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**California Online Mathematics Education Times (COMET)**  
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**California Mathematics Project:** <http://www.cmpso.org>

*California Online Mathematics Education Times (COMET)* is an electronic news journal providing STEM-related news from California and across the nation, as well as information about professional events and opportunities, current educational issues, and online resources.

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Articles in this Issue (13 March 2014):

California Focus:

- (1) California STEM Summit Presentation Files Available
- (2) Recent Webinars on the Common Core State Standards and the Next Generation Science Standards
- (3) Webinar on California's Smarter Balanced Assessment System to be Held on April 1; Video Overview of Smarter Balanced Field Test Available Now
- (4) California Receives Waiver from U.S. Department of Education for 2013-2014 Statewide Testing Plan
 - (4a) Crisis Over: California Gets Waiver for Common Core Field Tests Without Penalties
 - (4b) Gov. Brown Again Takes Aim at Testing Overload in Schools
- (5) Common Core State Standards Professional Learning Modules
- (6) State Board of Education President Michael Kirst Expresses Strong Desire for Higher Education Presidents to Publicly Support the Common Core
- (7) CSET Item Field Test Opportunity: English, Mathematics, and Multiple Subject
- (8) Physics Teacher and Robotics Coach Paul Lake Named California High School Teacher of the Year by the California League of High Schools

National Focus:

- (1) Tomorrow is Pi Day (and Albert Einstein's Birthday)
 - (2) The Redesigned SAT
 - (2a) The Story Behind the SAT Overhaul
 - (2b) Behind the SAT: The Good and Bad of the 2016 Redesign
 - (2c) David Coleman: The Schoolmaster
 - (2d) David Coleman on the Common Core Standards (video)
 - (3) Next Generation Science Standards Annual Leadership Meeting
 - (3a) And Oregon Makes 10 (+DC) to Adopt the NGSS
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ARTICLES & ANNOUNCEMENTS (CALIFORNIA FOCUS)

(1) California STEM Summit Presentation Files Available

URL: www.castemsummit.com

The California STEM Learning Network (cslnet.org) hosted the fourth California STEM Summit in Santa Clara last month, drawing leaders from PK-16, business, industry, and government. Please visit the web pages below for links to the presentation files for all of the sessions listed:

General Sessions: www.castemsummit.com/program/main-conference

- Designing Learning in our Evolving World
- Lasers, Fire, and Robots: Igniting Interest in STEM

Breakout Sessions: www.castemsummit.com/program/main-conference-detailed-agenda/

- Engineering is Elementary; The Bridge to Engineering Partnership with SFSU and CCSF
- STEM Can Lead the Way: Rethinking Teacher Preparation and Policy
- Wiring the Network for Quality STEM in After-School and Summer Learning
- Strengthening the Quality of Educator Preparation for STEM Education: An Update from the Commission on Teacher Credentialing
- Central Coast STEM Collaborative: Connecting Classrooms, Colleges, and Communities
- Regional Network Development: Lessons from the Field
- CSU's Commitment to Preparing & Developing World-Class STEM Teachers
- The Local Control Funding Formula: Opportunities for Advancing STEM Learning
- Education and Industry: Working Together
- Gap Closed! Successful STEM Practices for Black Students: How We Did It!
- Case Studies of Reform and Innovation in STEM Teacher Preparation
- STEM PD 3.0: Online, On-Demand Professional Development for STEM
- The Next Generation of Assessments in STEM Fields: A New Paradigm for Understanding and Improving Student Learning
- Endeavour Academy STEM Courses for Middle and High School
- Drawing Time, Talent, and Treasure From the Community: Building Cross-Sector Partnerships to Support STEM Education

(2) Recent Webinars on the Common Core State Standards and the Next Generation Science Standards

Archived videos are now available on WestEd's SchoolsMovingUp website for two recent webinars that may be of interest to mathematics and science educators. Please see below for brief descriptions and links to these webinars:

(a) "Parent Engagement and the Common Core State Standards for Mathematics"

URL: www.schoolsmovingup.net/cs/smu/view/e/5328

This webinar was held on 5 March 2014 and was sponsored by the Region IX Equity Assistance Center at WestEd (www.wested.org/eac/) in collaboration with the National Council of Teachers of Mathematics (www.nctm.org/). Presenters Karen Mayfield-Ingram and Grace Coates focused on effective practices for creating parent engagement programs that include diverse communities. The presentation included examples of how the Standards for Mathematical Practice can be embedded in informal mathematics programs and how parents can apply them to support their children's conceptual understanding of mathematics.

