

Working with ArcGIS Online

ArcGIS Online provides access to a set of online resources to enrich and extend the ArcGIS user experience. This includes a rich set of online maps and related services that may be accessed freely through ArcGIS for Desktop, ArcGIS Explorer, or ArcGIS for Server applications. This session will provide details on the variety of ArcGIS Online content and capabilities that are available today and demonstrate how ArcGIS users can use them. The session will also describe how the system was built.

<http://video.esri.com/watch/96/working-with-arcgis-online>

Video Transcription

00:01 Okay. Welcome everybody to our Working with ArcGIS Online session.

00:05 To my left is Deane Kensok, and my name is Bern Szukalski, and it's our privilege to be with you here this morning.

00:13 One announcement that we have to make as we begin is to remind you to fill out your course evaluations.

00:19 They help us make these sessions better for you, and so before you leave, please fill those out.

00:26 If you need any assistance in filling those out, Deane and I will be happy to point out the numbers to circle.

00:32 Now, just a sound check. Can everybody in the back hear me fine?

00:35 Is this projecting well? It's good? Okay, very good, very good.

00:39 Let's take a...a brief poll of the audience here.

00:42 How many people have been to ArcGIS.com and tried a few things there?

00:47 Excellent. Very good. Very good.

00:49 And how many people use ArcGIS Online basemaps in their normal activities?

00:55 Also, excellent.

00:56 How many people in this room have contributed to the Community Maps Program and have contributed some of their content?

01:02 To the...excellent. Thank you. And, where are you from?

01:05 Denmark. Denmark, excellent. And there was another...

01:08 National Park Service.

01:09 Alright. Which national park?

01:11 All of them.

01:12 All of them. Great.

01:13 So...

01:15 ...so you're in the federal center there in Denver then?

01:17 Excellent. Well, thank you. We appreciate the contributions.

01:20 Deane and I are going to be covering quite a bit of territory here this morning...

01:24 ...and we're going to be moving along pretty...pretty rapidly.

01:28 And what we're going to do is we're going to provide you an overview of ArcGIS Online maps...

01:32 ...and perhaps more importantly, Deane will be able to give you a more detailed behind-the-scenes look at...

01:37 ...at what's...going on?

01:40 We just lost a projector.

01:44 It's possible that someone may have accidentally kicked something. Is that...

01:49 Anyway, my audiovisual assistant Deane will be checking that out in just a second while we go here.

01:56 I apologize for that. But...

01:57 Deane's going to be able to give us a behind-the-scenes look in some more details as to exactly what's going on...

02:03 ...and how those services are both managed and updated and how you can learn more about them.

02:08 And he will also be talking quite a bit about the infrastructure...

02:11 ...and we'll be covering some other territory there in terms of on-premise implementations, and so forth.

02:16 Then, after that, we're going to be looking in...in a little more detail about using ArcGIS Online.

02:22 I'm going to be showing you some new things that were just released on Thursday.

02:26 So, some brand new things that are part of your ArcGIS Online and ArcGIS.com user experience...

02:32 ...and we'll showcase some of those and then at the end, we'll have an opportunity for you to answer...

02:38 ...or ask some questions and provide answers.

02:41 We have just a couple of seats up here in the front.

02:43 You might want to squeeze in or if you're comfortable with the floor, there's some good floor space up here as well.

02:50 Okay. When we talk about ArcGIS these days, we think of it as a complete system, so long gone are the days when we think about...

02:58 ...you know, I'm a such and such product user or such and such product user.

03:02 It's important for all of us, and especially at Esri as we develop these products...

03:06 ...to think of these as a complete system that interoperate and work well together.

03:11 So, many of you might be creating ArcGIS implementations that are browser based or mobile based...

03:18 ...or maybe focused on professional GIS desktops, but I think in the typical situation, everybody uses all of these together.

03:26 And sort of on the services end of things...ways that people have handled things on that...on the back side of things.

03:34 And that includes many of you use locally based content primarily.

03:38 Some have moved into enterprise environments and, increasingly, there are opportunities to leverage more with cloud-based services...

03:45 ...and ArcGIS Online represent some of those cloud-based services from Esri.

03:51 And there's lots of activity happening there on the development end, and some new things...

03:56 ...which we'll be providing a brief overview as...as we move in the presentation.

04:02 So, when we think about the ArcGIS Online system or the ArcGIS system, there's many ways to begin experiencing that...

04:08 ...and now ArcGIS is also an online system.

04:11 So, ArcGIS Online is built into every component of the ArcGIS system...

04:17 ...and some of the new components of the ArcGIS system are things that we've been showcasing here at the conference...

04:22 ...like ArcGIS.com, the built-in ArcGIS.com Viewer, and Explorer Online.

04:29 We'll be covering these in a little more detail later...

04:31 ...so the important thing to take away is that ArcGIS Online is just a built-in component of all these...different ways to experience ArcGIS.

04:40 And that includes basemap galleries; that includes the ability to search for content directly from your applications...

04:47 ...that includes some of the built-in services like the gazetteer geocoding capabilities in these applications...

04:53 ...and the ability to share what you do and find things that others have shared in this online environment.

05:00 ArcGIS Online in general includes these categories of content...

05:05 ...maps, lots of basemaps for you to choose from, various maps and...

05:09 ...and layers not only from Esri, but from the user community at large.

05:13 Basemaps in particular are built using something called map templates, and these are just sort of a...

05:20 ...a design, a cartographic design that's encapsulated in the template.

05:24 And the idea is that if you like one of these maps...

05:26 ...you can download a template and pour your own data in, create your cache from that, and...

05:32 ...and use it to...to do your own services.

05:35 Or in the case of the Community Maps Program, you can take our templates, pour your data in, and share that back with us...

05:41 ...and then we'll incorporate it into our basemaps, and that's what Deane will be talking about here in a little bit.

05:47 There's also applications that are available; we'll showcase a few of those, and there's more and more tools.

05:52 So, these will be add-ins and...not only online services but add-ins extensible components...

05:57 ...that you can use to extend ArcGIS Explorer and ArcGIS Desktop, and Web applications as well.

06:03 It also, in general, even though this won't be our focus here this morning, when we think of ArcGIS Online...

06:08 ...I tend to kind of think of the basemaps and...and the map content.

06:11 But it also includes other things that are hosted...

06:14 ...the ArcGIS Web mapping APIs, the JavaScript, the Flex, and the Silverlight APIs...

06:19 ...and some online applications like Business Analyst Online...

06:23 ...which will be available on your...on iOS, on your iPhone here shortly...

06:29 ...and also some cloud services that we're working on.

06:31 And by cloud services, what we mean are the ability to take some of what you do and outsource it to a cloud environment.

06:38 We leverage the crowd...cloud quite a bit.

06:41 Deane will talk more about how we do that, but we're able to provide you some additional cloud services as well...

06:47 ...and that's the direction that we're moving forward.

06:49 So, at that point, I'm going to turn the stage over to Deane, and take it away, Deane.

06:57 Okay. So, what I'm going to do is talk a little bit more detailed about the ArcGIS Online maps.

07:01 It sounds like many of you are already using the maps. That's great.

07:05 For those of you who aren't, I'll give you an overview of those...

07:07 ...and then I'll also talk about some of the changes that have been made recently and are coming up soon to the maps.

07:12 Before we dive into the details, I just wanted to kind of categorize the maps as we think about them.

07:17 So, there's various maps that are available through ArcGIS Online, and when we look at the...

07:22 ...the demo of ArcGIS.com later that Bernie will do, you'll see examples of each of these.

07:26 We kind of think of them in three categories...there's Esri maps; these are maps that Esri builds and manages...

07:32 ...and we host and deliver to our users.

07:35 There's community maps; these are maps that Esri is building along with our user community...

07:41 ...and hosting ourselves and publishing out to use like our topographic basemap, for example.

07:46 And then there's user maps.

07:47 These are maps that you all are generating with your own data...

07:51 ...you're designing; you're authoring; you're publishing...

07:55 ...and those are in many cases getting registered now at ArcGIS Online through ArcGIS.com...

08:00 ...and they can be mashed up with maps that we provide.

08:02 And as I talk about maps, I think it's useful to think of them in these categories.

08:05 We'll be focused today more on the first two...

08:08 ...but we'll also take a look at some user maps and how those are being blended with maps that we're publishing ourselves.

08:14 With the...with the maps that...that Esri is publishing, there's really these four major categories...

08:19 ...imagery, streets, topographic, and thematic...that we'll...that we'll focus on today.

08:24 Imagery...Esri has been hosting an imagery map for the last three or four years.

08:29 It's the most popular map that we host on ArcGIS Online; it gets millions of requests per day...to the imagery map...

08:37 ...and there's a few changes that have happened to it in the last year that are important enhancements I think.

08:41 A year ago when we met, we actually had three different image maps that we made available...

08:45 ...a free version, a for fee version, a subscription version, and then a community map.

08:51 With our update last December, we blended all three of those maps into one map...

08:55 ...our World Imagery map...that I summarized here.

08:58 And this is the map that's freely available to all ArcGIS users.

09:02 When we blended the maps together, we combined the best available imagery that we had...

