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# losamond Naylor

illiam Wrigley Professor, Senior Fellow at the Woods Institute for the Environment at the Freeman Spogli Institute for International Studies and Professor, by courtesy, Economics



ontact Information

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### ernet Links:

Center on Food Security
and the Environment
Ereeman Spooli Institute for

International Studies Stanford Woods Institute for the Environment

#### cument Links:

Curriculum Vitae PDF

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Professor, Earth System Science Senior Fellow, Freeman Spogli Ins

Senior Fellow, Freeman Spogli Institute for International Studies

Senior Fellow, Stanford Woods Institute for the Environment

Professor (By courtesy), Economics

Member, Child Health Research Institute

n the Director of the Center on Food Security and the Environment and the William Wrigley of some of the Center on Food Security and the Environment Earth System Science. I am an economist by training and work on a wide uge of interdisciplinary research projects.

# dministrati∨e Appointments

William Wrigley Professor, School of Earth Sciences (2014 - Present)

Professor, Environmental Earth Systems Science, Stanford University (2009 - Present)

William Wrigley Senior Fellow, Freeman Spogli Institute for International Studies & Stanford Woods Institute for the Environment (2007 - 2014)

Director, Center in Food Security and the Environment, Stanford University (2005 - Present)

Associate Professor by courtesy, Department of Economics, Stanford University (2000 -

Present)

Julie Wrigley Senior Fellow, Center for Environmental Science and Policy, Stanford University (2000 - 2007)

Director of Studies, Goldman Interschool Honors Program in Environmental Science,

Technology, and Policy, Stanford (1992 - Present)

# onors and Awards

Aldo Leopold Leadership Fellow, . (1999 - Present)

Pew Fellow in Environment and Conservation, . (1994)

McNamara Post-doc Fellowship, The World Bank (1990 - 1991)

# niversity Service and Professional Activities

Science Advisor, United Nations' Secretary General Ban Ki-Moon initiative on Sustainable Development (2013 - Present)

Trustee, The Nature Conservancy, California Chapter (2012 - Present)

Associate Editor, Journal on Food Security (2012 - Present)

Editorial Board, Global Food Security (2012 - Present)

Member, Search Committee for Director of Freeman Spogli Institute, Stanford University (2012 - 2013)

Member, Scientific Board of the Beijer Institute, Stockholm (2011 - Present)

Member, Advisory Panel for the African Human Development Report at UNDP (United Nations Development Program) (2011 - Present)

Member, U.S. National Committee for the Pacific Science Association, National Academy of

Sciences (2010 - 2011)
Member, Oversight Committee, International Relations Program, Stanford University (2010 - Present)

Member, Faculty Advisory Council, The Bill Lane Center for the American West, Stanford University (2009 - Present)

Editorial Board, Aquaculture Environment Interactions (2009 - Present)

Member of the Steering Committee, Freeman Spogli Institute for International Studies, Stanford University (2008 - Present)

Member, Executive Committee, Earth Systems Science Program, Stanford University (2008 -

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Present)
Member, Advisory Committee, E-IPER, Stanford University (2008 - Present)
Editorial Board, Environmental Research Letters (2007 - 2011)
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Editorial Board, Reviews in Aquaculture (2007 - 2011)

Member of the Advisory Board, Pew Fellows Program in Marine Science (2007 - 2010)

Judge, Risser Environmental Journalism Prize for the American West (2006 - 2006)

Environmental Ventures Program, Woods Institute of the Environment, Stanford University (2006 - 2009)

Member, Faculty Steering Committee, International Policy Studies Program, Stanford University (2006 - Present)

Member, Selection Committee, Aldo Leopold Leadership Program (2005 - 2009)

Member, Scientific Advisory Board, COMPASS (Communication Partnership for Science and the Sea) (2005 - 2009)

Co-Chair, Environmental Ventures Program, Woods Institute of the Environment, Stanford University (2004 - 2006)

Editorial Board, Annual Review of Environment and Resources (2004 - 2008)

Member, NRC Committee on "Alaska Yukan Salmon: Research and Restoration Priorities".

National Academy of Sciences (2003 - 2005)

Member, Oversight Committee for the Collaborative Crop Improvement Program, McKnight Foundation (1998 - 2009)

Undergraduate Advisor, International Relations Program, Stanford University (1996 - Present) Undergraduate Advisor, Human Biology Program, Stanford University (1996 - Present)

#### ducation

PhD, Food Research Institute, Stanford University, Applied Economics (1989)
MSc, London School of Economics, Economics (1981)
MA, University of Colorado Boulder, Economics and Environmental Conservation (1980)

# esearch & Scholarship

# urrent Research and Scholarly Interests

# search Activities:

research focuses on the environmental and equity dimensions of intensive food production stems, and the food security dimensions of low-input systems. I have been involved in a number of d-level research projects around the world and have published widely on issues related to climate pacts on agriculture, distributed irrigation systems for diversified cropping, nutrient use and loss in riculture, biotechnology, aquaculture and livestock production, biofuels development, food price atility, and food policy analysis.

#### aching Activities:

ach courses on the world food economy, food and security, aquaculture science and policy, nan society and environmental change, and food-water-health linkages. These courses are ered to graduate and undergraduate students through the departments of Earth System Science, onomics, History, and International Relations.

