Geointeresting Podcast Transcript

Episode 17: Dayton Peace Accords

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Welcome to Geointeresting, presented by the National Geospatial-Intelligence Agency. For this episode we are commemorating the anniversary of the Dayton Peace Accords. In November 1995 the Peace Accords were held in Dayton, Ohio, and officially signed in Paris on December 14. The negotiations lasted nearly three weeks, but with the official signing of the Peace Accords came an end to a four-year-long war in the Balkans. The recording you're about to hear is of Warren Christopher, secretary of state during the negotiations and the official signing. This audio is provided by C-SPAN.

Warren: Three weeks ago, the people of the United States welcomed all of us to Dayton and urged that the three presidents seize this last best chance for peace in former Yugoslavia. Today, you will leave Dayton with a comprehensive agreement in hand. On this Thanksgiving weekend, our joint work has made it possible for the people of Bosnia to spend New Year's Day in peace for the first time in four years.

NGA: The resolution and agreement on the boundaries developed while in Dayton were reached in part by the use of cartography and maps provided by NGA's legacy organization, the Defense Mapping Agency, which will be referred to in this podcast as DMA. For this podcast we interviewed NGA Historian Dr. Gary Weir, who gives a historic perspective of the accord, and following him, we interviewed NGA employee, David Dougherty, who shared his personal account of creating maps at Dayton during the negotiations. Stay tuned for Geointeresting.

Alright. Thank you, Dr. Weir, for being here. So my first question is, could you briefly explain what the Dayton Peace Accords were?

Dr. Weir: Alright. It was an effort on the part of President Bill Clinton to resolve the problems that were taking place in the Balkans. Back in 1980, Tito, the dictator of Yugoslavia, died, and the subsequent decade saw the country beginning to come apart according to ethnic preferences. Violence broke out in '90 and '91, and it became a rather nasty situation for quite a few years. And in 1995 Clinton asked the warring parties, after they were subdued to a certain degree by our intervention, to come to the table in Dayton, Ohio, to iron out the difficulties and bring peace to the region.

NGA: So where did maps fit in?

Dr. Weir: You can't make an accord unless you know what you're discussing. So we provided maps to allow everybody to understand completely what the region looked like, what they were surrendering [and] what they were gaining, right down to the fine points of avoiding placing a village between two boundary points. So you have to know what you're looking at — you have to know the terrain; you have to know all the routes, the rivers, and streams and all the rest. Who's going to get what? And how practical is this once you divvy everything up? Does it make sense to have it done that way? So maps tell you what the region looks like. It gives you content.

NGA: So according to previous reporting, estimates of more than 30,000 maps were distributed during these negotiations. Why is that so important? Why is that such a large number?

Dr. Weir: Well, first of all you, had so many people involved. You have at least half a dozen ethnic leadership groups, as well as our own people, who have to be informed. You have a fairly large region of Europe, and they're going, quite literally, area by area [and] block by block, because there's so much tension involved. There's so many different ethnic groups in a very, very small concentrated area. So the maps were there to make sure everybody knew exactly what they were dealing with. Also, the maps become ground truth, as they are — pick up a map at a gas station. You want to go from point A to point B; you trust it. Alright, DMA was a trusted broker. In other words, we bring the information to the table that everybody can agree on to the extent that, yes, this is our region. Alright, where do we go from here?

NGA: So not to reiterate anything you previously said, but I think some of our younger listeners, those like myself, have always had Google Maps or a GPS application to see boundary lines in real time. In the context, why was it important at Dayton to see these boundary lines in real time?

Dr. Weir: Right; two reasons, I think. One more important than the next. The most important was to keep the discussions on track. If somebody was willing to give a little or to take a little or to compromise constructively, you want to be able to immediately inform them regarding what they are giving up and what they are receiving. So the maps are there, and they are there swiftly, almost in real time. Also, for DMA it was an exercise based on a reinvention they had just gone through, barely a few months earlier — knocking down all of their vertical stovepipes and increasing their horizontal integration to the point where they could respond this quickly if asked to. Previously, it would have been quite a task for them to do that, and now it was not.

