

Future Trends & Scenario Planning

Board of Trustees Retreat | Shoreline Community College | August 9-10, 2012

Future Trends & Scenario Planning

Purpose: To develop four scenarios that anticipate the future of Higher Education over the course of the next fifteen years.

Process:

1. Review and discuss future trends.
2. Establish overarching goal(s) based on trends.
3. Identify two key dimensions.
4. Establish four possible futures.

Future Trends

**Geopolitical,
Economic,
Financial**

**Technological
Challenges**

**Demographic
Changes**

Food & Water

**Natural
Disasters**

Climate Change

Health

**War, Terrorism,
Social Unrest**

Education

Geopolitical, Economic, Financial

“Our future history will be more determined by our position on the Pacific facing China than by our position on the Atlantic facing Europe.”

– President Barack Obama



Geopolitical, Economic, Financial

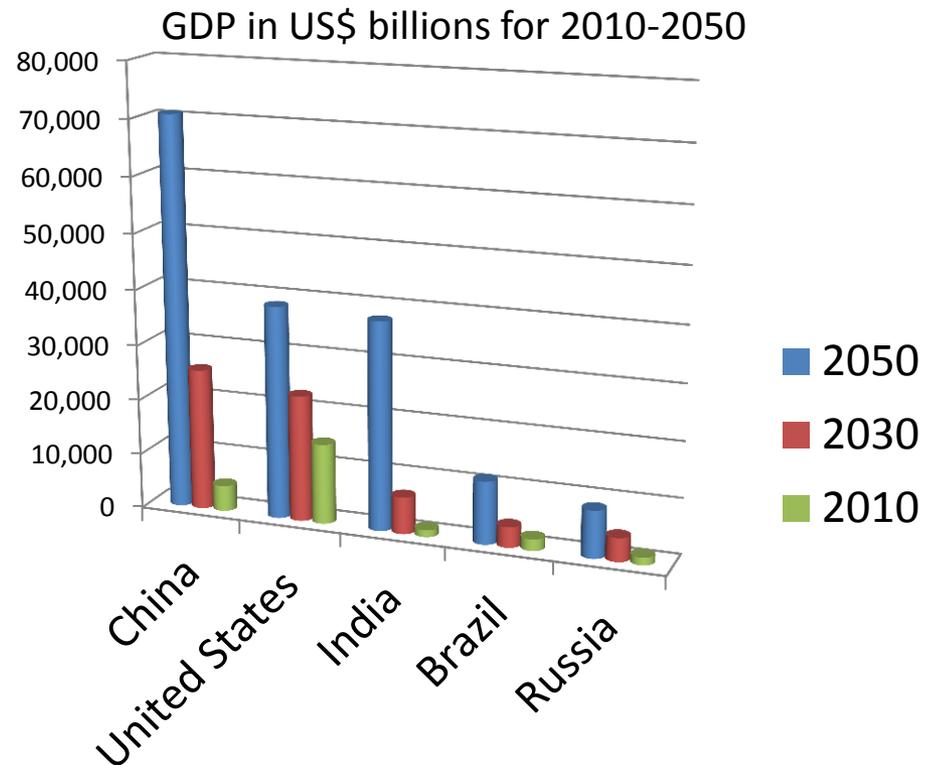
- Deep political divides will make implementation of consistent policies difficult, and lead to stagnation.
- Laws enacted by previous Congresses may not be funded in the future, leaving critical positions unfilled.
- Political impasse could leave government without a budget for essential functions and without the borrowing capacity to fund normal operations.
- Federal Government will have \$1 trillion deficit for fifth year in a row if Congress enacts the President's policies for boosting the economy.

Geopolitical, Economic, Financial

- Global financial volatility, with center of global risk located in Europe.
- 2 possible scenarios:
 - Europe succeeds in stabilizing the Euro. United States experiences slow growth and high unemployment.
 - Euro is not stabilized. The core Eurozone comes apart, leading to negative growth which could spill over into the US economy and other emerging economies.

Geopolitical, Economic, Financial

- In Q1 2012, the Eurozone saw 0% GDP growth.
- BRIC GDP growth rate is higher than G7, and will equal G7 by 2032.
- BRIC accounted for 19.2 percent of total trade with US merchandise in 2007.



Geopolitical, Economic, Financial



Brazil

Second highest recipient of foreign direct investment.



Russia

One of the strongest militaries on earth.



India

Second fastest growing economy in the world.



China

Strongest growth in scientific research over the last three decades.



South Korea

Significantly higher Growth Environment score than any of the BRICs.

Discussion

Q. When envisioning Shoreline 15 years from now, how could these trends impact the College? How could Washington state be impacted?

Q. What do these trends mean for internationalization on our campus?

Technological Advances

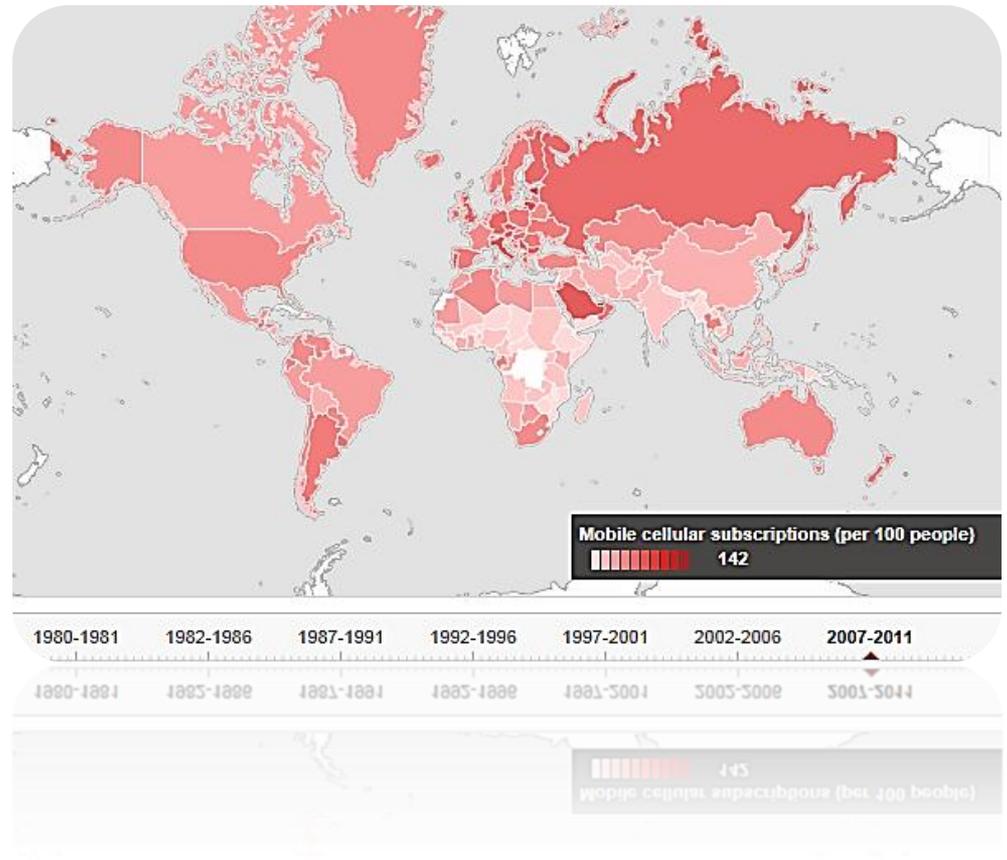
“Disruptive technologies are invariably developed somewhere else and, all too often, take the incumbents by surprise when they ‘invade’ the established market by offering improved performance.”