#### ofessional Activities:

lliam Wrigley Professor of Earth Science (2015 - Present); Professor in Earth System Science (09-present); Director, Stanford Center on Food Security and the Environment (2005-present); sociate Professor of Economics by courtesy (2000-present); William Wrigley Senior Fellow, eeman Spogli Institute for International Studies and the Woods Institute for the Environment (2007-15); Trustee, The Nature Conservancy CA program (2012-present); Member of the Scientific visory Board for the Beijer Institute for Ecological Economics in Stockholm (2011-present), for the pen Global Change Institute (2011-present), and for the Aldo Leopold Leadership Program (12-present); Aldo Leopold Leadership Fellow in Environmental Science and Public Policy (1994); Pew Fellow in Conservation and the Environment (1994). Associate Editor for the Journal on od Security (2012-present). Editorial board member for Aquaculture-Environment Interactions

109-present) and Global Food Security (2012-present).

## rojects

Solar Market Gardens as a Tool for Rural Development, Stanford University (7/1/2010 - Present) Rural Health & Development at the Food-Water Nexus, Stanford University (July 1, 2011 -

Present)

Aquaculture in China and its Role in Global Markets and Resources, Stanford University (9/1/2012 - August 31, 2014)

Globalization, Trade, and the Environment: The case of Brazil, Stanford University

Lead Contaminated Topsoil and Food in Rural Bangladesh, Stanford University (July 1, 2013 -

Present)

Climate Variability and Global Food Security, Stanford University (September 1, 2013 - Present)

The Importance of Marine Fisheries and Ecosystems for Food In China, Stanford University

(September 1, 2013 - Present)

### eaching

### ourses Taught

14-15

Human Society and Environmental Change

EARTHSYS 112, EESS 112, HISTORY 103D (Win)

The Evolving Sphere of Food Security

EARTHSYS 168, EARTHSYS 268 (Win)

World Food Economy

EARTHSYS 106, ECON 106, EESS 106 (Spr)

ependent Study Courses

Directed Individual Study in Earth Systems

EARTHSYS 297 (Aut, Win, Spr., Sum)&nbspEARTHSYS 297 (Aut, Win, Spr., Sum)

Directed Individual Study in Environment and Resources

ENVRES 398 (Aut, Win, Spr, Sum)&nbspENVRES 398 (Aut, Win, Spr, Sum)

Directed Individual Study in Environmental Earth System Science

EESS 292 (Aut)&nbspEESS 292 (Aut)

Directed Reading

ECON 139D (Aut, Win, Spr, Sum)&nbspECON 139D (Aut, Win, Spr, Sum)

Directed Reading

ECON 239D (Aut, Win, Spr, Sum)&nbspECON 239D (Aut, Win, Spr, Sum)

Directed Research

EARTHSYS 250 (Aut, Win, Spr, Sum)&nbspEARTHSYS 250 (Aut, Win, Spr, Sum)

Directed Research in Environment and Resources

ENVRES 399 (Aut, Win, Spr, Sum)&nbspENVRES 399 (Aut, Win, Spr, Sum)

Graduate Research

EESS 400 (Aut, Win, Spr, Sum)&nbspEESS 400 (Aut, Win, Spr, Sum)

Honors Program in Earth Systems

EARTHSYS 199 (Aut, Win, Spr, Sum)&nbspEARTHSYS 199 (Aut, Win, Spr, Sum)

Honors Thesis Research

ECON 199D (Aut, Win, Spr)&nbspECON 199D (Aut, Win, Spr)

Internship

EARTHSYS 260 (Sum)&nbspEARTHSYS 260 (Sum)

Ph.D. Qualifying Tutorial

ENVRES 410 (Aut, Win, Spr., Sum)&nbspENVRES 410 (Aut, Win, Spr., Sum)

Practical Training

ECON 299 (Aut, Win, Spr, Sum)&nbspECON 299 (Aut, Win, Spr, Sum)

13-14

Food and security

EARTHSYS 61Q, EESS 61Q, INTNLREL 61Q (Aut)

Human Society and Environmental Change

EARTHSYS 112, EESS 112, HISTORY 103D (Aut)

