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Drought and Water Allocation (II)

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Water Allocation and Drought (II)

1. **Agricultural land expansion and deforestation in Malawi.**
   Minde, I. J., Kowero, G., Ngugi, D., and Luhanga, J.
   For-trees-livelyhood. 11: 2 pp.167-182. (2001).
   NAL Call #: SD1-.I54
   Descriptors: forests; deforestation; agricultural-land; population-density; poverty; government-policy; drought; zea-mays; nicotiana-tabacum; food-marketing; marketing; income; prices; nature-reserves; livestock; charcoal; land-use; literature-reviews; malawi
2. **The allocative efficiency and conservation potential of water laws encouraging investments in on-farm irrigation technology.**

Huffaker, R. and Whittlesey, N.
Agric-econ. 24: 1 pp.47-60. (Dec 2000).
NAL Call #: HD1401.A47
Descriptors: irrigation; efficiency; water-allocation; water-conservation; water-policy; comparisons; mathematical-models; oregon
Abstract: Agricultural water conservation statutes are emerging in the West encouraging private irrigators to improve on-farm irrigation efficiency as a basinwide conservation measure. We investigate whether private improvements promote the economic efficiency and conservation of water use basinwide under a wide variety of hydroeconomic circumstances. The standard of efficiency is how an irrigation district manager should optimally invest in improving the irrigation efficiencies of individual farms located along a stream while internalizing intrabasin allocative externalities of these investments. The results indicate that the popular Oregon legislative model may be the least effective in conserving water and promoting economically efficient water allocation.

3. **An analysis of state drought plans: a model drought plan proposal.**
   Najarian, Polly Ann.
   2000. 165 leaves (some fol.) : ill. pp.
   NAL Call #: NBU LD3656-2000-N3575
4. **Change and conflict in land and water use: resource valuation in conflict resolution among competing users.**
   Hatch, L. U. and Hanson, T. R.
   J-agric-appl-econ. 33: 2 pp.297-314. (Aug 2001).
   NAL Call #: HD101.S6
   Descriptors: water-allocation; rivers; watersheds; land-use; water-use; resource-utilization; valuation; georgia; florida; alabama; alabama-coosa-tallapoosa-river-basin; apalachicola-flint-chattahoochee-river-basin
5. **Climate-change impacts in a regional karst aquifer, Texas, USA.**
   Loaiciga, H. A., Maidment, D. R., and Valdes, J. B.
   J-hydrol. 227: 1/4 pp.173-194. (Jan 31, 2000).
   NAL Call #: 292.8-J82
   Descriptors: carbon-dioxide-enrichment; groundwater-recharge; climatic-change; groundwater-extraction; aquifers; simulation-models; mathematical-models
   Abstract: Climate-change scenarios were created from scaling factors derived from several general circulation models to assess the likely impacts of aquifer pumping on the water resources of the Edwards Balcones Fault Zone (BFZ) aquifer, Texas, one of the largest aquifer systems in the United States. Historical climatic time series in periods of extreme water shortage (1947-1959), near-average recharge (1978-1989), and above-average recharge (1975-1990) were scaled to 2 X CO2 conditions to create aquifer recharge scenarios in a warmer climate. Several pumping scenarios were combined with 2 X CO2 climate scenarios to assess the sensitivity of water resources impacts to human-induced stresses on the Edwards BFZ aquifer. The 2 X CO2 climate-change scenarios were linked to surface hydrology and used to drive aquifer dynamics with alternative numerical simulation models calibrated to the Edwards BFZ aquifer. Aquifer simulations indicate that, given the predicted growth and water demand in the Edwards BFZ aquifer region, the aquifer's ground water resources appear threatened under 2 X CO2 climate scenarios. Our simulations indicate that 2 X CO2 climatic conditions could exacerbate

negative impacts and water shortages in the Edwards BFZ aquifer even if pumping does not increase above its present average level. The historical evidence and the results of this article indicate that without proper consideration to variations in aquifer recharge and sound pumping strategies, the water resources of the Edwards BFZ aquifer could be severely impacted under a warmer climate.

