10th International Soil Conservation Organization Conference

Sustaining the Global Farm • Local Action for Land Stewardship

May 23-28, 1999 • Purdue University • West Lafayette, Indiana USA

Sponsored by:
International Soil Conservation Organization
Agricultural Research Service, U.S. Department of Agriculture
Natural Resources Conservation Service, U.S. Department of Agriculture

In cooperation with:
Cooperative State Research, Education and Extension Service, U.S. Department of Agriculture
U.S. Department of State
Foreign Agricultural Service, U.S. Department of Agriculture
Forest Service, U.S. Department of Agriculture
Geological Survey, U.S. Department of the Interior
Purdue University
The World Bank
U.S. Agency for International Development
U.S. Environmental Protection Agency

and:
Agriculture and Agri-Food Canada
American Society for Photogrammetry and Remote Sensing
American Water Resources Association
Association for Better Land Husbandry
Canadian Society of Soil Science
Conservation Technology Information Center
European Society for Soil Conservation
International Erosion Control Association
International Soil Science Society
International Soil Tillage Research Organization
Organization of American States
Society for Ecological Restoration
Society for Range Management
Soil Conservation Council of Canada
Soil and Water Conservation Society
Soil Science Society of America
World Association of Soil and Water Conservation

The sponsors of the 10th International Soil Conservation Organization Conference thank the following institutions for their generous financial support:

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Organizing Committee

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Mark Nearing (co-chair), USDA, Agricultural Research Service
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Rabi Mohtar, Purdue University
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John Nordin, USDA, Forest Service
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David Sammons, Purdue University
Sara Scherr, University of Maryland
David Schertz, USDA, NRCS
Berlie Schmidt, USDA, Cooperative State Research, Education and Extension Service
Max Schneip, USDA, NRCS
Charles Sloger, U.S Agency for International Development
Gary Steinhardt, Purdue University
Diane Stott, USDA, ARS
Dan Towery, Conservation Technology Information Center
Glenn Weesies, USDA, NRCS
Welcome to the United States

The United States, in cooperation with its many North American partners, is pleased to welcome you and other conservationists from throughout the world to this 10th International Soil Conservation Organization (ISCO) Conference. ISCO has established a tradition over more than two decades of promoting international exchange on the science, technology, policy, and application of land and water conservation. This conference hopefully extends that tradition.

The theme of the conference, “Sustaining the Global Farm, Local Action for Land Stewardship,” acknowledges that we all live together on this planet, that each of us has a critical stake in maintaining the quality of our global environment, that soil conservation has fundamental significance as a basis for sustaining life, and that stewardship of natural resources ultimately depends upon the individual actions of us all.

This 10th ISCO conference, like its predecessors, is intended to provide a forum for us to come together to exchange information and ideas. It is also a forum in which we can express our views on the “state of the world” and what can and must be done to achieve sustainability in the use of land. Finally, the conference represents an enormous opportunity for us all to extend our personal and professional networks that can be so critical to finding solutions to global natural resource problems.

We hope the conference is an enriching experience for you and for us all.

Pearlie S. Reed
ISCO Co-chair

Mark Nearing
ISCO Co-chair
General Information

Conference Office/Communication Center
A conference office and communication center is located in the Stewart Center, Room 307, phone: 494-8829 or 496-6580. Questions about conference-related matters and other requests for assistance should be directed to this office. This room also contains a conference message board, computers that conference participants can use to check personal email, telephones, fax machine, photocopier, and a drop-off box for manuscripts being submitted to the proceedings.

Registration
The conference registration desk will be located in the Stewart Center East Foyer (first floor) on Sunday, May 23, and on Monday, May 24, until noon. Thereafter, you may request registration assistance at the window of Room 110 on the first floor of Stewart Center.

Your name badge, which you will receive when you register, is your official pass to all conference events, including receptions, the mid-week tour, and banquet. Please wear your badge at all times during the conference.

Shuttle Bus Service
Shuttle bus service will be provided daily between University Inn, Hillenbrand Hall, and Stewart Center. Service will run on the hour and half hour, from 6:30 a.m. to 8:00 a.m., from 12:00 noon to 1:30 p.m., and from 4:30 p.m. to 6:00 p.m.

On those days with evening events, shuttle bus service will be provided between Hillenbrand Hall and the Stewart Center and between the University Inn and the Stewart Center from 30 minutes prior to the start of evening events to 30 minutes after the conclusion of the evening events.

Refreshment Breaks
Coffee, juice, water, and soft drinks will be served in the vicinity of the meeting rooms in Stewart Center, Rooms 302-306, during all conference breaks.

Poster Papers/Demonstrations
More than 130 poster papers and demonstrations will be featured during the week in the South Ballroom of the Purdue Memorial Union, immediately adjacent to the Stewart Center. The South Ballroom will be accessible to conference participants throughout the day, including lunch hours; during the receptions on Sunday and Tuesday evenings; and on Monday and Wednesday evenings until 8:00 p.m. Presenters are asked to be at their posters and demonstrations from 7:30 to 8:00 p.m. during Sunday evening’s reception and from 6:00 to 7:00 p.m. during Tuesday evening’s reception. Presenters are welcome to be present at other times of their choice as well. Poster papers and demonstrations are to be assembled prior to the start of Sunday evening’s reception. All posters must be removed by noon on Thursday, May 27. A check-in system will be used on Sunday to ensure that posters are placed in the location specified in the conference program (see page 26).

Meal Service
The Union Market Cafeteria, offering participants a wide choice in meal service at very reasonable prices, will be open daily from 7 a.m.-2:30 p.m. for breakfast and lunch. On Monday and Tuesday they will be open from 4:30-6:30 p.m. for dinner to accommodate ISCO participants. Other restaurants in the Purdue Memorial Union are open throughout the day. Many restaurants are within a short walk of Stewart Center and Hillenbrand Hall. A list of these establishments, with a map showing their location, is included in the registration packet.

On Wednesday, prior to the mid-week tour departure, the Union Market Cafeteria will open at 6:30 a.m. and the RHIT Cafeteria (located in Stone Hall) will open at 7 a.m. to accommodate tour participants. Stone Hall is located across the mall from Stewart Center.

The cost of the Sunday and Tuesday receptions, lunch during the mid-week tour, and the banquet on Thursday evening are included in the registration fee; all other meals are on your own. Conference organizers chose to let participants choose when and where and what they eat because it would have been more expensive to provide organized meals throughout the week.

A selection of hot and cold hors d’oeuvres will be served during the Sunday evening reception. Cold hors d’oeuvres will be served during the Tuesday evening reception. There will be a cash bar at both events and during the reception preceding the banquet.

Lunch during the mid-week tour at the Indianapolis 500 Motor Speedway and dinner at Thursday evening’s banquet will be served buffet-style. This will allow conference participants a choice of foods to satisfy personal and religious preferences.
**Midweek Tour**

The mid-week tour will depart on Wednesday morning at 7:30 a.m. from the west side of the Stewart Center. When you register for the meeting, you will receive a color-coded ticket, either black or gold (Purdue University colors), to identify which group you will be touring with. **You must present this ticket to board the appropriate color-coded bus.** The two groups—black and gold—will travel in opposite directions, then meet again at the Stewart Center once the tour ends. Please locate and board the bus with the proper color code prior to the 7:30 a.m. departure. The Union Market Cafeteria will open for breakfast at 6:30 a.m. and the Stone Hall Cafeteria will open at 7:00 a.m. that morning to accommodate tour participants for breakfast prior to departure. A catered lunch will be provided at the Indianapolis 500 Motor Speedway.

Please prepare for the possibility of cool temperatures and rainfall on the tour. Rainwear, umbrellas, layered clothing, and field shoes are encouraged. Most stops will have some covered areas, but those areas may not be sufficient in size to accommodate the entire group. Buses have a restroom on board, and all stops, except that at the research plots, will have restroom facilities.

The following table shows the tour itinerary. Participants in the black group follow the times from top to bottom on the left side of the table. Participants in the gold group follow the times from bottom to top on the right side of the table. Participants in the gold group follow the times from bottom to top on the right side of the table.

<table>
<thead>
<tr>
<th>Black Group Times</th>
<th>Stop</th>
<th>Brief Description</th>
<th>Gold Group Times</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:30AM</td>
<td>Stewart Center</td>
<td>START/END</td>
<td>6:00PM</td>
</tr>
<tr>
<td>7:30-7:45</td>
<td>travel</td>
<td></td>
<td>5:45-6:00PM</td>
</tr>
<tr>
<td>7:45-8:30</td>
<td>Soil Amendments</td>
<td>Research plots to study the effect of soil amendments on runoff and erosion on steep slopes/Rainfall simulator</td>
<td>5:00-5:45PM</td>
</tr>
<tr>
<td>8:30-8:45</td>
<td>travel</td>
<td></td>
<td>4:45-5:00PM</td>
</tr>
<tr>
<td>8:45-9:30</td>
<td>Fort Quiatenon</td>
<td>Demonstration and discussion of the soils and geology of the area and cultural history</td>
<td>4:00-4:45PM</td>
</tr>
<tr>
<td>9:30-10:30</td>
<td>travel</td>
<td></td>
<td>3:00-4:00PM</td>
</tr>
<tr>
<td>10:30-11:30AM</td>
<td>Jim Moseley Farm</td>
<td>Production agriculture and issues of farming in the cornbelt</td>
<td>2:00-3:00PM</td>
</tr>
<tr>
<td>11:30-12:30</td>
<td>travel</td>
<td></td>
<td>1:00-2:00PM</td>
</tr>
<tr>
<td>12:30-2:00PM</td>
<td>Indianapolis 500 Track</td>
<td>Lunch and visitation of the 500 track and museum</td>
<td>11:30-1:00PM</td>
</tr>
<tr>
<td>2:00-2:30</td>
<td>travel</td>
<td></td>
<td>11:00-11:30AM</td>
</tr>
<tr>
<td>2:30-4:00PM</td>
<td>Eagle Creek Park</td>
<td>Conservation fair illustrating USDA-NRCS and partners activities in the area</td>
<td>9:30-11:00AM</td>
</tr>
<tr>
<td>4:00-4:15</td>
<td>travel</td>
<td></td>
<td>9:15-9:30AM</td>
</tr>
<tr>
<td>4:15-5:00PM</td>
<td>Royal Run Development</td>
<td>Example of erosion problems and conservation activities associated with urban sprawl</td>
<td>8:30-9:15AM</td>
</tr>
<tr>
<td>5:00-6:00PM</td>
<td>travel</td>
<td></td>
<td>7:30-8:30AM</td>
</tr>
<tr>
<td>6:00PM</td>
<td>Stewart Center</td>
<td>START/END</td>
<td>7:30AM</td>
</tr>
</tbody>
</table>
Discussion Groups

Please note in the program that two “discussion group” sessions are scheduled during the conference, one on Tuesday from 1:15 p.m. to 2:45 p.m. and another on Thursday from 10:30 a.m. to Noon. These two sessions are intended to extend the discussion begun in the conference white paper, a copy of which is included in your registration packet. This is your opportunity to take part and actively shape the outcome of the conference. The intention of the conference organizers is to pose a limited number of questions to participants in an effort to determine the “state of the global land resource” and identify strategies to sustain that land resource. A summation of participants views will be assembled following the conference and shared with opinion-leaders around the world who have conservation policymaking and program administration responsibilities.