2/11/11/10/10/11/2,220/

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EARTHSYS 106, ECON 106, EESS 106 (Win)
ependent Study Courses
Directed Individual Study in Earth Systems
EARTHSYS 297 (Aut, Win, Spr, Sum)&nbspEARTHSYS 297 (Aut, Win, Spr, Sum)
Directed Individual Study in Environment and Resources
ENVRES 398 (Aut, Win, Spr., Sum)&nbspENVRES 398 (Aut, Win, Spr., Sum)
Directed Reading
ECON 139D (Aut, Win, Spr, Sum)&nbspECON 139D (Aut, Win, Spr, Sum)
Directed Reading
ECON 239D (Aut, Win, Spr., Sum)&nbspECON 239D (Aut, Win, Spr., Sum)
Directed Research
EARTHSYS 250 (Aut, Win, Spr, Sum)&nbspEARTHSYS 250 (Aut, Win, Spr, Sum)
Directed Research in Environment and Resources
ENVRES 399 (Aut, Win, Spr. Sum)&nbspENVRES 399 (Aut, Win, Spr. Sum)
Graduate Research
EESS 400 (Aut, Win, Spr, Sum)&nbspEESS 400 (Aut, Win, Spr, Sum)
Honors Program in Earth Systems
EARTHSYS 199 (Aut, Win, Spr, Sum)&nbspEARTHSYS 199 (Aut, Win, Spr, Sum)
Honors Thesis Research
ECON 199D (Aut, Win, Spr)&nbspECON 199D (Aut, Win, Spr)
Internship
EARTHSYS 260 (Sum)&nbspEARTHSYS 260 (Sum)
Ph.D. Qualifying Tutorial
ENVRES 410 (Aut, Win, Spr, Sum)&nbspENVRES 410 (Aut, Win, Spr, Sum)
Practical Training
ECON 299 (Aut, Win, Spr, Sum)&nbspECON 299 (Aut, Win, Spr, Sum)
12-13
Human Society and Environmental Change
EARTHSYS 112, EESS 112, HISTORY 103D (Aut)
World Food Economy
EARTHSYS 106, ECON 106, EESS 106 (Win)
ependent Study Courses
Directed Individual Study in Earth Systems
EARTHSYS 297 (Aut, Win, Spr, Sum)&nbspEARTHSYS 297 (Aut, Win, Spr, Sum)
Directed Individual Study in Environment and Resources
ENVRES 398 (Aut, Win, Spr., Sum)&nbspENVRES 398 (Aut, Win, Spr., Sum)
Directed Reading
ECON 139D (Aut, Win, Spr, Sum)&nbspECON 139D (Aut, Win, Spr, Sum)
Directed Reading
ECON 239D (Aut, Win, Spr., Sum)&nbspECON 239D (Aut, Win, Spr., Sum)
Directed Research
EARTHSYS 250 (Aut, Win, Spr, Sum)&nbspEARTHSYS 250 (Aut, Win, Spr, Sum)
Directed Research in Environment and Resources
ENVRES 399 (Aut, Win, Spr. Sum)&nbspENVRES 399 (Aut, Win, Spr. Sum)
Graduate Research
EESS 400 (Aut, Win, Spr, Sum)&nbspEESS 400 (Aut, Win, Spr, Sum)
Honors Program in Earth Systems
EARTHSYS 199 (Aut, Win, Spr, Sum)&nbspEARTHSYS 199 (Aut, Win, Spr, Sum)
Honors Thesis Research
ECON 199D (Aut, Win, Spr)&nbspECON 199D (Aut, Win, Spr)
Internship
EARTHSYS 260 (Sum)&nbspEARTHSYS 260 (Sum)
Ph.D. Qualifying Tutorial
ENVRES 410 (Aut, Win, Spr., Sum)&nbspENVRES 410 (Aut, Win, Spr., Sum)
Practical Training
ECON 299 (Aut, Win, Spr, Sum)&nbspECON 299 (Aut, Win, Spr, Sum)
11-12
Aquaculture and the Environment: Science, History, and Policy
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ENDTHOVO 172 ENDTHOVO 372 EECC 172 EECC 372 (CMA)

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EARTHSYS 61Q, EESS 61Q, INTNLREL 61Q (Aut) Human Society and Environmental Change EARTHSYS 112, EESS 112, HISTORY 103D (Aut) World Food Economy EARTHSYS 106, ECON 106, EESS 106 (Win) ependent Study Courses Directed Individual Study in Earth Systems EARTHSYS 297 (Aut, Win, Spr, Sum)&nbspEARTHSYS 297 (Aut, Win, Spr, Sum) Directed Individual Study in Environment and Resources ENVRES 398 (Aut, Win, Spr., Sum)&nbspENVRES 398 (Aut, Win, Spr., Sum) Directed Reading ECON 139D (Aut, Win, Spr., Sum)&nbspECON 139D (Aut, Win, Spr., Sum) Directed Reading ECON 239D (Aut, Win, Spr, Sum)&nbspECON 239D (Aut, Win, Spr, Sum) Directed Research EARTHSYS 250 (Aut, Win, Spr, Sum)&nbspEARTHSYS 250 (Aut, Win, Spr, Sum) Directed Research in Environment and Resources ENVRES 399 (Aut, Win, Spr., Sum)&nbspENVRES 399 (Aut, Win, Spr., Sum) Graduate Research EESS 400 (Aut, Win, Spr, Sum)&nbspEESS 400 (Aut, Win, Spr, Sum) Honors Program in Earth Systems EARTHSYS 199 (Aut, Win, Spr, Sum)&nbspEARTHSYS 199 (Aut, Win, Spr, Sum) Honors Thesis Research ECON 199D (Aut, Win, Spr)&nbspECON 199D (Aut, Win, Spr) Internship EARTHSYS 260 (Sum)&nbspEARTHSYS 260 (Sum) Ph.D. Qualifying Tutorial ENVRES 410 (Aut, Win, Spr. Sum)&nbspENVRES 410 (Aut, Win, Spr. Sum) Practical Training ECON 299 (Aut, Win, Spr, Sum)&nbspECON 299 (Aut, Win, Spr, Sum) dvisors/Advisees stdoctoral Advisees: Ling Cao

LAKTI 313 173, LAKTI 313 273, LL33 173, LL33 273 (3pt)

Food and security

#### ublications

# ublications

China's aquaculture and the world's wild fisheries *SCIENCE* Cao, L., Naylor, R., Henriksson, P., Leadbitter, D., Metian, M., Troell, M., Zhang, W. 2015; 347 (6218): 133-135

A Global Perspective on Food Systems Journal of Agriculture, Food Systems and Community Development Naylor, R. L. 2015; 5 (2): 15-18

Does aquaculture add resilience to the global food system? PROCEEDINGS OF THE

NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA Troell, M., Naylor, R. L., Metian, M., Beveridge, M., Tyedmers, P. H., Folke, C., Arrow, K. J., Barrett, S.,