-Adrian Done



Technological Advances

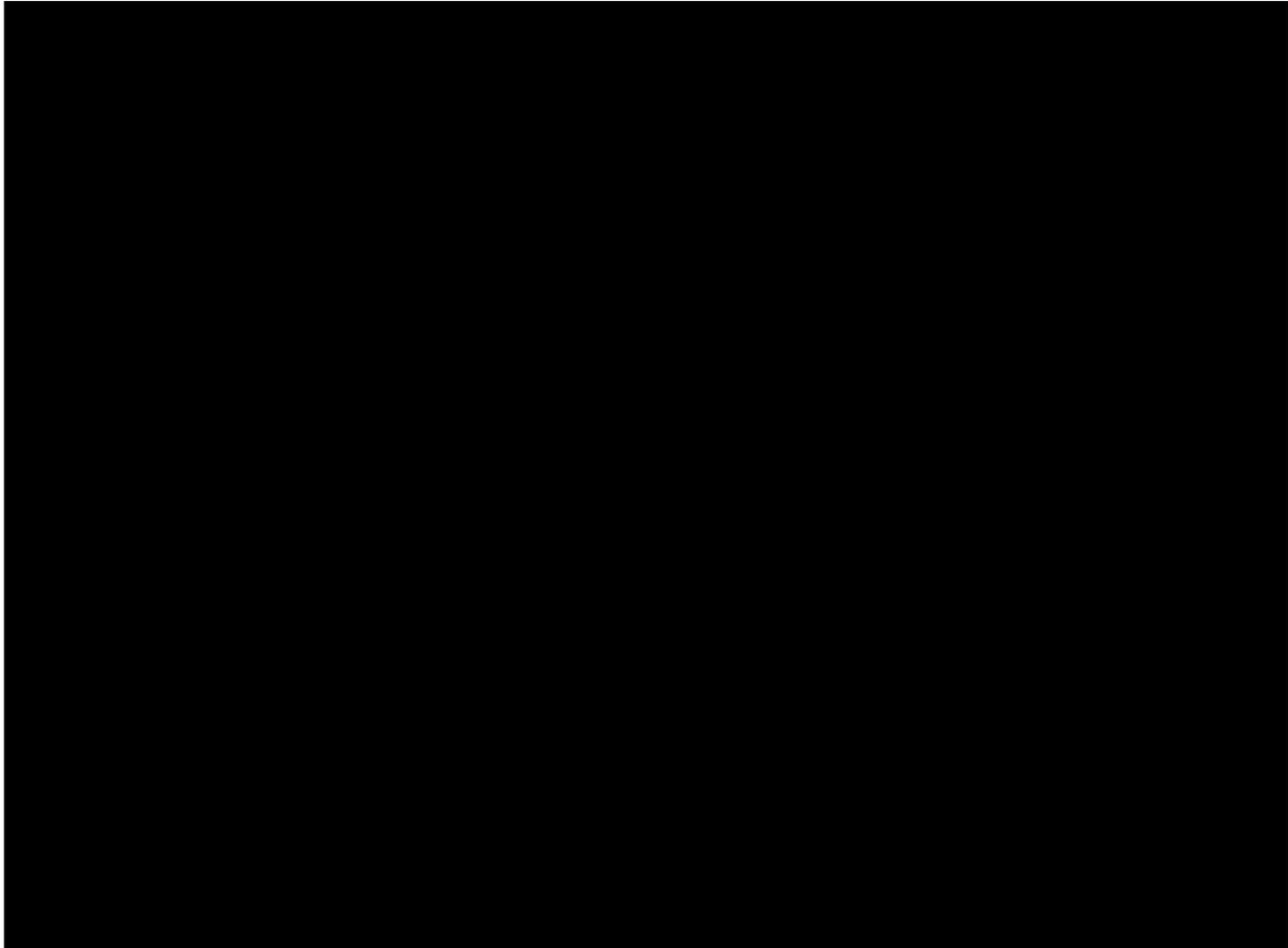
- Broadband internet: 77.4 million users in US; 264 million users in top 30 countries.
- Mobile and tablet devices are replacing larger computers.
- Small and mobile is expanding rapidly in the third world.



Technological Advances

- Consumer technology is advancing fast. Example: Cameras – digital replaced film, now cell phones replace digital.
- Social media is changing how we connect.
- Robotics, AI, genetic engineering, wireless energy transfer, clean nuclear fusion, **3-D printing** – will be a part of everyday life and Community Colleges will have a role in developing this technology.

Technological Advances: 3D Printing



Discussion

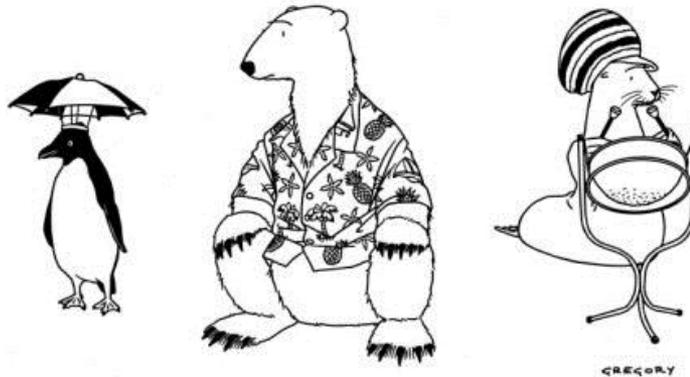
Q. Which trends in technology are utilized by students most?

Q. Technology is changing how education is delivered. What has Shoreline done to keep pace? What investments should Shoreline make to stay ahead of the curve in the future?

Climate Change

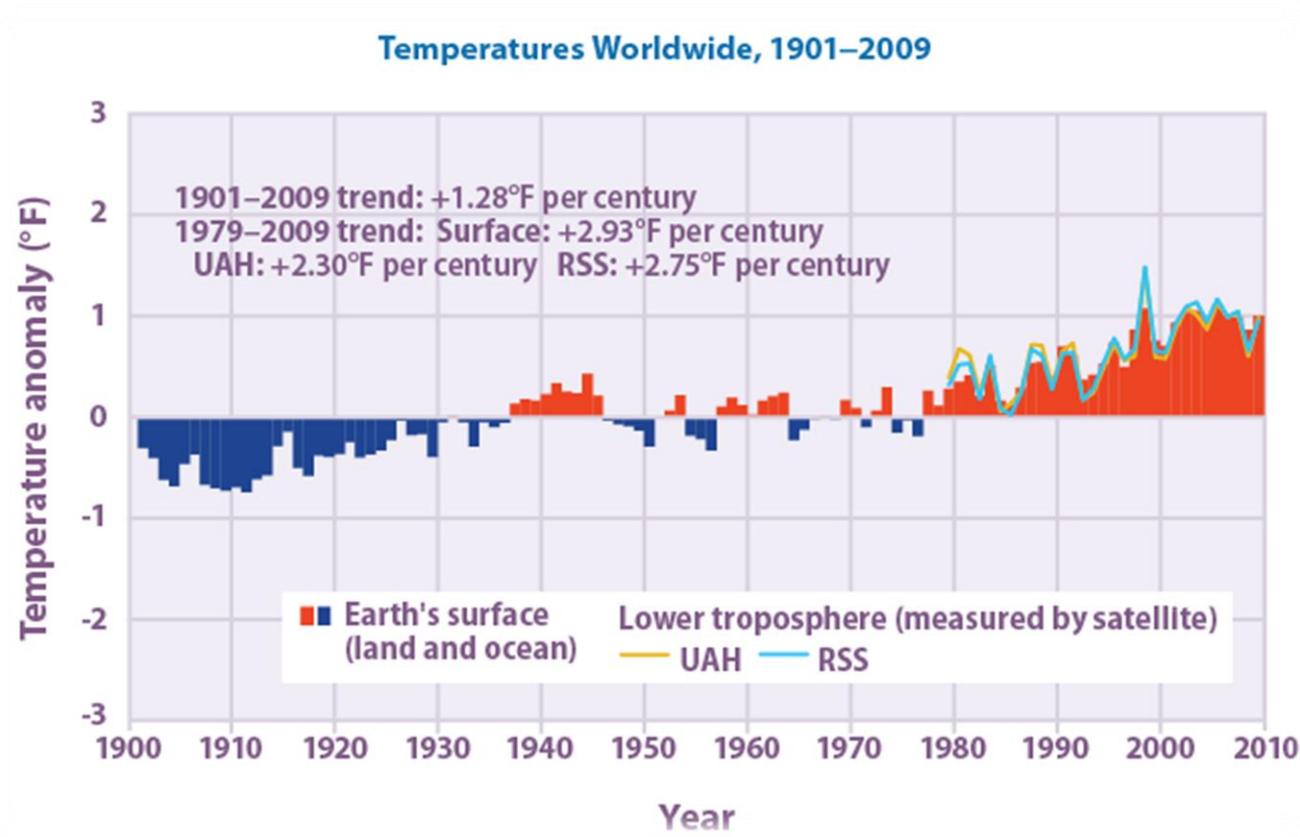
“Warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea level.” – Intergovernmental Panel on Climate Change (IPCC)

TELLTALE SIGNS OF GLOBAL WARMING



Climate Change

In the last 50 years, average temperatures have increased at a rate twice that of the period from 1850-1962.



