



A Comparison of EU-U.S. Payments for (Agri-) Environmental Services

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Introduction

- Both regions have seen a large increase in AE programs
- Both regions have used AE programs to comply with trade agreements
- Both have used AE programs to make farm subsidies more politically palatable

But...



Introduction

**...AE programs in the two regions
are very different.**

- We will outline some differences,
and similarities and briefly discuss
possible reasons for the
alternative policy approaches**

Outline

- **Comparison over**
 - Who initiated programs? Why?
 - Services targeted
 - Vehicle
 - Seller Selection and opportunity cost
 - Baseline and additionality
 - Leakage/Spillover
 - Permanence
 - Monitoring/Compliance
- **Possible reasons for the differences**
- **Implications and future research**

Who initiated AE programs and why?

- **Similarities**

- Administration/Commission to address trade constraints.
- Department/DG of Agriculture to compensate for outside regulation.
- Side-objective is transferring income to farmers.

- **Difference**

- In EU, AE programs are now more consumer/taxpayer driven,
- U.S. still primarily supply driven.

Services Targeted

- **Similarities**

- Both target similar environmental services (e.g. water quality, soil erosion, nutrient management) which are negative externalities of ag. (*substitutes*)

- **Differences (1)**

- EU also targets environmental services that are positive externalities of ag. (*complements*)

Evidence for Substitutes vs. Complements

- U.S. focus on land retirement (87 %)
 - Conservation Reserve Program (CRP),
 - Wetlands Reserve Program (WRP)
- vs.
- Environmental Quality Incentives Program (EQIP)
- Wildlife Habitat Incentives Program (WHIP)
- Farmland Protection Program (FPP)
- Grasslands Reserve Program (GRP)
- Conservation Security Program (CSP)

Evidence for Substitutes vs. Complements

- **EU focus on working lands (82%)**
 - Agri-environmental payments
 - Land abandonment
 - Less Favoured Area (LFA) payments

Externality	EU	United States
Soil erosion	Landscape	CRP, CSP
Chemical and nutrient run-off	Organic; stocking rates	EQIP, CSP
Water pollution	Agri-environmental payments	EQIP, WRP, CSP
Habitat destruction	Natura	WHIP, WRP, GRP, CSP
Habitat creation	Natura; Ag.-env. payments	WHIP
Landscape	Ag.-env. Payments	None (FPP)
Biodiversity	Rare breeds; pasture	None
Rural development	LFA	None
Cultural heritage	Traditional methods, LFA	None

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Services Targeted

- **Differences (2)**
 - EU targets negative externalities resulting from intensification, whereas U.S. targets negative externalities resulting from extensification.

Evidence for Intensive vs. Extensive

Objective	EU	United States
Reduce Intensification	Chemical reduction; Organics	None
Reduce Extensification	None	CRP; WRP; Sodbuster and Swampbuster
Support Intensification	None	EQIP (e.g. CAFO)
Support Extensification	LFA payments; non-abandonment	None

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Service vs. Vehicle

- In 3 programs discussed yesterday morning, trees were the vehicle to producing water quality/quantity.
- All three programs targeted vehicle, not service per se.

Vehicle

- **Differences**

- U.S. targets (expected) environmental outputs, and the EU targets inputs.
- Has implication for transaction costs (high information and technical service requirements in United States)

EU Programs - Vehicle

Program	Input	E(Output)
EU		
Natura	partial	partial
Organic	total	
Reduction in Inputs	total	
Afforestation	total	
Traditional farming methods	total	
Rare breeds	partial	partial
Animal welfare	total	
LFA payments	total	

U.S. Programs - Vehicle

Program	Input	E(Output)
United States		
CRP	Cost-share (7%)	Rental (93%)
EQIP		Total
WRP		Total
WHIP		Total
FPP	Total	
CSP	Total	

Seller Selection and Opportunity Cost

- **Differences**

- U.S. programs more likely to reflect benefit-cost than EU
- bidding or competition on quality for CRP, EQIP (pre-2002, some measure still in place)
- EU AE programs (mostly) pay for activity.
- EU payments based at national or regional levels

Baseline and Additionality

- **Similarities**

- Both countries use cross-compliance
- Both countries use AE programs to help support reach/exceed cross-compliance standards.

- **Differences**

- U.S. programs designed to be additional (Due to cost-share provision of EQIP, WHIP) and bidding process (for CRP).
- Exception is CRP land over time.
- Cross-compliance alone would get many of the benefits (of reducing negative externalities) in EU (but probably not politically feasible)
- Additionality in EU r.e. positive externalities

Leakage/Slippage

- **Differences**

- U.S. retirement programs increase price, (and intensification) – not so in EU.
- EU programs encourage extensification, which may increase some negative externalities.