Crepin, A., Ehrlich, P. R., Gren, A., Kautsky, N., Levin, S. A., Nyborg, K., Osterblom, H., Polasky,

S., Scheffer, M., Walker, B. H., Xepapadeas, T., de Zeeuw, A. 2014; 111 (37): 13257-13263

COMMENTARY: Climate engineering reconsidered NATURE CLIMATE CHANGE Barrett, S.,

Lenton, T. M., Millner, A., Tavoni, A., Carpenter, S., Anderies, J. M., Chapin, F. S., Crepin, A.,

Daily, G., Ehrlich, P., Folke, C., Galaz, V., Hughes, T., Kautsky, N., Lambin, E. F., Naylor, R.,

Nyborg, K., Polasky, S., Scheffer, M., Wilen, J., Xepapadeas, A., de Zeeuw, A. 2014; 4 (7): 527-529

The Evolving Sphere of Food Security edited by Naylor, R. L. Oxford University Press. 2014

Frontiers in Food Policy: Perspectives on sub-Saharan Africa edited by Falcon, W. P., Naylor, R.

L. Center on Food Security and the Environment. 2014

The new economic geography of land use change: Supply chain configurations and land use in

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the Brazilian Amazon LAND USE POLICY Garrett, R. D., Lambin, E. F., Naylor, R. L. 2013; 34: 265-275
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- Land institutions and supply chain configurations as determinants of soybean planted area and yields in Brazil *LAND USE POLICY* Garrett, R. D., Lambin, E. F., Naylor, R. L. 2013; 31: 385-396
- Feed and fishmeal use in the production of tilapia and carps in China Aquaculture Chiu, A., Li, L., Guo, S., Bai, J., Fedor, C., Naylor, R. L. 2013; 414-415: 127-134
- The case for distributed irrigation as a development priority in sub-Saharan Africa *Proceedings* of the National Academy of Sciences Burney, J. a., Naylo, R. L., Postel, S. L. 2013; 110 (31): 12513-12517
- Biofuels, rural development, and the changing nature of agricultural demand *Global Food Policy* and *Food Security* Naylor, R. L. Center on Food Security and the Environment, Stanford University. 2012
- Searching for Solutions in Aquaculture: Charting a Sustainable Course Annual Review of Environment and Resources, 2012 Klinger, D., Naylor, R. L. 2012
- Smallholder Irrigation as a Poverty Alleviation Tool in Sub-Saharan Africa WORLD
- DEVELOPMENT Burney, J. A., Naylor, R. L. 2012; 40 (1): 110-123
- Numerical modeling of aquaculture dissolved waste transport in a coastal embayment

Lessons Learned Seeds of Sustainability: Lessons from the Birthplace of the Green

- ENVIRONMENTAL FLUID MECHANICS Venayagamoorthy, S. K., Ku, H., Fringer, O. B., Chiu, A., Naylor, R. L., Koseff, J. R. 2011; 11 (4): 329-352
- Sugar and ethanol production as a rural development strategy in Brazil: Evidence from the state of Sao Paulo AGRICULTURAL SYSTEMS Martinelli, L. A., Garrett, R., Ferraz, S., Naylor, R.
- 2011; 104 (5): 419-428

  Expanding the boundaries of agricultural development FOOD SECURITY Navior B. 2011; 3 (2):
- Expanding the boundaries of agricultural development *FOOD SECURITY* Naylor, R. 2011; 3 (2): 233-251
- Revolution in Agriculture Matson, P., Naylor, R., Ortiz-Monasterio, I. edited by Matson, P. A. Island Press. 2011
- The global costs of American ethanol *The American Interest* Naylor, R. L., Falcon, W. P. 2011; VII (2)
- The Yaqui Valley's agricultural transition to a more open economy Seeds of Sustainability: Lessons from the Birthplace of the Green Revolution in Agriculture Naylor, R., Falcon, W. edited by Matson, P. A. Island Press. 2011
- Looking for win-wins in intensive agriculture Seeds of Sustainability: Lessons from the Birthplace of the Green Revolution in Agriculture Matson, P., Naylor, R., Ortiz-Monasterio, I. edited by Matson, P. A. Island Press. 2011
- Agriculture in Brazil: impacts, costs, and opportunities for a sustainable future *CURRENT* OPINION IN ENVIRONMENTAL SUSTAINABILITY Martinelli, L. A., Naylor, R., Vitousek, P. M., Moutinho, P. 2010; 2 (5-6): 431-438
- Downscaling Indonesian precipitation using large-scale meteorological fields *INTERNATIONAL JOURNAL OF CLIMATOLOGY* Vimont, D. J., Battisti, D. S., Naylor, R. L. 2010; 30 (11): 1706-1722
- ROSAMOND NAYLOR FEEDING EVERYONE SMITHSONIAN Bensen, A., Naylor, R. 2010; 41 (4): 72-73
- Ecosystem stewardship: sustainability strategies for a rapidly changing planet TRENDS IN
- ECOLOGY & EVOLUTION Chapin, F. S., Carpenter, S. R., Kofinas, G. P., Folke, C., Abel, N., Clark, W. C., Olsson, P., Smith, D. M., Walker, B., Young, O. R., Berkes, F., Biggs, R., Grove, J.
- M., Naylor, R. L., Pinkerton, E., Steffen, W., Swanson, F. J. 2010; 25 (4): 241-249
  Solar-powered drip irrigation enhances food security in the Sudano-Sahel *PROCEEDINGS OF*
- THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA
- Burney, J., Woltering, L., Burke, M., Naylor, R., Pasternak, D. 2010; 107 (5): 1848-1853 Impacts of El Nino-Southern Oscillation events on China's rice production *JOURNAL OF*
- GEOGRAPHICAL SCIENCES Deng Xiangzheng, X. Z., Huang Jikun, J. K., Qiao Fangbin, F.
- B., Naylor, R. L., Falcon, W. P., Burke, M., Rozelle, S., Battisti, D. 2010; 20 (1): 3-16
- People, Land Use, and Environment in the Yaqui Valley, Sonora Mexico *Population, Land Use, Environment: Research Directions* Matson, P., Luers, A., Seto, K., Naylor, R. edited by Entwisle, B., Stern, P. C. National Academies Press. 2010
- Impacts of El Nino-Southern Oscillation (ENSO) events on the world rice market *Program on Food Security and the Environment, Stanford University* Huang, J., Yang, J., Rozelle, S., Naylor,
- R., Falcon, W., Battisti, D. 2010
  Food security in an era of economic volatility *Population and Development Review* Naylor, R.,
- Food security in an era of economic volatility *Fopulation and Development Review* Naylor, R. Falcon, W. 2010: 36 (4)

```
Environmentally responsible aquaculture: California leads the way Los Angeles Times (editorial)
Naylor, R. L., Leonard, G. H. 2010; February 15
```