09:06 ...including the imagery that was formerly only available by subscription...some of our commercial imagery.

09:11 So, that imagery is now blended into our standard free World Imagery service...

09:16 ...and you can access the submeter recent commercial imagery as part of this...this map now.

09:23 The map also includes a variety of international datasets that we've assembled with partners internationally.

09:30 These are both commercial and governmental organizations...

09:32 ...and with our last update to World Imagery that just happened last month, we introduced coverage for several additional countries...

09:39 ...including Belgium, Netherlands, Luxembourg, Portugal, Czech Republic, and...and so on.

09:45 So, this is the map that's...that's actively evolving.

09:48 It will be adding con...con...content to frequently.

09:52 Our World Street Map...this is our second most popular map, and we've also had this out for a couple years.

09:58 We've been gradually adding content to this map over the last two or three years and continuously updating the content that...

10:04 ...for which we already have coverage.

10:07 So, the map currently is global down to about 1 to 150,000 scale.

10:11 We have more detailed data in certain regions around the world...North America, U.S., Canada, most of Europe...

10:18 ...are covered at 1 to 10,000 scale or larger.

10:21 We have 1 to 5,000 scale in metropolitan areas.

10:24 And then recently, when we updated this map, we added coverage for a few different countries...

10:28 ...working with contributors through our Community Maps Program as Bernie mentioned.

10:32 We've added coverage for several countries listed here.

10:34 And over the next few months, we'll be introducing additional coverage for areas in South America, Australia, New Zealand.

10:42 We're...we've recently completed an update to the World Street Map that's not yet deployed to ArcGIS Online...

10:46 ...but we'll be deploying soon that has expanded coverage in Mexico...

10:50 ...and also some enhanced cartography and data updates in the United States, Canada, and Europe.

10:57 Our world topographic map is our newest basemap.

11:00 We introduced this about a year ago at...at this conference, and it's been rapidly growing ever since then.

11:06 If you attended the earlier session on the community basemap, you would have heard a bit about this...

11:10 ...and if you attended the plenary yesterday, you saw some examples of maps that have been contributed to this community basemap.

11:17 This is a...an interesting map.

11:18 It's really been designed as a basemap on which you would overlay other information...

11:23 ...so it's purposefully designed with fairly neutral colors that allow the overlay layers you might add to this map to really pop on the map.

11:31 It's a collaborative effort with our user community.

11:33 What we've...what we've done is designed a cartographic template for this map...

11:39 ...and then we're working with different organizations around the world to pour their data into those templates...

11:44 ...and then add that to our online basemap...

11:47 ...and you can see a few examples of maps that have been blended from various organizations.

11:51 The status of this map, as I mentioned, it's been rapidly expanding.

11:55 When we met a year ago, we had our worldwide map but only down to 1 to a million; now that's down to 1 to 150,000 scale...

12:01 ...like with our street map.

12:03 Last year, we had coverage for the U.S. down to 1 to 20,000 scale.

12:07 Since then, we've added that same level of detail for all of Canada and most of Europe.

12:12 That happened just very recently.

12:14 And then, where we've been spending a lot of energy is in adding even larger scales for selected areas.

12:20 So, the map design for this world topographic map goes down to scales as large as 1 to 1,000.

12:26 So, you can get very high-fidelity maps...

12:28 ...and I've listed some of the organizations, some of the areas for which we've added coverage down to about that scale.

12:35 And this has been happening on a monthly basis for the past several months...

12:38 ...and will continue on that basis through the remainder of the year, I believe, and then it might...

12:42 ...you know, slow down to maybe a quarterly cycle.

12:45 But this is a very active program and one we're encouraging our users this week to consider and perhaps participate in...

12:52 ...if they'd like to see their online...their content online.

12:57 The last category, thematic maps, is a very broad category of maps.

13:01 Esri publishes some thematic maps of our own.

13:04 This include layers such as our USA demographic maps.

13:08 As many of you know, we maintain a large dataset...has over 10,000 variables, I believe.

13:14 We've chosen some of the more popular...more essential of those variables and created thematic maps out of those.

13:20 I've listed some examples of those here and shown a few examples.

13:23 These are maps that Esri designs and hosts and publish online...

13:27 ...and they're very useful for a...a variety of applications...

13:29 ...where the demographic makeup of the community is important to what you're studying.

13:34 More recently, we've added some new types of maps I've categorized as USA national maps...

13:39 ...where we've been working with a number of federal agencies and other organizations who are compiling U.S. national...

13:46 ...national data...nationwide datasets.

13:48 And we've been authoring and publishing many maps through ArcGIS Online, and we'll see a few examples of those soon.

13:57 So, with that, jump in and...

14:03 So, I'd like to give you kind of a quick tour...show you a few of the things that I have been talking about here.

14:10 So, as I mentioned, ArcGIS Online contains a pretty diverse set of online maps.

14:14 Our World Imagery map is one of the more popular ones.

14:17 It is...the World Imagery map includes a nationwide mosaic for the United States.

14:21 So, you can literally pan from San Diego to Maine and have continuous coverage at one meter or better resolution.

14:28 The imagery that's included in that map comes from a variety of sources...

14:32 ...federal sources, state sources, and local sources.

14:37 And as I mentioned, we've also recently added to this free map...commercial sources...

14:41 ...where we have one meter or better resolution imagery for several hundred metropolitan areas around the United States.

14:49 And this goes down to as large as .3-meter resolution.

14:53 This is an example of some imagery of Petco Park right across the street that was updated in 2009...

14:59 ...and is available now in our...our service.

15:02 This is another example. This is the...this is an imagery that was contributed to us from our...

15:07 ...our San Bernardino County user for the San Bernardino area.

15:11 This is in Redlands, and that's actually the Esri campus in Redlands.

15:16 And the building here...if you've been there, this is a new building...our newest building on the campus...

15:20 ...our new headquarters building...was constructed last year, and this is a picture of that...shown on our updated imagery.

15:28 The World Imagery map also includes international imagery...

15:31 ...and as I mentioned, we've added coverage recently for several countries in Europe...

15:34 ...showing them there on the map with flags.

15:38 Here are a few examples.

15:39 So, if you zoom in, we now have national coverage for the United Kingdom; we've added coverage nationally for the Netherlands.

15:45 You can see an example here in Amsterdam, as well as Belgium...and Germany.

15:55 Our Street Map is a multiscale map, which has detailed coverage for North America and Europe.

16:02 These maps go down to about 1 to 10,000 scale, as you can see here, and even more detailed in metropolitan areas.

16:08 So, you can see, this is an example of the kind of cartography and data layers that we maintain in this map...

16:15 ...and in metropolitan areas, it includes features such as building footprints.

16:19 In our updated map that will be coming out in the next few weeks...

16:22 ...and we also have parcels that have been blended into the map for most of the United States.

16:30 I mentioned that we've added coverage to this internationally through our distributor network.

16:34 Here are a few examples of that.

16:35 So, one of the ways we're looking to expand coverage in the street map is by working with local source providers in individual countries.

16:41 And we typically do that working through our Esri distributors in each of those countries.

16:46 And here are a few examples of maps that have been...the result of that process.

16:49 In this case, our distributor in Japan assembled national datasets from their national government.

16:55 They used the map templates that Bernie was talking about before, and I'll show you an example of later.

17:00 They poured that national data into our...our street map template, in this case, and they authored the map...

17:06 ...and then generated cache and shared that back with Esri...

17:08 ...and we've published that and integrated it as part of our online basemap.

17:12 We went through a very similar process with our distributor in Hong Kong who built a very nice map...

17:18 ...and I think this one's interesting in that they've done a good job of making the map useful for a very broad audience...

17:23 ...where they've combined both local language characters and Roman language characters...

17:29 ...so it's accessible to not only the local user community but to the international community as well.

17:34 And Thailand has done similar work in that vein...working with the street map template and local datasets.

17:41 So, lastly, I'd like to talk about our World Topographic map a little bit.

17:44 So, this is, as I mentioned, our newest map and the one that we're doing the most active development on...currently.

17:50 We have coverage for this map nationwide down to 1 to 20,000 scale...

17:53 ...similar to what you'd see with a traditional topographic basemap.

17:56 But, what's different about this map is it's combined...compiled from vector and raster sources.

18:02 So, this map includes current year information for layers such as streets...

18:06 ...that have been authored and blended into this map product that we're providing.

18:12 For the United States, we go down to this, but...this scale level nationwide...

18:17 ...and we've recently added that level of detail for Canada, working with our ESRI Canada distributor.

18:25 They did something similar to what we worked with in the United States where they...they downloaded our map templates...

18:30 ...they worked with local organizations in Canada, such as Natural Resources Canada, using their CanVec dataset.

18:36 They blended that into our map template, and they've built a nationwide basemap down to 1 to 20,000 scale for Canada.

18:42 It's now been blended into our map.

18:44 And then recently, we did something very similar to that for Europe.

18:48 Using a variety of government and commercial sources...

18:51 ...we've built nationwide coverage down to about 1 to 20,000 scale for Europe.

18:56 There's still an opportunity to enhance this map with more detailed local data on a country-by-country basis...

