



# CHW

# 01

CAUCASUS HERITAGE WATCH

MONITORING REPORT

**JUNE 2021**

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Ian Lindsay  
Adam T. Smith*

# Caucasus Heritage Watch

Monitoring Report #1  
June 2021

Lori Khatchadourian, Ian Lindsay, & Adam T. Smith



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# CAUCASUS HERITAGE WATCH

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## WHERE WE WORK

◆ Total Sites in Database: 1,996 ◆ Total Area of Region: approx. 12,100 km<sup>2</sup>  
 Sites Currently Monitored: 275 Area of Monitoring: approx. 4,800 km<sup>2</sup>



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CAUCASUS HERITAGE WATCH

## OUR MISSION



*"Peace begins with truth"*  
-Adrian Gregorich, *The Sentinel Project*

Caucasus Heritage Watch was founded in 2020 to monitor and document endangered and damaged cultural heritage using high-resolution satellite imagery. We strive to reveal visual evidence regarding past and present cultural erasure using the latest technologies of earth observation. Our purpose is to encourage accountability, inform public policy, support truth and reconciliation, and remove cultural heritage from the front lines of regional conflicts.



## OUR GOALS



- **Truth-telling:** Investigating and monitoring past and future damage to cultural heritage can contribute to the work of truth and reconciliation. In contexts of war and genocide, cultural aerospace can bear witness to the condition of cultural heritage sites. These facts provide proof to counter state denialism, falsification, and other abuses that place heritage sites at the center of political conflict. Social repair can only happen when societies come to terms with troubled pasts and difficult truths.
- **Deterrence:** There are few instruments for deterring the destruction of cultural heritage within a state's sovereign borders. Satellite-based monitoring has the potential to discourage or restrain state actors from intentional erasure both through the act of bearing witness, and by the dissemination of authoritative research to relevant national and international agencies and publics.
- **Accountability:** In contexts of conflict and genocide, abuses to cultural heritage are often clandestine, making it difficult to hold actors accountable. Satellite-based monitoring that reveals the destruction of cultural heritage can provide a forensic resource so that the public can hold responsible parties accountable for harms, including their own leaders.
- **Innovation:** Caucasus Heritage Watch works to develop new techniques in the use of geospatial technologies for sustained, large-scale monitoring of cultural heritage at risk. As researchers, we seek to innovate new and transferrable methodologies that can amplify our practical impact and disseminate workflows that can empower partners in the region and assist researchers in other parts of the world.





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## INTRODUCING CAUCASUS HERITAGE WATCH

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June 2021

### SPRING REPORT

CHW was established in a year of tumult and crisis. For American archaeology, 2020 was a year when everything shut down but so much also opened up. COVID-19 ensured that archaeological fieldwork came to something of a standstill, as the globe seemed to take a deep breath, put on a mask, and stay at home. At the same time, the Black Lives Matter movement crystallized a sense that justice remained both a fundamental historical goal and an obligation of every form of work. Heritage came into particular focus as critical terrain where memory, identity, and power collided. Places and people long written out of dominant narratives were brought back into focus.

And then war returned to the South Caucasus, where we have long worked as co-directors of an enduring program of survey and excavation focused in central Armenia known as Project ArAGATS (short for the joint project for the Archaeology and Geography of Ancient Transcaucasian Societies). Collectively, we have spent decades studying the material heritage of the South Caucasus across millennia and in the process have witnessed episodes of both conflict and comity, ruin and calamity, and relative peace and prosperity.

*Archaeology must not just locate and interpret the remains of the past. It must use its skills to advance the public good, deter abuses of power, call out aggression against past remains and living communities where it can, and provide forensic evidence of heritage abuses where it must.*

The return of conflict and destruction to the region was not unexpected but it collided with our sense that archaeology must do more than simply dust off the detritus of the past. It must instead be fully engaged with its sites, places, and landscapes and those communities that find meaning in those remains. Archaeology must, in other words, not just locate and interpret the remains of the past, or be a good steward to heritage; it must use its skills to advance the public good, deter abuses of power, call out aggression against past remains and living communities where it can, and provide forensic evidence of heritage abuses where it must.