Feeding aquaculture in an era of finite resources (vol 106, 15103, 2009) PROCEEDINGS OF

THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA
Navior R. I., Hardy R. W., Bureau, D. P., Chiu, A., Elliott, M., Earrell, A. P., Forster, I., Gatlin, I.

Naylor, R. L., Hardy, R. W., Bureau, D. P., Chiu, A., Elliott, M., Farrell, A. P., Forster, I., Gatlin, D. M., Goldburg, R. J., Hua, K., Nichols, P. D. 2009; 106 (42): 18040-18040

Feeding aquaculture in an era of finite resources PROCEEDINGS OF THE NATIONAL

ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA Naylor, R. L., Hardy, R.

W., Bureau, D. P., Chiu, A., Elliott, M., Farrell, A. P., Forster, I., Gatlin, D. M., Goldburg, R. J., Hua, K., Nichols, P. D. 2009; 106 (36): 15103-15110

Hua, K., Nichols, P. D. 2009, 100 (30). 15103-15110

El Nino-Southern Oscillation Impacts on Rice Production in Luzon, the Philippines *JOURNAL OF APPLIED METEOROLOGY AND CLIMATOLOGY* Roberts, M. G., Dawe, D., Falcon, W. P., Naylor, R. L. 2009; 48 (8): 1718-1724

Agriculture. Nutrient imbalances in agricultural development. *Science* Vitousek, P. M., Naylor, R., Crews, T., David, M. B., Drinkwater, L. E., Holland, E., Johnes, P. J., KATZENBERGER, J.,

Martinelli, L. A., Matson, P. A., Nziguheba, G., Ojima, D., Palm, C. A., Robertson, G. P., Sanchez,

P. A., Townsend, A. R., Zhang, F. S. 2009; 324 (5934): 1519-1520

Historical Warnings of Future Food Insecurity with Unprecedented Seasonal Heat *SCIENCE* Battisti, D. S., Naylor, R. L. 2009; 323 (5911): 240-244

Food security in an era of price volatility: decoding the devil in the details *Program on Food* 

Security and the Environment, Stanford University Falcon, W., Naylor, R., Wang, K. 2009

Downscaling Indonesia precipitation using large-scale meteorological fields International

Journal of Climatology Vimont, D., Battisti, D., Naylor, R. 2009; 30 (11): 1706–1722
Coping with climate risks in Indonesian rice agriculture: a policy perspective Handbook on Uncertainty and Environmental Decision Making Naylor, R., Mastrandrea, M. edited by Filer, J.

A., Haurie, A. Springer . 2009

Managing food production systems for resilience Resilience-Based Management of Global

Ecosystems Naylor, R. edited by Chapin et al Springer Verlag Press. 2009 Increasing wildfire in Alaska's boreal forest: Pathways to potential solutions of a wicked problem

BIOSCIENCE Chapin, F. S., Trainor, S. F., Huntington, O., Lovecraft, A. L., Zavaleta, E., Natcher, D. C., McGuire, A. D., Nelson, J. L., Ray, L., Calef, M., Fresco, N., Huntington, H., Rupp,

Natcher, D. C., McGuire, A. D., Nelson, J. L., Ray, L., Calef, M., Fresco, N., Huntington, H., Rupp, T. S., DeWilde, L., Naylor, R. L. 2008; 58 (6): 531-540

Prioritizing climate change adaptation needs for food security in 2030 *SCIENCE* Lobell, D. B., Burke, M. B., Tebaldi, C., Mastrandrea, M. D., Falcon, W. P., Naylor, R. L. 2008; 319 (5863): 607-610

Is it Africa's turn? Boston Review (commentary: The global food crisis exposes the fragility of sub-Saharan economic progress Naylor, R. 2008; 33 (3)

When cars compete with people for food San Francisco Chronicle, Insight editorial Naylor, R. L., Falcon, W. P. 2008; May 18

Our Daily Bread: A Review of the Current World Food Crisis *Boston Review* Naylor, R., Falcon, W. 2008; September/October