6. **Climatic changes in yield index and soil water deficit trends in China.**
   Thomas, A.
   Agric-for-meteorol. 102: 2/3 pp.71-81. (May 12, 2000).
   NAL Call #: 340.8-AG8
   Descriptors: precipitation; evapotranspiration; hydrology; soil-water; ecosystems; agriculture; yields; cropping-systems; time; soil-water-balance; climatic-change; china
7. **Comparative study of drought prediction techniques for reservoir operation.**
   Cheng, K. S., Yeh, H. C., and Liou, C. Y.
   J-Am-Water-Resour-Assoc. 36: 3 pp.511-521. (June 2000).
   NAL Call #: GB651.W315
   Descriptors: drought; prediction; accuracy; probability; water-reservoirs; water-management; kriging; time-series; case-studies; taiwan; shihmen-reservoir
   Abstract: Predicting the likelihood of a drought markedly enhances the efficiency of reservoir operations. This study applies the kriging method and time series analysis to predict inflows to Shihmen Reservoir in northern Taiwan. A subsequent reservoir operation simulation is employed to determine the drought lead time (DLT), the time before the onset of a drought. A more efficient reservoir operational strategy can be established with the aid of DLT and the probability of successful drought prediction (Ps). Simulation results of reservoir operation over a period of three decades demonstrate that, at one month DLT, the kriging approach achieves 0.86 of Ps for moderate droughts and 0.94 of Ps for severe droughts. The kriging approach generally outperformed the time series approach in terms of DLT, Ps of drought prediction, and the number of correctly predicted drought events.
8. **Constrained conjunctive-use for endogenously separable water markets: managing the Wailhole-Waikane aqueduct.**
   Smith, R. B. W. and Roumasset, J.
   Agric-econ. 24: 1 pp.61-71. (Dec 2000).
   NAL Call #: HD1401.A47
   Descriptors: water-allocation; water-use; water-resources; transport; groundwater; surface-water; mathematical-models; hawaii
   Abstract: An internal solution to an optimal control problem involving conjunctive-use of surface and groundwater may be inapplicable if water is not sufficiently fungible across space and time. We provide a more general solution and apply it to the problem of allocating a limited amount of water from the Ko'olau mountains to two Oahu water districts separated by those mountains. The solution involves initially allocating all of the mountain water to the district supplied by groundwater but eventually allocating all of the water to the district supplied by surface water. The conditions for an internal solution hold only in the intervening years when some mountain water is allocated to each district.
9. **Drought in the United States: current drought impacts.**
   University of Nebraska Lincoln. National Drought Mitigation Center.
   [Lincoln, NE] : The Center. pp.

URL: http://www.drought.unl.edu/risk/us/usimpacts.htm
NAL Call #: QC929.26-.D76
Descriptors: Droughts-United-States-States-Periodicals; Droughts-Physiological-effect-United-States-States-Periodicals
Abstract: Summary of drought's impacts month by month, compiled by the NDMC, including links to state drought planning resources.

10. **Drought indices.**
Hayes, Michael. and University of Nebraska Lincoln. National Drought Mitigation Center.
[Lincoln, Neb.? : National Drought Mitigation Center, University of Nebraska, 2000?]: Title from title screen.
Includes bibliographical references.
URL: http://www.drought.unl.edu/whatis/Indices.pdf
NAL Call #: QC929.26-.H38-2000
Descriptors: Droughts-United-States; Droughts-Australia; drought; United-States; Australia

11. **Drought network news: a newsletter of the International Drought Information Center.**
International Drought Information Center. World Climate Programme.
Lincoln, NE : International Drought Information Center, University of Nebraska. pp.
URL: http://www.drought.unl.edu/pubs/dnn.htm
NAL Call #: QC929.2-.D76
Descriptors: Droughts-Periodicals; Drought-relief-Periodicals; drought

12. **Drought proofing farm water supplies.**
Alberta. Alberta Agriculture, Food and Rural Development.
[Edmonton?] : Alberta Agriculture, Food and Rural Development, [2000] 5 p. : ill.: Caption title. "July 2000." "Agdex #716(A01)."
NAL Call #: S494.5.W3-D76-2000
Descriptors: Water-supply,-Agricultural; Droughts