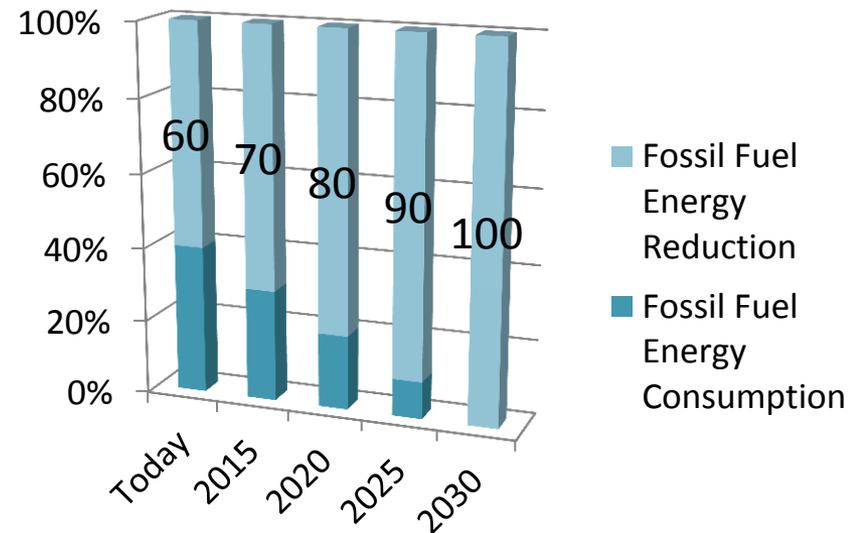
Climate Change

- **Sea levels are rising.** Sea levels rose 1.8.mm a year from 1961 – 2003. Since 1993, thermal expansion of the ocean has caused a 57 percent increase.
- **CO2 levels are rising.** Since industrialization, CO2 levels have risen from 280 ppm to a staggering 379 ppm.
- **Greenhouse emissions are rising.** Greenhouse emissions increased by 70 percent between 1970 and 2004, mostly due to human activity.

Climate Change

In Washington:

- Washington State Department of Ecology established a website for climate change education and educator networking.
- Washington State set a goal of being carbon neutral by 2030, including transportation.



Discussion

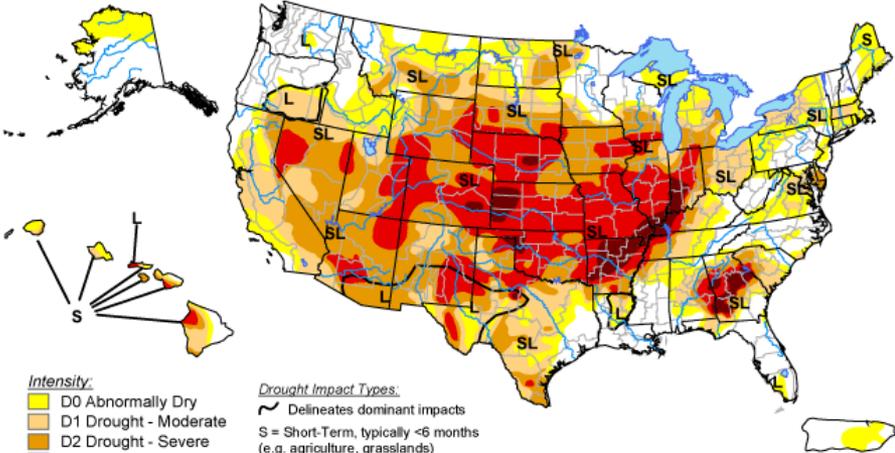
Q. How will the impacts of climate change alter our everyday lives fifteen, twenty, fifty years from now?

Q. What is Shoreline's role in the 2030 challenge?

Water & Food

U.S. Drought Monitor

July 31, 2012
Valid 7 a.m. EDT



Intensity:
 D0 Abnormally Dry
 D1 Drought - Moderate
 D2 Drought - Severe
 D3 Drought - Extreme
 D4 Drought - Exceptional

Drought Impact Types:
 ~ Delineates dominant impacts
 S = Short-Term, typically <6 months (e.g. agriculture, grasslands)
 L = Long-Term, typically >6 months (e.g. hydrology, ecology)

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

<http://droughtmonitor.unl.edu/>



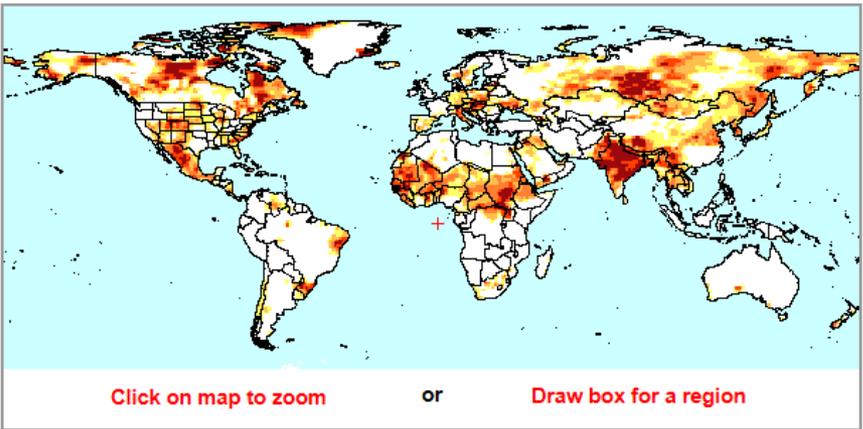
Released Thursday, August 2, 2012

Author: Mark Svoboda, National Drought Mitigation Center

Global Drought Monitor

August 2012

Data updated on the 16th of each month



Click on map to zoom or Draw box for a region

0 9200 18400 27600 36800 km

Drought Severity

Minor Drought	Moderate Drought	Severe Drought	Extreme Drought	Exceptional Drought
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Population in the current view under exceptional drought: 754,302,000

Water & Food

- 1 percent of world water is readily drinkable.
- 340 million lack safe drinking water in Africa.
- India will exhaust nonrenewable water sources by 2050.
- Aquifer levels are decreasing, glaciers are melting, rivers are drying up, and droughts are annual problems.

In the news:

THE HUFFINGTON POST
THE INTERNET NEWSPAPER. NEWS BLOGS VIDEO COMMUNITY

**Global Water Issues Fuel Tensions
In Regions With Shared River
Systems**

systems

YAHOO! FINANCE

Water is the new gold, a big commodity bet

MarketWatch By Paul B. Farrell | MarketWatch - Tue, Jul 24, 2012 12:03 AM EDT

MarketWatch

DAWN.COM
NEWSPAPER

Water shortage for rice crop persists

THE TIMES OF INDIA

80% urban population hit by water scarcity

80% urban population hit by water scarcity

Water & Food

- 1 billion in the world were undernourished in 2009.
- Since June 2012, wheat prices are up 50%, corn 45%, soybeans 30%.
- Food producers are leaning on GMO food to address global shortages.

In the news:

FINANCIAL TIMES

Food crisis: how do the Brics fare?

July 27, 2012 8:26 pm by Andrew Bowman

Forbes

ENERGY 7/28/2012 @ 2:01AM | 4,245 views

The Coming Food Crisis: Blame Ethanol?

ALJAZEERA

Are we heading for a global food crisis?

As drought takes its toll on US crops, we ask if it is time to reassess the global food market.

US news on NBCNEWS.com

Drought deepens worries about food supplies, prices

Discussion

Q. How will our society address food and drinkable water shortages?

Natural Disasters

Disasters effect on average 200 million people every year. Crowded cities. Unsafe constructions. Lack of urban planning. Destruction of natural buffers. Climate change. These all combine to expose more people to disasters... We are all at risk.



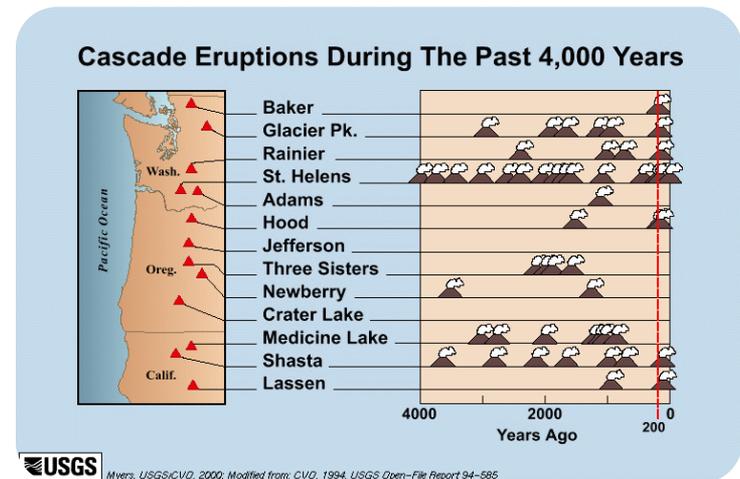
Flood | Hurricane | Tsunami | Earthquake | Tornado | Extreme Temperature | Drought | Volcano

Natural Disasters

- The total number of disasters has grown from fewer than 100 in 1975, to more than 400 in 2005.
- Since 1992, 4.4 billion people have been affected by natural disasters, roughly 64 percent of world population.
- On average, 227,378,014 people per year were affected by disasters from 2000-2009. Annually, that is 3 percent of world population.
- Many of the 2010 disasters are linked by experts to human-driven environmental changes.