International trade in meat: The tip of the pork chop AMBIO Galloway, J. N., Burke, M., Bradford, G. E., Naylor, R., Falcon, W., Chapagain, A. K., Gaskell, J. C., McCullough, E., Mooney, H. A., Oleson, K. L., Steinfeld, H., Wassenaar, T., Smil, V. 2007; 36 (8): 622-629

The ripple effect: Biofuels, food security, and the environment *ENVIRONMENT* Naylor, R. L., Liska, A. J., Burke, M. B., Falcon, W. P., Gaskell, J. C., Rozelle, S. D., Cassman, K. G. 2007; 49

(9): 30-43
Assessing risks of climate variability and climate change for Indonesian rice agriculture
PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES

OF AMERICA Naylor, R. L., Battisti, D. S., Vimont, D. J., Falcon, W. P., Burke, M. B. 2007; 104 (19): 7752-7757

The conservation of global crop genetic resources in the face of climate change Summary report

from a Bellagio Conference, Food Security and the Environment Naylor et al., R. 2007

The role of policy in agricultural transition Agriculture, Development and the Environment in the Yaqui Valley (Mexico) Naylor, R. N., Falcon, W. P. edited by Matson, P. A., Falcon, W. P. Center for Environmental Science and Policy, Stanford University. 2007

Simulations of mixing and transport of dissolved waste discharged from an aquaculture pen *Fifth International Symposium on Environmental Hydraulics* Venayagamoorthy, S. K., Friinger, O. B., Koseff, J. R., Naylor, R. L. 2007

Response of fishermen to aquaculture and the salmon crisis *Globalization: Effects on Fisheries Resources* Naylor, R., R., Eagle, J., and , J., W. Smith, W. edited by Taylor, W. W., Schechter,

```
M., Wolfson, L. Cambridge University Press. 2007
```

- Directional changes in ecological communities and social-ecological systems: A framework for prediction based on Alaskan examples AMERICAN NATURALIST Chapin, F. S., Robards, M.
- D., Huntington, H. P., Johnstone, J. E., Trainor, S. E., Kofinas, G. P., Ruess, R. W., Fresco, N., Natcher, D. C., Naylor, R. L. 2006; 168 (6): S36-S49
- Policy strategies to address sustainability of Alaskan boreal forests in response to a directionally changing climate *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE*
- UNITED STATES OF AMERICA Chapin, F. S., Lovecraft, A. L., Zavaleta, E. S., Nelson, J., Robards, M. D., Kofinas, G. P., Trainor, S. F., Peterson, G. D., Huntington, H. P., Naylor, R. L. 2006; 103 (45): 16637-16643
- A case study of land reform and coastal land transformation in southern Sonora, Mexico LAND
- USE POLICY Luers, A. L., Naylor, R. L., Matson, P. A. 2006; 23 (4): 436-447
- Offshore aquaculture legislation SCIENCE Naylor, R. 2006; 313 (5792): 1363-1363
- Business strategies for conservation on private lands: Koa forestry as a case study
- PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES
- OF AMERICA Goldstein, J. H., Daily, G. C., Friday, J. B., Matson, P. A., Naylor, R. A. 2006; 103 (26): 10140-10145
- Environmental safeguards for open-ocean aquaculture *National Academy of Sciences Issues in Science and Technology* Navlor, R. 2006; Spring
- Stewardship principles for farming finfish in the sea Center for Environmental Science and
- Policy Series Naylor, R. N., Leonard, G., Goldman, J., Joy, N., Evans, S., Goldburg, R.,
- Heggelund, P., Johnson, P., Kelso, D., MacLeod, N., O'Shea, T., Sims, N., Burke, M., Chiu, A.,
- Gerhart, A. Stanford University. 2006
  Agriculture. Losing the links between livestock and land. Science Naylor, R., Steinfeld, H.,
- Falcon, W., Galloway, J., Smil, V., Bradford, E., Alder, J., Mooney, H. 2005; 310 (5754): 1621-1622
- Unleashing the genius of the genome to feed the developing world Naylor, R., Manning, R. AMER PHILOSOPHICAL SOC. 2005: 515-528
- Analysis of wheat yield and climatic trends in Mexico FIELD CROPS RESEARCH Lobell, D. B.,
- Ortiz-Monasterio, J. I., Asner, G. P., Matson, P. A., Naylor, R. L., Falcon, W. P. 2005; 94 (2-3): 250-256
- Future seascapes, fishing, and fish farming FRONTIERS IN ECOLOGY AND THE
- ENVIRONMENT Goldburg, R., Naylor, R. 2005; 3 (1): 21-28
- Combining field surveys, remote sensing, and regression trees to understand yield variations in an irrigated wheat landscape *AGRONOMY JOURNAL* Lobell, D. B., Ortiz-Monasterio, J. I.,
- Asner, G. P., Naylor, R. L., Falcon, W. P. 2005; 97 (1): 241-249