Permanence

- **Similarity**

- Main source of permanence is (farmer) retirement (CRP in U.S., farmer retirement programs in EU).
- Unintended consequence.
- Permanence not on radar (GRP, WRP exception).

Monitoring and Compliance



- **Similarity**

- Never been a known incident of anyone in EU being sanctioned on cross-compliance, and concerns with compliance in U.S.

Are these PES?

- ✓ Voluntary
- ✓ One buyer (government)
- x Not Additional (compensation for regulation)
- x Multi-objective
- x Some payments target inputs, not environmental service
- x No “link” to demanders of service

Possible reasons for differences

- **Factors affecting AE policy**
 - Demand
 - Supply
 - Political (rent-seeking)
 - Structural/Institutional
- **Indication that demand more important in EU (e.g. public access), than U.S.**
- **Political structure, level of implementation and access affects outcome.**



Implications

- Differences in programs will lead to different amount and type of agricultural production.
- EU programs more easily used to transfer income to more farmers.
- Which determinant dominates will influence how hard programs is to change.

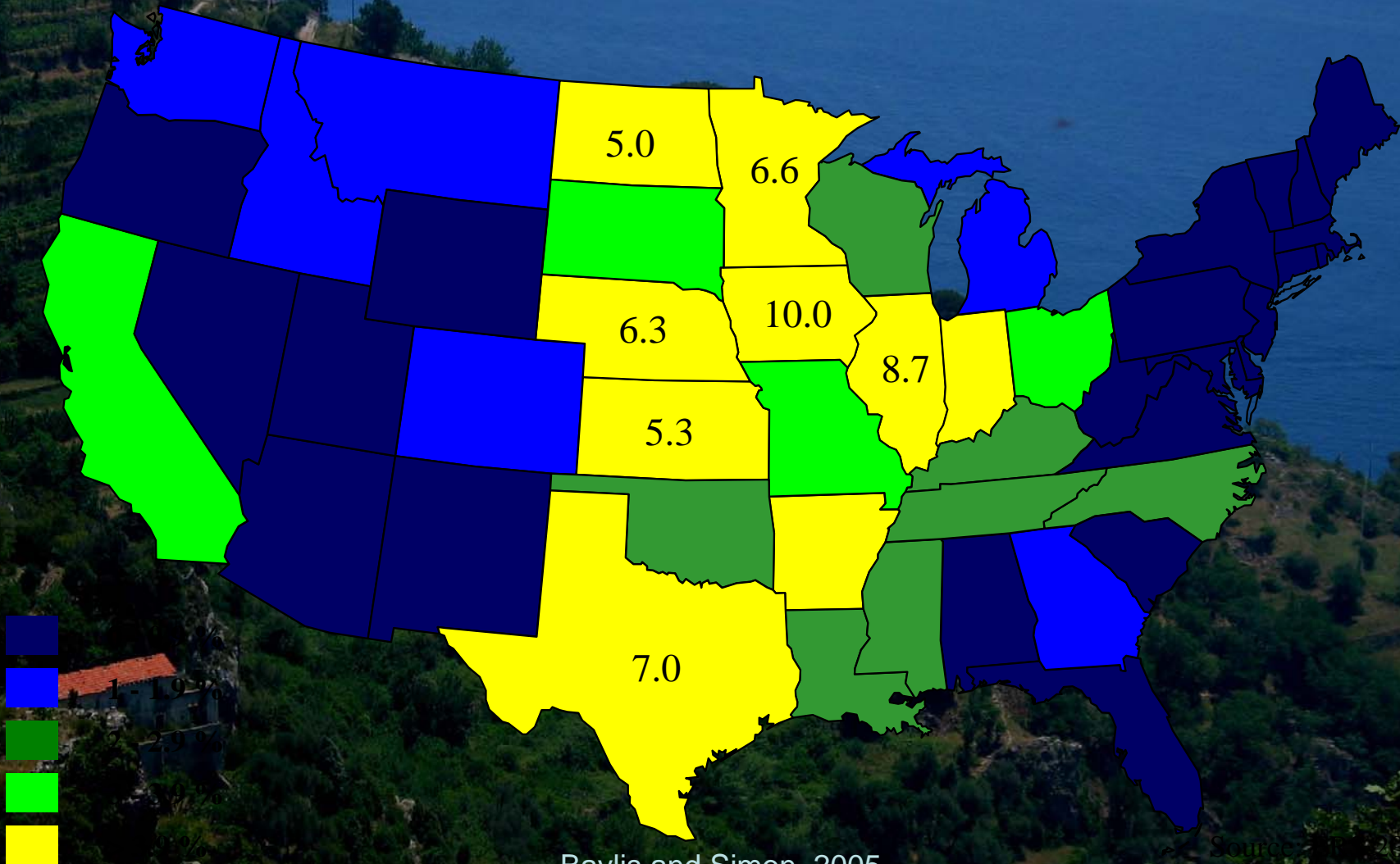
Future Research

- **How to get a greener ag policy?**
Prospects for modularity
 - **Optimal design with joint production**
 - **Study political constraints**
 - **Determinants of AE policy**
 - **Bargaining model of AE policy**
 - **Implications for WTO design**