Parking

Conference participants who drive to the meeting each day may park in the Grant Street Garage, one block south of the Stewart Center. The rate is $5 per day.

National Soil Erosion Research Laboratory Open House

Three opportunities have been scheduled for conference participants to tour the National Soil Erosion Research Laboratory and become acquainted with staff members and their research on soil erosion science, prediction, and conservation technologies. The first of these opportunities is on Saturday, May 22 from 1:00-5:00 p.m. The second is on Sunday, May 23, from 10:00 a.m. until 4:00 p.m. The third is on Monday, May 24, from 5:00-8:00 p.m. The laboratory is located just a few blocks from the Stewart Center.

Purdue Agronomy Research Facility Open House

Purdue Agronomy Department has one of the best teaching programs in the United States. They train undergraduate students in crop, soil, and environmental sciences. ISCO conference participants will have the opportunity to visit the Agronomy laboratories on Monday, May 24 from 5:00-8:00 p.m. The Agronomy Department is located in the Lilly Hall of Life Sciences south of State Street.

Banking

Banking hours in the United States vary from location to location. Banks in West Lafayette area are generally open from 9:00 a.m. until 4:00 or 5:00 p.m.

Most hotels, restaurants, and shops accept international credit cards, such as VISA, MasterCard, Diners Club, and American Express. Travelers checks are also commonly accepted.

For conference registration purposes, Purdue University accepts the following credit cards: VISA, MasterCard, and Discover.

In an Emergency

If you have a medical emergency, call 911. If someone needs to get in touch with you during the conference, they can call 765-494-8829 or 765-496-6580 and a message will be posted for you on the message board outside Stewart Center, Room 307.

Conference Proceedings

A peer-reviewed book of conference papers will be published following the meeting. All conference registrants will receive a copy. Manuscripts can be dropped off at the conference office, Stewart Center, Room 307, or the National Soil Erosion Research Laboratory (NSERL). They can also be mailed no later than June 15, 1999 to:

Dr. Diane Stott
NSERL
Purdue University
1196 SOIL Building
West Lafayette, IN 47907-1196 USA.

Bus Service to Chicago’s O’Hare International Airport

Bus service for those participants departing from Chicago’s O’Hare International Airport following the conference will be provided on Friday afternoon and Saturday morning. On Friday, the bus will depart from Hillenbrand Hall at 1:00 p.m. and from the Purdue Memorial Union at 1:15 p.m. Saturday morning’s bus service will depart from Hillenbrand Hall at 8:45 a.m. and from the Purdue Memorial Union at 9:00 a.m. The cost for this service is $30 per person.
Conference Program

Sunday, May 23

1:00 a.m.-4:00 p.m.  Open House, National Soil Erosion Research Laboratory
3:00-6:30 p.m.  Poster Paper/Demonstration Set-up, Purdue Memorial Union, South Ballroom
3:00-8:00 p.m.  Registration, Stewart Center, East Foyer, First Floor
5:00 p.m.  Structured Discussion Facilitator/Recorders Meeting, Stewart Center, Room 202
6:00 p.m.  Plenary and Concurrent Session Moderators Meeting, Stewart Center, Room 202
6:30-8:00 p.m.  Opening Reception/Poster Papers/Demonstrations, Purdue Memorial Union, North and South Ballrooms; Hors d’oeuvres and cash bar

Moderator
Mark Nearing, International Soil Conservation Organization, West Lafayette, Indiana

Welcome
William McFee, Department of Agronomy, Purdue University, West Lafayette, Indiana
Robert Eddleman, Natural Resources Conservation Service, U.S. Department of Agriculture, Indianapolis, Indiana

Monday, May 24

7:30 a.m.-Noon  Registration, Stewart Center, East Foyer
8:15-10:15 a.m.  Keynote Session (Plenary Session 1), Stewart Center, Loeb Playhouse

Moderator
Pearlie Reed, Natural Resources Conservation Service, USDA, Washington, D.C., and Co-chair, ISCO

Welcome
David Sanders, World Association of Soil and Water Conservation, Bristol, England

The U.S. Role in Achieving Sustainable Land Use
The Honorable Richard Lugar, United States Senate, Washington, D.C. (invited)

Achieving Sustainable Land Use: The U.S. Approach
The Honorable Richard Rominger, U.S. Department of Agriculture, Washington, D.C.

The State of the Global Farm
Jonathan Lash, World Resources Institute, Washington, D.C.

Break, Stewart Center, Rooms 302-306

10:45 a.m.-Noon  Plenary Session 2, Stewart Center, Loeb Playhouse

Is Land Use Sustainable?

Moderator
Mark Nearing, National Soil Erosion Research Laboratory, Agricultural Research Service, USDA, West Lafayette, Indiana

Land Use and Global Climate Change
Cynthia Rosensweig, National Aeronautics and Space Administration, New York, New York

Global Partnerships to Achieve Sustainable Land Use
Bruce Moore, Popular Coalition to Eradicate Hunger and Poverty, Rome, Italy

Lunch (On your own)

1:15-2:45 p.m.  Concurrent Sessions, Stewart Center (See page 12 for session programs)

1. Sustaining the Global Farm: National Issues I, Room 206
2. Social, Economic, and Policy Elements of Conservation I, Room 310
3. Soil Amendments for Erosion Control, Room 322
4. Wind Erosion I, Room 218ab
5. Irrigation Erosion, Room 218cd
7. Soil Quality and Organic Amendments, Room 214ab
8. Water Conservation and Quality I, Room 214cd
Plenary Session 3, Stewart Center, Loeb Playhouse

Local Action for Land Stewardship

Moderator
Glenda Humiston, Natural Resources and Environment, USDA, Washington, D.C.

Soil Conservation in the Peoples Republic of China
Jiao Juren, Bureau of Soil and Water Conservation, Ministry of Water Resources, Beijing, Peoples Republic of China

Conservation Districts, USA
Rudy Rice, National Association of Conservation Districts, DuQuoin, Illinois

Landcare, Australia
Michael Sutherland, Peak Hill Landcare Group, and Board of Directors, Landcare Australia, Peak Hill, New South Wales, Australia

Conservation is for Business: Self-help Groups in Kenya
Francis Shaxson and Jim Cheatle, Association for Better Land Husbandry, Dorset, England and Nairobi, Kenya

Soil Conservation Policies in the State of Parana
Osmar Muzilli, Soil Science Department, IAPAR, Parana, Brazil

Open House, National Soil Erosion Research Laboratory

Open House, Purdue Agronomy Research Facility, Lilly Hall of Life Sciences

Poster Papers/Demonstrations, Purdue Memorial Union, South Ballroom (See page 26 for list of papers/demonstrations)

ISCO Board of Directors Meeting, By invitation

Wind Erosion Meeting, Stewart Center, Room 202

Scientific Assessment of Changes in the Land
Moderator
Allen Dedrick, Agricultural Research Service, USDA, Beltsville, Maryland

Soil Erosion Prediction Technology for Conservation Planning
George Foster, Bryan, Texas

Landscape Assessment Technology: The State of the Science and Art
Jack Dangermond, Environmental System Research Institute, Redlands, California

Land Health Indicators as Measures of Sustainability

Scaling Issues in Soil Erosion Science
Mike Kirkby, School of Geography, University of Leeds, United Kingdom

Plenary Session 4, Stewart Center, Loeb Playhouse

Scientific Assessment of Changes in the Land

Moderator
Allen Dedrick, Agricultural Research Service, USDA, Beltsville, Maryland

Soil Erosion Prediction Technology for Conservation Planning
George Foster, Bryan, Texas

Landscape Assessment Technology: The State of the Science and Art
Jack Dangermond, Environmental System Research Institute, Redlands, California

Land Health Indicators as Measures of Sustainability

Scaling Issues in Soil Erosion Science
Mike Kirkby, School of Geography, University of Leeds, United Kingdom

Concurrent Sessions, Stewart Center (See page 14 for session programs)

10. Celebrating the Soil Survey Centennial, Room 206
11. Geographic Information Systems, Room 322
12. Grass Barriers, Room 214ab
13. Wind Erosion II, Room 218ab
15. Carbon Sequestration and Global Climate Change I, Room 314
16. Water Conservation and Quality II, Room 218cd
17. Special Session, Room 214cd

Lunch (On your own)
1:15-2:45 p.m.  Discussion Groups, Stewart Center
Registration packets contain group assignments for all conference participants

Group 1, Room 310
Group 2, Room 314
Group 3, Room 322
Group 4, Room 202
Group 5, Room 204
Group 6, Room 318
Group 7, Room 320
Group 8, Room 311
Group 9, Room 313
Group 10, Room 214ab
Group 11, Room 214cd
Group 12, Room 218ab
Group 13, Room 218cd
Group 14, Room 206

Break, Stewart Center, Rooms 302-306

3:15-5:00 p.m.  Concurrent Sessions, Stewart Center (See page 16 for session programs)
18. Sustaining the Global Farm: Global Issues, Room 206
19. Sustaining the Global Farm: National Issues II, Room 310
20. Local Action for Land Stewardship: Asia, Room 314
22. Information and Databases, Room 214ab
23. Wind Erosion III, Room 214cd
24. Mechanical and Tillage Erosion, Room 218ab
25. Soil Erosion Processes I, Room 202
26. Tracers, Room 218cd

5:30-7:00 p.m.  Reception/Poster Papers/Demonstrations, Two Crow, Native American Demonstration, Purdue Memorial Union, North and South Ballrooms; Hors d’oeuvres and cash bar

7:00 p.m.  Structured Discussion Facilitators/Recorders Meeting, Stewart Center, Room 202

Wednesday, May 26

7:30 a.m.-6:00 p.m.  Mid-week Tour
A day-long examination of conservation activity in the Corn Belt, including soil erosion research; soils, geology, and cultural history; conservation tillage, precision farming, and issues in production agriculture; wetlands restoration and other conservation activities; urban sprawl and its impacts on agriculture, landscape hydrology, and soil erosion. Lunch will be served at the Indianapolis 500 Motor Speedway and Museum. See page 5 for further details.

8:00 p.m.  ISCO Board of Directors Meeting, Stewart Center, Room 326; By invitation

Thursday, May 27

8:00-10:00 a.m.  Plenary Session 5, Stewart Center, Loeb Playhouse
Advances in Conservation-effective Practice
Moderator
Berlie Schmidt, Cooperative State Research, Education and Extension Service, Washington, D.C.

Frontiers in Conservation Tillage
Rolf Derpsch, GTZ, Asuncion, Paraguay

New Soil Erosion Control Technologies

Advances in Agroforestry Technologies for Soil Conservation
Dennis Garrity, International Center for Research on Agroforestry, Bogor, Indonesia

Soil Conservation for Carbon Sequestration
Rattan Lal, School of Natural Resources, Ohio State University, Columbus
Break, Stewart Center, Rooms 302-306

10:30 a.m.-Noon

**Discussion Groups**, Stewart Center

*Registration packets contain group assignments for all conference participants*

- **Group 1**, Room 310
- **Group 2**, Room 314
- **Group 3**, Room 322
- **Group 4**, Room 202
- **Group 5**, Room 204
- **Group 6**, Room 318
- **Group 7**, Room 320
- **Group 8**, Room 311
- **Group 9**, Room 313
- **Group 10**, Room 214ab
- **Group 11**, Room 214cd
- **Group 12**, Room 218ab
- **Group 13**, Room 218cd
- **Group 14**, Room 206

Noon

**Deadline for Poster Paper/Demonstration Take-down**

**Lunch (On your own)**

1:15-3:00 p.m.