19:01 ...but we wanted to provide a solid foundation of coverage in Europe where a lot of our...our requests come from...

19:06 ...where there's a lot of interest in the map, so we've recently added that to the topographic basemap.

19:13 More interestingly for some of you is the more detailed data that's been added to the world topographic maps.

19:17 So, one thing that's unique about this map is its level of detail.

19:20 It does go down to about 1 to 1,000 scale...

19:23 ...and we've added coverage at that level of detail for several areas around the United States and outside the United States...

19:29 ...over the last several months.

19:32 These maps go down to...large scales such as this where you can look at more detailed features...

19:38 ...including building footprints, lidar elevation, detour...

19:42 ...detailed one-meter and five-meter contour lines, land use, classifications, vegetation.

19:48 You can see in this map there's examples of vegetation that have been blended in.

19:52 That vegetation's been extracted from imagery, so it actually reflects the vegetation on the ground.

20:00 This level of detail has been added for a number of areas; I'll show you a few examples...New York City.

20:05 We were looking before at the...at the north end of Manhattan.

20:08 This is downtown New York where you can see some of the detail that's been added.

20:14 Washington, D.C.; the district themselves did a very nice job, I think, using the...the map template.

20:20 They downloaded the template; they applied it to some really rich data that the district compiles for Washington...

20:25 ...and they made some adjustments to it based on the type of data they have, and they built, I believe...

20:30 ...a very nice basemap that we now have for our...our capital that reflects many of the features that we're all familiar with...

20:37 ...and provides a nice foundation on which to overlay other types of data.

20:40 I think Bernie might show some examples of that later.

20:42 San Francisco was another city with which we partnered to add detail.

20:48 Here, we're looking at the area around Golden Gate Park, and you can see some of the detail that's been added.

20:52 So, for all of the city, we have this level of detail where there's detailed footprints...

20:56 ...and street centerlines and elevation for selected areas.

21:00 In some of these cities, we've added even more detail.

21:02 In Golden Gate Park in this example, they added some more detailed information and added things such as trees...

21:09 ...which were compiled specifically for it along with local facilities in the park.

21:15 So, it's an example of what can be achieved with the templates.

21:18 Not every city is going to have the level of detail needed to support this type of mapping, but...but it's an ex...example of what can be done...

21:26 ...and then based on available datasets, we can create maps that are appropriate.

21:33 Here's another example...in the national parks...some more detailed coverage is being added to the national...

21:38 ...to the nationwide map for the topographic map each month.

21:41 Some recent ones that we've added are for Toronto, Canada.

21:44 So ESRI Canada, in this case, worked with the local provider and they assembled various datasets for Toronto.

21:50 And that's been blended into a nice map as well.

21:52 You can see some really good elevation data, for example, that they've added with detailed contour lines.

22:00 Hong Kong, in addition to the street map, has also produced a very detailed basemap, and this was of particular interest to them.

22:06 Hong Kong is an area that is highly dense compared to most communities.

22:09 And looking at a map at even 1 to 5,000 scale, which is a very large scale, isn't adequate really to show the features in Hong Kong properly...

22:17 ...because the...the density of the building footprints is such that you really need to work at larger scales.

22:21 So, they were anxious to have a basemap that could take them in to scales as large as 1 to 1,000...

22:26 ...and the World Topographic map gave them a mechanism to do that.

22:31 And then, lastly, the area where we are now, we recently added coverage for San Diego, working with SANDAG and SanGIS...

22:38 ...who made av...available several layers that they maintain and we publish that, and then in the convention center area...

22:43 ...we added a little extra detail, given our familiarity with it, so you can see a pretty nicely

artistic rendering of the...

22:52 ...of the convention center and the surrounding facilities.

22:58 ArcGIS Online also features maps from other providers.

23:01 Bing Maps are one of the most popular maps that...that are available through ArcGIS Online, ArcGIS.com.

23:06 And last year, we introduced Bing Maps as being available for desktop users, so ArcGIS Desktop users can access Bing Maps freely.

23:13 This year, we've announced that as you upgrade to ArcGIS 10...

23:16 ...that will also be freely available to ArcGIS Server users for your internal or external noncommercial use.

23:22 So Bing Maps are part of ArcGIS Online.

23:24 They're available for you to use in your ArcGIS applications, and that includes the roads layer that we're looking at here...

23:30 ...as well as their imagery and hybrid layers.

23:35 As I mentioned, ArcGIS Online, in addition to these basemap includes other types of maps, such as thematic maps...

23:41 ...and here's an example of a few of those.

23:42 So, this is a good example of a pattern that we'd like to see our users following where we've combined layers of information...

23:50 ...such as demographics or land cover or soils, other thematic layers, along with basemaps that we provide.

23:57 In this case, we've...we've authored a map that combines this thematic layer with a terrain basemap with reference layers.

24:06 We like to think of this as a "map sandwich" where you can take a base layer and some overlay layer...

24:10 ...and insert other layers of information like layers of meat in a sandwich and see different types of maps.

24:17 So, this is an example of that being done with one demographic variable.

24:20 In this case, it's unemployment...recent unemployment statistics, but it can be done with others...

24:24 ...where you swap out the thematic layer with other layers of information.

24:27 In this case, we're looking at home values.

24:31 ArcGIS Online mentions...also features a number of...of other national maps.

24:36 As I mentioned, this is an example of the USGS scanned topographic maps that are available.

24:42 So, these are offered and available through ArcGIS Online is...in addition to the topographic map we looked at before...

24:48 ...which is rendered from a variety of vector and raster sources.

24:50 So, for many applications...outdoor recreation applications...this type of basemap is very useful...

24:56 ...and it contains a...a great wealth of detail on the maps that are useful to have available.

25:04 There are other types of thematic layers that are available now through ArcGIS Online that are coming from a number of different sources.

25:08 I just wanted to show you a few of those.

25:10 This is an example of the land cover map that's been published through ArcGIS Online, and you can mash up.

25:16 We also have real-time datasets, such as national weather warnings, that are available.

25:24 And others such as wind speed that are coming from different sources.

25:30 Protected areas are a dataset that's been made available from the federal government, as well as natural hazards.

25:36 This is an interesting one. You can see this is a real-time service that's being updated every five minutes.

25:41 It contains various types of natural hazards; you can see wildfires here in the...in the mountain areas.

25:47 You can see there's been a little bit of earthquake activity here in Southern California, and you can also see some other events.

25:52 These are most likely flooding events...in this...in the Midwest.

25:57 ArcGIS Online also now includes the National Map.

26:00 The USGS National Map team has registered national map layers that you can access through their Web...their Web site through ArcGIS Online.

26:07 So, you can create mashups of national map layers in ArcGIS Online along with your own layers.

26:13 Many of the layers that we're looking at are coming directly from source providers, such as federal agencies...

26:19 ...who are hosting those datasets themselves and serving them out...

26:22 ...and they've registered them with ArcGIS Online so that they can be discovered and accessed.

26:27 Other layers are being compiled by Esri, and we're adding to the maps ourselves...

26:32 ...layers such as federal lands and congressional districts.

26:38 Recently, we've had a number of major events that have...that have come up...

26:42 ...and Esri has assisted in some of the relief, recovery activities for it.

26:46 So, we have some examples of maps that have been produced for different events.

26:50 For the Haiti earthquake, we were compiling a variety of datasets, including imagery, that was added into the ArcGIS Online system...

26:57 ...so you can see imagery that was captured shortly after the earthquake that showed some of the destruction...

27:03 ...and some of the relief efforts that were ongoing at the time.

27:06 These events as they happen, Esri sends up a response team, and part of that response typically is publishing online information...

27:14 ...including maps, imagery, other layers of information.

27:17 Similar things were done for the Nashville floods that happened recently...

27:21 ...where there were several feet of flooding in the Davidson County-Nashville area.

27:26 Imagery was collected by the county government right before and right after that event, and they shared that with Esri...

27:33 ...and we were able to publish a map that showed some of that, so here you can see an example of Opryland USA...

27:37 ...one of their major attractions, which was under about six feet of water for several days.

27:44 And then, more recently, with the...the Gulf of Mexico oil spill, there's been a lot of interest, of course, in that event...

27:50 ...and there's been a lot of need for information related to that...

27:53 ...and so we've been hosting some information that's been made available to us by NOAA and other organizations...

27:58 ...including trajectory information; forecasts for the oil spill itself...

28:04 ...as well as the boundaries, the fishery closures, and other information.

28:10 So, if you'd like to learn more about these maps and discover other maps, you can do that through ArcGIS Online...

28:14 ...which Bernie will do here shortly.

28:18 Okay.

28:23 Before I hand it over to Bernie, I wanted to cover a couple last things.

28:27 Oops.

28:33 Get back to where we were.

28:39 So, the Community Maps Program...we have a whole separate section on this.

28:42 Some of you may have attended the first session we had this morning where we talked about our Community Maps Program.

28:46 This is really a program that we have that helps enhance the quality of the online maps that we were looking at...

28:52 ...specifically, our World Topo map, our World Imagery map, and our World Street Map.

28:56 If you have content that you think would be useful to include or would improve upon those maps that you'd be willing to share with Esri...

