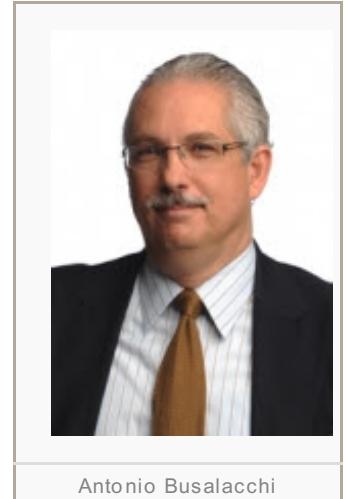


Climate change scientist: Washington, New Zealand are winners; Australia, Calistoga are losers

Antonio Busalacchi is an unusual combination: he's a professor of atmospheric and oceanic science at University of Maryland. And he's also a wine educator who holds an advanced sommelier certificate.

Earlier this week, [he released a climate study](#) of 24 major world wine regions that, he says, "went beyond the normal simple measures of mean temperature and precipitation but also evaluated growing degree days, drought severity index, extreme temperature thresholds at which photosynthesis shuts down, latitude temperature indices, and disease pressure indices."

I called him in Orlando, Florida, where he had just finished a Bourbon tasting as part of a wine educators' conference, so he was well-lubricated and ready to talk about the study.



Antonio Busalacchi

What led you to do this study?

It's a combination of my profession, my daytime job, and my emerging career as a sommelier and wine educator. My family is in the restaurant business, so I brought those two aspects together.

The press release said you expect Bordeaux to make low-acid wines.

We're seeing, right now, Bordeaux is in the sweet spot. The warming experience in Bordeaux is referred to as the "bon problème." But people are starting to ask what's going to happen in 20 years.

They're already starting to see changes in the blend in Bordeaux, such as more Petit Verdot coming into the blend at wineries that never used it before. Warming climate is going to mean changes in the blends.

But



German hillside vineyard owners: Winners

people will still be able to drink these great Bordeaux wines for the foreseeable future.

Let's look at how Bordeaux has already changed over the last 20 years. Even in 1982 the alcohol level was at maybe 12.5%. In 2010 some of the alcohol levels were at 16%.

What about the acidity? Your press release struck me because what sets Bordeaux apart from other great Cabernets of the world is the acidity.

Good acid is a result of cooler nighttime temperature. As long as the nighttime temperature does not go up, the acid can maintain.

But the nighttime temperature is going up, we're seeing that around the world.

To be fair, Bordeaux is going to have the moderating effect of the ocean. On the flip side, they're going to have the problem of more and more extremes. You have problems on the nighttime side and the daytime side.

Was Bordeaux a main focus of your study?

We looked at 24 wine regions around the world, in Spain, Portugal, Italy, California, Oregon, South America, New Zealand, Australia.

There are winners and losers. I don't like it when my colleagues act like Chicken Little syndrome, where everything is bad.

Regions at altitude, or regions buffered or surrounded by water, are either going to benefit or be more immune to the deleterious effects of change.

Other regions like South Australia are going to suffer.

Columbia Valley is going to benefit.

The upper regions of the Napa Valley, where you don't get the cooling breezes of the San Pablo Bay, are going to have problems. Sonoma, not so bad, because they're going to be moderated by the ocean.

Piedmont is in the middle, but it's not a particular area that I'm worried about. The issue there is water stress. South Africa and South Australia have the combined double whammy of temperature and water stress. If you look at growing degree days in Stellenbosch, they're quite warm.

What about the winners?

We've been looking at this for five years. I always get asked, where would you buy property? The answer I give is Tasmania, because it's surrounded by water.

Sure enough, Brown Brothers moved over the water to buy property in Tasmania.

Tasmania, and the south island of New Zealand, surrounded by water, where you can go up in altitude.

Mendoza. Where you're seeing the new plantings in Mendoza is in Uco Valley, the highest in altitude. They get irrigation from melting in the Andes from high up.

Will climate change affect the total worldwide yield? Will we see wine shortages?

I don't think so because already we're seeing plantings in other areas. Look at the growth of the Chinese wine industry. A lot of the French houses are planting in China.

I was in Brazil in April. We were in a town outside Brasilia from a high plateau, and I had the best Brazilian wine I've ever had. They're planting in the high plateaus.

What about Germany?

From what we're seeing over the last 10 years, they're going to benefit. We're going to see longer growing seasons, less harsh winters.

Where some of the regions were marginal in the past, we're going to see much more favorable conditions in Germany.

Are you working on the floor as a sommelier?

No no no. I passed my advanced. When I decide to gear up for my masters, then I will work somewhere to get ready for up.

But I'm involved in tasting groups and doing wine education.

Why would anyone give up a professorship to be a sommelier?

It provides me with an intellectual challenge that is similar yet different from being an academic. There is the sensory perception aspect that is challenging and gratifying, there is the pursuit of the ever expanding knowledge base of the world of wine that is both challenging and gratifying, and then there is the service and education aspect where once again both are challenging and gratifying, especially when you see the light bulb go off for a customer or student in response to a recommendation or great appreciation for what's in the glass. So for me in the end, the two professions aren't all that different. After spending 31 years, 18 years at NASA and 13 years in academia, its time for a change lest I get stagnant.

Follow me on Twitter: [@wblakegray](#) and like The Gray Report on [Facebook](#).