Variable	Coefficient	Std. Err.	P-stat
Agricultural value-added as a % of GDP (t-1)	0.326	0.126	0.01
Farm size (t-1)	-0.120	0.020	0
Rural population as % of total	-0.077	0.018	0
Percent of farm land that is irrigated (t-1)	-2.147	1.517	0.157
Farm chemical consumption per ha (t-1)	-0.023	0.005	0
Agricultural expenditure (t-1)	0.080	0.171	0.64
percent of MEPs that are Green party members	0.076	0.027	0.006
Environmental expenditure as a % of GDP	4.404	0.839	0
Domestic tourism per capita	0.044	0.037	0.228
Cross compliance programs	0.398	0.243	0.101
Participation in EU elections relative to domestic elections	-0.040	0.006	0
Participation in domestic general elections	-0.088	0.025	0
Percent of seats elected using proportional representation	1.364	0.473	0.004
GDP per capita	0.248	0.123	0.043
GDP per capita ²	-0.003	0.004	0.366
year	0.104	0.076	0.171
dummy for 2002	-0.035	0.494	0.944
Constant	6.511	2.724	0.017
R ²	0.940		

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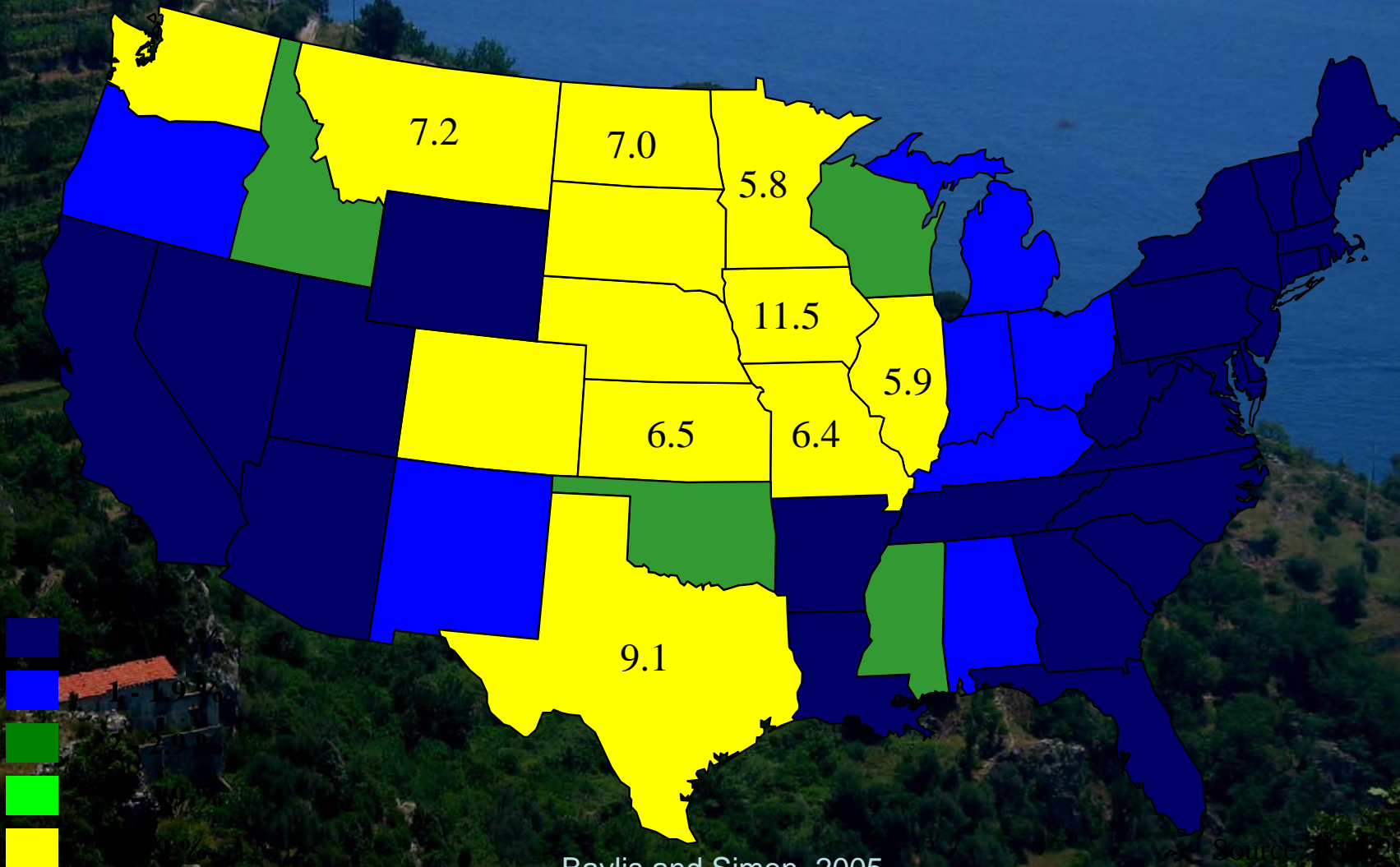
Direct Commodity Payments by State, 2000 (% of U.S.)