(b) "NGSS: Changes, Impacts, and Responses in K-12 and CSU"

URL: www.schoolsmovingup.net/cs/smu/view/e/5330

This webinar, which was presented on February 27 and hosted by WestEd's SchoolsMovingUp and the California State University (CSU) Chancellor's Office, focused on the Next Generation Science Standards (NGSS). Danika LeDuc (CSU East Bay) served as moderator. Sandi Yellenberg (Santa Clara County Office of Education) provided a comprehensive overview of the NGSS, and Joan Bissell (Director, CSU Teacher Education & Public School Programs) shared progress made by CSU campuses in incorporating the NGSS in K-6 teacher preparation programs (also see <http://teachingcommons.cdl.edu/CSUNGSScommunity>). Caleb Cheung described NGSS implementation in Oakland Unified School District, and faculty from CSU Fresno (Carol Fry Bohlin, Fred Nelson, and Fariborz Tehrani) and from Sacramento State University (Barbara Munn and Deidre Sessoms) discussed how their campuses are infusing engineering practices/literacy into coursework for prospective elementary school teachers.

(3) Webinar on California's Smarter Balanced Assessment System to be Held on April 1; Video Overview of Smarter Balanced Field Test Available Now

Source: SchoolsMovingUp

Deb Sigman and Diane Hernandez from the California Department of Education will provide resources, updates, and answers to questions about the California Assessment of Student Performance and Progress (CAASPP) system during a webinar on Tuesday, April 1, from 3:30-4:45 p.m. PDT. They will also address the Digital Library, Interim Assessments, and additional resources to assist with implementing the new assessment system in California. This webinar is part of a series sponsored by the Secondary Literacy Partnership. [Note from today's State Board of Education meeting Agenda Item 13: "Smarter Balanced is scheduled to make the Digital Library available in April 2014. Approximately 400 resources are expected to be available when the library is launched, and more will be added over time."]

For more information and to register, please visit www.wested.org/schoolsmovingup/casmarterbalancedasssystemupdate/ You will receive a confirmation email along with a unique login link.

Also, in preparation for the webinar, please review this **9-minute video overview of the spring 2014 Smarter Balanced Field Test**: www.youtube.com/watch?v=IrG3S-TDcJo

(4) California Receives Waiver from U.S. Department of Education for 2013-2014 Statewide Testing Plan

Source: California Department of Education

URL (Statement): www.cde.ca.gov/nr/ne/yr14/yr14rel26.asp

Last Friday, State Superintendent of Public Instruction Tom Torlakson and State Board of Education President Michael Kirst issued a joint statement regarding Federal approval of California's testing waiver petition. The 3-page response from Deborah Delisle, Assistant Secretary for Elementary and Secondary Education (U.S. Department of Education), is available at www2.ed.gov/nclb/freedom/local/flexibility/waiverletters2009/caft3.pdf. Delisle notes that "California has requested...a 1-year waiver to allow California to field test in 2013-2014 assessments in mathematics and reading/language arts aligned to college- and career-ready standards developed by the Smarter Balanced Assessment Consortium (SBAC) in lieu of the State's assessments in grades 3 through 8. California also requested flexibility in making accountability determinations for schools participating in a field test and their local educational agencies..." Approval of these requests is contingent upon criteria delineated by Delisle in her letter.

Superintendent Torlakson and President Kirst responded, "We appreciate the Obama Administration's approval of this important request, which will allow far more California students to get a hands-on experience with the new 21st century assessments that will help guide them as they gain the skills they need to succeed in the real world of careers and college.

"Approval of this waiver could not have come at a better time. In little more than a week, some three million students will begin the largest field test of these new assessments of any state in the nation.

