

National Assessment of Educational Progress
Geography 2010 Report Card

Jack Buckley
Commissioner

National Center for Education Statistics

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Today I am releasing the results of the 2010 Geography assessment. This is our first Geography assessment since 2001. The assessment measures students' geography knowledge and skills, and is organized around content areas that describe specific geography subject matter and cognitive areas that reflect different *levels* of understanding geography.

The assessment was administered in early 2010. We have national results for grades 4, 8, and 12. Approximately 7,000 fourth-graders took the assessment, while both the grade 8 and grade 12 samples were larger—9,500 or more.

Overall results are based on the performance of both public and private school students. At grades 4 and 12, participation rate standards for separate reporting of private school students were not met, so we only have private school results at grade 8 for 2010.

Student performance is presented in two ways—average scale scores, with a single 0-500 scale for all three grades, and separate achievement levels for each grade. The NAEP achievement levels—*Basic*, *Proficient*, and *Advanced*—are set by the National Assessment Governing Board, which sets policy for NAEP. NAEP scale scores tell us what students know and can do, while the NAEP achievement levels provide standards for what students should know and be able to do.

For both scale scores and achievement level performance, we will be making comparisons back to previous assessments in 1994 and 2001. When making these comparisons, we must remember that all NAEP results are based on samples. This means that there is a margin of error associated with every score and percentage. When discussing changes in student performance—either increases or decreases—we only discuss those that are statistically significant—those that are larger than the margin of error. In the tables and figures that follow, an asterisk is used to indicate statistically significant differences when comparing scores from previous assessments to 2010.

The Geography assessment is guided by a framework that combines key physical science and social science aspects of geography, and focuses on what geography students should know to be competent and productive 21st century citizens. The National Assessment Governing Board oversees the development of the assessment framework. The assessment groups questions into the three content areas: Space and Place, Environment and Society, and Spatial Dynamics and Connections. The relative percentage of each of the content areas in the framework is the same for grades 4, 8, and 12: 40 percent for Space and Place, 30 percent for Environment and Society, and 30 percent for Spatial Dynamics and Connections.

The three types of cognitive skills for geography are identified in the framework as Knowing, Understanding, and Applying. The relative percentages of each of the cognitive skills are different for grades 4, 8, and 12. The emphasis on Knowing decreases in the upper grades, while the emphasis on Applying increases.

The geography cognitive skills are defined as follows:

- **Knowing**

Questions in this area ask students: What is it? Where is it? Students should be able to observe different elements of the landscape and answer questions by recalling, for example, the name of a place.

- **Understanding**

The questions about Understanding ask students: Why is it there? How did it get there? What is its significance? Students should be able to attribute meaning to what has been observed and explain events.

- **Applying**

Finally, students are asked to apply what they've learned. How can knowledge and understanding be used to solve geographic problems? Students should be able to classify, hypothesize, use inductive and deductive reasoning, and form problem-solving models.

Grade 4 Results

The average score for grade 4 students in 2010—213—was higher than on either prior assessment. When we look at student performance at various percentiles, we get a more detailed picture of student performance. Scores improved for low-performing students, at the 10th and 25th percentiles, and for those in the middle, compared to both 1994 and 2001. For

higher performing students (those at the 75th and 90th percentiles), however, scores did not change significantly in comparison to either previous assessment.

The increases in performance for lower-performing students are reflected in the grade 4 achievement level results. Fifty-eight percent of fourth-graders were in the *Basic* range in 2010, compared to 48 percent in 1994 and 52 percent in 2001. At the same time, the percentage at *Advanced* fell from 3 percent in 1994 to 2 percent in 2010.

Scores for White, Black, Hispanic, and Asian or Pacific Islander students were higher in 2010 than in 1994. Since 1994, the 26-point increase for Black students and the 19-point increase for Hispanic students were larger than the 6-point increase for White students. When we compare scores in 2010 to scores in 2001, we see increases for White, Black, and Hispanic students.

Comparisons could not be made to prior years for American Indian/Alaska Native students because the NAEP samples for 1994 and 2001 for these students were not large enough to permit the reporting of reliable results.

In 2010, average scores for White and Asian or Pacific Islander students were higher than the scores for other racial/ethnic groups.

Achievement level results are available for the four racial/ethnic groups for whom we have trend data. The percentages of Black and Hispanic students at *Basic* were higher than in either previous assessment. For Black students only, the percentage at *Proficient* was higher as well, comparing 2010 to 1994.

For White students, the percentage at *Basic* was higher in 2010 than in 1994. For Asian/Pacific Islander students, the percentage at *Basic* did not change significantly, but the percentage below *Basic* declined, falling from 28 percent in 1994 to 13 percent in 2010. For White, Black, and Hispanic students, the percentage below *Basic* was lower than in either previous assessment year.

Racial/ethnic gaps narrowed in 2010. Scores for both Black and White students increased when compared to 1994. Because the score increases for Black students were larger than the increases for White students, the 31-point gap in 2010 was narrower than the previous gaps in 1994 and 2001.

With respect to the White-Hispanic score gap, we see a similar pattern: larger score increases for Hispanic students resulted in a 27-point gap for 2010 that was narrower than in previous assessments.