Natural Disasters

- Haiti earthquake: 70 percent of homes/buildings collapsed, 2 percent of the inhabitants killed. Economic impact: 123.5% GDP.
- Within 30 years, the probability of a major earthquake occurring in the San Francisco Bay area is 67 percent and in Southern California it is 60 percent.
- The USGS reports that there are about 1,500 potentially active volcanoes around the globe. Many are located along the Pacific “Ring of Fire.”



Natural Disasters

According to the United Nations International Strategy for Disaster Relief Reduction:

- Risk of being killed in a cyclone or flood is lower today than 20 years ago, except in countries with low GDP and weak governance.
- Risk of economic loss is increasing across all regions – and seriously threatens economies of low-income countries.
- Drought impact on agricultural production results in significant losses that spill over into other economic sectors.

Discussion

Q. Do community colleges play a role in reducing the damage caused by natural disasters?

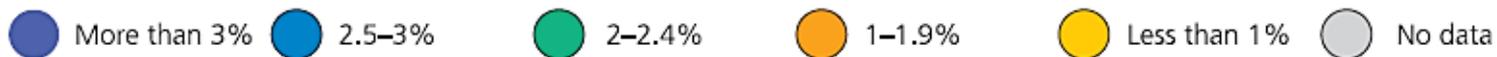
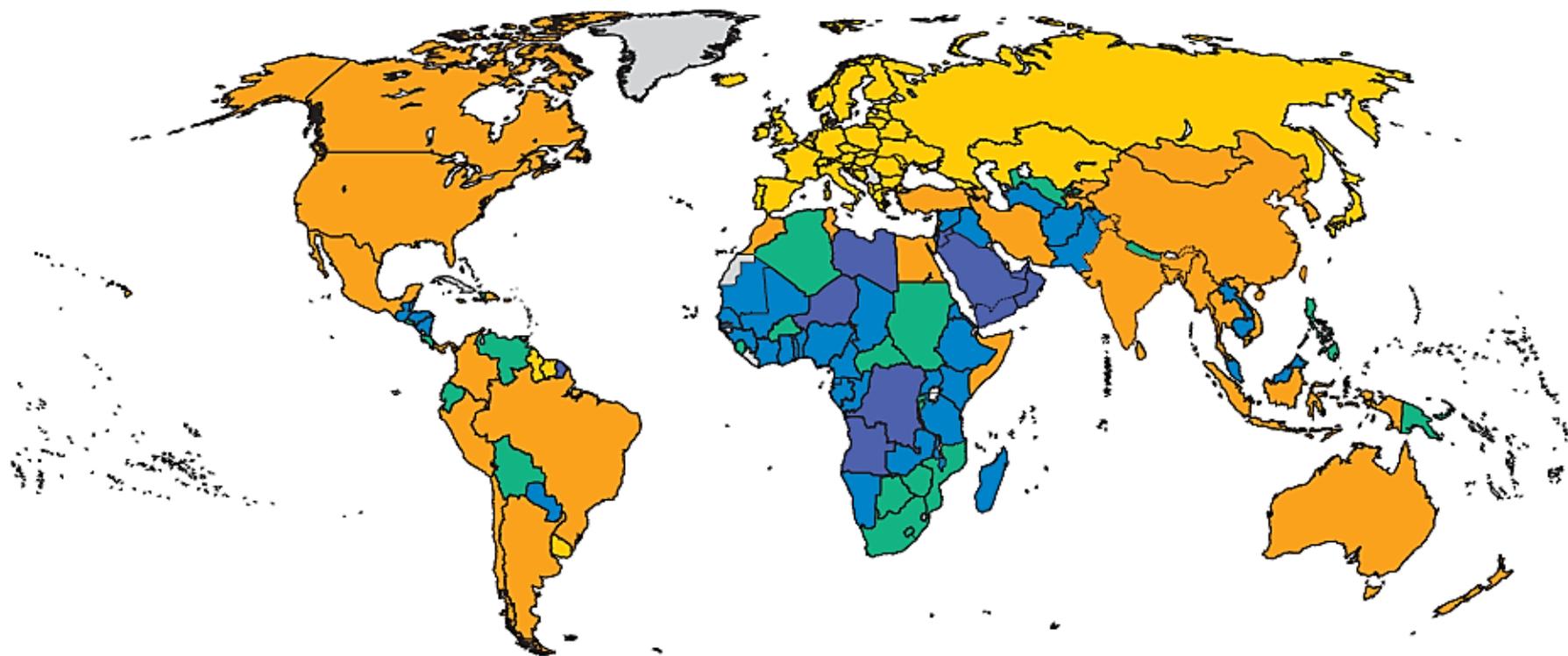
Demographic Changes

“With the combined changes across both developed and emerging economies of continually increasing life expectancy, lower child mortality and decreasing fertility, come new demographic challenges for the 21st century.” – Adrian Done



Map 3.1

Population growth rates, 1990–1999



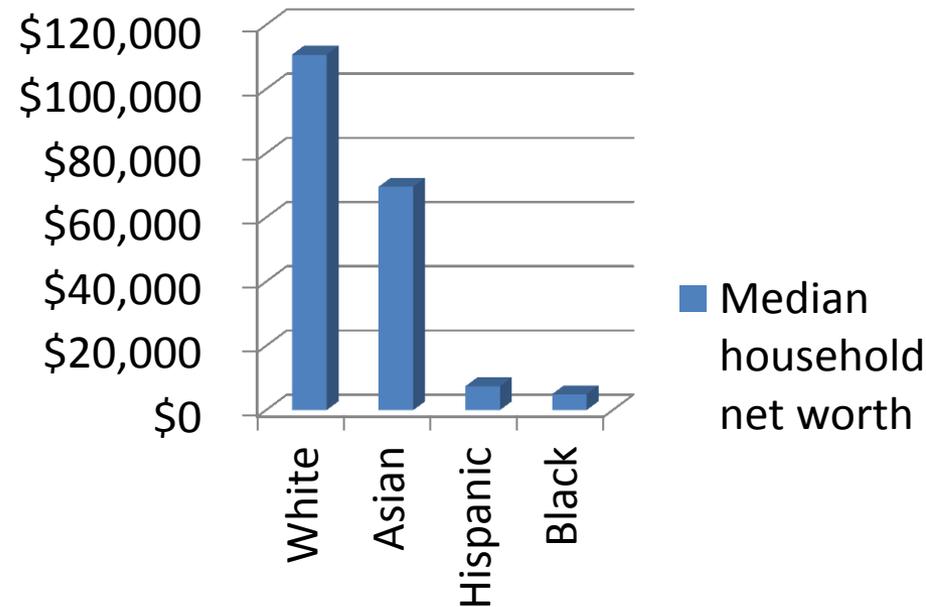
Demographic Changes

- 9.1 billion** Estimated world population in 2050 (7 billion today).
- 7.8 billion** Estimated global population in less developed regions in 2050 (5.3 billion today).
- 22%** Predicted percentage of world population over age 60 in 2050 (10 percent today).
- 33.3%** Predicted percentage of people over 60 in developed countries in 2050 (20 percent today).

Demographic Changes

- USA, Russia, Canada, South Korea, and China will have more people at retirement age than entering the workforce in the coming years.
- Minorities accounted for 92 percent of US population growth from 2000-2010.
- Income inequality can lead to increases in crime, demand for social services, loss of community, and more.

Racial wealth gap in the US



Discussion

Q. Which demographic trends do we observe on campus and in our community today? What changes do you expect to see over the next fifteen years?

Health

“Everyone has the right to a standard of living adequate for the health and well being of himself and of his family, including food, clothing, housing and medical care and necessary social services.” – Article 25, UN Declaration of Human Rights



Health

Healthcare challenges:

- Estimated global economic impact over the next 10 years:
 - ✓ infectious disease - \$250 billion
 - ✓ chronic disease - \$500 billion
- Rising healthcare education costs for primary care providers.
- Length and intensity of education, especially in primary care.

Health

Healthcare challenges:

- Reducing cost of care without impacting quality.
- Increasing access to care for low-income and rural communities.
- Addressing teacher shortages in nursing at a time when demand for more nurses is high.

Discussion

Q. As demands for healthcare increase globally, what contribution will Shoreline make to solving the healthcare crisis?

Q. How should health be factored into our vision for Shoreline fifteen years down the road?

War, Terrorism, and Social Unrest

Historically:

- 69 to 122 million people were killed in major wars during the 20th Century.
- Approximately 90 to 95 percent of known societies engaged in warfare or fought constantly.