13. **Drought resource information packet.**
Texas. Dept. of Agriculture.
[Austin, Tex.?] : The Dept., [2000]: Title from title screen. "3/29/00."
URL: http://www.agr.state.tx.us/producer%5Finfo/hay%5Fgrazing/drought.pdf
NAL Call #: QC929.27.T4-D76-2000
Descriptors: Droughts-Texas-Management; Drought-relief-Texas; drought

14. **Economic analysis of water allocation policies regarding Nile River water in Egypt.**
Wichelns, D.
Agric-water-manage. 52: 2 pp.155-175. (Jan 3, 2002).
NAL Call #: S494.5.W3A3
Descriptors: crop-production; food-security; irrigation; water-allocation; economic-analysis; mathematical-models; equations; egypt

15. **Economy-wide effects of climate variability and climate prediction in Mozambique.**
Arndt, C. and Bacou, M.
Am-j-agric-econ. 82: 3 pp.750-754. (Aug 2000).
NAL Call #: 280.8-J822

Descriptors: drought; climatic-factors; prediction; information; equilibrium-theory; simulation; agricultural-production; mozambique

16. **Effects of a strong drought on Amazonian forest fragments and edges.**
Laurance, W. F., Williamson, G. B., Delamonica, P., Oliveira, A., Lovejoy, T. E., Gascon, C., and Pohl, L.
J-trop-ecol. Cambridge : Cambridge University Press. Nov 2001. v.17 (pt.6) p. 771-785. pp.
NAL Call #: QH541.5.T7J68
Descriptors: tropical-rain-forests; mortality; dead-trees; amazonia

17. **The environmental impact of water markets: an Australian case-study.**
Tisdell, J. G.
J-environ-manage. 62: 1 pp.113-120. (May 2001).
NAL Call #: HC75.E5J6
Descriptors: water-allocation; environmental-impact; water-resources; water-policy; linear-programming; irrigated-farming; water-use; queensland

18. **Field water management to save water and increase its productivity in irrigated lowland rice.**
Bouman, B. A. M. and Tuong, T. P.
Agric-water-manage. 49: 1 pp.11-30. (July 2, 2001).
NAL Call #: S494.5.W3A3
Descriptors: oryza-sativa; crop-production; crop-yield; drought; irrigation-water; water-management; water-use-efficiency; soil-water-potential; lowland-areas; cultivars; genetic-variation; india; philippines

19. **Forecasting drought in Ethiopia. 1st ed. May, 2001.**
Ghosh, R. K. Ranjit Kumar
Bhubaneswar, India : 5C Publications, [2001] iii, 64 p. : ill.: Includes bibliographical references (p. 64).
NAL Call #: QC929.28.E8-G56-2001
Descriptors: Drought-forecasting-Ethiopia; Agriculture-Effect-of-drought-on-Ethiopia

20. **Ground water drought management by a feedforward control method.**
Ahn, H.
J-Am-Water-Resour-Assoc. 36: 3 pp.501-510. (June 2000).
NAL Call #: GB651.W315
Descriptors: groundwater; drought; water-use; groundwater-level; groundwater-recharge; forecasting; time-series; stochastic-models; algorithms; equations; florida; groundwater-pumping; drought-management-control-systems
Abstract: Management of a regional ground water system to mitigate drought problems at the multi-layered aquifer system in Collier County, Florida, is the main topic. This paper developed a feedforward control system that consists of system and control equations. The system equation, which forecasts ground water levels using the current measurements, was built based on the Kalman filter algorithm associated with a stochastic time series model. The role of the control equation is to estimate the pumping reduction rate during an anticipated drought. The control equation was built based on the empirical relationship between the change in ground water levels and the corresponding pumping requirement. The control system starts with forecasting one-month-ahead ground water head at each control point. The forecasted head is in turn used to calculate

the deviation of ground water heads from the monthly target specified by a 2-in-10-year frequency. When the forecasted water level is lower than the target, the control system computes spatially-varied pumping reduction rates as a recommendation for ground water users. The proposed control system was tested using hypothetical droughts. The simulation result revealed that the estimated pumping reduction rates are highly variable in space, strongly supporting the idea of spatial forecasting and controlling of ground water levels as opposed to a lumped water use restriction method used previously in the model area.