  A tropical freshwater wetland: Ill. Direct use values and other goods and services *Wetlands*
- Ecology and Management Drew, W. M., Ewel, K. C., Naylor, R. L., Sigrah, A. 2005; 13 (6)
- Fugitive salmon: Assessing risks from aquaculture escapes *BioScience* Naylor, R., Hindar, K., Fleming, I., Goldburg, R., Williams, S., Volpe, J., Whoriskey, F., Eagle, J., Kelso, D., Mangel, M.
- Fleming, I., Goldburg, R., Williams, S., Volpe, J., Whoriskey, F., Eagle, J., Kelso, D., Mangel, M. 2005; 55 (5)
- Aquaculture and ocean resources: raising tigers of the sea Annual Review of Environment and Resources Naylor, R., Burke, M. 2005; 30
- Biodiversity and the regulation of ecosystem services *Millennium Assessment of the World's Ecosystems* Diaz, S., , S., Tilman, D., D., Naylor (among contributing authors), R. L. Island Press. 2005
- Rethinking food security for the twenty-first century AMERICAN JOURNAL OF
- AGRICULTURAL ECONOMICS Falcon, W. P., Naylor, R. L. 2005; 87 (5): 1113-1127
- Using climate models to improve Indonesian food security BULLETIN OF INDONESIAN
- ECONOMIC STUDIES Falcon, W. P., Naylor, R. L., Smith, W. L., Burke, M. B., McCullough, E. B. 2004; 40 (3): 355-377
- The role of genomics research in improvement of "orphan" crops Nelson, R. J., Naylor, R. L., Jahn, M. M. CROP SCIENCE SOC AMER. 2004: 1901-1904
- Why farm salmon outcompete fishery salmon MARINE POLICY Eagle, J., Naylor, R., Smith, W. 2004; 28 (3): 259-270
- Salmon farms and hatcheries *ENVIRONMENT* Naylor, R. L., Eagle, J., Smith, W. L. 2004; 46 (3): 45-45
- Biotechnology in the developing world: a case for increased investments in orphan crops Naylor, R. L., Falcon, W. P., Goodman, R. M., Jahn, M. M., Sengooba, T., Tefera, H., Nelson, R. J.
- ELSEVIER SCILTD. 2004: 15-44
- Threats to Aquatic Environments: Is Aquaculture a Solution? The ATSE Crawford Fund

```
Cumerence naylur, R. A., bruwir, (ed.), G. 2004
Salmon aquaculture in the Pacific Northwest - A global industry ENVIRONMENT Naylor, R. L.,
```

Eagle, J., Smith, W. L. 2003; 45 (8): 18-?

Illustrating the coupled human-environment system for vulnerability analysis: Three case studies

PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA Turner, B. L., Matson, P. A., McCarthy, J. J., Corell, R. W., Christensen, L.,

Eckley, N., Hovelsrud-Broda, G. K., Kasperson, J. X., Kasperson, R. E., Luers, A., Martello, M. L., Mathiesen, S., Naylor, R., Polsky, C., Pulsipher, A., Schiller, A., Selin, H., Tyler, N. 2003; 100 (14): 8080-8085

Agricultural sustainability and intensive production practices NATURE Tilman, D., Cassman, K. G., Matson, P. A., Naylor, R., Polasky, S. 2002; 418 (6898): 671-677

Migration, markets, and mangrove resource use on Kosrae, Federated States of Micronesia

AMBIO Navlor, R. L., Bonine, K. M., Ewel, K. C., Waguk, E. 2002; 31 (4): 340-350

Policy implications of human-accelerated nitrogen cycling (Reprinted from Biogeochemistry, vol. 52, pg 281-320, 2001) BIOGEOCHEMISTRY Mosier, A. R., Bleken, M. A., Chaiwanakupt, P.,

Ellis, E. C., Freney, J. R., Howarth, R. B., Matson, P. A., Minami, K., Naylor, R., Weeks, K. N., Zhu, Z. L. 2002; 57 (1): 477-516

Using El Nino - Southern oscillation climate data to improve food policy planning in Indonesia BULLETIN OF INDONESIAN ECONOMIC STUDIES Navior, R., Falcon, W., Wada, N.,

Rochberg, D. 2002; 38 (1): 75-91 Integrating New Genetic Technologies Into Orphan-Crop Improvement in the Least Developed

Countries 6th Annual Conference on Agricultural Biotechnologies: New Avenues for Production, Consumption, and Technology Transfer Naylor, R., Nelson, R., Falcon, W., Goodman, R., Jahn, M., Kalazich, J., Sengooba, T., Tefera, H. 2002

Ecology - Aquaculture - A gateway for exotic species SCIENCE Naylor, R. L., Williams, S. L., Strong, D. R. 2001; 294 (5547): 1655-1656

Using El Nino/Southern oscillation climate data to predict rice production in Indonesia CLIMATIC CHANGE Navior, R. L., Falcon, W. P., Rochberg, D., Wada, N. 2001; 50 (3): 255-265

Policy implications of human-accelerated nitrogen cycling BIOGEOCHEMISTRY Mosier, A. R., Bleken, M. A., Chaiwanakupt, P., Ellis, E. C., Freney, J. R., Howarth, R. B., Matson, P. A.,

Minami, K., Naylor, R., Weeks, K. N., Zhu, Z. L. 2001; 52 (3): 281-320 Aquaculture: A net loss? Conservation Biology in Practice Naylor, R., Goldburg, R., Beveridge,

M., Clay, J., Folke, C., Kautsky, N., Lubchenco, J., Mooney, H., Primavera, J., Troell, M. 2001; 2 Marine aquaculture in the United States: Environmental Impacts and Policy Options Goldburg, R. J., Elliot, M., Naylor, R. L. Pew Ocean Commission, Arlington, Virginia. 2001

Policy reforms and Mexican agriculture: views from the Yagui Valley CIMMYT Economics Working Paper, Mexico D.F. Naylor, R., Falcon, W., Puente-Gonzalez, A. 2001