29:03 ...and have us publish online and make freely available to all the user community, this is a program through which you can do that.

29:09 If you'd like to learn more, there's another offering of our Community Maps session tomorrow morning in this room that you can attend...

29:15 ...or you could visit us at the Online Island to get more details.

29:19 As Bernie mentioned, one of the ways we add content to the map is through map templates.

29:24 Templates are a way of encapsulating our best practices and our cartographic design for the maps that we produce...

29:31 ...and we have them available through online Arc...ArcGIS Resource Centers that you can go to at this URL.

29:37 When you go to the Resource Center, you'll see a gallery of templates that are available...

29:41 ...templates such as the topographic map template you see here or street map templates.

29:45 If you download that template, what you get is a map document, an MXD, that references some source data...

29:51 ...sample data for an area of interest, and then has a set of symbology that's been applied to that...that data.

29:57 And that symbology is encapsulated in style files.

30:00 So, if you were interested in creating a map like our street map or our topographic map, you could download the template...

30:06 ...see exactly how that cartography was defined, what layers were turned on at what scales, what symbols were used...

30:12 ...had those symbols for you, and then you could apply that to your own data if you like and

design the map in a similar look and feel.

30:18 As I mentioned, that's what our partners have done when they've added content to our street map or our topographic map...

30:24 ...and then they've shared the results of that back with Esri for us to publish online.

30:30 A few people have asked about kind of the infrastructure we have for delivering maps, so I have just a couple slides on this.

30:35 If you're looking to publish content yourself online and...and are looking to do that in a high-availability, high-performance way...

30:43 ...that's something similar to what we've done with ArcGIS Online...

30:45 ...so I just wanted to give you just a little bit of an overview of what we've done for the...

30:48 ...the system that we've deployed to support ArcGIS Online.

30:51 When we started deploying ArcGIS Online a few years ago...

30:54 ...we thought about what the requirements were for the system we would use to deliver those maps.

30:58 And this summarizes some of the requirements we had in mind.

31:01 We wanted to support users in a variety of application environments...desktop, Explorer, Web applications.

31:08 We wanted to support up to a thousand or more concurrent users, so users simultaneously making requests...

31:15 ...we expected as many as a thousand or more simultaneous type requests, so that was our capacity requirement.

31:22 We wanted to support very high availability; we wanted 99.9 percent availability or better with 24 by 7 support.

31:29 We wanted high performance.

31:30 It was important to us not just that maps look good and be there but that they performed well...

31:35 ...so users would feel comfortable using them, wanting to build them into their applications.

31:38 We wanted subsecond response time on the core maps that we provided.

31:43 And then we wanted flexibility.

31:44 We wanted to be able to deploy additional maps over time and update those maps fairly frequently.

31:50 So that system that we designed to support those requirements is summarized here.

31:55 We use ArcGIS Server to publish the maps that we serve through ArcGIS Online...

31:59 ...so you can connect to ArcGIS Online servers just like you would any other ArcGIS server instance, including your own.

32:06 We have to support the availability and the capacity...we implemented redundancy into the system...

32:12 ...so just like we have redundancy into our screens, we have redundancy into our servers cause sometimes something doesn't work.

32:18 Sometimes it doesn't work intermittently.

32:21 So, we have redundancy built into our server environment as well...multiple instances of everything.

32:27 We have...one of the unique requirements of our maps is the network consumption.

32:31 Because we're serving out many millions of maps a day and we're supporting numbers of simultaneous requests...

32:37 ...we consume a lot of bandwidth to do that.

32:40 And so there was need to support that.

32:41 And that was probably the most significant issue we had to overcome...was supporting high bandwidth.

32:46 So, we do that through partnerships with AT&T and Akamai, a company you may not be familiar with.

32:51 I'll talk a little bit about the support delivering high-performance and high-bandwidth capacity.

32:57 On the back end of the...of the online system, we built what's kind of...some people think of as ArcGIS Online in a box...

33:04 ...where the content that we publish...the map caches we generate are all stored on a network device...

33:11 ...that we can plug into our network and serve from, such as this...

33:14 ...and we've actually productized that as something called the ArcGIS Data Appliance.

33:19 There's a separate session on that where you can learn more details.

33:21 The reason I mention it is for organizations that are on private networks or secure networks that want access to the online content...

33:28 ...but don't have Internet access to do that, we do have a method through which that can be done, and it's through this Data Appliance.

33:35 And that's the same technology we use to power our own system.

33:39 So, this is kind of a simplified architecture of the ArcGIS Online mapping system where starting from the left are users like yourself...

33:47 ...who are making requests to ArcGIS Online to retrieve maps.

33:51 Those requests go through the network, through a partner of ours called Akamai that's doing some network acceleration.

33:57 Basically, they're running races from our users' locations to our server locations...

34:02 ...and trying to figure out the most optimal network path to take the user down to avoid any congestion...

34:07 ...and then get the users to our servers as quickly as possible.

34:10 Once you get to our servers, your requests are routed to one of multiple Web servers that are supporting the requests.

34:17 Each of those has an instance of ArcGIS Server running on them and those...those Web servers...

34:22 ...ArcGIS servers, are connected via the network to one of these Data Appliances that support the actual requests and store the data.

34:29 We have well over 30 terabytes of data that we host on ArcGIS Online many times over.

34:35 So, we've got a lot of storage capacity and...and that's what's needed to serve the various types of maps that we have today.

34:42 Just one quick point on the...on the acceleration...

34:45 ...this is of interest to some users, especially international users.

34:49 One of the things that Akamai does for us that's interesting beyond the...kind of running races and getting you efficient network paths...

34:54 ...is they store, in many cases, local instances of tiles, so if you're...you're a user in Paris, for example...

35:00 ...and you connect to ArcGIS Online and you zoom in to some imagery for Paris...

35:04 ...that imagery is stored temporarily on the server that Akamai connected you to our service through.

35:10 So, there's a server in Paris that you're connecting through when you connect to ArcGIS Online...

35:13 ...and it has a memory of some information that's been retrieved through that server.

35:17 The next user in Paris who connects to the ArcGIS Online and maybe requests the same thing doesn't even need to go to our service.

35:22 They'll connect to that local server...

35:23 ...so they'll get really good performance in those cases cause they're not even reaching out to our servers.

35:30 So, with that, I will shift gears and hand it over to Bernie who will talk about using ArcGIS Online...

35:35 ...some of the content we've...we've seen...how that can be applied in your daily work and accessed.

35:42 Okay. Thanks. Thanks very much, Deane.

35:46 And...we're going to begin our tour here of ArcGIS Online.

35:50 We're...we're going to explore the ArcGIS Online ecosystem a...

35:52 ...a little bit and look at the different ways that you can experience it and...

35:56 ...and how...how it can be used in a variety of different products.

35:59 And, I'm starting here at ArcGIS.com.

36:03 And, it looks like many of you visited this site.

36:05 One way to think of this site is that it's the newest component of the ArcGIS system...

36:11 ...and it's one way that you can begin your online GIS experience.

36:15 And when you visit this site, an interesting place to go directly is...is the Gallery.

36:21 And this is a gallery of featured maps and applications that have been published by Esri and also the user community...

36:28 ...and these are rotated frequently, so they're...they're always being updated.

36:32 And here's the gallery of...of maps.

36:34 I'm on page 2.

36:36 As...as I find something of interest, I can hover over it and learn a little more about it.

36:41 I can see that this map here has been...been highly rated.

36:44 Let's check out this map. This map has three ratings. It's also highly rated.

36:49 If I'm interested in...in more, I can click on Details, and I can view detailed information about that map and learn more about it.

36:56 And one thing that happens with every map is that the source layers that have been used to create the map are also preserved in the description.

37:06 So, if I click on any of these, I will go back to the Services directory for that layer of service.

37:13 And the Services directory is automatically generated by ArcGIS Server, and this description is at the root of the service.

37:22 In other words, this is coming from usgs.gov RMGSC...anybody know where...where that might be...Rocky Mountain...

37:30 [Audience comment] Science Center.

37:31 ...thank you very much...the Rocky Mountain Geographic Science Center.

37:35 So, this is the source documentation for the service coming directly from the Rocky Mountain Geo...Science Center.

37:43 So, all those are here in the description.

37:45 Back at the gallery again, there's other things that I can explore.

37:49 There's Web apps and here's an interesting one...My Environment.

37:54 We can open this up.

37:55 What's the difference between a map and an app?

37:58 The way I think about it is a map is kind of meant for general geographic exploration...

38:04 ...and an application has a specific task or purpose in mind.

38:07 So, it's designed to support a workflow or presenting information about something in particular.

38:14 So, there's an...there's an app there, and you can peruse these, and there's also mobile apps as well.

38:19 So, there's a variety of ways that you can take a look at those.

38:22 Back at the maps gallery, there's other ways we can look for things.

38:26 I can click to view the highest rated, and currently the winner is the Pennsylvania Fish and Boat Commission map.

38:33 And...we can explore this also.

38:36 So, this has been authored by someone nb2far, whoever that might be.

38:43 Hopefully, if we're lucky here, the user has created a profile, and yes they have.

38:46 Excellent...for them.

