

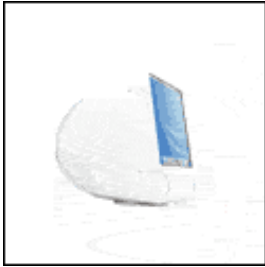


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February 19th, 2004



[9:00 AM CST] TMO Interviews - Matt Golombek, JPL Mars Geologist, On Why He Uses Macs
by **Robyn Weisman**

Matt Golombek PhD, JPL planetary geologist and Mars exploration rover landing site scientist, was the man responsible for choosing the landing sites for the Mars rovers Opportunity and Spirit. In order to determine the best sites for these ground breaking spacecrafts, Golombek and his colleagues used the fastest desktop Mac available, in these cases a new G5 with dual 2 GHz processors running 8 GB of RAM.

When The Mac Observer (TMO) caught up with Golombek, he sounded pretty exhausted. Although it was midday on earth, Golombek was on Mars time, where the days are 39 minutes longer. For him, it was the wee hours of the morning. Nevertheless, Golombek was eager to discuss the Mac. According to him, 90 percent of his fellow JPL scientists use them.

TMO: How does using the Mac contributed to your work, and what kinds of projects do you run on the Mac?

Matt Golombek PhD: The dominant things we do are the same things everybody does--e-mail and all that productivity stuff. For us, the key reasons we use Macs is for the ease of the interface and the Mac's particularly good ability to render maps and mosaics.

I do a lot of work with maps. We take images of Mars, and we put them into mosaics. Selecting the landing sites involved putting multilayered maps together in Canvas. And that involved all these different data sets you could flip on and off, look for correlations between them, and so on.

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TMO: We recently spoke with some Apple product people, and one of them said that scientists don't want to be the rocket scientists of IT. They just want to get their work done. Do you agree with this assessment, and do you think this is why so many scientists in your field like Macs?

Dr. Golombek: A vast majority of scientists, well over 50 percent, even up to 75 percent, use Macintoshes, and I don't exactly know why, but I'll guess. Again, the seamless interface between all the programs and to be able to get stuff back and forth so easily. In the early days, just the interface itself -- having the Finder, the multi-Finder -- in the old days that was a big plus.

But I think the dominant reason is that geology is not what you call a huge economic driver, so there is not a lot of software that is specifically done for geology applications. It's certainly not what you call mainstream. So most of us use the standard Word and Excel, PowerPoint, and that kind of stuff. And then we do a lot of stuff with images. We link images together and early on, I don't know if it's still true, you know I haven't used a high-end PC these days, but certainly mosaicing things and doing things with images and Photoshop and all that, that's really a strong point for the Mac.

And [planetary geology] is not a business where you have a lot of software that's only written for the PC. There's very little software that we use that's specialized for us. I mean we just use Canvas and Photoshop for doing image mosaics and stuff. So basically it's just the ease of the interface and how easy it is to get stuff back and forth. That's really been Mac's strong point for a long time.

TMO: What is your primary Mac?

Dr. Golombek: I use the highest-end laptop I can find because I'm too lazy to have a desktop and a laptop. I just get the highest-end one and use it for everything.

If I had my option, I would replace it very frequently, but I don't. I have a Titanium, one of the earlier ones. Right now I can replace them about once every three years, though I would prefer to replace them more frequently. It's 500 MHz and has one GB of RAM. And actually I'm planning to replace it. Actually I was hoping for a new line in January, but it doesn't look like they're going to have a new line. I was hoping to wait for the G5. I also still have the analog outputs. It would be nice to have the digital.

TMO: What specs do you want for your new PowerBook?


Dr. Golombek: To me the 1 GB RAM is not enough, and right now that's the max you can put into a [G4] laptop. And I'll speak specifically to the laptop since that's what I've gravitated to. If I could put 8 GB of RAM in a laptop, I'd do it.

Maybe when the G5 processor comes out for laptops, there will be a way to do that, but right now that's as much as you can get into it. And as I said, I'd like to put in the max because I'd like to be able to deal with bigger files on it when I'm on the road. Bigger hard drives would be helpful, but generally the hard drives are adequate for what I do. We always have a FireWire backup, so we can put

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stuff on that. I want as much RAM as I can have and as fast as [Apple] can make it!

TMO: How long have you used Macs?

Dr. Golombek: My first computer was a Compaq, but then we went to the [Mac] SE, and pretty much ever since I have been a Mac user.

TMO: Then Mac OS X clearly had no bearing on your choice?

Dr. Golombek: No. In fact I just switched to OS X just a little while ago. I was happily using [OS] 9 until the mission because there's some software that we use on the mission that requires X. [The software] lets you sync up and lets you know what the schedule is and actually keeps Mars time for us. So that was only several months ago.

TMO: What are your thoughts on OS X vs. OS 9?

Dr. Golombek: Generally OS X is okay. It appears that OS X doesn't allow you to allocate RAM the way you could in [OS] 9.

What I used to do in 9 was end all other applications and open the one that I needed that was a real data hog. And it always seemed to run better-optimized performance that way. And in X you can't go in there and tell it how much RAM to run. So it seems like you don't have as much control over maximizing the performance with really hoggy applications. So I've noticed there hasn't been really very much improvement in speed for using these really huge files that we deal with.

TMO: Given that OS X is UNIX-based, are you running open source software? Does that play any issue with you guys?

Dr. Golombek: Not much, no. We used to have the X terminal stuff that would run the UNIX [software]. We still keep most of our big databases on UNIX servers. That's pretty standard for scientists, and then we'll just query them. It's nice having the terminal emulator on the new OS X.

TMO: Do you or any of your colleagues have any interest in clustering, especially with new Xserve G5?

Dr. Golombek: You know we pretty much tend to be novice users. I mean we're scientists, not computer geeks. So most of us won't go try to build some new computer configuration. It's got to be pretty much ready to use.

There are people who do do that, but I'm not one of them.

TMO: Anecdotally at least, there seems to have been an increase in interest from the scientific community in Macs, but it seems that, at least in your area of expertise, Macs have always been popular.

Dr. Golombek: There's a majority of scientists who use Macs, and I think part of that is because of the things I already talked about. So I haven't noticed a real upturn.

TMO: Finally, now that you are using OS X, have you downloaded any music from the iTunes Music Store?

Dr. Golombek: No. I've been too busy with Mars. And I'm not one of the younger users.

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