NGA: So there was an element of cutting-edge technology that allowed for more hands-on visualization. So again, this was essentially a huge moment of importance that this was revolutionary, like the technology being used. So could you kind of explain what some of those technology advances were that may have not been used previously?

Dr. Weir: Sure. If we take a look at the date, we're talking 1995. Just five years earlier, DMA had gone through a second step in an effort to enable their analysts and their cartographers to use photography in a digital manner and to convert it into maps and charts. This is brand new. So here they got to try it out on-site. And so it's not that people haven't used photographs and maps before. It's just that being able to bring them in using government systems and to manipulate them properly, to have them say and do what you want them to do, and then to insert them into a map situation — it was something that was very, very new and very, very exciting for many of them. The other part is sort of a "Star Wars" effect because they are also providing the negotiators with fly-throughs that allowed them to literally simulate an aircraft going through the region that they were negotiating. So they could remind themselves what was there, where the villages were, what the typography looks like, where the rivers went, where the irrigation was done and all the rest. But we have pictures of this in the NGA archives, for example. They were using the Silicon Graphics computers that George Lucas used on "Star Wars," and this is 1995.

NGA: Very cool. So what has changed since then? How might maps play a role in negotiations and scale today?

Dr. Weir: They always play a role now, but we can produce them even faster now than we could before. It's also the wise negotiator that has maps on-site — initially, to make sure everybody is equally informed; to make sure everybody trusts the sources they're working with. It's ground truth, as we mentioned before. But we can provide ground truth. That's the departure point of a negotiation. Once they move into exchanging and being flexible and negotiating, various [inaudible] important points, we can almost instantly show them how the world changes on the ground according to the way they're talking. I don't think any negotiation from Dayton on would want to proceed without maps done in that fashion, and we set the standard for that sort of thing.

NGA: Thank you for being here. We really appreciate it.

Dr. Weir: My pleasure.

Announcer: Officials at Dayton said flexibility was crucial during the negotiations, and the mapping support kept pace with the numerous changes. Throughout the effort, mappers were on call to the customer and DMA support personnel at full strength [and] averaged 16- to 18-hour shifts per day, seven days a week. Stay tuned to hear the firsthand account of David Dougherty, a cartographer of the Dayton Peace Accords.

NGA: Without further ado, I want to thank you for being here. But the first question is, what was your position during the Dayton Peace Accords?

David: At the time, I was assigned to the Defense Mapping Agency; the Defense Mapping School. I was an Army captain engineer. I had just returned from two years of graduate school at the Ohio State University with a degree in Geographic Information Systems and Analytic Cartography. For the Dayton Peace Accords, we were literally deployed from here at Ft. Belvoir to Dayton. My role was to serve on a very large team to deliver mapping services for the Peace Accords, and I had some specific experiences while I was there in that role.

NGA: How were you chosen for that?

David: Well, the call basically came into the schoolhouse looking for folks who had expertise using ArcInfo — the software tool of the day — and people who had an understanding of geographic information systems and mapmaking. The team that was out there was doing cartographic-type production, and they needed somebody to help with some digital stuff. At the schoolhouse we had just begun a program, and we also had equipment there. So we had the tools of the day, which was a big computer system in big green boxes and a plotter in a big green box and some other tools. So that's why we were picked; we were basically the only guys they knew of who could do this stuff.

NGA: Awesome. So how was geography a critical element of the Peace Accords? What were some of the key geographic issues or disputes?

David: Sure. It was really all about terrain and turf; who had what. And so following the conflict there, there was, of course, a lot of dispute over territory when they finally did get brought to the table to discuss peace. They had been fighting. A lot of it was because of ethnicity and background. If you go and read the history books, it's been happening there a really long time. So it was about terrain. The border of Bosnia [and] Herzegovina with the rest of the region there was pretty well-defined. What we were doing in the Peace Accords was defining where the separation between the two warring factions would be. They called it "the zone of separation" or the ZAS.