38:47 So, this is a good example of a user that's contributed content and has taken the extra time to flesh out their user profile so we know who they are.

38:56 Let's take a look at some other content.

38:58 This one here looks a little suspicious because I don't see a thumbnail.

39:02 So, right away, I'm a little suspicious about the content.

39:05 Kenny Ling, if he's here? I'm not...meaning to...to pick on you...

39:08 ...but he has no description available for who he is, so this might be a user just experimenting, just trying things on for size.

39:15 A lot of the content here, I think, will be like the Web.

39:19 So, the Web has lots of different content.

39:20 How do we identify which is of most use for us or which is authoritative?

39:25 We can do that by the ratings, and we can do that by sticking with users that we're familiar with.

39:30 For example, I'm already trusting this user, because they've done a good job, good thumbnail, good description.

39:37 I can view their items by clicking in their description and view other items that they have shared.

39:42 So, again we're going to, in this case, more trusted resources to find things that I...I might want to use.

39:49 Now there's other ways that we can take a look at what's been contributed by the number of views and also by the date.

39:55 And I often check the date just to see who's the latest map and...

39:59 ...Jeremy, we know, is on the ArcGIS Online...on...on the team, so he must be doing demos or something in the demo theater.

40:06 He saved a couple of maps.

40:08 And you can see some of the other recent editions.

40:10 But this is kind of interesting because you can see what's been happening lately.

40:16 Let's move on now to other ways that we can search for content.

40:19 One way is just by typing in a keyword.

40:22 So, I can type in, say, keyword golf.

40:25 And notice here the choices. Search for all contents; search for maps, apps, tools; and also search for groups.

40:31 And I'm just going to accept the default, and we'll type in a search string...and I see here the hits that match that search string...

40:38 ...and I can...I can use that...the search actually parses through the names and the description and the tags...

40:44 ...so it weights those differently but it comes up with a list based on what you've typed in.

40:50 Now one thing I would like to point out is that when we do a search or when you first visit this site...

40:58 ...the search is set to do Web content only, which means that I'm only going to find content that I can open up directly in my browser.

41:07 If I'm interested in layer packages or map documents or add-ins or things like that, I'm not going to find this.

41:13 If I click All Content, we'll see that things change a little bit here in my search results...

41:20 ...and I find more because I'm not just finding Web content, I'm finding all content.

41:25 And what this does is, this also leads me to a point I'm going to make is that...

41:29 ...ArcGIS Online is reflected in the context of the application that you're using.

41:34 So, if I'm using ArcMap and accessing ArcGIS Online, I'm only going to find things I can use in ArcMap.

41:39 If I'm using a Web app and searching ArcGIS Online, I'm only going to find things I can use in that Web app.

41:44 So, it's based on the context of the application itself.

41:49 Now, let's go back to ArcGIS.com...and let's explore a couple of other things.

41:54 First, I'm going to sign in...just to do this.

41:57 And anybody can sign in...if...those of you...many of you seem to have already done this.

42:03 But all you need is an Esri user account, and anybody can get a user account. They're free.

42:07 But you do need to register it once you get your user account...

42:10 ...to accept some additional terms and conditions and then you can sign in.

42:14 So, here's my account, and I've got two maps currently in my account.

42:19 Now let's go back to ArcGIS.com...and let's search Groups.

42:23 Now because I've signed in, I see a list of groups that...pardon me...I'm a member of or that I have been invited to join...

42:31 ...and groups can be public or private, and they can be membership or nonmembership based.

42:37 These are...most of these are groups that I've authored or created.

42:41 Here's a group by W. F. Collins, and he's invited me to join, and I can open up that group, and I can learn more about it...

42:49 ...and I can also look at the additional content that's been shared in that group.

42:55 We'll take a look at group content a little closer in just a moment, but I did want to highlight a couple of other groups.

43:00 Off here on the side...these are groups that are not membership groups, so you can't ask to

join them...

[43:06](#) ...but they are groups that serve to organize content.

[43:09](#) So, here's the Esri Maps and Data Group, which contains basemaps and reference map layers...

[43:14](#) ...which are useful for you in building your own maps.

[43:18](#) You get a little more detail about those by clicking on the detailed group description, and there's lots of links you can follow.

[43:24](#) But this is a group that's...has lots of content from Esri and, as you might expect, there's a good profile, and so forth...

[43:32](#) ...another indication that this is a trusted resource.

[43:35](#) Another trusted resource is a group called the National Maps for U...USA Group...

[43:40](#) ...and this an Esri curated group, which means that we've been working with our federal government users...

[43:46](#) ...and helping them establish an online presence with their content.

[43:49](#) The data that you see here...the content you see here has been contributed by the federal user community...

[43:55](#) ...and it includes NOAA; there's data from the National Map, USGS, EPA, and others.

[44:00](#) So, these are all authoritative sources for you to bring into your map and...and do more with those.

[44:08](#) So that's a quick tour of groups and how content can be searched and things like that.

[44:14](#) One of the primary focuses of this site or a...a focus of this site is to be able to make a map, and that's what I'll do now.

[44:21](#) When I click the Make a Map button, I open up the built-in ArcGIS.com Viewer...

[44:26](#) ...and it opens up with the topographic basemap as the default map...

[44:30](#) ...and I can choose from any of the other basemaps by opening up the Gallery...

[44:34](#) ...and can just choose one from the Gallery and begin doing my work from there.

[44:38](#) And I'm going to stick with the topographic basemap for now, and what I'd like to do is I'd like to make my own map...

[44:44](#) ...create a mashup, find other services, and add them to my map, so I click the map...or Add button...

[44:50](#) ...and I can add content that's in...or has been shared on ArcGIS Online.

[44:54](#) I can do an open Web search, or I can connect to a specific GIS server.

44:59 And, because I've signed in, I also see the groups that I'm a member of, as well.

45:03 So, let's do a couple of...a couple of searches here.

45:07 Let's search the open Web, and let's just look for fire...data, or actually let's look for weather first...

45:14 ...look for weather data, so I just type in weather, and here's a list of things that have matched that...

45:20 ...and I'm familiar with this one already; this is the Ridge Precipitation Radar, and when I click on it, I can view a little thumbnail.

45:28 And I can also examine its details, and I can explore its server, which means it'll take me back to the Services directory...

45:36 ...or I can just go ahead and add it to my map, and this is live weather radar that I've...I've added to my map here.

45:43 Once we've added something, we can go back to the Details tab, and I can click on my Show Contents...

45:49 ...and here's the contents, and I can adjust things like the transparency, so I've got a little slider which lets...lets me adjust that.

45:55 I can move it up and down in order, view a description, and I can also remove it, which is what I'll do here for now.

46:03 Let's go back to Add.

46:05 In this case, what I'd like to do is I'm going to search...I'm going to search ArcGIS Online and let's look for fire data.

46:13 Now California has lots of fires, and 2007 was a particularly bad year and after that fire, there were a lot of mud slides.

46:21 Because of the denuded areas when the winter rains came, there were a lot of mud slides.

46:25 So my scenario here is I want to make a mud slide hazard map.

46:29 And here I find some content, and there's lots here published by all sorts of different people.

46:35 If I want to refine things, I might want to stick within one of the groups that I belong to...

46:39 ...my California Maps and Apps Group, to refine that, so groups can serve as a way to refine your search.

46:47 Oh, here's something interesting. I wanted to...to highlight this as well.

46:50 So, let's take a sidetrack from the fire for a moment.

46:53 Actually, this could be applicable.

46:54 Here's a service published by the California Atlas, and this is live street conditions throughout

the San Diego area.

47:03 It might be useful if I'm planning evacuation routes.

47:06 And I'm get...thinking that my point is that there's lots of content available that you can browse from and choose.

47:12 But let's go back to our fire history. Here's California fire history.

47:16 I can click it, view a little thumbnail, and add that to my map.

47:20 And this is a nicely designed service.

47:23 It has points as I'm zoomed out, and as I zoom in, you'll see these points turn into polygons as they reach a certain size...

47:30 ...and these represent the fire perimeters that have occurred in...in California.

47:35 You can see there's quite a few.

47:37 Now, I'm interested in...going to a specific place.

47:42 I'm going to search for Altadena, California, and this search uses the Bing search, so it's an excellent geocoder and gazetteer...

47:50 ...as well as I can type in...just a sort of place-names as...as well or significant areas which you might see on the topographic map.

47:59 So, I've typed in Altadena, California, and I can see the edge of the Station Fire, which was a particularly big fire in this area.

48:07 Now, this area here is...is interesting to me because it looks like there's a little pocket.

48:11 I can tell from the contours that this might be a hillside area and therefore might be...lend itself towards mudslides.

48:19 But I can't really tell if there's many house here; I see some streets but I'm not sure.

48:23 But that's where I can leverage these additional basemaps here.

48:26 So, let's choose the Imagery basemap and add that and, indeed, I can see that we do have a...a number of houses here...

48:33 ...and this could be an area of concern for me.

48:37 Okay. So, let's just say I'm done with my map here; I'm happy with what I have, and I'll click Save.

48:42 I have to give it a title...call this my Altadena Fire Map, and I also need to provide some tags and a brief summary...