Today:

- 77 of 166 countries assessed are at high risk or very high risk of social unrest.
- In 2011, 4.3 million people were displaced due to conflict or persecution.

Discussion

Q. What do trends in war, terrorism and social unrest mean for internationalization on Shoreline's campus?

Education

“[I]f you are low income, you have less than a 25 percent chance of ever completing a college degree.... If you are low income in the United States, you have a higher chance of going to jail than you do of getting a four year degree.” – Bill Gates



Education

- Jobs that exist today may not exist when students finish school.
- Cost remains an enormous barrier to accessing higher education.
- Dramatic increases in demand for higher education are driven by postindustrial, knowledge-based shifts in economies.
- Skills in applied math, locating information, and reading for information are required in 98 percent of family-wage jobs. Community college graduates are adequately skilled for just 57 percent of these jobs.

Education

- By 2018, nearly two-thirds of all American jobs will require a postsecondary degree or certificate.
- By 2025:
 - Washington state will require 471,460 additional degrees to meet Washington's workforce needs.
 - The US will need 15-20 million more employees as the aging workforce retires.

Education

- Online access to education is the fastest growing modality.
- Higher education is going global, with an increased presence outside the US and a rising number of international students and faculty on campuses.
- More than 2.5 million students study outside their home country. This will rise to 7 million by 2020.

Education

775 Million

Number of adults worldwide who lack basic literacy skills.

71 million

Number of adolescents not attending school in sub-Saharan and Southwest Asian nations.

40%

Percentage of sub-Saharan 7 year-olds in primary school. (100 percent in OECD)

60%

Percentage of sub-Saharan kids doing complex tasks by age 15. (90 percent in OECD)

23%

Percentage of American children who were poor in 2011. One fifth of them will remain poor as adults.

Education

- 35.8 million** Number of working-age adults in the US who have attended college but do not have a degree.
- 42.5%** Percent of adults in Washington state with at least a two-year degree (national average is 38.3%).
- 56%** Percent of adults in King County with at least a two-year degree.
- 65%** Percent increase in degrees awarded by Washington CTCs during the decade preceding 2007.

Discussion

Q. How will we address the urgent need for more degrees in Washington state?

Q. Which trends in education pose the greatest challenge for Shoreline? Which trends provide the greatest opportunity?

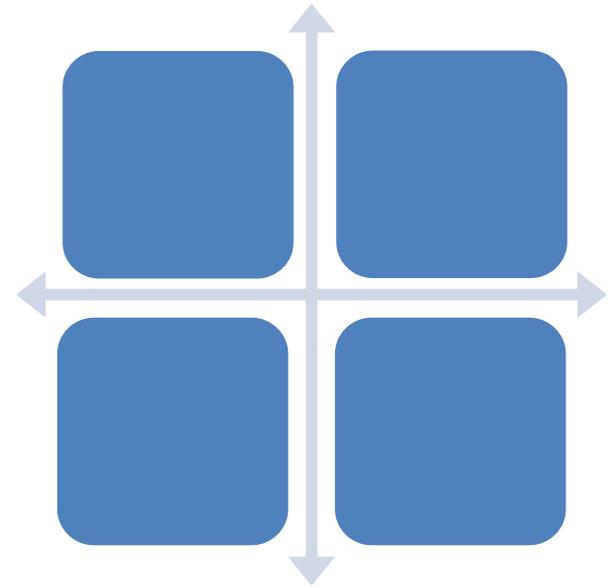
Discussion

- Are there additional trends we should discuss?
- Which of the trends discussed will have the highest impact, which the lowest, on higher education?

Future Trends:
Geopolitical & Economic
Technology
Climate Change
Food & Water
Natural Disasters
Demographic Changes
Health
War, Terrorism, Social Unrest
Education

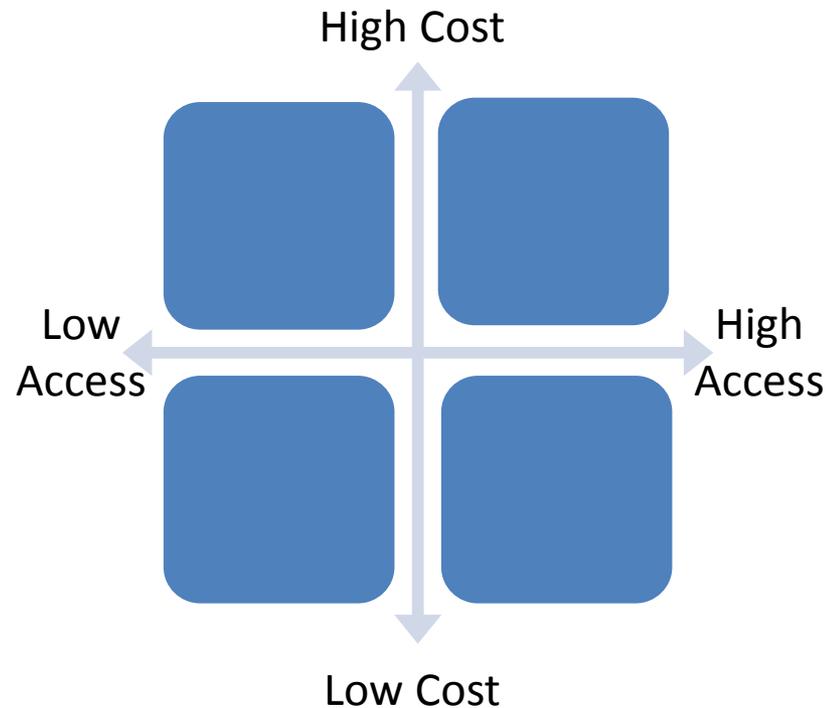
Scenario Planning

- **Step 1:** Set a goal for the College. Example: “How will Shoreline remain successful under changing circumstances?”
- **Step 2:** Based on data gathered on trends and goal(s) set, create a scenario cross. Scenario crosses are key dimensions differentiating the alternative futures from high to low, low to high.



Scenario Planning

- **Example:** “low access to high access” and “low cost to high cost.”
- **Step 3:** Identify principles that may underlie strategies. For example, access, affordability, accountability, and outcomes were principles of the Virtual College strategy.

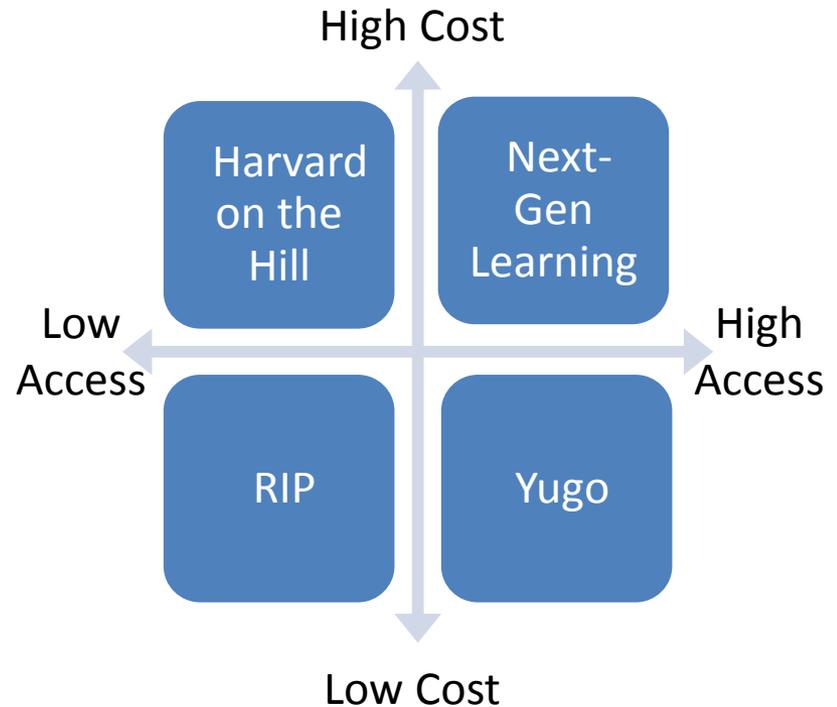


Scenario Planning

- **Step 4:** Discuss a broad statement of the future.
- **Example:** “What are the main forces driving educational change between 2014 and 2029?”
- Be creative and capture all ideas.
- **Step 5:** Group responses based on thematic categories and prioritize them. Identify cause and effect relationships between responses and trends.

Scenario Planning

- **Step 6:** Populate the quadrants of the matrix with categories identified in step 5.
- **Final step:** Describe the future of Shoreline should one or all of the trends occur.