**Plenary Session 6**, Stewart Center, Loeb Playhouse

*Achieving Sustainability: Social, Economic and Policy Elements*

**Moderator**

John Hebblethwaite, Conservation Technology Information Center (retired), West Lafayette, Indiana

**Making Watershed-based Conservation Work**

Jules Pretty, Director, Centre for Environment and Society, University of Essex, United Kingdom

**Achieving Sustainability: Training, Incentive and Policy Imperatives**

David Sanders, Bristol, England

**The Cost of Environmental Protection versus Restoration**

Sara Scherr, Department of Economics, University of Maryland, College Park

**Conservation Action: Why Success or Failure?**

Roland Bunch, COSECHA, Tegucigalpa, Honduras

Break, Stewart Center, Rooms 302-306

3:15-5:00 p.m.

Concurrent Sessions, Stewart Center *(See page 19 for session programs)*

- **27. Sustaining the Global Farm: Sustainable Production I**, Room 310
- **28. Local Action for Land Stewardship: Africa**, Room 314
- **29. Local Action for Land Stewardship: America, Europe, Australia, and the Pacific**, Room 322
- **31. Erosion Surveys: Applications and Methods**, Room 206
- **32. Land Use Influences on Erosion and Degredation I**, Room 214ab
- **33. Soil Erosion Processes II**, Room 214cd
- **34. Carbon Sequestration and Global Climate Change II**, Room 218ab
- **35. Physical, Chemical, and Biological Properties of Soils**, Room 218cd

6:30-9:00 p.m.

**Reception and Banquet**, Purdue Memorial Union, North Ballroom

Master of Ceremonies, Otto Doering, Purdue University, West Lafayette, Indiana

**Banquet Address: Population, Land and People: The Food Challenge in the New Century**

Lester Brown, WorldWatch Institute, Washington, D.C.
Friday, May 28

8:00-9:45 a.m. **Concurrent Sessions,** Stewart Center (See page 23 for session programs)

36. Sustaining the Global Farm: Sustainable Production II, Room 310
37. Social, Economic, and Policy Elements of Conservation V, Room 314
38. Institutionalizing Farmer Driven Conservation Management, Room 218ab
39. Land Use Influences on Erosion and Degradation II, Room 322
40. Soil Erodibility, Room 214ab
41. Watersheds and Basins / Erosion and Productivity, Room 202
42. Models of Erosion and Related Processes, Room 218cd
43. USLE- and RUSLE-based Soil Erosion Models, Room 206
44. Impact of Cropping Systems on C and N, Room 214cd

**Break, Stewart Center, Rooms 302-306**

10:15 a.m.-12:30 p.m. **Closing Session** (Plenary Session 7), Stewart Center, Loeb Playhouse

*The Way Forward!*

**Moderator**
Mark Nearing, International Soil Conservation Organization, West Lafayette, Indiana

**Sustaining the Global Farm: A Farmer’s View**

**Panel Leader**
Craig Cox, Soil and Water Conservation Society, Ankeny, Iowa

**Panelists**
Roberto Peiretti, Republica, Argentina
S. A. J. Sibanyoni, Mpuluzi, South Africa
Bill Northey, Spirit Lake, Iowa
Michael Sutherland, Peak Hill, New South Wales, Australia

**An Action Agenda from the Discussion Groups**
Samir El-Swaify, University of Hawaii, Honolulu, and ISCO Board of Directors

**11th ISCO Conference: A Welcome**

12:30 p.m. **Adjourn**
Concurrent Sessions 1 - 8: Monday, May 24, 1:15-2:45 p.m.

Session 1: Sustaining the Global Farm: National Issues I, Stewart Center, Room 206
Moderator: Darrell Norton, ARS

1:15 German soil protection policy within the framework of EU policy
Bernd M Bussian, Federal Environmental Agency, Berlin, Germany. A-0800

1:30 Challenges and future strategies for conservation and sustainable management of land resource in Bangladesh
Md. Sultan Hussain, University of Dhaka, Dhaka, Bangladesh. A-0215

1:45 The effectiveness and economic viability of soil conservation: case studies in Yunnan Province, China
Michael A. Fullen, et al., University of Wolverhampton, Wolverhampton, United Kingdom. A-0163

2:00 Land degradation in northwestern Jordan: Causes and processes
Saeb A. Khresat, Jordan University of Science & Technology, Irbid, Jordan. A-0111

2:15 How and why the Brazilian zero tillage explosion occurred
John N. Landers, Associacao de Plantio Directa, No Cerrado, Brazil. A-0362

2:30 Discussion

Session 2: Social, Economic, and Policy Elements of Conservation I, Stewart Center, Room 310
Moderator: Otto Doering, Purdue University

1:15 Popularization of soil conservation techniques in rural region of Madagascar
Andriatahiana Rakotondralambo, National Association for the Environment, Madagasikara, Madagascar. A-0302

1:30 Adoption and maintenance of soil conservation practices in the Dominican Republic Highlands
Benedict de la Briere, International Food Policy Research Institute, Washington, DC. A-0594

1:45 Land use planning for sustainable land use: The haziness of paradigm
Eckehard Fleischhauer, Ministerialrat rettd., Bonn, Germany. A-0486

2:00 Planning approaches and instruments in natural resources management projects
Helmut Eger, Deut. Gessellschaft Tech., Zusammenarge, Germany. A-0698

2:15 Discussion

Session 3: Soil Amendments for Erosion Control, Stewart Center, Room 322
Moderator: David Doss, NRCS

1:15 Polyacrylamide: Use, effectiveness, and cost of a soil erosion control amendment
V. Steven Green, et al., Purdue University, West Lafayette, Indiana. A-0705

1:30 Erosion control through use of synthetic gypsum
Belle H. Wallace, et al., Purdue University, West Lafayette, Indiana. A-0503

1:45 Polyacrylamide effect on sediment yield, runoff, and seedling emergence on steep slopes
Kiran Chaudhari, et al., Purdue University, West Lafayette, Indiana. A-0703

2:00 Discussion

Session 4: Wind Erosion I, Stewart Center, Room 218ab
Moderator: Ted Zobeck, ARS

1:15 Influence of vegetation on soil loss by wind erosion
Dean V. Armbrust, USDA-ARS and Kansas State University, Manhattan, Kansas. A-0463

1:30 Developments in measurement and models for suspension-dominated wind erosion

1:45 Introduction of a spectrum of sizes into a dust prediction model
Louis Berkofsky, Ben-Gurion University of the Negev, Sede Boker, Israel. A-0746

2:00 Height calibration of wind erosion measured with BSNE samplers
Daniel E. Buschiazzo, et al., Faculty of Agronomy, UNLPam, Argentina. A-0666

2:15 Discussion

Session 5: Irrigation Erosion, Stewart Center, Room 218cd
Moderator: John Kimble, NRCS

1:15 Evaluating WEPP predicted infiltration, runoff and soil erosion for furrow irrigation
David L. Bjorneberg, et al., USDA-ARS, Kimberly, Idaho. A-0652
1:30  *Hydraulic modeling of irrigation-induced soil erosion*  
Theodor S. Strelkoff, et al., USDA-ARS, Kimberly, Idaho. A-0774

1:45  *Influence of irrigation water properties on furrow infiltration*  
Rick Lentz, USDA-ARS, Kimberly, Idaho. A-0570

2:00  *Sediment transport in irrigation furrows*  
Thomas J. Trout, et al., USDA-ARS, Fresno, California. A-0634

2:15  Discussion

**Session 6: Process-based Soil Erosion Models I**, Stewart Center, Room 314
*Moderator: Dick Amerman, ARS*

1:15  *Preliminary results of WEPP model use in the Ukraine for the development of constructions for soil erosion prevention*  
Margarita Kotova, Institute for Soil, Science, and Agrochemistry, Kharkiv, Ukraine. A-0066

1:30  *Effects of DEM grid resolution on erosion modeling of small watersheds using a WEPP-GIS interface*  
Thomas A Cochrane, et al., Purdue University, West Lafayette, Indiana. A-0700

1:45  *Evaluation of WEPP under different land uses*  
Arun K. Tiwari, Central Soil and Water Conservation Research Institute, Dehradun, India. A-0202

2:00  *How WEPP model responds to different cropping and management systems*  
X.C. Zhang, USDA-ARS and Purdue University, West Lafayette, Indiana. A-0624

2:15  *WEPP simulated tillage effects on runoff and sediment losses in a corn-soybean rotation*  
Satish C. Gupta, University of Minnesota, St. Paul, Minnesota. A-0723

2:30  Discussion

**Session 7: Soil Quality and Organic Amendments**, Stewart Center, Room 214ab
*Moderator: Eileen Kladivko, Purdue*

1:15  *Use of soil hydraulic pedotransfer functions for the assessment of soil quality on a European scale*  

1:30  *Locally led conservation activities: Developing a Soil Quality assessment tool*  
Arlene J. Tugel, et al., USDA-NRCS, Las Cruces, New Mexico. A-0540

1:45  *Nutrient loss by surface runoff from sloped land*  
Chongfa Cai, Huazhong Agricultural University, China. A-0616

2:00  *Land application of beef cattle manure*  
John E. Gilley, et al., USDA-ARS and University of Nebraska, Lincoln, Nebraska. A-0108

2:15  *Impact of waste water irrigation on indigenous AM fungi populations in Central Mexico*  
Pilar Ortega-Larrocea, et al., Instituto de Geologia, Universidad Autonomia, Mexico. A-0501

2:30  Discussion

**Session 8: Water Conservation and Quality I**, Stewart Center, Room 214cd
*Moderator: Gary Muckel, NRCS*

1:15  *The contribution of corn, sorghum, and soybean production to nitrogen loading in the Upper Mississippi*  
Verel Benson, Environmental Food and Agricultural Policy Institute, Columbia, Missouri. A-0802

1:30  *Soil plant interaction and plant available water to maize and sorghum crops*  
Reimar Carlesso, et al., Federal University of Santa Maria, Brazil. A-0392

1:45  *Rainfall-runoff harvesting for controlling erosion and sustaining upland agriculture development*  
Sumarjo Gatot, et al., Ecole Nationale Superieure Agronomique, France. A-0660

2:00  *Man-made materials in urban soils: The influence of porous skeleton on the concentration of pollutants of soil water*  
Nicole Badjer, et al., University of Essen, Essen, Germany. A-0296

2:15  *Cooperation between USDA and Bulgaria in agro-environmental water quality program*  

2:30  Discussion
Concurrent Sessions 9 - 17: Tuesday, May 25, 10:30 a.m.-Noon

Session 9: Social, Economic, and Policy Elements of Conservation II, Stewart Center, Room 310
Moderator: Hari Eswaran, NRCS

10:30 Paso del Norte sustainable water use strategy
Ed Hamlyn, University of Texas-El Paso, El Paso, Texas. A-0655

10:45 Environmental status of land and socio-economic policy in Russia during the 20th Century
Alexander Gennadiyev, Moscow State University, Moscow, Russia. A-0213

11:00 Ecologically sustainable soil: The role of environmental policy and legislation
Ian Hannam, Department of Land & Water Conservation, Parramatta, Australia. A-0115

11:15 Environmental McCarthyism and the precautionary principle: What can we learn from the past while seeking alternate solutions?
D. Brook Harker, et al., Prairie Farm Rehabilitation Administration, Canada. A-0488

11:30 Discussion

Session 10: Celebrating the Soil Survey Centennial, Stewart Center, Room 206
Moderator: Jim Culver, NRCS

10:30 A centennial celebration of research, education, and production of soil surveys in the United States
Boettinger

10:50 Leadership of the USDA and NRCS in conducting 100 Years of soil surveys in the United States
Horace Smith, USDA-NRCS, Washington, D.C.