48:52 ...and I'm going to take some shortcuts and just copy and paste here and save my map.

48:57 And when we save the map, we're not copying any data; we're...in the background, we're

generating a thumbnail of my map...

49:02 ...and we're also creating a...at least...the beginnings of that description of the content.

49:08 So, when I view my content, here's the Altadena Fire Map that I just authored, and we have a little thumbnail...

49:14 ...and I've got all the layers that I used to create that map.

49:18 I'm missing a description.

49:20 Some of that would have come from the layer descriptions here, but what I might want to do here is...

49:24 ...continue to flesh this out by adding a more detailed description.

49:28 And I...I...I won't do that here to save time, but you understand you just edit this and off you go.

49:35 You can also change the thumbnail if you like as well.

49:38 But the important thing I want to do is share this map.

49:41 And my options are...I can share this with everyone, meaning that anybody can find this...

49:45 ...or I can restrict its discovery to members of certain groups.

49:50 So, here's my California Maps and Apps Group.

49:53 So, I can say, only members of this group are going to be able to find this map.

49:57 Or, I could say, well, I'm going to organize it in this group because it is a California theme...

50:02 ...but I'm also going to make it publicly available so anybody can find it.

50:06 I'll go ahead and do that...so different ways we can organize things.

50:09 Now, if I go look in my groups...in my California Maps and Apps Groups, that's where I shared this...

50:16 ...and there's my Altadena Fire Map that's part of that group.

50:19 And, again, groups can be public or private.

50:21 Let's just make a group real quick, and let me point out a couple things to you.

50:25 And I won't complete this group, but one of the choices here on the right is you can make it public and enable users to apply to join...

50:33 ...meaning that people can find your group and they can send you a little message and say, "I'd like to join your group."

50:39 Or, you can say, no, it's...it's...it's going to be public, but no membership; I'm just going to publish stuff here...

50:44 ...and other people can find it and use it, or you can make a group private.

50:48 So, that's how that works.

50:49 Let's go back to the...ArcGIS.com, and let's look for my Altadena Fire Map, and I can now type in a search string...

50:57 ...and I can discover it; other people might be able to rate it.

51:00 One of the interesting things now is that a map is not just a map.

51:03 A map is the foundation for sharing our work, and I can open this map in other applications, like ArcGIS Explorer Online.

51:11 Now, ArcGIS Explorer Online is a new application.

51:14 It's similar to the desktop downloadable version, which you might already be familiar with...

51:20 ...but it's a lightweight version that runs in the browser, and it's implemented using Microsoft Silverlight.

51:28 And, as we open up this application, we'll see the same map that I just authored in the ArcGIS.com Viewer is now openable...

51:35 ...we hope, here in ArcGIS Explorer.

51:40 So, we seem to be having a little Internet...trouble here.

51:46 Let's try this one more time.

51:48 So, here's the Altadena Fire Map; let's try opening that up in Explorer Online again.

51:54 There we go.

51:57 And there... there's our fire map with the same basemap and the Station Fire perimeter.

52:02 There it is. So, there's our map.

52:04 Now, this is a little richer client; it has some additional capabilities over the JavaScript Viewer...

52:09 ...and one of the things I can do is I can do a little bit of markup here using something called Notes.

52:13 So, I can kind of digitize around this perimeter; if I click, I can edit the shape, and I can do things like edit the little vertices so I can...

52:23 ...edit it...I can improve my digitizing around the fire area and then I can also add some other content to it.

52:31 So, I can give it a description; I'll call this My Area of Concern...and...that was my title, and let's give it a description here.

52:39 I'll just kind of flesh that out just a little bit, and I can also add online content.

52:44 And let's search for...let's see, we're interested in mudslides, so I'll just do a Google search for mud slides.

52:50 Here's an interesting image; let's grab the URL for that, and let's see, we'll go back to...oh, pardon me...

52:57 ...we'll go back to ArcGIS Explorer Online and paste that in there and now we've got a cool little note.

53:03 And you can add videos and things like that, so this is a way to attach non-GIS stuff to your map.

53:10 Now, Explorer also has the capability to create what are called presentations.

53:14 Let me turn off My Area of Concern.

53:16 Now, let's turn off my California real-time traffic, and let's turn off my California fire history and let's zoom out.

53:22 Let's create a title, and this will be All about Mud Slides, and we'll capture that slide.

53:32 Now, let's zoom in to My Area of Concern; I can have that off, Ron.

53:35 Let's turn it off first, edit it; this is an area of concern, and we'll go ahead and capture that as a slide.

53:45 Maybe we'll turn on the note, and we'll capture that, and we'll also open a note pop-up and capture that.

53:50 You get the idea.

53:51 Now, we have a presentation that is based on an online map, and I can share this with anyone by sending them the link.

53:57 When they get the link, they'll get a little notice that there's a presentation in what I sent them...

54:02 ...and they'll see exactly what we see here, and they'll be able to play back the presentation and see what I've just done...

54:07 ...and also because this is different than PowerPoint...it's not just captured images...

54:12 ...it's a live interactive map that they can continue to explore and do other things with.

54:16 So, all sorts of very interesting things that you can do here with ArcGIS Explorer Online.

54:22 Now, up at the top here, you'll see that there is an ID; when we save a map, there...the map has an ID.

54:30 And a...a new thing that we're about to introduce are these templates...which I'm not quite sure whether they're online or not...

54:37 ...but if...I can use that ID and pass that as a parameter to these templates, and here's that Station Fire map now in a custom map template...

54:47 ...that I can continue to refine further.

54:50 Let me copy and paste that again and show you another template.

54:54 Whoops.

54:57 Okay. We won't show you another template.

54:58 But there's a number of other ones.

55:00 Another interesting thing you can do is when I go back to...pardon me for jumping around...

55:05 ...let's open up this map again in the little JavaScript Viewer.

55:09 When I click Share, I can share the link with someone, or I can grab this...this is the HTML chunk that I can copy and paste.

55:21 I'm doing all the hard work for us here.

55:23 And what I'm going to do is...this is this Web page here, so here's this Web page full of Lorem ipsum dolor...

55:31 ...and let's go back and here's the index out of HTML and let's go ahead and open this in Notepad.

55:38 And...ahhhh okay; it's just a Web page; don't be scared.

55:44 And I'm just going to go ahead and paste that in there, and we'll go ahead and save that...

55:48 ...and now let's go back to that Web map and let's do a refresh and...

55:55 ...shazam. There's my little online map now in my Web map.

55:59 So, this is very cool because we can make a map anywhere and use it anywhere in a number of different ways.

56:05 And let me show you just a couple of other final ways.

56:08 This is ArcGIS 10...ArcGIS Desktop...oops, I'm sorry; that's ArcGIS Explorer.

56:13 This is the desktop version of Explorer, and it also has ArcGIS Online built in.

56:18 But let's go to ArcGIS 10 first.

56:20 So, here I am in ArcMap.

56:21 And I've begun a fire map of California using local data, but ArcGIS Online is now embedded into my user experience...

56:28 ...so I can add data directly from ArcGIS Online.

56:32 I've already signed in, so I can find my California Maps and Apps Group...

56:36 ...and I can find that same California fire history service that I had added earlier, and now it's been added to my map.

56:48 There we are. So, you recognize those little...triangles there.

56:53 Let me turn off some of the other data, and as I zoom in to ArcMap, you'll see once again that we have the fire perimeters there.

57:00 Now also built into my ArcGIS Desktop experience are all of the basemaps now.

57:05 So, I can choose, say, the topographic basemap or the imagery basemap, and I can do more with this in...in Arc...ArcMap now.

57:13 So the basemap is being added into ArcMap, and it's the same basemaps that Deane had provided such a good tour of earlier.

57:21 Now, the other way this works is kind of going backwards...or not backwards, but going the other direction.

57:26 Let's zoom to this layer, and this layer's a little analysis that I did.

57:31 I just buffered the Station Fire perimeter to show areas that are within proximity to the perimeter that might be hazards...

57:39 ...slide hazard areas.

57:41 And what I can do is I can create a layer package for this, and I can create a layer package as a stand-alone file...

57:46 ...or I can upload it directly to my ArcGIS Online account, and that's what I'm going to do.

57:51 Now, a layer package encapsulates the data as well as the cartography...in...it's...in other words, the layer file...

57:59 ...into a little shareable package, and I can share that with others as a file, put it on CDs...

58:04 ...or I can upload it to my ArcGIS Online account, which is what I'm doing here.

58:08 We're creating the layer package, and in just a second, this layer package will be pushed into my ArcGIS Online account...

58:15 ...and I...I chose to share it with everyone, so now anybody can go to ArcGIS Online...

58:20 ...or anybody can browse ArcGIS Online from ArcMap here...

58:24 ...and they're able to find this result of my analysis and can now discover it and...and use it.

58:32 And maybe just to prove that very quickly, let's...let's go back here...to ArcGIS.com...

58:42 ...and I think I called that My Fire Analysis.

58:48 Alright. It was the...should be the most recent one, so let's click Date.

58:51 Oh, and I have to choose the All Content.

58:54 There we go.

58:55 So, now we should find out...there's my slide hazard zones that have been shared up on the ArcGIS Online.