Scenario Planning

- By zeroing in on the driving forces that could shape its future, Shoreline is able to better map out a strategy for anticipating a winning future.
- **Remember:** Consider “The Black Swan” effect – unforeseen events that are rare and have low probability of occurring.
- High-impact, low-probability events that could derail Shoreline should be factored in.

Geopolitical,
Economic,
Financial

Technological
Challenges

Climate
Change

Natural
Disasters

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Changes

Health

Education

Geopolitical, Economic, Financial

Staying abreast of the changing regulatory environment:

- Legal and regulatory requirements affecting higher education institutions are constantly in flux. Colleges and universities need to have reliable and consistent processes in place for identifying and complying with applicable laws and regulations.

Economic fluctuations and higher education

- Restricted public funding—not keeping pace with rising costs of higher education, leading to greater reliance on tuition and fees as well as private support
- Intensified pressure for educational access, affordability, higher quality, and better outcomes
- Shift of education cost to the individual; requiring greater accountability for student services to be seen as central to the educational core
- Creation of legislative initiatives that include unfunded mandates and compliance requirements

Global economic volatility, with center of global risk located in Europe.

- 2 possible scenarios:
 - (1) Europe succeeds in stabilizing the sovereign debt markets through reform programs in key countries. United States experiences slow growth and high unemployment, without much policy action until after the presidential election, leaving the fiscal stabilization, growth, and employment largely unattended, and structural adjustment in the hands of the private sector without much public sector investment or support. Emerging economies settle down to near pre-crisis growth patterns and remain the incomplete growth engine of the global economy.
 - (2) EU argues about fiscal centralization, while the yields run up, undermining bank capitalization, reform momentum, and, ultimately, the stability of the Eurozone. The core Eurozone begins to come apart leading to sharply negative growth, then transmitted to the United States' fragile recovery and to the emerging economies in terms of headwinds and reduced growth, because of a sharp fall-off in external demand.
- Slower growth of around 8 percent will reduce policy options, but could be better for China and the world. More sustainable outcomes will placate popular concerns [in China] about increasing disparities, corruption, and environmental degradation. And, if [China is] more consumption oriented, [it] will ameliorate global trade tensions.
- Many, however, foresee an economic collapse from a prolonged Eurozone crisis, while others believe that Beijing can avoid a sharp downturn. But with weak financial institutions and its infrastructure-led growth model under attack, it may not have all the tools to achieve its goals.
- The reason for this is the paradox of safety. Borrowers repay debt more easily when they have more income, that is, when the economy grows. But economic growth comes from people taking risks. If savings do not go to risk takers, growth will stall, and even the safest borrowers will turn out to be risky.
- Global growth is projected to grow at 3.5 percent in 2012, then accelerate somewhat to 3.6 percent from 2013-2016, and then show a further slowdown to 2.7 percent from 2017-2025. At 3 percent, on average, global growth will still be somewhat higher than the period 1980-1995 but between half and a full percentage point below the growth rate from 1995-2008.
- Advanced economy growth is expected to slow down from an already meager 1.6 percent in 2011 to 1.3 percent in 2012. For 2013-2016, the outlook suggests some recovery in advanced economies, bringing these countries back to the pre-recession growth trend of a little more than 2 percent.
- In 2012 emerging economies will slow in growth by 0.7 percentage points on average, going from 6.3 percent growth in 2011 to 5.6 percent in 2012, partly as a result of slower export growth and partly because several of them have been growing above trend. From 2017-2025 emerging and developing countries are projected to grow at 3.3 percent. Many economies will begin to show signs of maturing, at which point the rapid catch-up growth abates.
- The greatest challenge for the global economy in this slow growth environment is to raise productivity without losing job opportunities for the millions who are looking for reasonably paid jobs to support their living standards. The growth rate of per capita income globally has been around 2.5 percent since the beginning of the century but

sometime between 2017 and 2025, this rate will fall below 2 percent. In contrast to the past half century, that slowdown will also be accompanied by slower growth in population.

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Technological Challenges

Key Trends

- The abundance of resources and relationships made easily accessible via the Internet is increasingly challenging us to revisit our roles as educators in sense-making, coaching, and credentialing.
- People expect to be able to work, learn, and study whenever and wherever they want.
- The world of work is increasingly collaborative, giving rise to reflection about the way student projects are structured.
- The technologies we use are increasingly cloud-based, and our notions of IT support are decentralized.

Critical Challenges

- Digital media literacy continues its rise in importance as a key skill in every discipline and profession.
- Appropriate metrics of evaluation lag behind the emergence of new scholarly forms of authoring, publishing, and researching.
- Economic pressures and new models of education are presenting unprecedented competition to traditional models of the university.
- Keeping pace with the rapid proliferation of information, software tools, and devices is challenging for students and teachers alike.

Technology Watch

- Near Horizon: 1 year or less
 - Electronic books
 - Mobiles
- Mid-term Horizon: 2-3 years
 - Augmented reality (Laying information over a view or representation of reality)
 - Game-based learning
- Far-term Horizon: 4-5 years
 - Gesture-based computing
 - Learning analytics

Expanding technologies

- Developing electronic technologies multiply the modes and accelerate the speed of communications
- Expanding distance education offerings increase demand for services beyond traditional timeframes
- Enlarging social network systems have implications for teaching, learning, and education services
- Increasing electronic media venues enhance the capabilities of student organization and dissent beyond public physical acts

Going Digital

- Distance education will become typical rather than supplemental.
- Cloud-based computing will become the norm for both academic and administrative IT functions.
- Information will become more accessible, especially on mobile devices. Open courseware... will allow more students to access the best faculty from any location.
- Digital libraries will make information more readily available.
- Students and faculty buy what they want and expect to use these personal devices in the learning environment. While the personal devices will continue to evolve and change, the challenge for the college or university is to keep up and build an infrastructure that supports these personal devices

Examples of disruptions in education due to technology:

- Open educational resources and courses (global, national, state, local):

- Global example: [Open Education Resource Foundation](#) in New Zealand
- National examples: how [Khan Academy is reinventing education](#); Massachusetts Institute of Technology's [OpenCourseWare](#) project and [MITx project](#); [Yale open courses](#);
- Statewide, there is the Open Course Library project in which 82 of the highest enrolled courses are being developed in a digital format as open courses that the world can use; locally, a handful of SCC faculty have received grants to participate in the Open Course Library project, others are adopting open textbooks that were part of the project; for instance, the Math Department just adopted an open textbook from the OCL. (AGH)

MOOCs: [massive open online courses](#). (national, statewide)

- National: [Coursera](#): free online courses from top universities with the goal to educate millions of students [financially backed by venture capitalists](#); [Khan Academy](#); [Stanford's course](#); [Udacity](#), which is funded by venture capital
- Statewide: [University of Washington](#) ventured into a massively open online class this July 2012 and is first to give credit.
- Not local offerings yet, but we have started to think about how our community college might fit in. (AGH)

Communication technology: small and mobile are expanding quickly in the 3rd world.

- Mobile device sales surpasses PC sales in February 2012 for the first time.
- National: [The 2012 Horizon report](#) says mobile apps will significantly impact higher ed in one year or less.
- Locally, we've created the [MySCC app](#) that is native to iOS, Android, and Blackberry mobile devices where students can easily find a directory of faculty/staff to call or email and can go to the course in the Blackboard learning management system. (AGH)
- eTextbooks: as more students have mobile devices, they can read their textbooks on those devices. Locally, we are working to integrate publishers or third-party vendors into the Blackboard learning management system so that students can access and download their eTextbooks directly from there. (AGH)

Use of learning analytics in online education providers to track and predict student performance and success. (national, locally)

- Nationally, the [2012 Horizon report](#) says that learning analytics will significantly impact higher ed in two-three years.
- [Rio Salado College](#), a public online community college in Arizona, is a national leader in learning analytics.
- Universities that are leaders include University of Phoenix (private, for profit), Capella University (private, for profit), and American Public University System (private, for profit) (AGH).
- Locally, SCC had a grant-funded, faculty learning community with the 5 Star Consortium to study learning analytics during the 2011-12 academic year. (AGH)

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Climate Change

2030 Challenge: The state of Washington can be carbon-neutral, including transportation, just by 2030 by following the existing conservation plans now on shelves of agencies around the region.

- Transportation will become an integral part of the energy grid
- "Educating students for a global future is no longer an elective." Musil, 2006
- Educating Self- "we must be competent with the basic awareness, knowledge, and skills necessary to be effective leaders on our campuses and with our students so that we are able to educate students and work to make change on our campuses."
- Educating Students - "Corporations want to be perceived as environmentally friendly, fiscally responsible, and attentive and caring towards their employees and communities. Sustainability has become a requisite knowledge area for many industries and careers."