11:10 Role and influence of state and local governments in the use of the soil survey program
Dayle Williamson, Nebraska Natural Resources Commission, Lincoln, Nebraska

11:30 History of soil surveys in the soil conservation movement in the United States
Douglas Helms, USDA-NRCS, Washington, DC

11:50 Discussion

Session 11: Geographical Information Systems, Stewart Center, Room 322
Moderator: Jerry Ritchie, ARS

10:30 Regional evaluation of soil erosion and conservation based on GIS and RS in Loess Plateau of China
Li Dingqiang, Guangdong Institute of Ecoenvironment, Guangdong, Peoples Republic of China. A-0357a

10:45 Soil erosion risks assessment at regional scale using GIS and expert system

11:00 Estimation of soil erosion using remote sensing and GIS, its valuation and economic implications on agricultural production
Manzul Kumar Hazarika, Asian Institute of Technology, Bangkok, Thailand. A-0308

11:15 ACREs: Automated CRP enrollment system using GIS
Vernon L. Thomas, et al., CIESIN, Fort Collins, Colorado. A-0284

11:30 A GIS-based methodology for land stress evaluation
Rami Zurayk, et al., American University of Beirut, Beirut, Lebanon. A-0732

11:45 Discussion

Session 12: Grass Barriers, Stewart Center, Room 214ab
Moderator: I.J.M. Romkens, ARS

10:30 On-farm assessment of contour hedges for soil and water conservation

10:45 The influence of grass strips on runoff hydrology and sediment transport
H. Ghadiri, Griffith University, Queensland, Australia. A-0297

11:00 Contour hedgerows of Calliandra calothyrsus Meissn. for soil and water conservation in the Blue Mountains of Jamaica
Morag McDonald, University of Wales, Bangor, Wales, United Kingdom. A-0065

11:15 Designing research to improve runoff and erosion control practices: Example, grass hedges

11:30 Vetiver grass hedgerows for soil and water conservation in farmlands in Uganda: A success story
James G. Dembe, Foundation for Urban and Rural Advancement, Kasese, Uganda. A-0247

11:45 Discussion
Session 13: Wind Erosion II, Stewart Center, Room 218ab

Moderator: Ed Skidmore, ARS

10:30 Assessment of wind erosion parameters using wind tunnels
Lawrence J. Hagen, USDA-ARS and Kansas State University, Manhattan, Kansas. A-0573

10:45 TEAM: The Texas Tech wind erosion analysis model
Jim Gregory, Texas Tech University, Lubbock, Texas. A-0773

11:00 Soil born dust release and deposition on polluted industrial fallow land in the Ruhr area
Silke Hoeke, et al., University of Essen, Essen, Germany. A-0318

11:15 Wind erosion estimates with RWEQ and WEQ
D.W. Fryrear, et al., USDA-ARS, Big Spring, Texas. A-0725

11:45 Discussion

Session 14: Process-based Soil Erosion Models II, Stewart Center, Room 202

Moderator: Rabi Mohtar, Purdue University

10:30 Finite element modeling of erosion on agricultural lands
V.N. Sharda, et al., Central Soil and Water Conservation Research Institute, Dehradun, India. A-0280

10:34 Modifications of the EROSION-2D model for conservation planning and an application in an agricultural watershed within the Belgian loess belt
Jan Biesemans, et al., University of Gent, Gent, Belgium. A-0133

11:00 Actions against soil erosion at the catchment scale guided by computer simulation
Juergen Schmidt, Technical University, Freiberg, Germany. A-0320

11:15 Evaluation of the sediment trapping efficiency of gallery forests using erosion modeling
Henrique Chaves, Brazil

11:30 An erosion model for tree and bush canopy
Miguel Coutinho, HIDROPROJETO, Portugal

11:45 Discussion

Session 15: Carbon Sequestration and Global Climate Change I, Stewart Center, Room 314

Moderator: Rattan Lal, The Ohio State University

10:30 Selective transport of soil size fractions, CN by erosion across two conservation tillage water sheds
Gordon Starr, The Ohio State University. A-0742

10:45 Carbon sequestration in the no-till and plowed chronosequence in tropical areas of Brazil
Joao Carlos de Moraes Sa, et al., Ohio State University, Columbus, Ohio. A-0743

11:00 Soil erosion control for improving soil organic carbon content on tropical sloping lands in Asia and the Pacific

11:15 Soil erosion, greenhouse-gas emission and climate change: Using WEPP-CO2 to model the impacts in Mato Grosso State, Brazil
Antonio J.T. Guerra, et al., Federal University, Rio de Janeiro, Brazil. A-0427

11:30 Estimating a baseline of CO2 emissions and carbon storage in U.S. cropland soils
Marlen D. Eve, et al., Colorado State University, Fort Collins, Colorado. A-0792

11:45 Discussion

Session 16: Water Conservation and Quality II, Stewart Center, Room 218cd

Moderator: Xunchang Zhang, Purdue University

10:30 Spatial patterns in water use efficiency created by intensive cultivation on semi-arid hillslopes
Bas van Wesemael, Middlesex University, Enfield, United Kingdom. A-0537

10:45 Participatory evaluation of water harvesting techniques for establishing improved mango varieties in semi-arid areas of Mbeere District, Kenya
Jayne Njeri Mugwe, Kenya Forestry Research Institute, Embu, Kenya. A-0325

11:00 Linking intensive monitoring sites to conservation planning

11:15 Increasing water productivity in rice cultivation: Impact of large-scale adoption of direct seeding
To Phuc Tuong, et al., International Rice Research Institute, Manila, The Philippines. A-0518

11:30 Irrigation water supply pricing and its conservation effects: A case study from Hawaii
Chennat Gopalakrishnan, et al., University of Hawaii, Honolulu, Hawaii. A-0382

11:45 Discussion
Session 17: Special Session, Stewart Center, Room 214cd
Moderator: Eusebio Ventura, Purdue University

10:30  Saturated transport of atrazine under two tillage systems
      Alton B. Johnson, et al., Alcorn State University, Alcorn State, Lorman. A-0783

10:45  Productivity of heavy clayey soil as affected by some soil amendments and drainage treatments
      M.A. Abou El-Soud, et al., Soil, Water, Environmental Research Institute, Giza, Egypt. A-0375

11:00  Land degradation in the unreclaimed hill and mountain regions of East China
      Lu Jinfa, Institute of Geography, Beijing, Peoples Republic of China. A-0665

11:15  Factors affecting agricultural sustainability in the Pacific Northwest, USA

11:30  Agroforestry and soil conservation in Brazilian agriculture
      Luis Fernando Guedes Pinto, Campinas, Brazil. A-0718

11:45  Discussion

Concurrent Sessions 18 - 26: Tuesday, May 25, 3:15-5:15 p.m.

Session 18: Sustaining the Global Farm: Global Issues, Stewart Center, Room 206
Moderator: Julian Dumanski, The World Bank

3:15  Funding the future: Have we got the facts right?
      T.F. Shaxson, Greensbridge, Dorset, United Kingdom. A-0196

3:30  Global assessment of land quality
      Fred H. Beinroth, et al., University of Puerto Rico, Mayaguez, Puerto Rico. A-0578

3:45  Water conservation and utilization
      K.G. Tejwani, Land Use Consultants International, New Delhi, India. A-0209

4:00  Global tension zones of land degradation
      Hari Eswaran, et al., USDA-NRSC, Washington, DC. A-0395

4:15  Important and controversial watershed management issues in developing countries
      Ted Sheng, Colorado State University, Ft. Collins, USA. A-0211

4:30  Evaluating the potential of integrated crop management, AgCover systems, and participatory
      approaches to improving food security of smallholders in the tropics
      Ken Schlather, et al., Cornell University, Ithaca, New York. A-0583

4:45  Incentives in soil conservation: From theory to practice
      Samran Sombatpanit, Department of Land Development, Bangkok, Thailand. A-0222

5:00  Discussion

Session 19: Sustaining the Global Farm: National Issues II, Stewart Center, Room 310
Moderator: David Shertz, NRCS

3:15  Conservation technologies and green food production in severely eroded sloping land of South China
      Dingqiang Li, Guandong Institute of Ecoenvironmental and Soil Science, Guangdong, China. A-0422

3:30  Factors that cause deterioration of the land and waters in the Province “Los Andes” (North Bolivian
      Highplateau)
      Javier Gustavo Villegas, EMAG/Qhana, La Paz, Bolivia. A-0093

3:45  A vision of 21st century agro-environmental farming-integrating quality and environmental
      management systems
      Liu Chuang, USDA-NRCS, Washington, DC. A-0439

4:00  Soil conservation and restoration of Siwalik Hills between the rivers Ganga and Yamuna for
      ecologically sustainable development and biodiversity protection

4:15  Soil conservation and management of arid soil in Kuwait
      Mahdi, Kuwait Institute for Scientific Research, Kuwait. A-0237

4:30  Sustainable agricultural enterprises in two districts in Uganda
      Micheal Nkuba

4:45  Discussion
Session 20: Local Action for Land Stewardship: Asia, Stewart Center, Room 314
Moderator: John Gilley, U. Nebraska

3:15 Approaches on soil erosion and its controlling counter-measures in the Three Gorges Reservoir area
Binghui He, et al., Southwest Agricultural University, Chongqing, Peoples Republic of China. A-0379

3:30 Small watershed management and eco-agricultural construction in Loess Hill region: A case study in Zhisfenggou watershed of Ansai
Guobin Liu, et al., Institute of Soil and Water Conservation, Yangling, Peoples Republic of China. A-0356

3:45 Methods and practices of soil and water conservation in South China
Huaxing Li, et al., Institute of Soil and Water Conservation, Yangling, Peoples Republic of China. A-0357

4:00 Facilitating better linkages between hilltribe communities and government agencies with digitized land use maps in Mae Hong Son
Oliver Puginier, Humboldt University, Berlin, Germany. A-0180

4:30 Better and bad soil and water use practices by the Indian farmers
D. Nanjappa, et al., Faculty of Agriculture Extension, Bangalore, India. A-0343

4:45 Land resource constraints for sustainable agriculture in Thailand
Polanee Moncharoen, et al., Department of Land Development, Bangkok, Thailand. A-0201a

5:00 Discussion

Session 21: Social, Economic, and Policy Elements of Conservation III, Stewart Center, Room 322
Moderator: Sara J. Scherr, University of Maryland

3:15 The regulatory program to achieve land conservation on the hilly-rolling relief of Lithuania
Benediktas Jankauskas, Lithuanian Institute of Agriculture, Kaltinenai, Lithuania. A-0018

3:30 Financial incentives to achieve sustainable land use: A demonstration project in Northeast Germany
Klaus Mueller, et al., Center for Landscape Research, Muencheberg, Germany. A-0453

3:45 From component technology to watershed management: Evolution in the design of a project addressing poverty, food security, and natural resource management through farmer participation