"This is an important moment for California. Across the state, there's a new spirit of hope and optimism in our schools as they take on this challenging transformation. There are concerns as well, and there are sure to be challenges as we move ahead. But California has always led the way, and our teachers, administrators, and school employees have always been willing to meet any challenge to help our students succeed.

"Today's action by the Obama Administration represents a welcome vote of confidence in the course we've set toward providing all students the world-class education they need and deserve."

Note: The joint press release was also presented to the State Board of Education as Item 14 in this morning's meeting. See the agenda at www.cde.ca.gov/be/ag/ag/yr14/agenda201403.asp

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Related Articles

(a) "Crisis Over: California Gets Waiver for Common Core Field Tests Without Penalties" by John Fensterwald

Source: *EdSource* - 7 March 2014

URL: <http://edsource.org/2014/crisis-over-california-gets-waiver-for-common-core-field-tests-without-penalties/>

(b) "Gov. Brown Again Takes Aim at Testing Overload in Schools" by Louis Freedberg

Source: *EdSource* - 10 March 2014

URL: <http://edsource.org/2014/gov-brown-again-takes-aim-at-burdening-students-with-tests/58725#.UyFP22luRH1>

Governor Brown took aim at excessive testing in the schools... and warned lawmakers in Sacramento and Washington not to burden teachers with more demands than they are already experiencing in forceful remarks at the California Democratic Convention in Los Angeles over the weekend...

His remarks came a day after what amounted to a major victory for California when U.S. Secretary of Education Arne Duncan announced that he would not fine the state for refusing to administer the California Standardized Tests for one last time this spring as required by the federal No Child Left Behind Law. Instead, California had opted to administer field tests this spring of the Smarter Balanced assessments in English language arts and math based on new Common Core standards adopted by 45 states, including California. Just last September, Duncan had threatened to withhold millions - - and possibly billions -- of dollars in federal Title I funds for poor children if California went ahead with its plan...

[Some of the governor's remarks follow below. Visit the website above to read more.]

"Schools and education in many ways get to be a political football. We have all sorts of people wanting to jump into the act. We have people in Washington telling us what tests to take. California was the only state to stand up and say no, we are not doing these tests this year.

"It is not that kids don't have enough tests. They have tests coming out of their ears. California is pioneering the Common Core. To do that, teachers need preparation. The tests need to be piloted. A lot of work has to go on. We are preparing for that, we have been preparing for several years. Most important, California is recognizing that the genius of each child is not how they bubble in an A, B, C and D. Education is not filling a pail, it is lighting a fire in the soul and spirit of every child...

"I want everyone in Washington and Sacramento to remember we are here to help the teacher, not add new burdens or some obstacle course that makes his or her job all that more difficult."

(5) Common Core State Standards Professional Learning Modules

Contact: California State Board of Education

At today's meeting of the California State Board of Education (SBE), Carrie Roberts (California Department of Education) showcased the Common Core State Standards (CCSS) professional learning modules (PLMs) that were developed by experts in the field to support educators in delivering curriculum aligned to the CCSS. She shared clips from various modules, which are housed on the Brokers of Expertise website and available free of charge. Teachers can access these materials via www.myboe.org/ or directly at

www.myboe.org/portal/default/Group/Viewer/GroupView?action=2&gid=2996 Last year Roberts participated in a webinar that provided an overview of the PLM development process and use of the Brokers of Expertise website -- see www.schoolsmovingup.net/cs/smu/view/e/5313

(6) State Board of Education President Michael Kirst Expresses Strong Desire for Higher Education Presidents to Publicly Support the Common Core

During today's (3/13/2014) meeting of the State Board of Education (SBE), updates on Common Core outreach activities in California were provided by Barbara Murchison (representing the California Department of Education's Common Core Integrated Action Team) and Nancy Brownell (Senior Fellow with the California Department of Education and the SBE for Common Core Systems Implementation) -- see SBE Agenda Item 17: www.cde.ca.gov/be/ag/ag/yr14/agenda201403.asp.