21. **Hydrologic aspects of the 1998-99 drought in the Delaware River basin.**
Paulachok, Gary N., Krejmas, Bruce E., Soden, Heidi L., and Geological Survey (U.S.). Milford, Pa. : U.S. Dept. of the Interior, U.S. Geological Survey ; Denver, CO : Branch of Information Services [distributor], 2000. v, 29 p. : ill. (some col.), maps (some col.): Shipping list no.: 2001-0062-P. Includes bibliographical references (p. 29). SUDOCS: I 19.42/4:00-4112.
NAL Call #: GB701-.W375-no.-2000-4112
Descriptors: Droughts-Delaware-River-Watershed-N Y; -Del; -and-N J; Water-supply-Delaware-River-Watershed-N Y; -Del; -and-N J

22. **Impact assessment of drought mitigation measures in two adjacent Dutch basins using simulation modelling.**
Querner, E. P. and Lanen, H. A. J. van.
J-hydrol. 252: 1/4 pp.51-64. (Oct 31, 2001).
NAL Call #: 292.8-J82
Descriptors: simulation-models; catchment-hydrology; stream-flow; aquifers; netherlands
Abstract: The impact of two mitigation measures on groundwater and streamflow droughts in two lowland basins was investigated by applying the comprehensive transient model SIMGRO. Catchment behaviour was simulated with meteorological data from 27 yrs. Raising the water levels in the primary watercourses and raising the beds of the small watercourses was found to mitigate groundwater droughts. Surprisingly, the river discharges during low flow periods were also reduced, indicating that streamflow drought lasts longer and total discharge deficit increases. The simulation modelling also shows that urban expansion in two adjacent basins where all the storm water on the paved surfaces is directed to a sewage treatment plant in one of the basins mitigates the streamflow droughts there. However, if the storm water on the paved surfaces infiltrates into the ground within the city limits, the total drought duration and total discharge deficit increase. In the adjacent basin with no treatment plant, urban expansion combined with storm water infiltration mitigates the droughts.

23. **The impact of water-pricing policy in Spain: an analysis of three irrigated areas.**
Berbel, J. and Gomez Limon, J. A.
Agric-water-manage. 43: 2 pp.219-238. (Mar 2000).
NAL Call #: S494.5.W3A3
Descriptors: irrigated-farming; crop-production; irrigation-requirements; water-allocation; water-policy; prices; statistics; mathematical-models; equations; spain

24. **The implications of sustained drought for transboundary water management in Nogales, Arizona, and Nogales, Sonora.**
Morehouse, B. J., Carter, R. H., and Sprouse, T. W.

Nat-resour-j. Albuquerque, University of New Mexico School of Law. Fall 2000. v. 40 (4) p. 783-817. pp.
NAL Call #: HC79.E5N3
Descriptors: water-supply; urban-areas

25. **Integrated economic-hydrologic water modeling at the basin scale: the Maipo river basin.**
Rosegrant, M. W., Ringler, C., McKinney, D. C., Cai, X., Keller, A., and Donoso, G.
Agric-econ. 24: 1 pp.33-46. (Dec 2000).
NAL Call #: HD1401.A47
Descriptors: water-allocation; farm-inputs; decision-making; productivity; irrigation; demand; water-use-efficiency; resource-utilization; models; water-policy; cost-benefit-analysis; equations; chile
Abstract: Increasing competition for water across sectors increases the importance of the river basin as the appropriate unit of analysis to address the challenges facing water resources management; and modeling at this scale can provide essential information for policymakers in their resource allocation decisions. This paper introduces an integrated economic-hydrologic modeling framework that accounts for the interactions between water allocation, farmer input choice, agricultural productivity, non-agricultural water demand, and resource degradation in order to estimate the social and economic gains from improvement in the allocation and efficiency of water use. The model is applied to the Maipo river basin in Chile. Economic benefits to water use are evaluated for different demand management instruments, including markets in tradable water rights, based on production and benefit functions with respect to water for the agricultural and urban-industrial sectors.