4:00 Land tenure and soil conservation practices: Evidence from West Africa and Southeast Asia
Andreas Neef, Institute of Agricultural Economics and Social Science, Stuttgart, Germany. A-0354

4:15 Insurance as a tool to promote the adoption of best nitrogen management practices to protect water quality

4:30 Changes in environmental regulations and the implication on the pineapple industry in Malaysia
Mohd. Hanif Ahmad Husni, et al., University of Putra Malaysia, Serdang, Malaysia. A-0143

4:45 Discussion

Session 22: Information and Databases, Stewart Center, Room 214ab
Moderator: Aleksey Sidorchuk, Moscow State University

3:15 GPFARM: An integrated decision support system for sustainable Great Plains agriculture
James C. Ascough, II, et al., USDA-ARS, Fort Collins, Colorado. A-0174

3:30 Soil and water conservation planning on the Loess plateau in Northern China
Coen J. Ritsema, et al., Wageningen, The Netherlands. A-0657a

3:45 On-Farm strategies to assess water resources and plan best management practices
Claire Baffaut, et al., University of Massachusetts, Sunderland, Massachusetts. A-0625

4:00 An expert type methodology to assess land degradation and melioration requirements
Andrei Canarache, Research Institute for Soil Science and Agrochemistry, Bucharest, Romania. A-0240

4:15 Rapid, indicator-based soil mapping for regional planning in northern Thailand
Horst Vogel, et al., Bundesanstalt fur Geo. und Rohstoffe, Hannover, Germany. A-0622

4:30 Regional environmental information system for sustainable land use planning
Ian E. Jarvis, et al., Agriculture & Agri-Food Canada, Ottawa, Ontario. A-0690

4:45 A large-scale soil information system for land management decisions in Flanders (Belgium)
Johan Desmet, Agricultural Research Center, Gent, Belgium. A-0581

5:00 Discussion
Session 23: Wind Erosion III, Stewart Center, Room 214cd
Moderator: Lee Norfleet, NRCS

3:15  Current wind erosion monitoring and modeling techniques in Australia
      John Leys, et al., Department of Land and Water Conservation, Gunnedah, Australia. A-0735

3:30  Wind erosion and air quality research in the northwest U.S. Columbia plateau—organization and progress
      Keith Saxton, USDA-ARS and Washington State University, Pullman, Washington. A-0327

3:45  Soil properties relevant to wind erosion
      Ed L. Skidmore, USDA-NRCS and Kansas State University, Manhattan, Kansas. A-0615

4:00  Wind erosion control practices
      Gary L. Tibke, USDA-NRCS and Kansas State University, Manhattan, Kansas. A-0610

4:15  Crop productivity and surface soil properties of a severely wind-eroded soil
      Ted M. Zobeck, Lubbock, Texas. A-0090

4:30  Discussion

Session 24: Mechanical and Tillage Erosion, Stewart Center, Room 218ab
Moderator: Maurice Cook, Ecologistics Ltd

3:15  Development and assessment of TERI (Tillage Erosion Risk Indicator) for application in Canada’s Agri-environmental Indicators Project
      David A. Lobb, et al., New Brunswick Department of Agriculture, Fredericton, New Brunswick. A-0611

3:30  The TERON experiments on tillage erosion: An overview of the results of the first phase
      Gerard Govers, et al., Laboratory for Experimental Geomorphology, Fund for Science Research, Flanders, Belgium. A-0668a

3:45  Implications of tillage erosion for soil quality in temperate regions
      Goswin Heckrath, et al., Danish Institute of Agricultural Science, Tjele, Denmark. A-0631

4:00  Soil losses due to rootcrop harvesting: Importance and implications
      Jean W. A. Poesen, Laboratory for Experimental Geomorphology, Leuven, Belgium. A-0602

4:15  Tillage erosion in the humid tropics: Rates, effects on soil properties, and approaches to reduce it.
      D. Keith Cassel, et al., North Carolina State University, Raleigh, North Carolina. A-0446

4:30  Soil erosion: A combined analysis of tillage and water erosion over a complex landscape
      Mike Lindstrom, et al., USDA-ARS, Morris, Minnesota. A-0273

4:45  Discussion

Session 25: Soil Erosion Processes I, Stewart Center, Room 202
Moderator: Calvin Rose, Griffith University, Brisbane

3:15  Recent progresses in soil erosion process research and their impacts on erosion prediction model development
      Chi-hua Huang, et al., USDA-ARS and Purdue University, West Lafayette, Indiana. A-0731

3:30  All rills are equal, but some are more equal than others: Modeling the initiation and development of hillslope erosion

3:45  The use of potential drainage density for the delineation of erosional and depositional surfaces
      Endre Dobos, et al., University of Miskolc, Miskolc-Egyetemvaros, Hungary. A-0696

4:00  Flume experiments for determining rill hydraulics, erosion, and rill patterns
      Ting Wu Lei, et al., Institute of Soil and Water Conservation, Yangling, Peoples Republic of China. A-0475

4:15  Effects of soil surface conditions on runoff and sediment delivery from interrill areas
      Andreas Klik, University of Agricultural Science, Vienna, Austria. A-0454

4:30  Hydrological and morphological method for research and computation of soil erosion and river sediment parameters
      Nelya N. Bobrovitskaya, State Hydrological Institute, St. Petersburg, Russia. A-0476

4:45  Effect of runoff and sediment from hillslope on the gully slope in the hilly Loess Region, North China
      Qiangguo Cai, Institute of Geography, Peoples Republic of China. A-0708

5:00  Discussion
Session 26: Tracers, Stewart Center, Room 218cd
Moderator: Don McCool, ARS

3:15 Assessment of soil erosion at the watershed scale from 137Cs measurements

3:30 Quantifying the spatial variability patterns of soil redistribution and soil quality in hilly landscapes on China’s Loess Plateau
Yong Li, et al., Center for Agricultural Landscape and Land Use Research, Muencheberg, Germany. A-0706

3:45 Application of Cesium-137 for measuring soil erosion/deposition patterns near a sustainable agricultural practice
Jerry C. Ritchie, USDA-ARS, Beltsville, Maryland. A-0283

4:00 Use of fly ash as a time marker in soil erosion and sedimentation studies

4:15 The use of Chernobyl-derived caesium-137 measurements for verification of erosion models
Valentin Golosov, Moscow State University, Moscow, Russia. A-0371

4:30 Validation of new generation soil erosion models using Cesium-137
Steven D. Warren, et al., Colorado State University, Fort Collins, Colorado. A-0484

4:45 New Approaches to studying soil dynamics using nuclear methods
D. Lal, University of California, La Jolla, California. A-0794

5:00 The magnitude and relative importance of tillage erosion at TERON investigation sites: Medium-term data from 137Cs measurements
Tim Quine, University of Exeter, Exeter, England. A-0808

Concurrent Sessions 27 - 35: Thursday, May 27, 3:15-5:15 p.m.

Session 27: Sustaining the Global Farm: Sustainable Production I, Stewart Center, Room 310
Moderator: Eric Roose, ORSTOM

3:15 The variation of nutrient contents and the pH-value on sandy soils after abandonment of arable fields
Angelika Wurbs, et al., Center for Agricultural Landscape Research, Muencheberg, Germany. A-0319

3:30 Participatory land and water management: Silsoe Research Institute’s experiences from Latin America and sub-Saharan Africa
Brian G. Sims, et al., Silsoe Research Institute, Bedford, United Kingdom. A-0591

3:45 Sustainable soil management: A framework for analysis
Jennie Popp, et al., University of Arkansas, Fayetteville, Arkansas. A-0081

4:00 Watershed management policies, processes, on-the-ground delivery and local action — rhetoric and reality
D. Uma Maheswara Rao, et al., Indian Agricultural Research Institute, New Delhi, India. A-0415

4:15 Mineral-N movement in an Ultisol in the Central Highlands of Kenya

4:30 Management and utilization of land and water resources in Kenya for agricultural purposes: Current position and future challenges
Dalmas O. Sigunga, Egerton University, Kenya. A-0147

4:45 Sustainable land use in poor countries and poor communities: A mirage or real water?
Mohammed Atif Kishk, Minia University, Egypt. A-0186

5:00 Discussion

Session 28: Local Action for Land Stewardship: Africa, Stewart Center, Room 314
Moderator: T.F. Shaxson, United Kingdom

3:15 Soil restoration and agroforestry with small farmers, Dominican Republic
Mamerto Valerio, Environment and Development in the Caribbean, Santo Domingo, Dominican Republic. A-0107

3:30 Farmers’ innovations in arid regions of central and southern Tunisia
Noureddine Nasr, et al., Arid Regions Institute, Medenine, Tunisia. A-0511

3:45 The NGOs and land and water conservation in arid environment: An experience from southern Tunisia
M. Ouessar, et al., Arid Regions Institute, Medenine, Tunisia. A-0119
4:00  Fodder dissemination for soil conservation in the Central Kenyan Highlands
Mick O’Neill, ICRAF, Embu, Kenya. A-0114-a

4:15  Mbulu District Rural Development Programme (Tanzania): Experience on implementing 1996 ISCO conference conclusions and recommendations
Fredrick Mhira Mngube, Mbulu District Rural Development Programme, Arusha, Tanzania. A-0077

4:30  The West Africa Rural Foundation
Abdou Fall, Participatory Research Unit of WARF, Dakar, Senegal. A-0593

4:45  The use, maintenance and development of soil and water conservation measures by the small farming households in the different agro-climatic zones of Ethiopia
Gebre Michael Yohannes, University of Berne, Berne, Switzerland. A-0199

5:00  Discussion

Session 29: Local Action for Land Stewardship: America, Europe, Australia, and the Pacific, Stewart Center, Room 322
Moderator: John Hebblethwaite, CTIC

3:15  The farmer’s view: How seeing the local defines on-farm conservation
Ruth Beilin, University of Melbourne-Burnley Campus, Victoria, Australia> A-0406

3:30  Gila Monster Watershed Association addresses issues on Gila River in Arizona and New Mexico
Donna Matthews, Coronado Resource Conservation and Development Area, Wilcox, Arizona. A-0251

3:45  Selection procedures of soil conservation measures in Indonesian regreening program
Fahmuddin Agus, Center for Soil and Agroclimate Research, Bogor, Indonesia. A-0092

4:00  Community stewardship in action: The countryside exchange
Judith LaBelle, Glynwood Center, Cold Spring, New York. A-0711

4:15  Landcare-basis for policies and action for conservation of land, water and vegetation resources in Australia
Graydon Findlay, Department of Natural Resources and Environment, East Melbourne, Victoria, Australia. A-0523

4:30  Impact of upland agriculture and conservation project (UACP) on sustainable agriculture development in Serang Watershed, Indonesia
Naik Sinukaban, Bogor Agricultural University, Bogor, Indonesia. A-0082

4:45  Sustainable land management issues in Fiji
RatuKalou Inoke, Ministry of Agriculture, Nausori, Fiji. A-0699

5:00  Discussion

Session 30: Social, Economic, and Policy Elements of Conservation IV, Stewart Center, Room 202
Moderator: Paul Reich, NRCS

3:15  Agri-environmental programmes and the use of soil conservation measures in Germany
Bernhard Osterburg, Institute of Farm Ecology, Braunschweig, Germany. A-0355

3:30  Measuring progress: Landcare and integrated catchment management in Australia
Ronald Edward Power, Department of Natural Resources and Environment, East Melbourne, Australia. A-0447

