricular Development and Capacity Building in Agroecology Sciences.” Final Technical Report Submitted to the US Department of Agriculture under the Cooperative Agreement 2005-38422-15940, Department of Environmental Studies, Florida International University, Miami, October 2008.
623. Bhat, M. G., M. Alen, K. Jayachandran, **Melesse, A.M.**, and A. Ravinet. “Limits to Growth in Agriculture and Sustainable Farming Systems.” Annual Progress Report Submitted to the US Department of Agriculture under the

Cooperative Agreement 2006-51160-03409, Department of Environmental Studies, Florida International University, Miami, January 2008.

624. Bhat, M. G., K. Jayachandran, **Melesse, A.M.**, J. Onsted, and S. Koptur. "Curriculum Enrichment, Instrumentation, Experiential Learning in Agroecology." Annual Progress Report Submitted to the US Department of Agriculture under the Cooperative Agreement 2008-38422-19209, Department of Environmental Studies, Florida International University, Miami, February 2009.
625. 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.
626. 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.

#### **Invited Seminars/Lectures**

1. **Nile water security and water rights**, July 22, 2022, Hawassa University, Ethiopia
2. Nile water security and sharing, July 25, 2022, University of Gondar, Ethiopia
3. **Water, Energy and Sediment Fluxes: Monitoring and modeling**, August 10, 2022, Bahir Dar University, Ethiopia
4. **Water Rights and Water Security: Meeting the Demand in the Face of a Shrinking Supply in the Nile Basin**, Jan 18th Tuesday Times Roundtable Presentation, FIU.
5. **Abbay River Basin Hydrology Monitoring, Management and Development**, Ethiopian Space Science and Technology Institute, Addis Ababa Ethiopia, Dec. 28, 2021
6. **Water rights and water security in the Nile Basin: Possible future Directions and implications**, December 23, 2021, Addis Ababa Science and Technology University, Ethiopia.
7. **Transboundary Water Resources Management: Challenges and Lessons** GLOWS Presentations for Study tour for Ghana Community Water and Sanitation Agency participants, September 16, 2014.

8. **Human and climate induced changes and impacts on hydrologic regimes of selected river basins**, Department of Earth and Environment, Jan. 16, 2013
9. **Water Resource Management challenges in the 21st century: Human and climate induced changes and impacts on hydrologic and sediment regimes of selected river basins**, Mekele University, April 03, 2012.
10. **Hydrologic response of river basins to the human and climate induced changes: Examples from selected studies**, Melkasa Agricultural Research center April 4, 2012.
11. **Water Resource Management challenges in the 21st century: Human and climate induced changes and impacts on hydrologic and sediment regimes of selected river basins**, Arba Minch University, April 6, 2012.
12. **WaterSCAPES: Hydrology of Wetlands from Space**, Department of Civil Engineering, Haramaya University, Feb. 13, 2012
13. **Water Resource Management challenges in the 21st century: Human and climate induced changes and impacts on hydrologic and sediment regimes of selected river basins**, Hawassa University, Feb. 7, 2012.
14. **WaterSCAPES: Hydrology of Wetlands from Space**, Department of Civil Engineering, Addis Ababa University, Dec. 16, 2011
15. **Water Resources challenges in the 21st century: An overview of need-driven research activities across the spectrum of various ecohydrologically diverse regions**, Ethiopian Water Research Institute, Addis Ababa University, Nov. 22, 2011.
16. **Climate Change and Coastal Resources: Caribbean Coastal Scenarios experience**, Ministry of Environment, Dominican Republic, June 29, 2011
17. **Hydrology of the Upper Blue Nile River Basin: Facts, Trends and Indicators of Changes**, January 28, 2011, Department of Earth and Environment, FIU.
18. **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.
19. **Evapotranspiration mapping using remote sensing** (Video conference Lecture), April 2005, Department of Earth Systems and Policy, University of North Dakota.
20. **Evapotranspiration mapping using remote sensing** (Video conference Lecture), April 2006, Department of Earth Systems and Policy, University of North Dakota.



21. **The role of science in integrated water resources management**, July 2006, Alemaya University, Ethiopia.
22. **Water Resources Research: Challenges and opportunities**, 2006, Civil and Environmental Engineering, FIU.
23. **The role of GIS and remote sensing in water resources Research**, 2006, Honor's College, FIU.
24. **GIS and remote sensing in water resources research: Application examples**, Feb. 2006, GIS Day, FIU.
25. **Impervious surface area dynamics and storm runoff response**, Sep. 2006, Environmental Studies, FIU.
26. **Impervious surface Dynamics in South Florida**, Oct. 2006, Applied Research Center, FIU.

#### **Technical Trainings/workshops offered**

27. Remote sensing and GIS applications in water Resources, Ethiopian Space Science and Technology Institute, Ethiopia July 17-27, 2018.
28. Potential irrigation area mapping in Amhara Region using GIS and Remote Sensing, Ziway, Ethiopia, December 19-31, 2016.
29. Potential irrigation area mapping in Oromia Region using GIS and Remote Sensing, Bahir Dar, Ethiopia, June 04-16, 2016.
30. Advanced GIS: Application to water resources Engineering, Addis Ababa Institute of Technology, Addis Ababa University, May 7-18, 2012.
31. Climate Change and Water Resources, Bahir Dar University, March 14-17, 2012.
32. Remote Sensing in Hydrology, Bahir Dar University, March 19-23, 2012.
33. Impacts of human and climate change induced drivers on the ecohydrology of the Mara River basin, Egerton University, Kenya, Feb. 16-23, 2012.
34. Impacts of human and climate change induced drivers on the ecohydrology of the Mara River basin, University of Dar es Salaam (UDSM), Tanzania, Feb. 24-29, 2012.
35. Advanced GIS, Bureau of Water Resources, ANRS, SWHISA, 2010, Bahir Dar, Ethiopia.

36. GIS in Water Resources, Bureau of Water Resources, ANRS, SWHISA, 2010, Bahir Dar, Ethiopia.
37. Image Analysis, Bureau of Water Resources, ANRS, SWHISA, 2010, Bahir Dar, Ethiopia.
38. Principles of GIS, Bureau of Water Resources, ANRS, SWHISA, 2009, Bahir Dar, Ethiopia
39. SWAT application in the Caribbean Islands. May 26-27, 2009, Santa Domingo, Dominican Republic.
40. SWAT application in the Caribbean Islands. May 29-30, 2009, Kingston Jamaica.
41. SWAT: Theory and application, May 17-18, 2008, Quito, Ecuador.
42. SWAT application to watershed modeling in the Mara River basin, June 26-27, 2006, Kissimu, Kenya.