NGA: Could you explain a typical day there?

David: Well, we were there for just about two weeks. There was no typical day. The initial part of the assessment was we were operating on a 1:600,000-scale map. So think almost of a tourist map. And they were literally using a pen or a marker to draw this line on this map of where they thought this zone of separation should be. Then they would ask us to determine how much territory that represented for each side. Then they wanted to see that map. At the same time, we were trying to take that geographic information and get it down to larger-scale maps; so the 1:50,000-scale map, which is your typical military map, so folks could really see where this line was. So they would send that map over from the negotiating table. It would make its way across the compound, come down into our base of operation — we were in the base theater at the time. Then we would have to take that map. We would have to digitize it and transfer that information into our GIS to then plot it back out on that map, pack it back up and send it across the compound to the other side. And so those negotiations and the line drawing happened at all hours, so it was a 24-hour operation. At the same time, those two warring factions had their mapmakers in-country, so they were checking us out. So we would have to print that stuff out [and] take it over to where they were staying, so they could go through it and see what we were doing. And that was really important because it helped them to realize that we weren't doing anything out of the ordinary; that we were doing cartographic production just like they would with their stuff. After several days of that, they got very frustrated with the time it was taking.

NGA: Really?

David: Yes, because they would draw the line on the map, then it would have to get walked across the compound, come downstairs [and] re-digitized. We would have to do all that work. It would take a couple hours before they would see the results. And they were like, "Hey, how come we can't we see it right away?" So we had the brilliant idea — we said we'd take a digitizing tablet from one of our workstations, and we'll bring it up there. So they were doing this level of negotiations in an officer's single quarters, BLQs on base. And they had a bank of computers in there. They did have some imagery that they were able to look at. I set up in the far corner with my digitizing tablet and my system, and those guys would come in with their map, and I would take it; I'd throw it on the table, and I'd be able to digitize the line. Within 12 minutes, I could tell them how much territory each side had. So we were able to get them to agree to look at it on the computer. At the time we had a software tool called Power Scene, which allowed 3-D flyovers of the terrain, and we were able to put that line in there. So they could watch as we flew along the line, and they could make adjustments. They could say, "No, the line is in the wrong place. That side of the river should be mine, and that side is his." And we could go in and move the line right there, so we got it pretty well agreed upon. So it was an

iteration. And then, finally, when they agreed upon all of that, then we could print it out on the 1:50,000 maps, which they then used to actually conclude the Peace Accords.

NGA: OK, wow! It went from taking a couple of hours to get a map done, to right there, them watching you do it.

David: In fact, I call this experience "the birth of GEOINT" because this where we brought imagery and mapping together to deliver services. It was unusual that we were "deployed." We were doing 24-hour operations. For a military officer, that is what we do, so that wasn't unique, so I don't think that was anything different. Certainly similar to what we do today.

NGA: What are some of the differences from the maps you created then compared to what you do now at NGA?

David: So the accuracy of those maps was probably different than what it is today. Today, we are much more precise. We did not have global-positioning-system data back then. So we were relying on surveyed topographic data that was on a map. So that's a big difference. I think some of the other things that we do today with the way we combine all of the different data sources also is a huge difference.

NGA: Awesome. Thank you for being here.

David: You're welcome.

Warren: In a moment, three presidents will initial the agreement. They've come a long ways in the last 20 days, and their initialing here today will signal their determination to stay on the path of peace.

NGA: Again, that audio was provided by C-SPAN. It's like they say, the rest is history. The Peace Accord was signed [and] DMA succeeded in providing support to world leaders and a year later, was consolidated into the National Imagery and Mapping Agency, or NIMA. Imagery and mapping solidified at Dayton was the backbone of what NGA does today.

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