3:45  Considering soil degradation issues in agricultural modeling for policies analysis in West Africa
Jean Senahoun, et al., Universitaet Hohenheim, Stuttgart, Germany. A-0400

4:00  Socio-economic elements of and land water conservation: The Ghana experience
Violet A. Quayson, Soil Research Institute of CSIR, Kwadaso, Ghana. A-0428

4:15  Rural women and sustainable agriculture trials in Pakistan
Faranza Panhwar, et al., SINDH Rural Women’s Uplift Group, Sindh, Pakistan. A-0037

4:30  Role of women in sustainable agriculture production: My experiences as farm woman in soil and water conservation in Kandi (dry) areas
Sudesh Sharma, Research Complex for N.E.H. Region, Meshal, India. A-0418

4:45  Socio-economic constraints in sustainable agriculture and indigenous knowledge of soil and water conservation of tribal communities in northeastern states of India
V.C. Sharma, Research Complex for N.E.H. Region, Meshal, India. A-0417

5:00  Discussion
Session 31: Erosion Surveys: Applications and Methods, Stewart Center, Room 206
Moderator: Don Reicosky, ARS

3:15 Regionalization methods for watershed management-hydrology and soil erosion from point to regional scale
Christian Renschler, et al., Purdue University, West Lafayette, Indiana. A-0221

3:30 Map of soil vulnerability and degradation in Estonia
Endla Reintam, et al., Estonian Agriculture University, Tartu, Estonia. A-0549

3:45 What can the U.S. National Resources Inventory tell us about factors affecting the adoption of conservation tillage?
Joaquin Sanabria, et al., USDA-NRCS, Temple, Texas. A-0292

3:00 Factors affecting the incidence of erosion in Upland England and Wales
Marianne McHugh, Soil, Survey and Land Research Center, Devon, England, United Kingdom. A-0398

4:15 Field survey and monitoring for understanding accelerated erosion and its impacts, and for devising sustainable land use policies
Ron Evans, Anglia Polytechnic University, Cambridge, England, United Kingdom. A-0442

4:30 Study of suspended sediment and its temporal and spatial distribution on Taleghan Basin
A. Vali Khojeini, College of Agriculture, University of Tehran, Karaj, Iran. A-0334

4:45 Hydrological and morphological method for research and computation of soil erosion and river sediment parameters
Nelly Bobrovitskaya, Hydrologic Institute, St. Petersburg, Russia

5:00 Discussion

Session 32: Land Use Influences on Erosion and Degradation I, Stewart Center, Room 214ab
Moderator: Ildefonso Pla Sentis, Universitat de Lleida

3:15 Erosion intensity evaluated from microtopographic soil erosion features, and its correlation with conservation practice, slope steepness, presence of fertilizer and the erosion devilment between alley cropping hedges. Data of Doi Thung and Nan, Thailand

3:30 Influence of cultural practices on sheetflow, sediment and pesticide transport: The case of maize cultivation under plastic mulching

3:45 Drought, grazing, and burning influences on rangeland ecosystem sustainability

4:00 Accelerated erosion associated with infrastructural development for rural settlements in South Africa
H.R. Beckedahl, et al., University of Natal, Scottsville, South Africa. A-0452

4:15 Reintroduction of lumbricus terrestris into no-till maize fields in Indiana, USA
Eileen Kladivko, Purdue University, West Lafayette, Indiana. A-0751

4:30 Some environmental impacts of modern cultivation methods
Tim Harrod, et al., Cranfield University, England, United Kingdom. A-0412

4:45 Soil degradation due to conversion of forest to other land uses in the Philippines

5:00 Discussion

Session 33: Soil Erosion Processes II, Stewart Center, Room 214cd
Moderator: Paul Unger, ARS

3:15 Slope length effects on soil loss for steep slopes
Bao Yuan Liu, Beijing Normal University, Beijing, Peoples Republic of China. A-0264

3:30 Soil erosion of an indurated volcanic soil from the semiarid area of the Valley of Mexico
Eusebio Ventura, et al., USDA-ARS and Purdue University, West Lafayette, Indiana. A-0719

3:45 Effect of up-slope runoff on shallow gully erosion process at down-slope section
Fen-Li Zheng, Institute of Soil and Water Conservation, Yangling, Peoples Republic of China. A-0562

4:00 Variability in average runoff and soil loss values obtained from long-term plot measurements
Gerard Govers, et al., Laboratory for Experimental Geomorphology, Fund for Science Research, Flanders, Belgium. A-0668
4:15  **Carbon concentrations and transport in sediment leaving small tilled watersheds**  
Lloyd B. Owens, et al., USDA-ARS, Coshocton, Ohio. A-0359

4:30  **Rocks and rills—impact of stones on soil loss in laboratory experiments**  
Dirk Rieke-Zapp, et al., USDA-ARS and Purdue University, West Lafayette, Indiana. A-0572

4:45  **Predicting hillslope scale erosion on distributed landscapes from laboratory scale measurements**  
G. J. Sheridan, University of Queensland, St. Lucia, Australia. A-0560

5:00  **Discussion**

**Session 34: Carbon Sequestration and Global Climate Change II**, Stewart Center, Room 218ab  
**Moderator: Rattan Lal, The Ohio State University**

3:15  **Soil management options for carbon sequestration in Europe with particular reference to conservation tillage, residue management and land use change**  
D.S. Powlson, et al., Soil Science Department, Herts, United Kingdom. A-0739

3:30  **Erosion effects on carbon pools in soils within the United States**  
John Kimble, et al., USDA-NRCS, Lincoln, Nebraska. A-0575

3:45  **Global climate change: Implications of extreme events for soil conservation strategies and crop production in the Midwestern United States**  

4:00  **Dynamics of soil organic carbon and the potential of carbon sequestration in the soils of southern China**  
Taolin Zhang, et al., Institute of Soil Science, Yangling, Peoples Republic of China. A-0166

4:15  **Potential of conservation tillage to sequester carbon in Australian soils**  
Hwat Bing So, et al., University of Queenslands, St. Lucia, Australia. A-0464

4:30  **Elevated CO2 impacts on soil organic matter and structure**  
Diane Stott, et al., USDA-ARS and Purdue University, West Lafayette, Indiana. A-0748

4:45  **Soil management and the greenhouse gas balance of agroecosystems in Canada**  
Ray Desjardins, Agriculture and Agri-Food Canada, Ottawa, Ontario. A-0736

5:00  **Discussion**

**Session 35: Physical, Chemical, and Biological Properties of Soils**, Stewart Center, Room 218cd  
**Moderator: Vincent Bralti, Purdue University**

3:15  **Soil aggregate stabilization by a basidiomycete**  
TheCan Caesar-TonThat, USDA-ARS, Sidney, Montana. A-0538

3:30  **Effect of ratio of exchangeable Ca to Mg on soil clay flocculation, seal formation and infiltration.**  
Katerina Dontsova, USDA-ARS and Purdue University, West Lafayette, Indiana. A-0787

3:45  **The effect of deep rooted plant growing on the qualities of overcompacted soils**  
Loit Reintam, et al., Institute of Soil Science and Agriculture, Estonian Agricultural University, Tartu, Estonia. A-0545-a

4:00  **Changes in aggregation and aggregate C and N in CRP lands in the Central Great Plains**  
Jean D. Reeder, et al., USDA-ARS, Fort Collins, Colorado. A-0229

4:15  **Structure and dynamics of soil invertebrates from tropical forest converted to pasture or agrosilviculture systems**  
Lucille M.K.Antony, INPA Department of Ecology, Manaus, Amazon, Brazil. A-0504

4:30  **Regional-scale analysis of spatial continuity of soil microbial biomass (Cmic) and soil basal CO2 respiration across the north-east German agricultural landscape**  
Stephan J. Wirth, Center for Agricultural Landscape Research, Muencheberg, Germany. A-0005

4:45  **Effect of the soil management and moisture in the modelling of additional soil compaction of three latosols**  
Moacir de Souza Dias Junior, et al., Federal University of Lavras, CP, Brazil. A-0513

5:00  **Discussion**
Concurrent Sessions 36 - 44: Friday, May 28, 8:00-9:45 a.m.

Session 36: Sustaining the Global Farm: Sustainable Production II, Stewart Center, Room 310
Moderator: Don Franzmeier, Purdue University

8:00  Changing land use patterns and constraints to sustainable land management in the degraded landscape of the Irangi Hills, central Tanzania
Carl Christiansson, et al., Stockholm University, Stockholm, Sweden. A-0777

8:15  Long-term field experiments—an inevitable basis for the experimental proof of sustainable land use
Martin Korschens, Center for Environmental Research Leipzig-Halle Ltd, Bad Lauschstadt, Germany. A-0561

8:30  Sustainable agricultural development in the Central region of Germany—ideas, methods and results
Heidrun Muehle, Center for Environmental Research, Leipzig, Germany. A-0797

8:45  Sustaining agroecosystems through sustenance of agricultural terrace systems
Ek Raj Ojha, Central Bank of Nepal, Kathmandu, Nepal. A-0141

9:00  The development and future of direct seed cropping systems in Argentina
Roberto Peiretti, Republica, Argentina

9:15  Discussion

Session 37: Social, Economic, and Policy Elements of Conservation V, Stewart Center, Room 314
Moderator: Jerry Hammond, NRCS

8:00  Land tenure aspects and implications for sustainable agricultural land use in Sierra Leone
Harrison K. Tarawali, Land and Water Development Division, Freetown, Sierra Leone. A-0224

8:15  The impact of farmland leasing on the use of conservation practices

8:30  Farmer empowerment in the dissemination of soil conservation technology
Wani Hadi Utomo, Brawijaya University, Malang, Indonesia. A-0154

8:45  Intensification patterns in West African agriculture: Social and cultural conditions and constraints
Volker Stamm, German Agency for Technical Cooperation, Eschborn, Germany. A-0012

9:00  Discussion

Session 38: Institutionalizing Farmer-driven Conservation Management, Stewart Center, Room 218ab
Moderator: Chun Lai

8:00  Farmer-led organizations in conservation: A global view
Dennis P. Garrity, International Center for Research in Agroforestry, Bogor, Indonesia

8:15  The Philippine Landcare movement
A. Mercado,

8:30  Farmer-driven conservation through the Kenya catchment committees
J.K. Kiara, Kenya

8:45  Farmer-driven conservation in Central America
Roland Bunch, Association of Consultants for a Sustainable Ecological and People-Centered Agriculture (COSECHA), Honduras

9:00  Farmer-driven conservation in North America: The way forward
Maurice Cook, Ecologistics, Ltd., Raleigh, North Carolina

9:15  Some reflections on participatory soil and water conservation in India—the KRIBHCO experience
Paul D. Smith, University of Wales, Bangor, Gwynedd, Wales, United Kingdom

9:30  Panel Discussion and wrap-up
Chun Lai

Session 39: Land Use Influences on Erosion and Degradation II, Stewart Center, Room 322
Moderator: Berlie L. Schmidt, CSREES

8:00  Cover management in relation to erosional losses under simulated rainfall
Pratap Narain, et al., Central Soil and Water Conservation Research Institute, Dehradun, India. A-0270

8:15  Hydrological implications of planting bluegum in natural shola and grassland watersheds of southern India
J.S. Samra, et al., Central Soil and Water Conservation Research Institute, Dehradun, India. A-0204
8:30  Impacts of mechanization on surface erosion and mass movements in vineyards of the Anoia-Alt Penedes area (Catalonia - Spain)
Ildefonso Pla Sentis, University of Lleida, Spain. A-0642