President Michael Kirst expressed his appreciation for these efforts and then made a number of comments regarding the importance of higher education's support of the Common Core State Standards. He stated that the new SAT, the ACT, and the "a-g" subject requirements (www.ucop.edu/agguide/a-g-requirements/) will all be more closely aligned with the Common Core. Kirst added that "we'll also have the Smarter Balanced college readiness indicator that over time will likely replace the EAP" (www.collegeeap.org).

Kirst continued, "There is no natural meeting place for higher ed and lower ed to get together... It's a very strange situation in that sense. We're trying to enhance communication... Over the long term, I hope to persuade a few college presidents somewhere in California to make a public statement supporting the Common Core. I haven't read of any or seen any. They say they want it, but there has been no bully pulpit use to help us. So that's one of my goals as well--to see whether the presidents will say that they support Common Core and that they are trying to move the university system toward it. That would be my dream."

(7) CSET Item Field Test Opportunity: English, Mathematics, and Multiple Subject

Source: California Commission on Teacher Credentialing

The CTC is seeking teacher candidates to field test items for the California Subject Examinations for Teachers (CSET) program. Candidates for the Multiple Subject Teaching Credential or the Single Subject Teaching Credential in English or Mathematics are eligible to participate. For each field test form completed, participants will receive either a \$50 voucher toward future California certification test registration fees or a \$75 Penguin Books gift code.

Please direct interested candidates to the following link for more information on participation and to schedule a field test:

http://docs.nesinc.com/CA/CS_FieldTest_Flyer_2014.pdf

(8) Physics Teacher and Robotics Coach Paul Lake Named California High School Teacher of the Year by the California League of High Schools

At the regional FIRST Robotics competition held in Madera, CA, last weekend, the robotics team coached by Buchanan High School (Clovis Unified School District) physics teacher Paul Lake was honored with the prestigious Chairman's Award, given to the team that "best represents a model for other teams to emulate and embodies the purpose and goals of FIRST" (www.usfirst.org/roboticsprograms/frc/awards). This award guarantees the team an invitation to the national FIRST Robotics competition next month in St. Louis, MO (www.usfirst.org/).

Members of Lake's team, the "Buchanan Bird Brains," were excited about this great honor, but team members were also very proud of their coach, who had received a major award one week earlier. The following is from an article on the team's website, www.team1671.com/:

"Team 1671 Coach Paul Lake was selected among 70 educators in a two-step, statewide process by the California League of High Schools to represent the best of high school education in the state... At the California League of Schools Annual Conference North, held at the Sacramento Convention Center from February 28-March 2, 2014, he was selected by the CLHS trustees from among the regional winners to represent the state.

"As the school robotics team adviser, Lake coordinates about 100 student 'Bird Brains' ranging from kids with special needs to young physics brainiacs. All team members have a job to do and work incredibly hard. Saturdays are team work days with students filling roles in marketing, fundraising, filmmaking, art, engineering and more. Advising the robotics team is meaningful work for Lake. 'I like the interaction with students -- establishing relationships,' he said. 'When students enter high school they are children, and when they leave they are young adults. It's so much fun to be there for the transition. I hope my robotics students leave with an appreciation of physics and skills for life.'

In a recent article in *The Fresno Bee*, Lake says, "Physics gives us a way of describing precisely how energy flows through our bodies, our technology, the environment in general," Lake said. "We can create technology to take advantage of that understanding;

that's how we can live in the world we live in. For me, I just think that's the coolest thing, and I've shared that with my students... Even after teaching physics for 21 years, I'm not bored with it. ... It's like being an evangelical or something. You just can't wait for others to see what you see" (www.fresnobee.com/2014/03/06/3807585/buchanan-high-school-teacher-paul.html).

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## ARTICLES & ANNOUNCEMENTS (NATIONAL FOCUS)

### (1) Tomorrow is Pi Day (and Albert Einstein's Birthday)

*Edutopia* contributor Matt Davis presents a collection of Pi Day (3/14) resources at [www.edutopia.org/blog/pi-day-lesson-plans-matthew-davis](http://www.edutopia.org/blog/pi-day-lesson-plans-matthew-davis) Visit the Exploratorium's Pi Day website at [www.exploratorium.edu/pi/](http://www.exploratorium.edu/pi/) for information about its 26th annual celebration in San Francisco (Pier 15). "Participate in pi-related activities and enjoy a piece of pie" (schedule: [www.exploratorium.edu/pi/pi\\_schedule.html](http://www.exploratorium.edu/pi/pi_schedule.html)). Those who are unable to attend in person can celebrate in the virtual world of Second Life (<http://blogs.exploratorium.edu/fabricated-realities/pi-day-march-14-2014/>).