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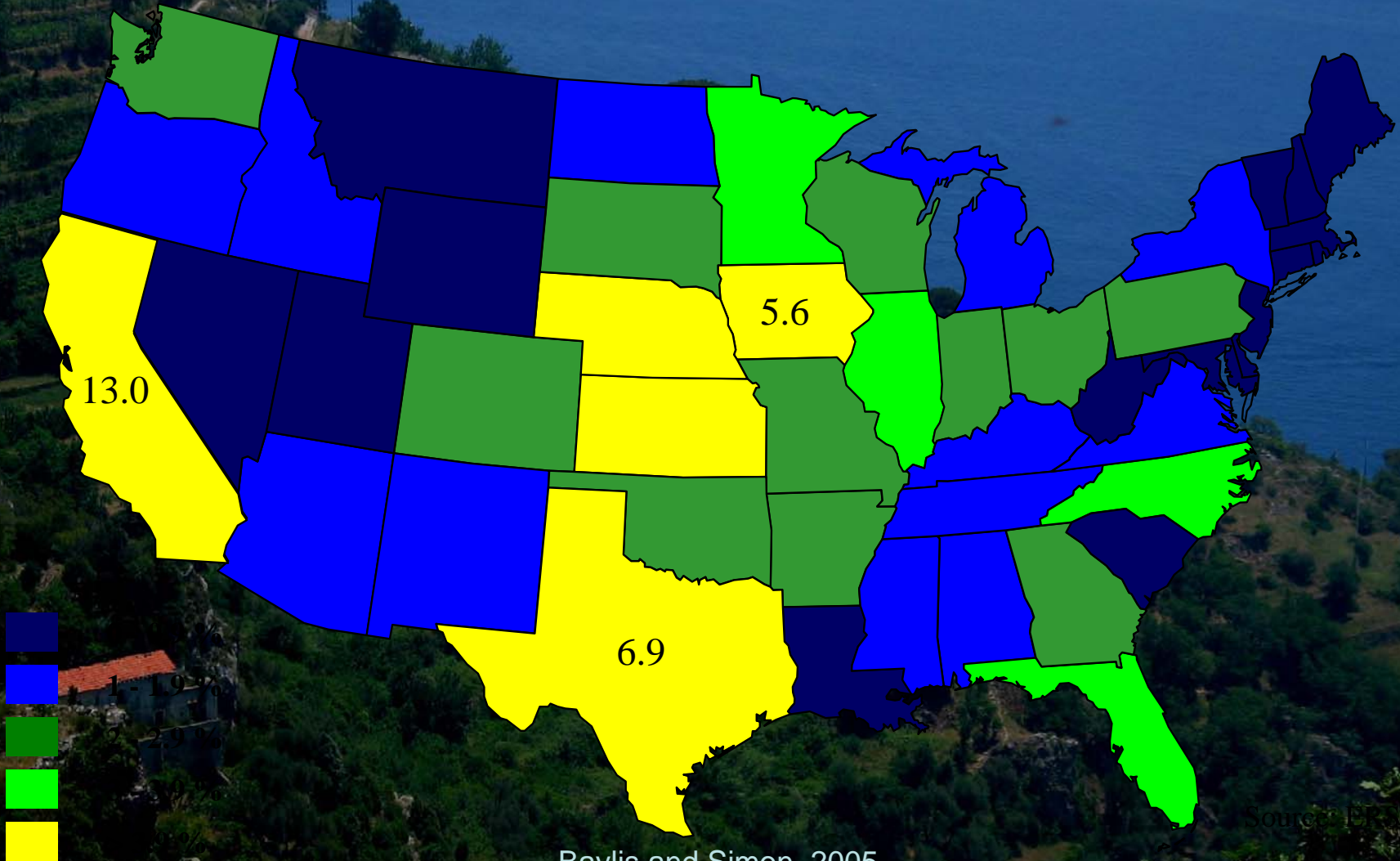
Source

CRP Rental Payments by State, 2001 (% of U.S.)