Institutional Change- Reasons institutions should embrace sustainability:

- Opportunities to enhance the educational process, theoretical to experiential/practical applications
- Prepare students for citizenship and career

- Attract students, staff, and faculty: “18% of students planning to attend college said that their number one social concern is the environment (Environment- More than Jobs, 2007)
- Save money and resources: “It is a smart way for higher education to respond to volatile energy prices, and climate change ecosystem and economic disruptions.”
- Improve the institutions reputation

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Natural Disasters

Between 2000 and 2009, the average number of people affected by natural disasters was 227,378,014 people per year. That is over 3 percent of the world’s population affected by natural disasters *per year*.

In the Haiti earthquake, around 70 percent of homes and buildings collapsed killing over 200,000 people – or 2 percent of the inhabitants. The economic impact was 123.5 percent of GDP.

The USGS reports that there are about 1,500 potentially active volcanoes dotted around the globe. About 500 of these have erupted in historical time. Many are located along the Pacific “Ring of Fire.” The most active volcano on earth, Stromboli, in Italy has been erupting nearly continuously for over 2,000 years.

Many of the 2010 disasters have been linked by experts to largely human-driven environmental changes. Within the next 30 years, the probability of a major earthquake occurring in the San Francisco Bay area is 67 percent and 60 percent in Southern California.

The non-smoothed time trend of country reported natural disasters also indicated increased peaks of 205 in 1983; 278 in 1990; 413 in 2000; 421 in 2002; 432 in 2005; before dropping back somewhat to 373 in 2010.

2010-2011 World Disaster Reduction Campaign, United Nations International Strategy for Disaster Relief Reduction.

Disasters effect on average 200 million people every year.... Earthquakes and droughts remain the main killers, but floods, hurricanes, cyclones and storms are the hazards that affect most people worldwide. Crowded cities. Unsafe constructions. Lack of urban planning. Destruction of natural buffers. Climate change. These all combine to expose more people to disasters.... We are all at risk.

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Demographic Changes

Anticipating demographic shifts

- “... need to anticipate the radical demographic changes that are occurring now and will accelerate over the next several decades. Relying on the same locales and high schools student applications will result in sharp drops in qualified applicants.”
- Enrollment has risen only 12% for White students. By contrast, Hispanic enrollment grew by 70%, Black by 50%, Asian by 40%, and American Indian by 31%.

A major “global retirement bubble” is occurring by the end of this decade. In addition to the U.S.A., Russia, Canada, South Korea and China will all have more people at retirement age than entering the workforce. Countries with younger workforces will likely profit from this trend.

The Hispanic/Latino community is the fastest growing segment in the U.S.

- As of March 201, 56 percent of all U.S. population growth was attributable to Hispanics.
- Hispanic population under 35 years old grew 51.5 percent in the last two decades versus a 7.3 percent growth for non-Hispanic whites.
- Nearly half of the Hispanic population in the U.S. now lives outside the traditional Hispanic DMAs

The Hispanic/Latino community is the fastest growing segment in Washington. From 2000-2010, the top three are:

- Hispanic (which grew by 314,281, or 71.2 percent)
- Asian (which grew by 156,233, or 48.9 percent)

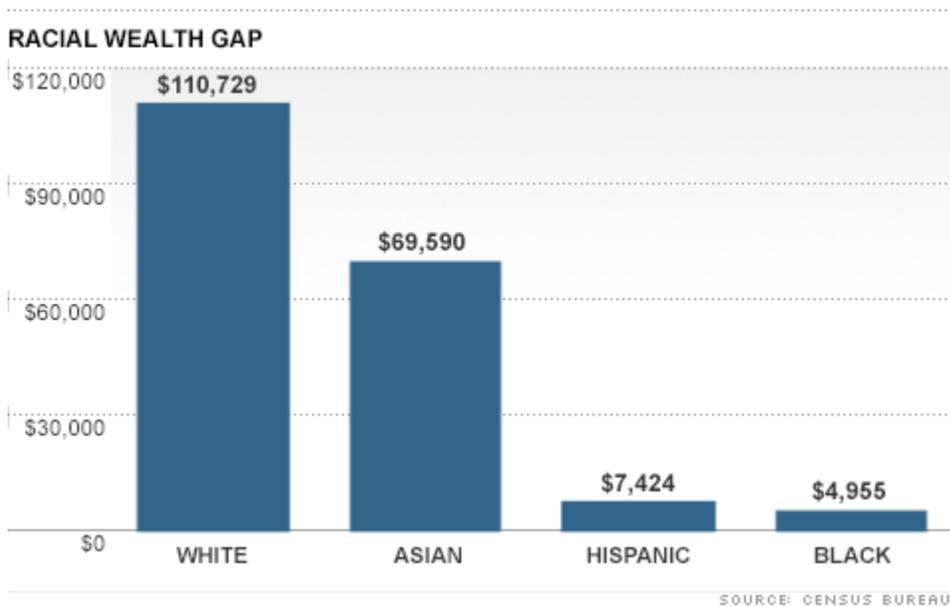
- Multiracial (which grew by 71,427, or 40.6 percent)

Income Gap – there has been an ongoing separation of income earning based on education. This separation coincides with the phenomenon known as globalization.

- Global-while there have been significant strides made in closing the per capital income gap between OECD nations and Asian and Latin American other geographic regions continue to struggle with poverty. However the US has traditionally been the source of demand for global production. If the income gap widens the ability of the US to continue in this role is doubtful.
- National and state- income inequality can lead to several social issues including increases in crime, expansion of demands on social services, loss of community, questioning of national commitment to social justice.
- SCC- SCC can/should play a major role in facilitating individual aspirations in moving up the income divide.

The Great Recession has widened the wealth gap, and race is a major factor.

Median Household net worth nearly doubled for white Americans to nearly 22 times more wealth than Blacks



Direct Link to CNN/Money which cites US Census Bureau data:

Excerpts from Whites account for under half of births in U.S., The New York Times May 17, 2012

- Non-Hispanic whites accounted for 49.6 percent of all births in the 12-month period that ended last July, according to Census Bureau data made public on Thursday, while minorities — including Hispanics, blacks, Asians and those of mixed race — reached 50.4 percent, representing a majority for the first time in the country’s history.
- “This is an important tipping point,” said William H. Frey, the senior demographer at the Brookings Institution, describing the shift as a “transformation from a mostly white baby boomer culture to the more globalized multiethnic country that we are becoming.”
- Minorities accounted for 92 percent of the nation’s population growth in the decade that ended in 2010
- A college degree has become the most important building block of success in today’s economy, but blacks and Latinos lag far behind whites in getting one. According to Mr. Frey, just 13 percent of Hispanics and 18 percent of blacks have a college degree, compared with 31 percent of whites.

Excerpts from Worsening wealth inequality by race, CNN Money, June 21, 2012

- White Americans have 22 times more wealth than blacks -- a gap that nearly doubled during the Great Recession.
- The median household net worth for whites was \$110,729 in 2010, versus \$4,995 for blacks, according to recently released Census Bureau figures.
- Hispanics median household net worth of \$7,424. The ratio between white and Hispanic wealth expanded to 15 to 1.
- These groups also suffer from far higher unemployment rates than whites, whose unemployment rate is 7.4%,

below the national average. Blacks, on the other hand, have a 13.6% unemployment rate and Hispanics, 11%.

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Health

Obamacare upheld: State healthcare leaders hold roundtable in July to review impacts

The Multiple Uses of Technology in Healthcare

- Development of complex and sophisticated devices and procedures for delivery of healthcare
- Diagnosis at a distance, using multiple databases and remote consultation with specialists
- Remote procedures using robotics
- Development of Nano -technology for once cumbersome equipment and devices
- Alternative reliable power sources for all implanted devices as well as diagnostic equipment
- Development of inexpensive components, common to many devices, that can be delivered as a package for assembly on site
- Delivery of distance education so place bound students can be trained in various needed healthcare fields
- Use of simulation for practice of protocols and procedures prior to direct delivery to patient

The Challenges in Healthcare Education

- Access to patients for hands on supervised practice when essential for scope of practice
- Length and intensity of healthcare education especially for primary care practitioners
- Current cost of Healthcare Education for primary care provider

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Education

Globalization

- Increasingly integrated, interdependent economies
- Expanding and highly complex international knowledge networks
- Intensifying availability of communication and information technology
- Movement of millions of students and scholars around the world—learning, teaching, conducting research, disseminating knowledge, and spreading cultural influences

Demand for higher education

- Dramatic increase in demand driven by postindustrial, knowledge-driven shifts in economies
- Expansion of education systems, especially in Europe, Japan, Latin America, India, and China
- Increased pressure on college infrastructures as a result of increased enrollment
- Predicted increase in life expectancies and corresponding increase in world population will create additional demand for higher education

Gaps in educational attainment and achievement

- Anticipated increases in higher education participation of underrepresented minority and lower socioeconomic groups, creating new opportunities
- Widening gap in literacy and numeracy skills across diverse U.S. school-age and adult populations
- Significant population increases among people of Hispanic or Latino origin, raising the importance of understanding multiple cultures
- Glaring inequities across economic and cultural groups in access to opportunities in higher education

Decreasing governmental commitment

- Losses in state revenues, institutions can no longer rely on government resources. Median appropriations for higher education declined from just above \$10 to slightly more than \$6 per \$1,000 of personal income between 1990-2010.