Scores were higher in 2010 for both male and female students than in either prior assessment. The 4-point difference in scores in 2010 was statistically significant and was not measurably different from the 5-point gaps in 2001 and 1994.

When NAEP assesses students, we also ask their teachers about their instructional practices. Among other things, we asked teachers how often they instructed their students in a variety of topics related to geography. Most students had teachers who said they instructed their students at least once or twice a month in these topics: other countries and cultures, environmental issues, maps and globes, natural resources, space and place, or spatial dynamics.

Grade 8 Results

At grade 8 there was no change in the average score in 2010 from either 1994 or 2001. When examining scores at selected percentiles, we see that the average score for students at the 10th percentile was 7 points higher than in 1994, and 4 points higher at the 25th percentile. Comparing scores in 2010 to those in 2001, we again see a 7-point increase at the 10th percentile.

Even though the average score for eighth-graders did not change from 1994 to 2010, the percentage of students at the *Basic* achievement level did change, increasing to 47 percent, as compared to 43 percent in both 1994 and 2001. The percentage below *Basic* fell from 29 percent in 1994 to 26 percent in 2010. However, the percentage at *Advanced* also fell, from 4 percent in 1994 to 3 percent in 2010.

The White-Black score gap in geography—31 points in 2010—was narrower than in either 1994 or 2001. The average scores for both Black and White students were higher in 2010 than in 1994, but the 12-point increase for Black students was larger than the 3-point increase for White students.

The White-Hispanic score gaps for the three previous administrations of the geography assessments did not change significantly. Average scores for Hispanics in 2010 were higher than in either previous assessment, but the increases were not large enough to cause a significant change in the size of the gap.

We asked eighth-grade students about the frequency with which they studied certain topics in geography. Comparing 1994 to 2010, increased percentages of students reported that they frequently studied countries and cultures and environmental issues (examples given in the questionnaire were pollution and recycling). The decline occurred for natural resources (exemplified in the questionnaire by oil, forests, and water). In 2010, 30 percent of students reported that they studied natural resources at least once a week, unchanged from 1994 but lower than the 33 percent shown for 2001.

Grade 12 Results

In 2010 the average score for grade 12 students—282 points—was lower than in 1994 and not significantly different from 2001. When considering score changes since 1994 by percentile, there was an increase of 3 points at the 10th percentile, and decreases at the 50th, 75th, and 90th percentiles. Since 2001, there were also decreases for middle and higher-performing students.

In terms of achievement levels, there was an increase in 2010 in the percentage of students at *Basic*, compared to both prior assessment years, and a decrease in the percentage at *Proficient*. Since 2001, there was a decline in the percentage at *Advanced*. The increase for the percentage at *Basic* could be due to both score increases for lower-performing students and score decreases for higher-performing students.

There was no significant change in the White-Black score gap at grade 12 in 2010. In addition, there were no significant changes in scores for either White or Black students. There were also no significant changes in scores for White or Hispanic students, nor in the Black-White or Hispanic-White gap.

Male students scored higher than female students in all three administrations. The 5-point gap in 2010 was not significantly different from the gaps in the prior two assessments. However, the average score for male students in 2010 was lower than in 1994, falling by 3 points.

We asked grade 12 students the same questions as we asked students in grade 8 about the geography topics they studied in class and the frequency with which they studied those topics. For grade 12 students, the percentages who said they studied natural resources, countries and cultures, and environmental issues at least once a month were higher in 2010 than in either prior assessment.

Summary

At grade 4, the overall score was higher than on either prior assessment. Scores also improved for low- and middle-performing students, i.e., those at the 10th, 25th, and 50th percentiles.

At grade 8, the overall score in 2010 was not significantly different from either prior score. Scores for low-performing students were higher in 2010 than they had been in 1994.

At grade 12, the overall score was lower than in either prior assessment. This was true for middle- and higher-performing students as well. Improvement since 1994 was seen only for students at the 10th percentile.

Scores were higher in 2010 than in either previous assessment year for Black and Hispanic students at grades 4 and 8. This was also true for White students at grade 4 only.

For White students at grade 8, and for Asian or Pacific Islander students at grade 4, scores in 2010 were higher than in 1994.

Earlier this year, I released results for two other subjects assessed in 2010 that come under the broad heading of social studies, civics and U.S. history. As geography is the third and last of these subjects assessed in 2010, it is useful to summarize results across the three social studies subjects.

At grade 4, scores in 2010 were higher than in any earlier assessment for both civics and geography. For U.S. history, the grade 4 average score was higher in 2010 than in 1994.

At grade 8, scores in 2010 were not significantly different from any earlier assessment for both civics and geography. For U.S. history, the score in 2010 was higher than in both previous assessments.

At grade 12, the average score in 2010 was lower than in 2006 for civics, higher than 1994 for U.S. history, and lower than in 1994 for geography.

The 2010 Geography Report Card provides all of the information about the geography assessment I described today and much more. In addition, the initial release website gives extensive information on the performance of students, access to released assessment questions through NAEP's Questions Center, and access to all the variables collected in NAEP through the NAEP Data Explorer, our online data-analysis tool.

In conclusion, I would like to offer my sincere thanks to all the students, teachers, and schools who participated in the 2010 Geography assessment.