8:45  Crop residue management increases dryland grain sorghum yields in a semiarid region
Paul W. Unger, et al., USDA-ARS, Bushland, Texas. A-0148

9:00  A study on change of the land use form and its ecological effect in the desert-steppe area of Ningxia
Yunchao Wen, Institute of Geography, Beijing, Peoples Republic of China. A-0136

9:15  Impact of 23 years of conservation tillage on yields and physical properties of a poorly drained, silty clay loam soil
Gary C. Steinhart, et al., Purdue University, West Lafayette, Indiana. A-0778

9:30  Discussion

Session 40: Soil Erodibility, Stewart Center, Room 214ab
Moderator: Xunchang Zhang, Purdue University

8:00  Spatial variability and temporal dynamics of soil erodibility parameters on Mollisols (by the example of the Ukraine)
Sergei Yu Bulygin, Institute for Soil Science and Agrochemistry Research, Kharkiv, Ukraine. A-0068

8:15  Effects of soil strength, texture, slope steepness and rainfall intensity on interrill erodibility of some soils in Taiwan
Jen-chen Fan, et al., National Taiwan University, Taipei, Taiwan. A-0621

8:30  Overwinter changes to vehicle ruts and natural rills and effects on soil erosion potential
Lawrence W. Gatto, U.S. Army Cold Region Laboratory, Hanover, New Hampshire. A-0507

8:45  Mechanical integrating and scaling devices for measurement of the roughness components of soil erodibility
Stephen D. Merrill, et al., USDA-ARS, Mandan, North Dakota. A-0525

9:00  Interrill and rill erosion on a sandy loam soil as affected by tillage and consolidation
J. Miguel Reichert, et al., Federal University of Santa Maria, Brazil. A-0526

9:15  Characterization of the stages of soil resilience to degradative stresses; soil erosion
Makooma Moses Tenywa, et al., Makerere University, Kampala, Uganda. A-0329

9:30  Discussion

Session 41: Watersheds and Basins / Erosion and Productivity, Stewart Center, Room 202
Moderator: Rabi Mohtar, Purdue University

8:00  Measurement and modeling of erosion and sediment yield on small semiarid watersheds
Mary H. Nichols, et al., USDA-ARS, Tucson, Arizona. A-0344

8:15  Methodology for monitoring sediment loading and modeling of sediment production in the Itaipu watershed
L. Darrell Norton, et al., USDA-ARS and Purdue University, West Lafayette, Indiana. A-0170

8:30  Effects of erosion and manure applications on corn production

8:45  Soil productivity in Central Highlands in Kenya
Mira Ovuka, Goteborg University, Sweden. A-0179

9:00  Cumulated soil erosion on maize grain production. Contribution of manure and fertilizers to acid ferrallitic soils rehabilitation in the Burundi high populated hills (Central Africa)
Eric Roose, et al., Orstom Lab, Montpellier, France. A-0461

9:15  Discussion
Session 42: Models of Erosion and Related Processes, Stewart Center, Room 218cd
Moderator: Dennis Flanagan, ARS

8:00 A non-parametric analysis of qualitative and real-valued information for erosion modelling: A case study from Ethiopia
Sonneveld. A-0483

8:15 Identification of flowpaths and variable source areas of runoff using the soil moisture routing model
Jane Frankenberger, et al., Purdue University, West Lafayette, Indiana. A-0505

8:30 Multiscale simulation of land use impact on soil erosion and deposition patterns

8:45 Testing and evaluating the ephemeral gully erosion model (EGEM) in Mediterranean environments
Jeroen Nachtergaele, et al., Belgium. A-0550

9:00 A new generation of soil landscape modeling
Sabine Grunwald, et al., University of Wisconsin, Madison, Wisconsin. A-0313

9:15 GULTEM-The model to predict gully thermoerosion and erosion
Aleksey Sidorchuk, Moscow State University. Russia . A-0116

9:30 Discussion

Session 43: USLE and RUSLE-based Soil Erosion Models, Stewart Center, Room 206
Moderator: Nellie Bobrovitskaya, Hydrologic Institute, St. Peters burg, Russia

8:00 Runoff and sediment yield simulated from Goodwin Creek watershed using AnnAGNPS
Ronald L. Bingner, et al., USDA-ARS and University of Mississippi, Oxford, Mississippi. A-0485

8:15 Surface cover subfactor for gravel-rich surface
Chia-Chun Wu, Department of Soil and Water Conservation Technology, Pingtun, Taiwan. A-0514

8:30 Applying the SWAT model as decision supporting tool for land use concepts in peripheral regions in Germany
Nicola Fohrer, Justus-Liebig-Universitat, Giessen, Germany. A-0458

8:45 USLE-M and the modeling of within catchment erosion
Peter I.A. Kinnell, Australian National University, Canberra, Australia. A-0011

9:00 Comparing GLEAMS, RUSLE, EPIC and WEPP soil loss predictions with observed data from different tillage systems
Manuel R. Reyes, et al., NC A&T State University, Greensboro, North Carolina. A-0466

9:15 Using fuzzy logic-based modeling to improve the performance of the Revised Universal Soil Loss equation
Liem Tran, et al., University of Hawaii at Manoa, Honolulu, Hawaii. A-0312

9:30 Discussion

Session 44: Impact of Cropping Systems on C and N, Stewart Center, Room 214cd
Moderator: Diane Stott, ARS

8:00 An applicable field method for the evaluation of some ecological significant soil-function-parameters in science and agricultural consulting practice
Andrea Beste, Foundation of Ecology and Agriculture, Mainz, Germany. A-0293

8:15 Plant growth and residue decomposition rates of selected crops in the Piedmont of North Carolina
Ron Neil, et al., NC A&T State University, Greensboro, North Carolina

8:30 The effect of agricultural management practices on soil carbon dynamics under different climatic conditions
Samuel Gameda, et al., Agriculture and Agri-Food Canada, Ottawa, Ontario, Canada. A-0713

8:45 Discussion
Demonstrations

Purdue Memorial Union, South Ballroom; All demonstrations must be removed by noon, Thursday, May 27.

1. Information, visualization and modeling technology for land and water conservation
   Johnston. A-0539
2. The Illinois Streams Information System and MARIS
   Johnston. A-0539a
3. WEPS-Lite: Use, operation and applications
   Tatarko. A-0449
4. The Aqueel - A revolutionary new reservoir tillage technique
   Steve Carr
5. Soil conservation research in Ethiopia (video presentation)
   Esayas Dagnew. A-0390
6. The Indiana USDA-Natural Resources Conservation Service
   Soonpa, Kris
7. Working Trees for Agriculture
   Clover Shelton
8. Integrated systems for knowledge, management (ISKM) an approach for achieving sustainable land and water use in the 21st century
   Ockie Bosch. A-0098

Poster Papers

Purdue Memorial Union, South Ballroom; All posters must be removed by noon, Thursday, May 27.

1. Appropriate technologies for controlling soil erosion in the rural communities of Ghana
   Adomako. A-0383
2. Mine land reclamation and soil carbon sequestration in Ohio
   Akala. A-0373
3. Soil quality of very fragile sandy soils from South Brazil
   Amado. A-0491
4. Changes in the soil physical condition as the time and intensity of use increase in
   Amezquita. A-0350
5. Untitled or Tropical Savannan (oxisols) soils of Colombia, South America
   Amore. A-0728
   Antwi. A-0155
7. Use of some natural pasture plant species for erosion control in Southern Turkey
   Aydin. A-0062
8. Residue production and rain infiltration with a winter cereal green-fallow
   Baumhardt. A-0394
9. Influence of soil pollution with heavy metals on lands’ quality and plant production and regimes of land use in Bulgaria
   Bojinova. A-0590
10. Evaluation of farmland degradation induced by coal mine activity
    Boron. A-0413
11. Effects of an anionic conditioner on soil structure and water infiltration
    Brandsma. A-0138
12. Identification of regional soil quality indicators for the Central High Plains
    Brejda. A-0569
13. Profitable innovative fertilizing practices for sustainable, site-specific soil fertility management with special reference to phosphate rock use in Sudano-Sahelia West Africa
    Bruntrup. A-0480
14. Soil conservation - an essential requirement of the sustainable agricultural system
    Budoi. A-0083
15. Bringing groundwater to life
Burwell. A-0042

16. Application of the cereals-wheat simulation model to durum wheat to simulate the impact of tillage management and nitrogen fertilization on crop response
Castrignano. A-0548

17. Water erosion measurement and mapping on the Balaton Upland in Hungary
Centeri. A-0557

18. Soil and water conservation, land use and management Entre Rios Provincial service
Cerana. A-0462

19. Nitrogen management for no-till corn in succession to black oat
Ceretta. A-0433

20. Runoff potential water resources of two traditional water harvesting techniques in the arid regions of Tunisia
Chahbani. A-0510

21. Research and extension gaps in soil conservation: A critical analysis of Indian coffee growers
Chandrashekara. A-0267

22. The evaluation and time-space distribution property research of soil erosion potential danger based on GIS
Chen. A-0757

23. Study on the model for predicting soil erosion and its application in arid area
Chen. A-0094

Chipeleme. A-0796

25. Reduced tillage problem in the new conditions of Romanian agriculture
Cojocaru. A-0551c

26. The Mississippi Delta MESA Program
Dabney. A-0496

27. Evaluation of almond biodiversity of cultivars grown in a germplasm collection field of South Italy
De Giorgio. A-0512

28. Water balance components in the Canadian mixes wood ecozone
de Jong. A-0694

29. Soil management influencing ratio between water intake rates as determined using sprinkler infiltrometer and cylinder infiltrometer
de Jong and van Lier. A-0534-a