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### (2) The Redesigned SAT

On March 5, College Board President David Coleman (a leader in the development of the Common Core State Standards) announced major changes to the SAT college admissions exam. Features of the redesigned SAT are available on the College Board website: [www.collegeboard.org/delivering-opportunity/sat/redesign](http://www.collegeboard.org/delivering-opportunity/sat/redesign) See below for excerpts:

The full specifications of the redesigned exam and extensive sample items for each section will be available on 16 April 2014 [on the College Board website].

#### *The Basics:*

- The redesigned SAT will first be given in spring 2016.
- The SAT will be offered in print and, at selected locations, on computer.
- There will be three sections: Evidence-Based Reading and Writing, Math, and the Essay.
- The length of the SAT will be about three hours, with an added 50 minutes for the essay. Precise timing will be finalized after further research.
- The exam will once again be scored on a 400- to 1600-point scale. The Evidence-Based Reading and Writing section and the Math section will each be scored on a 200- to 800-point scale. Scores for the Essay will be reported separately.

#### *Eight Key Changes*

The redesigned SAT will ask students to apply a deep understanding of the few things shown by current research to matter most for college readiness and success. They'll find

questions modeled on the work of the best classroom teachers and perform tasks practiced in rigorous course work. The SAT redesign is centered on eight key changes.

### **1. Relevant Words in Context**

The redesigned SAT will engage students in close reading and honor the best work of the classroom...

### **2. Command of Evidence**

When students take the Evidence-Based Reading and Writing section of the redesigned SAT, they'll be asked to demonstrate their ability to interpret, synthesize, and use evidence found in a wide range of sources...

### **3. Essay Analyzing a Source**

The focus of the Essay section on the redesigned SAT will be very different from the essay on the current SAT. Students will read a passage and explain how the author builds an argument. They'll need to support their claims with evidence from the passage...

### **4. Math Focused on Three Key Areas**

The exam will focus in depth on three essential areas of math: Problem Solving and Data Analysis, the Heart of Algebra, and Passport to Advanced Math. Problem Solving and Data Analysis is about being quantitatively literate. It includes using ratios, percentages, and proportional reasoning to solve problems in science, social science, and career contexts. The Heart of Algebra focuses on the mastery of linear equations and systems, which helps students develop key powers of abstraction. Passport to Advanced Math focuses on the student's familiarity with more complex equations and the manipulation they require.

Current research shows that these areas most contribute to readiness for college and career training. They're used disproportionately in a wide range of majors and careers. The SAT will sample from additional topics in math, but keep a strong focus on these three.

### **5. Problems Grounded in Real-World Contexts**

Throughout the redesigned SAT, students will engage with questions grounded in the real world, questions directly related to the work performed in college and career. In the Evidence-Based Reading and Writing section, reading questions will include literature and literary nonfiction, but also feature charts, graphs, and passages like the ones students are likely to encounter in science, social science, and other majors and careers. Students will be asked to do more than correct errors; they'll edit and revise to improve texts from the humanities, history, social science, and career contexts.

The Math section will feature multistep applications to solve problems in science, social science, career scenarios, and other real-life contexts. Students will be presented with a scenario and then asked several questions about it. This allows students to dig into a situation and think about it, then model it mathematically.

### **6. Analysis in Science and in Social Studies**

When students take the redesigned SAT, they will be asked to apply their reading, writing, language, and math skills to answer questions in science, history, and social studies contexts... Questions will require them to read and comprehend texts, revise

texts to be consistent with data presented in graphics, synthesize information presented through texts and graphics, and solve problems based in science and social science.

### **7. Founding Documents and Great Global Conversation**

[Students] will encounter an excerpt from one of the Founding Documents or a text from the ongoing Great Global Conversation about freedom, justice, and human dignity. In this way, we hope that the redesigned SAT will inspire deep engagement with texts that matter and reflect not only what is important for college and career, but what is important for citizenship here and around the world.