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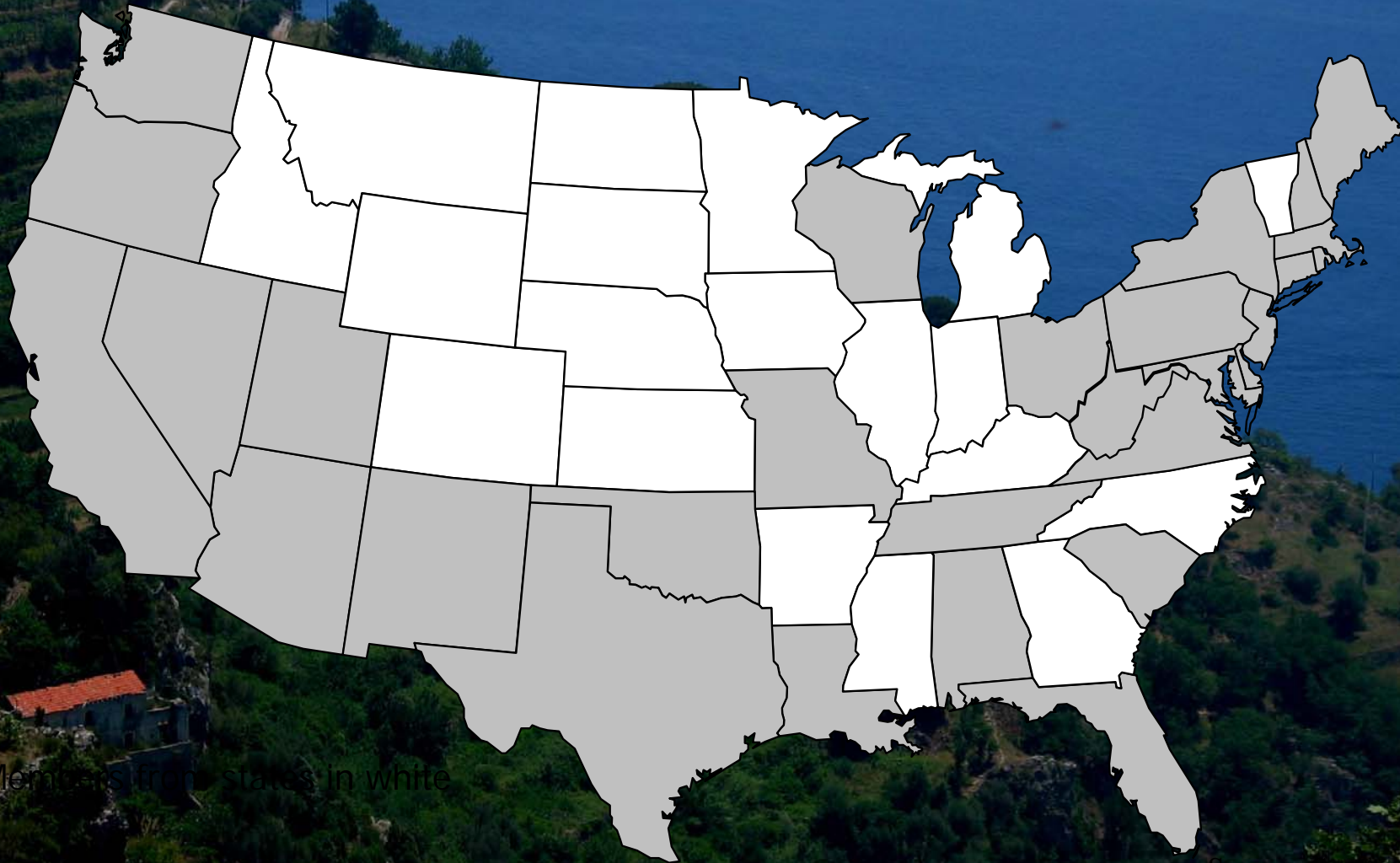
Agricultural Cash Receipts by State, 2000 (% of U.S.)



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Source: USDA, 2000

Senate Agriculture Committee Members, 2001



Members' states in white

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