



America's Voting Systems in 2010

In 2010, progress has been made toward recountable voting systems which use voter-verified paper ballots, though holdouts remain. More states are doing hand audits than in previous years. Technologists and media are raising important questions about Internet voting for overseas and military voters. Here is an overview of where we stand on the eve of the 2010 general election:

- ◆ In November 2010, approximately 25% of the nation's registered voters will live in jurisdictions where the only method of voting on Election Day will be paperless electronic voting.
- ◆ 67% of American voters live in election jurisdictions where voter-marked paper ballots are the standard voting system. 37% of the voters live where paper ballots are the sole voting method and accessible ballot marking devices serve voters with disabilities; 30% live in jurisdictions where paper ballots are the standard voting system and electronic voting machines are deployed for accessibility (though in most states any voter may use them).
- ◆ 40 states have moved toward requiring voter-verified paper records (VVPR), either through legislation or administrative decision. 7 states will not fully implement their VVPR requirements until some time after the 2010 election: Arkansas, Colorado, Florida, Maryland, New Jersey, Tennessee, and Virginia. A VVPR may be a paper ballot, or it may be a reel-to-reel printout under transparent plastic or glass that the voter can view before she casts her ballot on a DRE voting machine.
- ◆ In 11 states, paperless voting accounts for most or all Election Day ballots. Six states have paperless e-voting statewide: Delaware, Georgia, Louisiana, Maryland, New Jersey, and South Carolina. In five states, paperless voting counts for a heavy majority of votes: Indiana, Pennsylvania, Texas, Tennessee, and Virginia. In Kansas, we estimate that at least 40% of the vote is paperless.
- ◆ In 32 states, voter-marked paper ballots counted by ballot scanners will account for most or all votes. 19 states will use voter-marked paper ballots statewide. Additionally, in 13 states and DC, optical scan voting will account for the majority of ballots. These are Alaska, Arizona, California, Colorado, Florida, Illinois, Hawaii, Kentucky, Missouri, North Carolina, Washington State, Wisconsin, and Wyoming.
- ◆ 33 states plus DC now provide a voter-verifiable paper record for every vote cast.
- ◆ 4 states are now mostly or entirely paperless but have enacted statutes to transition to VVPR: Maryland, New Jersey, Tennessee, and Virginia. Maryland's, Tennessee's, and Virginia's statutes require a transition to optically scanned paper ballots, and NJ's statute allows printer retrofits. Maryland's statute requires the transition to begin this year, but the money was not allocated in the budget, Tennessee requires optical scan by 2012, and Virginia has banned the future purchase of any direct-recording electronic machines.
- ◆ Half the states will conduct **manual-count audits** of electronic vote tallies. Without checking electronic tallies for accuracy through automatic routine audits, paper ballots or paper records add little security value. Some of these will be weak audits, such as in Florida, where the audit will be conducted after the election is certified, and only one item on a large general election ballot will be chosen randomly in each county. New Mexico has strengthened its audit law, and California is planning robust risk-limiting audit pilots next year. *13 states that now have voter-verifiable paper records for all voting systems will not conduct post-election hand audits.*



- ◆ This year some 33 states allow military and overseas voters to return their ballots by fax, e-mail, or through a Web portal, though security concerns are starting to be heard. States such as Michigan, Ohio, and Virginia prohibit insecure electronic return of voted ballots. These States instead serve their military and overseas citizens by employing common-sense practices such as electronically transmitting *blank* ballots to voters and extending the deadline for accepting ballots from abroad.
- ◆ The District of Columbia's pilot project for Internet voting for overseas and military voters has been scaled back to allow only electronic delivery of blank ballots to voters (though voted ballots may be e-mailed or faxed). In October 2010, DC's pilot Internet voting system for overseas and military voters was hacked in dramatic fashion by University of Michigan researchers who changed votes on submitted ballots, discovered voters' personal information – and who observed users in Iran and China attempting to break into the system.

Nationwide Voting Equipment by Registered Voters

Equipment Type	Number of Registered Voters	Percentage of Registered Voters
Direct Recording Electronic (DRE) Machines with no Voter-Verifiable Paper Record	45021727	24.90%
DRE Machines with a Voter-Verifiable Paper Record	14699685	8.13%
DRE Machines With and Without Paper Record	345276	0.19%
Voter-marked Paper Ballots/Ballot Scanners and DREs with No Paper Record	19501550	10.79%
Voter-marked Paper Ballots/Ballot Scanners and DREs with Paper Record	33572723	18.57%
Voter-marked Paper Ballots/Ballot Scanners and/or hand count***	67592032	37.38%
Punch Card Voting Systems	69379	0.04%
Total	180802372	

*Jurisdictions are counties or cities, depending on how States organize their elections.

***Includes ballot-marking devices for accessibility. Approximately 1 million voters in 10 states vote in jurisdictions that count all ballots by hand.