30. USLE C factor for sugarcane as a tool for land use planning
De Maria. A-0717

31. Land degradation assessment in the Sakae Krang watershed Thailand
Eiumnoh. A-0702

32. Soil ecology of a drainage basin in Gazipur District, Bangladesh
Elahi. A-0431

33. Water harvesting in dry marginal lands
El-Awar. A-0733

34. Black oat (Avena strigosa Schieb) straw management effect on weed growth and soybean emergency
Eltz. A-0421

35. The effect of tillage on soil drought sensitivity
Farkas. A-0408

36. Monitoring of diffuse phosphorus exports from agricultural soils: Effects of rainfall intensity
Fraser. A-0435

37. Indirect and direct soil indicator systems for the soil conservation decisions
Frielinghaus. A-0294

38. Identification of severely eroded soils from remote sensing data tested in Risnovce Pilot area
Fulajtar. A-0688

39. Use of the RWEG to calculate soil losses in the German Federal State Mecklenburg-Vorpommern
Funk. A-0522

40. Reduced tillage problem in the new conditions of Romanian agriculture
Gangu. A-0551a
41. Predicting soil productivity loss due to erosion in Uruguay
   Garcia-Prechac. A-0137
42. Mathematical model of solid particles transport by water flows on slopes
   Gendugov. A-0506
43. Wetlands of storage reservoir islands
   Grigorjan. A-0434
44. Impact assessment of the Kenyan National Soil and Water Conservation Program
   Grunder
45. A new surface dust-sampler, called “Kunstra-Sampler” and the comparison between this and the
   standard method in Germany
   Hannoschock. A-0497
46. Herbicide banding and tillage system interactions on sediment, and phosphorus losses in runoff
   Hansen. A-0502
47. The kinetic energy of rainstorms plays a paramount role in surface sealing, runoff, and erosion
   processes
   Helming. A-0585
48. Composting for home and industry
   Hoddinott. A-0479
49. Agricultural utilization of compost and sewage sludge under consideration of different tillage
   treatments and a sustained soil protection
   Hoss. A-0339
50. Spatial variability of soil properties along transect of CRP and continuously cropped fields
   Huang. A-0614
51. Impact of Agrochemical applications on agroecological environment
   Jolankai. A-0646
52. Assessment of agrodiversity at landscape level under small scale farming systems in Arumeru district,
   Tanzania
   Kaihura. A-0710
53. Spectral reflectivity as a diagnostic criterion of the degree of erosion of the Grey Forest soils
   Karavanova. A-0233
54. Geographical information system for the assessment of the trafficability of rewetted fen soils
   Knieper. A-0528
55. Soil pollution patterns in terrestrial ecosystems of the Kola Peninsula, Russia
   Koptsik. A-0191
56. Assessment of soil quality for biodiversity conservation in Boreal Forest ecosystems
   Koptsik. A-0192
57. The approach to classification of soil with the account a toxic of heavy metals
   Koroleva. A-0028
58. Soil recovering throughout afforestation: Case study in Las Tunas
   Labrada. A-0104
59. Land use effects on soil carbon pools in three land resource regions of Ohio
   Lantz. A-0349
60. Comparison of Root-Water-Uptake Models
   Li. A-0697
61. Development of the long-term hydrologic impact assessment (LTHIA) WWW systems
   Lim. A-0494
62. Physical and compressibility parameters as affected by phosphate absorption in tropical soils
   Lima. A-0498
63. Crop residue management and soil tillage in Southern Italy
   Maiorana. A-0663
64. Potassium release and low molecular organic acids adsorption in soils materials from soils cultivated
   with Coffee arabica L.
   Marchi. A-0451
65. Proposal of a simple linear relation between runoff and agricultural plot state during intercrop period
   for the loam plateaus context of the Caux area (France)
   Martin. A-0317
Organizational and human resources development aspects of enhancing cooperation between people and institutions
Mascarenhas. A-0781

Influence of institutional structures on sustainability of watersheds in Karnataka State, India
Mukherjee. A-0639

Effects of terraces, grass strips and tree hedgerows on land production on steep slopes in central Kenya
Mutua. A-0790-a

Modification of soils by termites: A case study from a part of Nellore Mica Schist Belt, Andhra Pradesh, India
Nagaraju. A-0064

Reduced tillage problem in the new conditions of Romanian agriculture
Neacsu. A-0551b

The usefulness of a model for the gully-control structures effects prediction
Nedelcu. A-0303

A soil profile database for rehabilitated opencast coal-mined land in South Africa
Nell. A-0411

Effect of clay mineralogy on waterlogging of alluvial soils of Japan
Nishimura. A-0380

USDA-NRCS Soil Quality Institute
Norfleet. A-0289

Soil cover on slopes and subsurface shallow lateral water flow
Novak. A-0586

The degradation processes of ameliorated sodic solonetz-olonchak soils of ararat plain and elaborating complex measures for their restoration
Nuridjanian. A-0109

Conservation tillage effects on soil erosion in cotton production systems in North Alabama
Nyakatawa. A-0760

Erosion and crop productivity relationships for an oxisol in the eastern plains of Colombia
Obando Moncayo. A-0075

Toward a better pastoral communities grazing and water management in the Ferlo/Senegal
Oebel. A-0053

An investigation on erodibility properties of soils which developed on different parent materials in K.Maras-Ayvali Dam Kizildere Creek watershed
Okatan. A-0628

Carbon sequestration and transport in sediment leaving small tilled watersheds
Owens. A-0740

The Verde River watershed: A changing landscape
Parsons. A-0492

Giving credit where credit is due: Using the pre-sidedress nitrate test (PSNT) in field demonstrations to establish manure N credits for reduced N applications and water quality impacts
Peverly. A-0353

Mobilities in soils and uptake of trace elements by crops
Podlesakova. A-0755

Evaluating the skill of soil scientists to determine morphologic soil properties
Post. A-0117

Have the commons a chance in the Himalayas? Challenges for sustainable land management in the Himalayan foothills of India
Preuss. A-0682

Science and technology for conservation planning and assessment
Pruski. A-0499

Evaluation of sustainable management alternatives in a coffee zone in Lara State, Venezuela
Quiroz. A-0709

Watershed management in semi arid region—experiences in India
Rasal. A-0245

Management systems for scoured terraces in southwestern Uganda for wood production, reduced erosion and soil fertility enhancement
Raussen. A-0509
91. Environmental benefits of conservation tillage
   Reicosky. A-0274

92. Comparing GLEAMS, RUSLE, EPIC and WEPP soil loss predictions with observed data from different
tillage systems
   Reyes. A-0466

93. An interdisciplinary approach to reduce nutrient losses by erosion in the agricultural hilly purple area of
   Sichuan Province, China
   Ritsema. A-0657

94. Research and practical experiences with vegetative barriers for water erosion control in Venezuela
   Rodriguez. A-0567

95. Magnetic treatment of water as a method for soil fertility conservation
   Rokhinson. A-0123

96. GIS Technology a tool for resource assessment an integral part of the locally led conservation process a
   Rio Grande basin perspective
   Ruiz. A-0669

97. Soil quality improvement with cover crop mixtures
   Ryan. A-0752

98. Crop residue and fertilizer management for increased rice based farm productivity
   Saleque. A-0153

99. A comparison of rain erosivity parameters for predicting interrill soil detachment
   Salles. A-0377

100. Carbon storage in historic grassland soils of the USA under native, CRP, and cropland conditions
    Samson-Liebig. A-0311

101. Soil water characteristics of typical soils in South Florida
    Savabi. A-0683

102. A field book for describing and sampling soils
    Schoeneberger. A-0389

103. Intensive rotational grazing effects on soil physical properties
    Schumacher. A-0547

104. Advanced international training program in watershed management
    Segerros. A-0376

105. Influence of cabbage growth on ridge erosion
    Shiono. A-0276

106. Impact of Upland Agriculture and Conservation Project (UACP) on sustainable agriculture
development in Serang watershed, Indonesia
    Sinukaban. A-0100

107. Physical indicators of soil quality on management systems from Cerrado Region in Minas Gerais State,
    Brazil
    Silva. A-0493

108. Deposition diagram studies—the residual erosion potential of soils
    Sisak. A-0661

109. An integrated erosion research plan to facilitate technology development and transfer in South
    Africa—technology transfer framework
    Smith. A-0409

110. Soil mapping as a base for optimum and sustainable land use in some areas of Egypt
    Soliman. A-0184

111. Incorporating field surface crusting phenomena and their spatial organization in modeling runoff and
    erosion at watershed scale for anti-erosion schemes
    Souchere. A-0365

112. A comparison of manual versus computer-assisted drainage delineation methods for hydrologic unit
    map devilment in the Illinois River Basin of northwestern Arkansas
    Stanton. A-0529

113. Selective transport of soil size fractions, C and N by erosion and deposition across two conservation
tillage watersheds
    Starr. A-0742
114. Land use scenarios to reduce water induced soil erosion in an agricultural catchment in The Netherlands
Stolte. A-0658

115. Effect of agricultural management on runoff and soil loss in Nicaragua
Strauss. A-0789

116. Estimation on the erosion of microelement contaminating agents in different soil types
Szabo. A-0638

117. Indicators for the sustainability of land use systems on degraded areas of the terra firma in the Amazon Basin: Soil characteristics and parameters for transport processes
Teixeira. A-0207

118. Biological restoration of soil productivity in the humid tropics: The use of planted woody fallow on a degraded Alfisol
Tian. A-0177

119. Evaluation of cropland resources—an integrated approach
Toth. A-0589

120. Distribution coefficients for Pb by batch absorption and column desorption on alluvial aquifer materials
Udoh. A-0750

121. Indigenous knowledge of land stewardship in China
Wang. A-0756

122. Studies on land application of corn stover for spring corn in dry farmland region of North China
Wang. A-0050

123. Multiagency partnerships supporting soil and water conservation
Yencha. A-0487

124. Re-interpretation of data from USLE-type of experiments to drive physically based erosion models with examples from southern China and northern Thailand
Yu. A-0564

125. Analysis and simulation of cereal yield response to conserved water and nitrogen in soil previously under pastures
Yunusa. A-0070

126. Changes in physical and chemical properties of fen soils induced by long-term drainage and rewetting within the last years
Zeitz. A-0527

127. Application and adaptation of WEPP to the traditional farming system of the Ethiopian Highlands
Zeleke. A-0299

128. Updating slope topography during erosion simulations with the water erosion prediction project model
Zhu. A-0533

129. Sediment transport capacity and erosion process interaction
Zartl. A-0286
**Companion’s Program**

**Sunday, May 23**

6:30-8:00 p.m.  **Opening Reception**, Purdue Memorial Union, North Ballroom  
*Hors d’oeuvres and cash bar*  

**Monday, May 24**  
*Purdue University and Surroundings*  

7:30 a.m.  **Continental Breakfast**, Purdue Memorial Union, West Faculty Lounge  
*Couples are invited*  

8:30 a.m.  **Campus Tour by Bus**  
Hosted by the Purdue University Visitor Information Center  

10:00 a.m.  **Farmhouse Tour**  
Hosted by Carroll County Extension and the Mills Family  

Noon  
Country-style lunch served at the Delphi Trailhead Park  

2:00 p.m.  Tour of Delphi Historic Trails and the Wabash and Erie Canal  

4:30 p.m.  Return to campus  

**Tuesday, May 25**  
*Shopping, Shopping and More Shopping!*  

9:30 a.m.-5:00 p.m.  Shopping, Shopping and More Shopping!  
Hourly shuttle service will be provided to and from the K-Mart Super Store and Tippecanoe Mall. The shuttle service, by van, will start at 9:30 a.m. The last shuttle will return from the mall at 5:00 p.m. Participants who depart for the plaza and mall on the 9:30 a.m. shuttle will be treated to a tour of the County Courthouse enroute.  

5:30-7:00 p.m.  **Reception**, Purdue Memorial Union, North Ballroom  
*Hors d’oeuvres and cash bar*  

**Wednesday, May 26**  
**ISCO Mid-week Tour**  

7:30 a.m.-6:00 p.m.  **Mid-week Tour**  
Companions are invited to join the mid-week tour, which departs from the west side of the Stewart Center at 7:30 a.m. Please join your spouse or partner in the color-coded bus to which he or she has been assigned.  

**Thursday, May 27**  
*Conner Prairie – A Living Museum of Early Settlement*  

7:30 a.m.  **Continental Breakfast**, Purdue Memorial Union, West Faculty Lounge  
*Couples are invited*  

8:30 a.m.  Bus leaves from the west side of the Stewart Center for Conner Prairie  
10:00 a.m.  Guided tour of Prairietown Village, Conner Estate and Museum Center  
11:30 a.m.  Lunch served at the Persimmons Restaurant  
3:00 p.m.  Bus departs from Conner Prairie  
4:30 p.m.  Bus returns to the Purdue University campus  
6:30-9:00 p.m.  Reception and Banquet, Purdue Memorial Union, North Ballroom