### **8. No Penalty for Wrong Answers**

The redesigned SAT will remove the penalty for wrong answers. Students will earn points for the questions they answer correctly. This move to "rights-only" scoring encourages students to give the best answer they have to every problem.

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#### **Related Articles:**

(a) "**The Story Behind the SAT Overhaul**" by Todd Balf

**Source:** *The New York Times* - 6 March 2014

**URL:** [www.nytimes.com/2014/03/09/magazine/the-story-behind-the-sat-overhaul.html](http://www.nytimes.com/2014/03/09/magazine/the-story-behind-the-sat-overhaul.html)

(And the "story behind the story":

<http://6thfloor.blogs.nytimes.com/2014/03/10/behind-the-cover-story-todd-balf-on-the-coming-changes-to-the-sat/>)

(b) "**Behind the SAT: The Good and Bad of the 2016 Redesign**" by Allie Bidwell

**Source:** *U.S. News & World Report* - 10 March 2014

**URL:** [www.usnews.com/news/articles/2014/03/10/behind-the-sat-the-good-and-bad-of-the-2016-redesign](http://www.usnews.com/news/articles/2014/03/10/behind-the-sat-the-good-and-bad-of-the-2016-redesign)

(c) **David Coleman: "The Schoolmaster"** by Dana Goldstein

**Source:** *The Atlantic*

**URL:** [www.theatlantic.com/magazine/archive/2012/10/the-schoolmaster/309091/?single\\_page=true](http://www.theatlantic.com/magazine/archive/2012/10/the-schoolmaster/309091/?single_page=true)

(d) "**David Coleman on the Common Core Standards**" (video)

**URL:** <http://educationnext.org/what-were-watching-david-coleman-on-the-common-core-standards/>

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### **(3) Next Generation Science Standards Annual Leadership Meeting**

**URL:** [www.nextgenscience.org/2014-ngss-annual-leadership-meeting](http://www.nextgenscience.org/2014-ngss-annual-leadership-meeting)

The first Next Generation Science Standards (NGSS) Annual Meeting for State Leadership Teams and National Partners was held in Atlanta, Georgia on 18-19 February 2014. Leadership teams from NGSS Network States, along with

representatives from over twenty NGSS Network partners, participated in the 2014 NGSS Leadership Meeting. In total, they represented over 80 organizations, including state education agencies, school districts, state boards of education, higher education institutions, teacher organizations, research organizations, other third party advocates, and the business community.

The 2014 NGSS Leadership Meeting focused on developing strategies for building and sustaining systems for standards implementation, including professional development; leadership development; curriculum and instructional materials transitions; communications, advocacy and coalition building; and assessment transitions.

Presentation files from this meeting are available for download from the website above. Sample topics include the following:

- The State of State Science Education Research
- Overview of the NGSS Implementation Workbook
- Systems of Large-Scale Professional Development
- Washington State's Story of Building Capacity for Next Generation Science Standards
- Evaluating Curriculum & Instructional Materials
- Engaging Business in Support of NGSS
- Effective Communications for NGSS Adoption & Implementation Efforts
- Developing Assessments for the Next Generation Science Standards

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**Related Article:**

**"And Oregon Makes 10 (+DC) to Adopt the NGSS"**

**Source:** *NSTA Express* - Week of 10 March 2014

The list of states that have adopted the *Next Generation Science Standards (NGSS)* continues to grow with the addition of Oregon. The Oregon State Board of Education voted unanimously on March 6 to adopt the new standards that will prepare students to be college and career ready. Oregon was a lead state in the development of the NGSS and has gone through an 8- to 9-month state review process after release of the standards last April.

According to Crystal Greene, communications director for the state's Department of Education, "Oregon educators were very involved in the review process. We had a great team of educators who provided feedback." She also noted the high level of enthusiasm for the NGSS from science teachers and from the state board. Other states that have adopted the NGSS include Rhode Island, Kentucky, Kansas, Maryland, Vermont, California, Delaware, Washington, the District of Columbia, and Nevada.

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