59:01 So, one final thing I want to show you that's part of this ecosystem.

59:04 This is my iPad, which I've been enjoying very much, and this is very interesting because I can now...

59:12 ...this is a new platform for ArcGIS.

59:15 I'm running ArcGIS for iOS.

59:17 This is newly available as of last Monday.

59:20 You can download it for free from the App Store, and this provides access to all of the ArcGIS Online basemaps.

59:28 All of these maps...unfortunately, I can't project this, but I think you'll be able to see this.

59:33 I've signed in to my account, and I'm going to My Maps, and amongst my maps here is the Altadena Fire Map...

59:40 ...and I can choose that Altadena Fire Map, and we're opening up that same exact map that we looked at in the...

59:46 ...the little Web application templates and ArcGIS Desktop...the same data now here on my iPad.

59:54 So, you can see how all this works together into a complete ecosystem.

59:58 So, with that, I'll turn things back to Deane.

1:00:05 I think...

1:00:09 Can you hear me? Okay.

1:00:10 So, we've got about 15 more minutes.

1:00:12 You might want to leave most of that time for questions...just a couple last things.

1:00:16 So, Bernie had shown you the...the slide and how he had been able to create that slide presentation using ArcGIS Explorer Online.

1:00:25 The...the tour that I gave you earlier of the community basemaps is also stored as an ArcGIS Online item...

1:00:31 ...so you can see that here are the ArcGIS Online maps, so this is available at ArcGIS.com.

1:00:35 It actually popped up on Bernie's screen there as he was doing his demo, but you could go find that and...

1:00:39 ...and go through that tour yourself if you like.

1:00:42 And then, lastly, I just had one last slide in terms of other resources, so while you're here at

the UC...

1:00:49 ...there's other things you can do to learn about ArcGIS Online and related projects...Community Maps Program...

1:00:56 ...there is a session tomorrow that you can attend if you didn't attend today's session to learn more about that if you're interested in participating.

1:01:00 Very few users...I think I may be the only user that eclipsed that limit through my Esri account.

1:01:03 There's a seminar at the end of the week if you'd really like to get involved.

1:01:05 There's a full day's seminar on Friday you could participate in.

1:01:08 There's a session on the ArcGIS Data Appliance if you want to get more information on how the system is built...

1:01:13 ...how you can deploy something yourself if that's of interest.

1:01:15 And then, of course, probably your best opportunity to learn more is to come to the Online Island.

1:01:21 Bernie and myself and many of our colleagues will be there throughout the week in the Showcase.

1:01:25 So, with that, let's open it up to questions that you might have.

1:01:29 And...when I ask you for a question, if you could stand up and just introduce yourself.

1:01:32 I'm going to probably repeat your question, so that it's recorded as part of the session.

1:01:36 Yes, sir.

1:01:37 [Audience question] I'm Sam. I had a question about thematic for your analysis layer you published as a layer package.

1:01:43 Are there plans or is there a capability to allow that to be published as an online map like as a service instead of just a layer package?

1:01:51 That's a very good...that's a very good question.

1:01:55 The question was, when I create a layer package, it's...it's something that can be accessed from a desktop application...

1:02:03 ...but is there a way that that will be able to be spun up as a service in the future.

1:02:08 And the answer is yes.

1:02:09 We haven't implemented that yet, but the goal is that very soon you'll be able to author a map package or a layer package...

1:02:17 ...put that into your ArcGIS Online account, and then check the box or whatever the experience will be to say...

1:02:22 ...publish this as a service so that it can be consumed in Web applications.

1:02:28 Yes, sir.

1:02:30 [Inaudible audience question]

1:02:41 You can...the question is, I want to add ArcGIS Online content to Arc...to a non-ArcGIS 10...

1:02:49 ...you're using 9.3.1 or something like that?

1:02:51 [Audience comment] Correct. Okay.

1:02:52 So, with 9.3.1, you can still access these same basemaps and these same services, but you do that in a slightly different way.

1:03:00 And...darn the luck, I shut down ArcMap here, but let me...let me just open that real quickly.

1:03:09 What you would do is you would connect directly to the ArcGIS Online server and be able to add it that way.

1:03:17 Do you have that there...Deane? Okay.

1:03:21 Alright, I'll see if I can show you this real quick, but what you do is you add a new server connection...

1:03:25 ...and...in that server connection, you specify `services.arcgisonline.com/arcgis/services...`

1:03:33 ...and that will give you the connection to the server.

1:03:37 All the basemaps are there, and that's how...how you could use the basemaps.

1:03:41 For the individual services that others have published, what you can do is you can go back to the Services directory in ArcGIS.com...

1:03:50 ...identify the endpoints for those services, and add them to 9.3.1 that way.

1:03:55 So, that's how you do it.

1:03:57 Okay.

1:03:59 So, yes, you can connect...generally you do that through a file add menu and do that.

1:04:03 We also publish the service URLs to ArcGIS Online at `services.arcgisonline.com/arcgis/services` like a standard...

1:04:12 ...so you can connect through ArcCatalog; you can create a direct connection to ArcGIS Online's servers that way as well.

1:04:18 So, here it is. Most users...most users go through the dialog.

1:04:20 Here it is; you connect to an ArcGIS Server and then just follow the connection dialog.

1:04:24 You would be adding an ArcGIS Server connection and then just follow through the wizard...

1:04:30 ...and that'll get you connected.

1:04:32 And the URLs are posted on ArcGIS.com for all of our services.

1:04:37 Let's see...the lady in the back with her hand up.

1:04:39 Yep...you're turning around.

1:04:40 That's...

1:04:41 Yes, ma'am.

1:04:43 [Audience question] Hi. My question is about the ArcExplorer Online under the Add Content menu.

1:04:48 [Inaudible audience question]

1:04:53 Okay, the...

1:04:54 [Inaudible audience question]

1:04:56 Right, the question is, ArcGIS Explorer Online, can I add local content like shapefiles or file geodatabases or local rasters?

1:05:03 No. You can't.

1:05:04 It's meant to work with online content at the moment.

1:05:08 Those boundaries will sort of become more transparent as time goes on, but currently Explorer Online is focused on online...

1:05:16 ...maps and layers.

1:05:19 You can do that from ArcGIS Explorer Desktop but not the online version, which is browser based.

1:05:24 Yes, sir.

1:05:26 [Audience question] Is there a limit to the size of the package you can upload?

1:05:30 The question is, is there a limit to the size of the package you can upload, and yes, there is a limit that we've imposed...

1:05:35 ...it's one gigabyte.

1:05:37 So, the size of the file that you upload needs to be smaller than one gigabyte.

1:05:40 That's almost never an issue.

1:05:42 It's set at that because the time it would take to load something larger than that would be prohibitive and maybe cause an issue.

1:05:49 So, it's a la...there's a limit, but it's a very high limit.

1:05:52 The interesting thing about large layer packages is that when you access them, say, from

ArcGIS Desktop...you...

1:06:00 ...the package is unpacked and it's stored in a temporary location.

1:06:03 You can specify that location through your ArcGIS Desktop user interface.

1:06:08 If you access that layer package from ArcGIS Online again, it will check first to see if you've already gotten the data locally cached...

1:06:16 ...and then, if there's been an update since you locally cached it.

1:06:20 So, it doesn't always have to go through that process of downloading a huge file if you've shared it.

1:06:25 It'll only do it once and then it'll just reference what you already have locally cached unless there's a need to update it. Yes, sir.

1:06:34 [Audience question] Since the imagery is a combination of a variety of sources...

1:06:38 [Inaudible audience question]

1:06:44 The question was, since the imagery is compiled from a variety of sources...

1:06:47 ...is there any way to query it to find out how old the imagery is...

1:06:50 ...or what the source is for an area you're looking at.

1:06:52 And the answer is, yes, there is a way to do that.

1:06:54 If you go to ArcGIS.com, there is an application that we have that you can discover through the World Imagery service...

1:07:01 ...so if you...

1:07:03 Pop this up...real quick.

1:07:05 Actually, is this me?

1:07:15 If you search for world imagery...

1:07:19 ...you'll find our service description.

1:07:21 This describes the content that's available through the World Imagery map.

1:07:27 There's a list of contributors there...

1:07:29 ...and I believe...

1:07:34 ...I have a link here to the content viewer.

1:07:37 And this content viewer is a little Web application that allows me to query.

1:07:40 So, I can take a location like...San Diego...California...type that in, zooms to that location...

1:07:49 ...and then if I use the Identify tool, and click on the map, it will do a query against that

data.

1:07:59 Oops...there...it did work.

1:08:01 I don't know if you can read that or not, but it says that the data is coming from Aerials Express.

1:08:05 It was collected on 2009 January 15th and the resolution and accuracy of that.

1:08:11 So, you can do that for any area on the World Imagery service to find out the currency...

1:08:15 ...and the resolution, and the accuracy of the high-resolution imagery.

1:08:19 [Inaudible audience question]

1:08:27 The question is, can I access this information from ArcMap?

1:08:29 And the answer is yes.

1:08:30 What it's doing is an Identify on the World Imagery layer, so within ArcMap, you can do the same type of Identify.