26. **The integration of water quality into transboundary allocation agreements: lessons from the southwestern United States.**
Bennett, L. L.
Agric-econ. 24: 1 pp.113-125. (Dec 2000).
NAL Call #: HD1401.A47
Descriptors: water-allocation; water-quality; international-agreements; pollution-control; southwestern-states-of-usa; mexico
Abstract: There is now a fairly substantial literature that addresses transboundary water allocation both at the international and interstate level. However, most of this literature deals almost exclusively with the question of allocation and ignores quality considerations. At the same time, there is a growing literature on transboundary pollution control and upstream/downstream externalities. What is missing is an attempt to integrate quality consideration into allocation agreements. This paper examines several allocation agreements and disputes in the southwestern United States and Mexico and looks at the ramifications of omitting pollution control and quality considerations in these negotiations.

27. **Inter-district water allocation with conjunctive use.**
Roumasset, J. and Smith, R.
Water-resour-update.: 118 pp.68-73. (Jan 2001).
NAL Call #: TD201.U61
Descriptors: water-management; water-resources; water-policy; water-use

28. **An inter-seasonal agricultural water allocation system (SAWAS).**
Salman, A. Z., Al Karablieh, E. K., and Fisher, F. M.
Agric-syst. 68: 3 pp.233-252. (June 2001).
NAL Call #: HD1.A3
Descriptors: irrigation-water; water-allocation; seasonal-cycle; economic-impact; agricultural-production; income; water-supply; decision-making; water-costs; demand; linear-programming; jordan; jordan-valley
Abstract: This paper introduces a linear programming optimization model for analyzing inter-seasonal allocation of irrigation water in quantities and qualities and their impact on agricultural production and income. The SAWAS model is a developed version of the Agricultural Sub-Model (AGSM). In this research, we stress water scarcity as a problem that arises when water is not found in proper quantity and quality at the appropriate place and time. The model is designed to serve as a decision-making tool for planners of agricultural production on both the district and the regional level. It generates an optimal mix of water-demanding activities that maximizes the net agricultural income of the districts and gives the water demands under various prices. It also provides the planner with tools to carry out 'what-if' experiments and to generate optimal water demand curves. A principal feature of SAWAS is the use of demand and the benefits from water together with costs and optimization within the agricultural sector to specify the optimal usage of different water qualities. Hence the agricultural planner can use the outputs of SAWAS in order to bridge the gap between the limited water resources and the increased agricultural production in an area that suffers from severe water scarcity. The paper applies the SAWAS model to the Jordan Valley in Jordan.
29. **The interstate river compact as a water allocation mechanism: water allocation mechanism: efficiency aspects.**
Bennett, L. L., Howe, C. W., and Shope, J.
Am-j-agric-econ. 82: 4 pp.1006-1015. (Nov 2000).
NAL Call #: 280.8-J822
Descriptors: rivers; water-allocation; state-government; economic-impact; mathematical-models; usa; economic-efficiency; risk-sharing; colorado-river
Abstract: Interstate river compacts are widely used to allocate water among riparian states. Twenty-one compacts are currently in force in the western United States, and these compacts are mostly of two types: those that allocate a fixed amount or flow of water to individual states; and those that allocate percentages of available water to the riparian states. This study compares the performance of the two resulting allocations with that resulting from basin-wide optimization without compact constraints. While widely varying hydrologic and economic characteristics of river basins create a large set of possible outcomes, a range of stylized case studies indicates that percentage compacts are likely to generate greater net benefits and to result in more equitable risk-sharing than fixed compacts under many circumstances. In light of recent compact negotiations in the southeastern United States, it is recommended that efficiency analyses under present and future conditions be made a part of all compact negotiations.
30. **A model for equitable distribution of canal water.**
Khepar, S. D., Gulati, H. S., Yadav, A. K., and Brar, T. P. S.
Irrig-sci. 19: 4 pp.191-197. (Sept 2000).