Effect of aquaculture on world fish supplies NATURE Naylor, R. L., Goldburg, R. J., Primavera, J. H., Kautsky, N., Beveridge, M. C., Clay, J., Folke, C., Lubchenco, J., Mooney, H., Troell, M. 2000; 405 (6790): 1017-1024

Consequences of changing biodiversity NATURE Chapin, F. S., Zavaleta, E. S., Eviner, V. T., Naylor, R. L., Vitousek, P. M., Reynolds, H. L., Hooper, D. U., Lavorel, S., Sala, O. E., Hobbie, S. E., Mack, M. C., Diaz, S. 2000; 405 (6783): 234-242

Agriculture and global change Earth Systems: Processes and Issues Naylor, R. edited by Ernst, G. Cambridge University Press. 2000

The economics of alien species invasions Invasive Species in a Changing World, Naylor, R. L., R. L. edited by Mooney, H., Hobbs, R. Island Press. 2000

The maize transition in Asia: Unlocking the controversy Falcon, W. P., Naylor, R. L. OXFORD UNIV PRESS INC. 1998: 960-968

Ecology - Nature's subsidies to shrimp and salmon farming SCIENCE Naylor, R. L., Goldburg, R. J., Mooney, H., Beveridge, M., Clay, J., Folke, C., Kautsky, N., Lubchenco, J., Primavera, J., Williams, M. 1998; 282 (5390): 883-884

Integration of environmental, agronomic, and economic aspects of fertilizer management

SCIENCE Matson, P. A., Naylor, R., Ortiz-Monasterio, I. 1998; 280 (5360): 112-115

Valuing Mangrove Resources in Kosrae, Micronesia Environment and Development Economics Navlor, R. L., Drew, W. M. 1998; 3.4

Variability and growth in grain yields, 1950-94: Does the record point to greater instability? POPULATION AND DEVELOPMENT REVIEW Naylor, R., Falcon, W., Zavaleta, E. 1997; 23 (1): 41-?

The Value of Natural Pest Control Services in Agriculture Ecosystem Services Naylor, R.,

Ehrlich, P. edited by Daily, G. Island Press. 1997.

- Herbicides in Asian Rice Production: Perspectives from Economics, Ecology, and the Agricultural Sciences *Herbicides in Asian Rice: Transitions in Weed Management* Naylor, R. L. edited by Naylor, R. L. International Rice Research Institute Publications, Los Banos, The Philippines. 1997
- Herbicide Strategies for Asian Rice Systems *Herbicides in Asian Rice: Transitions in Weed Management* Naylor, R., Falcon, W., Kennedy, D. edited by Naylor, R. L. International Rice Research Institute Publications, Los Banos, The Philippines. 1997
- Invasions in agriculture: Assessing the cost of the golden apple snail in Asia AMBIO Naylor, R. 1996; 25 (7): 443-448
- Energy and resource constraints on intensive agricultural production ANNUAL REVIEW OF ENERGY AND THE ENVIRONMENT Naylor, R. L. 1996; 21: 99-123
- Is the locus of poverty changing? FOOD POLICY Naylor, R. L., Falcon, W. P. 1995; 20 (6): 501-518
- CULTURE AND AGRICULTURE EMPLOYMENT PRACTICES AFFECTING WOMEN IN JAVA RICE ECONOMY *ECONOMIC DEVELOPMENT AND CULTURAL CHANGE* Naylor, R. 1994; 42 (3): 509-535
- HERBICIDE USE IN ASIAN RICE PRODUCTION WORLD DEVELOPMENT Naylor, R. 1994; 22 (1): 55-70
- DEVELOPING AN INTEGRATED APPROACH FOOD POLICY Naylor, R., Matson, P. 1993; 18 (3): 249-251
- LÁBOR-SAVING TECHNOLOGIES IN THE JAVANESE RICE ECONOMY RECENT
- DEVELOPMENTS AND A LOOK INTO THE 1990S (VOL 28, PG 85, 1992) BULLETIN OF INDONESIAN ECONOMIC STUDIES Naylor, R. 1993; 29 (1): U1-U1
- REAL WAGES AND INSTITUTIONAL CHANGE WOMEN'S WELFARE IN THE JAVANESE RICE ECONOMY FOOD POLICY Naylor, R. 1993; 18 (1): 73-78
- Food, Conservation, and Global Environmental Change: Is Compromise Possible? *EOS Transactions* Navlor, R., Matson, P. 1993; 74 (15)
- LABOR-SAVING TECHNOLOGIES IN THE JAVANESE RICE ECONOMY RECENT
- DEVELOPMENTS AND A LOOK INTO THE 1990S BULLETIN OF INDONESIAN ECONOMIC STUDIES Naylor, R. 1992; 28 (3): 71-91
- Equity Effects of Alternative Rice Policies *Rice Policies in Indonesia* Naylor, R. edited by Pearson et al Cornell University Press. 1991
- The Rural Labor Market in Indonesia *Rice Policies in Indonesia* Naylor, R. edited by Pearson et al Cornell University Press. 1991
- Recent Policy Influences on Rice Production *Rice Policies in Indonesia* Pearson, S., Naylor, R., Falconed, W. edited by Pearson et al Cornell University Press. 1991
- WAGE TRENDS IN RICE PRODUCTION ON JAVA 1976-1988 BULLETIN OF INDONESIAN ECONOMIC STUDIES Naylor, R. 1990; 26 (2): 133-156
- Youth Unemployment and the Minimum Wage Annals of Regional Science Naylor (then Lee), R., Lillydahl, J., Singell, L. 1981

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