Online access to education is the fastest growing modality (JH)

- Compared with other states, Washington's two-year public participation rate is high (ranked 5th), while its four-year public participation rate is low (ranked 48th).
- The Washington economy has usually outperformed the U.S. economy and provided relatively high wage job

opportunities, attracting large numbers of well-educated migrants to the state. This contributes to Washington's overall high level of educational attainment.

- By 2005, over 30 percent of Washington adults had earned a bachelor's degree or higher and WA maintained its 10th place ranking among the states.
- In the 10 years since 1996-97, degrees awarded in the Community & Technical College system have increased by over 65 percent, including large jumps in computer and information science (150 percent), education (150%), and health professions (46 percent).
- About 60 percent of associate's degrees awarded in 2006-07 were academic degrees designed to articulate with upper division baccalaureate programs.

Internationalization

- By 2020, India Will Be Top Country Sending Students to the U.S.
- And the advent of multinational institutions of higher education makes it possible to disseminate curricular and other innovations quickly, and to meet the immediate needs of students in countries that lack adequate colleges and universities.
- By its very nature, the increasingly popular export model cannot be low-key; to be successful, higher education's exporters must find market niches and promote their services in the face of increasing competition. Almost inevitably, then, they become part of a larger American presence, welcome or not, that includes factories, electronic media, military bases, and more.

Competency-based education

- Western Governor's University is a national online, non-profit university with a state-endorsed office in Seattle now. WGU de-bundles the traditional faculty role so that there are separate content experts, faculty mentors assigned to help students on their academic progress, and assessors of student competency.

For-profit entities in online higher education (local, national). There are different models and examples:

- Ivy Bridge College, a model of a "joint venture" between a financially slumping private institution and a for-profit partner that provides enrollment management services.
- Bridgeport Education, an independent for-profit education company, owns Ashford University and University of the Rockies.
- Capella University. Owned by publicly traded Capella Education Company. Locally, we just signed an articulation agreement with Capella.
- University of Phoenix: Locally, it's one of the top schools SCC students transfer to. (AGH)

Providing higher education to all sectors of a nation's population means confronting social inequalities deeply rooted in history, culture and economic structure that influence an individual's ability to compete. Geography, unequal distribution of wealth and resources all contribute to the disadvantage of certain population groups. Participation tends to be below national average for populations living in remote or rural areas and for indigenous groups.

Cost remains an enormous barrier to access. Even where tuition is free, students have to bear indirect costs such as living expenses and often loss of income. Scholarships, grant and/or loan programs are demonstrating some degree of success but cannot by themselves remove economic barriers. Fear of debt tends to be a greater deterrent for students from poorer backgrounds. Income-contingent loan schemes (where repayment plans are tied to post-graduation earnings) have gained popularity in Australia, New Zealand and South Africa but are still more attractive to middle and lower-middle class students. Mexico has introduced loan programs that make the private sector more accessible to a broader spectrum of families. Chile has introduced a new loan program that targets students from low-income families.

- More than 2.5 million students are studying outside their home countries. Estimates predict the rise to 7 million international students by 2020. One of the most visible aspects of globalization is student mobility (Figure 2). The flow of international students has been a reflection of national and institutional strategies but also the decisions of individual students worldwide.
- An increasing emphasis is also being put on "outcomes" of higher education - evaluators are looking for new data and indicators that demonstrate that students have mastered specific objectives as a result of their education. With students and programs moving across borders with increasing ease, the comparability of educational qualifications

has become a key issue in international discussions.

- Higher education is increasingly viewed as a major engine of economic development.
- The worldwide surge in private higher education and the financing models for this sector have important implications for students and society. Higher education has increasingly been seen as a private good, largely benefiting individuals, with the implication that academic institutions, and their students, should pay a significant part of the cost of postsecondary education. Funding shortages due to massification have also meant that higher education systems and institutions are increasingly responsible for generating larger percentages of their own revenue. This debate has intensified due not only to the financial challenges of massification but also to a more widespread political inclination toward greater privatization of services once provided by the state. The growing emphasis on cost recovery, higher tuition and university-industry links distracts from the traditional social role and service function of higher education that are central to contemporary society. Some universities sponsor publishing houses, journals, house theater groups, noncommercial radio and television stations, and serve as key intellectual centers.
- The developing world is hitting the books. Unesco confirmed in 2010 that literacy rates continue to rise around the world, with the strongest gains being made by young women, age 15 to 24. A seemingly humble corollary dramatizes that point: Newspaper readership, despite precipitous drops in the United States and a slower decline in Europe, is growing throughout much of the developing world, notably in East Asia and Latin America, according to *The Economist*. India is the fastest-growing newspaper market in the world, followed by China and Brazil.
- Scholarly research itself has become a global activity, noting that "cross-border scientific collaboration, as measured by the volume of publication by co-authors from different countries, has more than doubled in two decades," thereby transforming the market into a thickening, cross-national network of academics and other professionals...
- The single most significant innovation in the global publication of American scholarly books is the starting of two online library-aggregation services, the University Press Content Consortium's Books on Project MUSE and Books at JSTOR. Together they include selections of monographs from nearly 90 American university presses and deliver for purchase roughly 30,000 digital books to libraries, from Indiana to Indonesia. Books and journals on both MUSE and JSTOR are fully searchable. (SCC uses JSTOR)

Excerpts from A Stronger Nation Through Higher Education, Lumina Report, March 2012

The report provides information on educational attainment nationally and provides state-by-state data.

- Washington- 42.5% of the state's nearly 3.7 million working-age adults (25-64 years old) hold at least a 2-year degree compared to the national rate of 38.3%.
- 67% of Washington's jobs will require postsecondary education by 2018.
- In 2010, more than 942,000 Washington adults (25% of the adult population) had gone to college but did not have either a 2 or 4 year college degree.
- Levels of education for Washington residents, ages 25-64
 - Less than ninth grade: 135,864 or 3.70%
 - Ninth to 12th grade, no diploma: 206,364 or 5.61%
 - High school graduate (including equivalency): 828,755 or 22.55%
 - Some college, no degree: 942,193 or 25.64%
 - Associate degree: 380,225 or 10.35%
 - Bachelor's degree: 771,976 or 21.00%
 - Graduate or professional degree: 409,902 or 11.15%
 - TOTAL: 3,675,279 or 100%
 - Source: U.S. Census Bureau, 2010 American Community Survey
- Degree attainment rates among Washington adults, by population group
 - White: 44.77%
 - Black: 31.03%
 - Hispanic: 18.17%
 - Asian: 54.47%
 - Native American: 21.84%
 - Source: U.S. Census Bureau, 2008-10 American Community Survey PUMS File
- Percentage of Washington adults with at least an associate degree, by county
 - King: 56.00%

- Snohomish: 40.44%
- Source: U.S. Census Bureau, 2006-10 American Community Survey, 5 year estimates

Human Capital Investment - The US is one of the few countries in the world that have the same higher education degree completion (40%) for 25-34 year olds as 55-64 year-olds. Most other countries are making concerted efforts to increase degree completion and have higher rates in the 25-34 year old group than 55-64 year old groups. (OECD)

- Global-OECD uses education as a proxy for the stock of human capital. This means that while other countries (most notably Korea) are investing heavily in their population the US investment is stagnating.
- National-the US high standard of living has depended on the productivity of its labor force. Without investing in human capital one would expect US standard of living to drop in the future.
- State and Local-Washington state is near the median for US states indicating that it is vulnerable to drops in standard of living

Some college no degree - As noted above approximately 40% of US population has completed a degree program in higher education. 20% of the population has earned some credits in higher education but not completed a degree. 90% of incoming college students intend to complete a degree. (Lumina Foundation)

- National-the US has the opportunity increase degree completion by 20% by focusing on this segment of the population.
- Local-Community colleges can play a significant role in this. SCC should consider closely tracking and increasing its retention rates. It could also focus recruitment efforts on those people who wish to return and earn a degree. This is a major opportunity for the Virtual College.

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