NAL Call #: S612.I756
Descriptors: irrigation-channels; irrigation-water; water-allocation; mathematical-models

31. **Modeling scenarios for water allocation in the Gediz Basin, Turkey.**
Kite, G. W. and International Water Management Institute.
Colombo, Sri Lanka : International Water Management Institute, c2001. v, 29 p. : col. ill., col. maps: Includes bibliographical references (p. 29).
NAL Call #: HD1741.D44-R47-no.-50
Descriptors: Irrigation-water-Turkey-Gediz-River-Watershed-Management; Water-resources-development-Turkey-Gediz-River-Watershed; Water-use-Turkey-Gediz-River-Watershed-Mathematical-models; Watershed-management-Turkey-Gediz-River-Watershed; Water-resources-development-Mathematical-models

32. **Modeling the impact of land surface degradation on the climate of tropical North Africa.**
Clark, D. B., Xue, Y., Harding, R. J., and Valdes, P. J.
J-climate. 14: 8 pp.1809-1822. (Apr 15, 2001).
NAL Call #: QC851.J62
Descriptors: rain; drought; vegetation; sahel; west-africa; tropical-africa

33. **Modelling the effect of drought on estuarine water quality.**
Attrill, M. J. and Power, M.
Water-res. 34: 5 pp.1584-1594. (Apr 2000).
NAL Call #: TD420.W3

34. **Modelling the soil moisture deficits developed under grass and deciduous woodland: the implications for water resources.**
Finch, J. W.
J-Inst-Water-Environ-Manag. 14: 5 pp.371-376. (Oct 2000).
NAL Call #: TD420.W374
Descriptors: grassland-soils; woodland-soils; water-deficit; soil-water-content; sandy-loam-soils; water-balance; interception; canopy; deciduous-forests; runoff; drainage; soil-profiles; wilting-point; field-capacity; england

35. **More reservoirs or transfers? A computable general equilibrium analysis of projected water shortages in the Arkansas River Basin.**
Goodman, D. J.
J-agric-resour-econ. 25: 2 pp.698-713. (Dec 2000).
NAL Call #: HD1750.W4
Descriptors: rivers; water-supply; water-reservoirs; water-allocation; economic-impact; rural-areas; agricultural-regions; mathematical-models; colorado

36. **Negotiating water allocation using a comprehensive study format: the "tri-state water wars".**
Jordan, J. L.
Water-resour-update.: 118 pp.38-43. (Jan 2001).
NAL Call #: TD201.U61
Descriptors: water-allocation; water-policy; watersheds; water-resources; law; watershed-management; alabama; georgia; florida

37. **Optimal scheduling of a micro-irrigation system under deficit irrigation.**
Barragan, J. and Wu, I. P.
J-agric-eng-res. 80: 2 pp.201-208. (Oct 2001).

NAL Call #: 58.8-J82
Descriptors: irrigation-scheduling; water-deficit; microirrigation
Abstract: The time schedule of micro-irrigation for a given irrigation interval can be expressed by an irrigation scheduling parameter which is defined as the ratio of the amount required and the amount applied. Different values of the scheduling parameter can provide over-irrigation as well as deficit irrigation in different areas of the field. A well-designed micro-irrigation system cannot reach its full potential and the goal of irrigation if the decision on irrigation scheduling is not properly taken. An economic analysis was carried out on the basis of the linear models of irrigation water distribution and crop response to deficit irrigation for all values of the scheduling parameter. An optimal irrigation schedule was determined to achieve an optimal return. A case study was presented to compare the optimal irrigation schedule with the conventional irrigation schedule in which the whole field is irrigated to the required amount. The optimum irrigation schedule can achieve optimum returns and also save water at the same time.