1:08:36 It'll look a little different than the Web but the same information.

1:08:41 Yes, sir.

1:08:42 [Audience question] I'm wondering what the copyright issues are with...

1:08:45 ...especially if you're printing derived data such as from your basemaps or publicly-generated content?

1:08:53 So, you're wondering what the copyright is on derivative works for the content that's based on ArcGIS Online?

1:09:00 [Audience question] If I wanted to vectorize my paths from an imagery-based map or something, is that legal?

1:09:07 In that case, that would...so...

1:09:08 So, the secondary question was, could I compile some vector data from the source imagery?

1:09:13 And, yes, that is typically an acceptable use.

1:09:16 What I...I was going to answer your first question.

1:09:18 Let me give a broad que...answer to it, and maybe we can apply that.

1:09:22 So, some users have...have asked the question, can I include ArcGIS Online content in maps that I publish to my Web site...

1:09:30 ...and if so, what obligation do I have in terms of copyright?

1:09:32 So, yes...we intend for you to mash up your data with our data, produce maps, print out those maps for your own use...

1:09:40 ...publish applications or derivative maps, using them.

1:09:43 We do ask that when you republish them publicly that you include information on the source provider.

1:09:48 You can see an example of that here where we've included the source description for the World Imagery beneath the map.

1:09:54 We would include that on a printed version as well.

1:09:56 So, we ask that you do that.

1:09:57 You can derive some information from the map, so we do permit users to compile features off of the map...

1:10:04 ...and...and store those features locally.

1:10:07 We do prohibit commercial applications, so we don't want people to produce map books and sell printed copies of our maps...

1:10:14 ...and things like that are prohibitive.

1:10:16 But...internal use is no issue; external noncommercial use is not...not an issue.

1:10:21 It was just commercializing the content where you'd need to secure additional rights.

1:10:25 And for other layers that are shared by other users, you can normally find that in the detailed description under Access and Use Constraints...

1:10:33 ...is where that...that would be listed then.

1:10:35 Right. So, that's a good best practice as you're finding something on ArcGIS.com, check out the Access and Use Constraints.

1:10:41 Esri does a pretty reliable job of filling that in with the precise information for any item we publish...

1:10:47 ...and other users are encouraged to do the same.

1:10:51 Yes, ma'am.

1:10:52 [Audience question] Donna, from Idaho. Is there a Virtual Campus course, now, kind of going through all this again but at a slower pace?

1:11:06 Is there a Vir...the question is, is...is there a Virtual Campus course going through all this?

1:11:10 There is a Virtual Campus course on ArcGIS Online.

1:11:13 I don't think it's current with some of the things we covered today, so I think you could look to see an updated version of that...

1:11:19 ...and that's one of the...the topics Bernie and I need to work with the Virtual Campus team on...

1:11:22 ...making sure that this is reflected.

1:11:25 The information that we've covered today is going to be...is recorded and will be provided along with proceedings...

1:11:31 ...and the PowerPoints, and so forth.

1:11:33 So, I apologize if we went through things quickly; we had a lot of ground to cover.

1:11:37 But...and then come to us at the Island and ask detailed questions, so...

1:11:41 Here's...but the Virtual Campus course is a...is a good suggestion.

1:11:43 I think we need to update it with some of the more current info.

1:11:46 And there is a Virtual Campus course that was recorded just about a week ago for Explorer Online.

1:11:50 Here's another place to go...now the Help topics is very good.

1:11:54 And...I mean it's really good.

1:11:56 There's forums. So, you can ask questions if you're having difficulties, and there's the blog.

1:12:00 And...the blog is a...is a good resource.

1:12:02 We try to make announcements about ArcGIS Online services and what's been updated and things like that...

1:12:08 ...and there's also some tips and tricks.

1:12:11 So, all of those are available to you right under the...the tab there.

1:12:14 Yeah, definitely take advantage of...we've put a lot of effort into the Help.

1:12:17 There's a lot of videos that have been recorded in the Help, so a lot of it's...you know, very digestible information...

1:12:22 ...and you can see a lot of the same concepts we've covered here in more detail.

1:12:28 Yes, sir.

1:12:29 [Audience question] Is there...is there a limit to the amount of data you can put on your Esri account, and if so, what is it?

1:12:37 The question, is there a limit to the amount of data you can put on your Esri account, and if so, what is it?

1:12:42 Yes, currently there is a two gigabyte limit to the amount of data.

1:12:51 So, the data that...if you're authoring Web maps and things like that that are a very trivial size...

1:12:56 ...you know, 5K, 10K, you could do thousands, tens of thousands of those.

1:13:00 Only when you're uploading large amounts of data will that become an issue.

1:13:04 If you do reach that two gigabyte limit, you can let us know.

1:13:08 We're in the process of setting up mechanisms where users can get additional storage.

1:13:13 So, there will be a model where you can purchase additional storage in...in reasonable amounts and for very nominal fees, I believe.

1:13:22 Yes, ma'am.

1:13:23 [Inaudible audience question]

1:13:31 So, the question is, it...this looks like a good way to search for data; can you bring back certain data onto your desktop to use?

1:13:37 And, yes, you definitely can.

1:13:39 That's...when Bernie switched from Web Content Only mode to All Content, he started to bring in some of that type of content.

1:13:46 And that's what we call a...a layer package.

1:13:48 So, if...if I was authoring a layer...let's say I had shapefiles of fishery closures in the Gulf of Mexico...

1:13:55 ...and I've got that as a shapefile on my machine and I'm using it in Desktop.

1:13:58 I can create a layer package of that from my machine and then upload that to ArcGIS Online...

1:14:04 ...share that with whomever I want...let's say I share it with a Gulf Coast response group...

1:14:08 ...and Bernie's a member of that, he can then log in, go to that group, find that item, and then when he opens that item...

1:14:15 ...in that case being a layer package, it'll physically download that layer package to his machine...

1:14:20 ...it'll unpackage it.

1:14:21 When it unpackages, he'll get the shapefile that I was using along with however I rendered that, any layer file I add...added to it.

1:14:29 And then Bernie can then use that in his desktop application, add value to it, resave that, reshare it if he chooses to.

1:14:36 So we recommend layer packages as a best practice because it's a nice portable unit...

1:14:41 ...and the most important thing is that it encapsulates...it gets...puts a layer file in there so you don't lose your cartography.

1:14:47 That said, if you do want to share shapefiles, you can do that now...we just added support for ZIP files.

1:14:55 So, ZIP files would be a way you could zip up your shapefiles and put them up into your ArcGIS Online account.

1:14:59 So the lay...a layer package is basically just zipping up your data along with a layer file and that is really an important point.

1:15:06 It's...rather than getting ZIP files of shapefiles and you add it, and you've got a bunch of purple polygons, and you can't make sense of...

1:15:13 ...the cartography that somebody applies to symbolize it based on the right value and apply whatever renderers they want...

1:15:18 ...all that is preserved in the layer package.

1:15:20 So, when the user opens it up, it looks exactly the way it did when it was packaged.

1:15:24 One last promo comment for layer packages.

1:15:27 The other cool thing is that you can...they...it remembers everything about what you've done in your layers...

1:15:30 ...so if you've created aliases for your fields, hidden some fields...there's a...

1:15:34 ...a thing that was introduced at 9.3.1 called HTML pop-ups...

1:15:37 ...which were off by default...now on by default at ArcGIS 10 that controls the pop-up experience, which is a new tool in...in 10...

1:15:45 ...and that same pop-up experience is now carried over to other applications like Explorer, and even the Web apps...

1:15:51 ...even when you serve those services from ArcGIS Server, that pop-up window experience is part of that layer package as well.

1:15:58 So, it's...it's a good thing to think about adopting.

1:16:02 One last question...I think we've run out of time.

1:16:04 Yes, sir.

1:16:05 [Inaudible audience question]

1:16:14 I'm sorry; I didn't hear that.

1:16:15 You said Esri UK will be creating their own national maps for the UK group...

1:16:21 Okay.

1:16:22 No, I...I was being facetious there.

1:16:23 But, I...I...I think what we'd like to do...I mean...we...we...we took national maps for USA and that's an example of an Esri curated group.

1:16:31 Obviously, you, from your country know who the authoritative sources are...

1:16:36 ...and you can adopt them and develop your own curated group and...

1:16:41 ...we...we can't do the whole world ourselves from Redlands so we're...I think we'll be engaging with you to...

1:16:45 It's exactly for that purpose, so when...when we decided to do that, we wanted to do that as a pattern that could be followed...

1:16:51 ...not just for other nations but for other communities that want to organize content around that community's interests.

1:16:58 That could be geographic, or it could be topical.

1:17:01 So...yeah, look at that as an example.

1:17:03 If you've got a community of users you participate with, like to collaborate with, think about creating a group in ArcGIS.com...

1:17:09 ...and start sharing your information there, and then some of that you might want to share with the general public.

1:17:13 And that specific topic is coming up at our distributor meetings this week and next week in Redlands...

1:17:17 ...so we'll be talking about that in more detail.

1:17:19 Thank you very much for your time.

1:17:20 Please fill in the forms if you get a chance...and...have a great week.