38. **Optimal use of irrigation water in the Jordan Valley: a case study.**
Al Weshah, R. A.
Water-resour-manag. 14: 5 pp.327-338. (Oct 2000).
NAL Call #: TC401.W27
Descriptors: irrigated-farming; irrigation; irrigation-scheduling; irrigation-requirements; water-allocation; crop-production; returns; profitability; watersheds; field-crops; vegetables; optimization; jordan

39. **Optimisation model for water allocation in deficit irrigation systems (I): description of the model.**
Reca, J., Roldan, J., Alcaide, M., Lopez, R., and Camacho, E.
Agric-water-manage. 48: 2 pp.103-116. (June 2001).
NAL Call #: S494.5.W3A3
Descriptors: irrigation-systems; water-deficit; irrigation-scheduling; water-management; optimization-methods; mathematical-models; equations

40. **Optimisation model for water allocation in deficit irrigation system (II): application to the Bembezar irrigation system.**
Reca, J., Roldan, J., Alcaide, M., Lopez, R., and Camacho, E.
Agric-water-manage. 48: 2 pp.117-132. (June 2001).
NAL Call #: S494.5.W3A3
Descriptors: irrigation-systems; water-deficit; irrigation-scheduling; water-management; optimization-methods; mathematical-models; equations; crop-production; spain

41. **Palmer drought severity & crop moisture indices.: Palmer drought severity and crop moisture indices.**
Climate Prediction Center (U.S.).
[Camp Springs, MD] : The Center, [2000?-]: Chiefly tables. Caption title.
NAL Call #: QC929.26-.P34-2000
Descriptors: Droughts-United-States-Statistics; Precipitation-Meteorology-United-States-Statistics; drought
Abstract: The PDSI is an important climatological tool for evaluating the scope, severity, and frequency of prolonged periods of abnormally dry or wet weather. It can be used to help delineate disaster areas and indicate the availability of irrigation water supplies, reservior levels, range conditions, amount of stock water, and potential intensity of forest

fires. The CMI can be used to measure the status of dryness or wetness affecting warm season crops and field activities.

42. **Pathways relating soil moisture conditions to future summer rainfall within a model of the land-atmosphere system.**
Pal, J. S. and Eltahir, E. A. B.
J-climate. 14: 6 pp.1227-1242. (Mar 15, 2001).
NAL Call #: QC851.J62
Descriptors: rain; drought; floods; soil-water; hydrology; models; water-budget; midwest-states-of-usa; energy-budget; climate-models

43. **Positive feedbacks among forest fragmentation, drought, and climatic change in the Amazon.**
Laurance, W. F. and Williamson, G. B.
Conserv-biol. 15: 6 pp.1529-1535. (Dec 2001).
NAL Call #: QH75.A1C5

44. **Preparing for drought in the 21st century (executive summary): National Drought Policy Commission report.**
United States. National Drought Policy Commission. United States. Dept. of Agriculture. Office of Communications.
[Washington, D.C.?] : U.S. Dept. of Agriculture's Office of Communications : The Commission, [2000] 12 p. : ill., col. map: Cover title. "May 2000"--P. [2] of cover.
NAL Call #: aHV626.U6-U552-2000
Descriptors: Drought-relief-Government-policy-United-States

45. **Preparing for drought in the 21st century: Report of the National Drought Policy Commission.**
United States. National Drought Policy Commission. United States. Dept. of Agriculture. Office of Communications.
[Washington, D.C.?] : U.S. Dept. of Agriculture's Office of Communications : National Drought Policy Commission, [2000] viii, 48 p. : ill., col. map: Cover title. "May 2000"--P. [2] of cover.
NAL Call #: aHV626.U6-U55-2000
Descriptors: Drought-relief-Government-policy-United-States

46. **Rainwater harvesting agriculture in Gansu Province, People's Republic of China.**
Cook, S., Li, F., and Wei, H.
J-soil-water-conserv. 55: 2 pp.112-114. (Second Quarter 2000).
NAL Call #: 56.8-J822
Descriptors: rain; agriculture; dry-farming; erosion; water-availability; groundwater; drought; water-erosion; storms; seasonal-variation; economic-analysis; environmental-impact; semiarid-climate; literature-reviews; water-harvesting; gansu

47. **Real-time scheduling of supplemental irrigation for potatoes using a decision model and short-term weather forecasts.**
Gowing, J. W. and Ejieji, C. J.
Agric-water-manage. 47: 2 pp.137-153. (Mar 2001).
NAL Call #: S494.5.W3A3
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