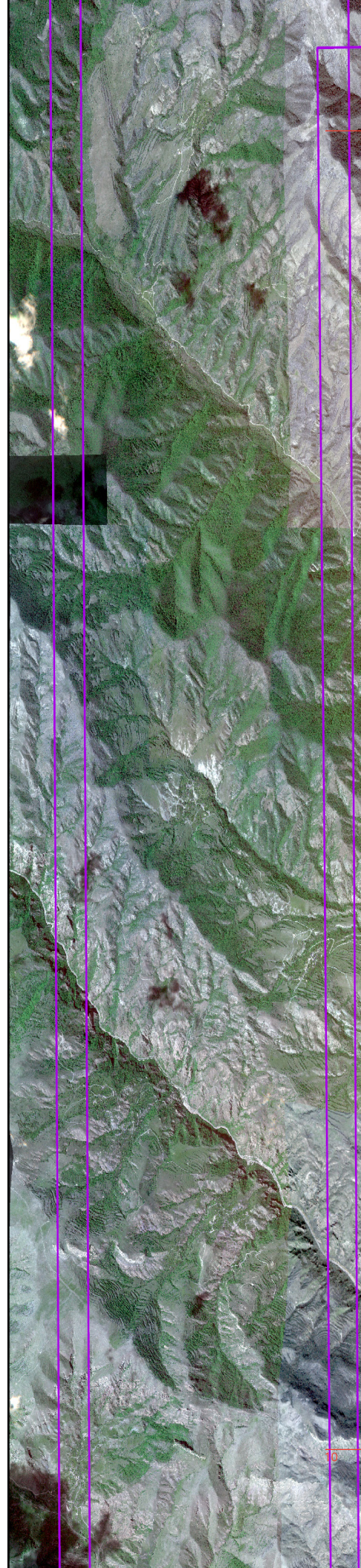
At CHW, we are rethinking what it means to do engaged archaeology. The communities we work for are global, from descendants of survivors of the Armenian Genocide, now dispersed across the globe, to Azerbaijanis scarred by the trauma of ethnic cleansing in the first Nagorno-Karabakh war, to the Armenians suffering from the same wounds of displacement now. We also aim to support the work of global and national heritage institutions, as well as scholars and journalists, who require reliable, unbiased information on cultural heritage at risk, in a context where a surfeit of misinformation impedes informed analysis. This is not simply engaged archaeology, but archaeology in the maelstrom, active and alive to its capacities and commitments. CHW is charting a form of global, activist archaeology, ready to intervene where we can to call attention to assaults on cultural heritage.

*At CHW, We are rethinking what it means to do engaged archaeology.*

In pursuit of this form of engagement, we are very pleased to offer CHW's first monitoring report. Even as we summarize our observations thus far in 2021, we are busy tasking satellites and capturing new images of heritage at risk. For up to date assessments and impact alerts, follow us on Twitter and visit our website.

Sincerely,

*Adam T. Smith, Lori Khatchadourian, and Ian Lindsay*  
CHW Co-Principal Investigators

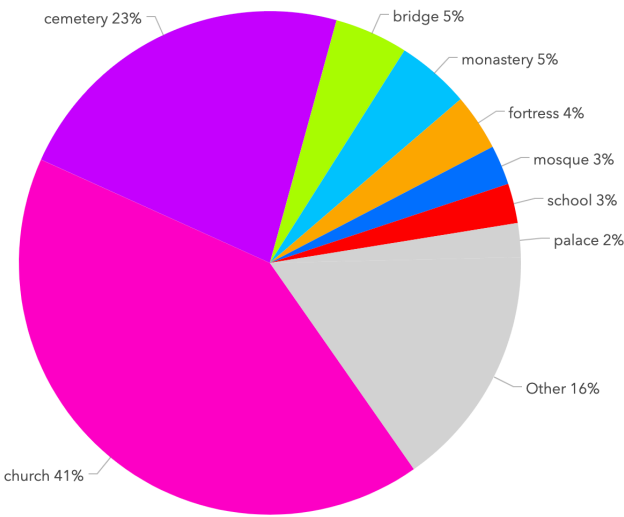




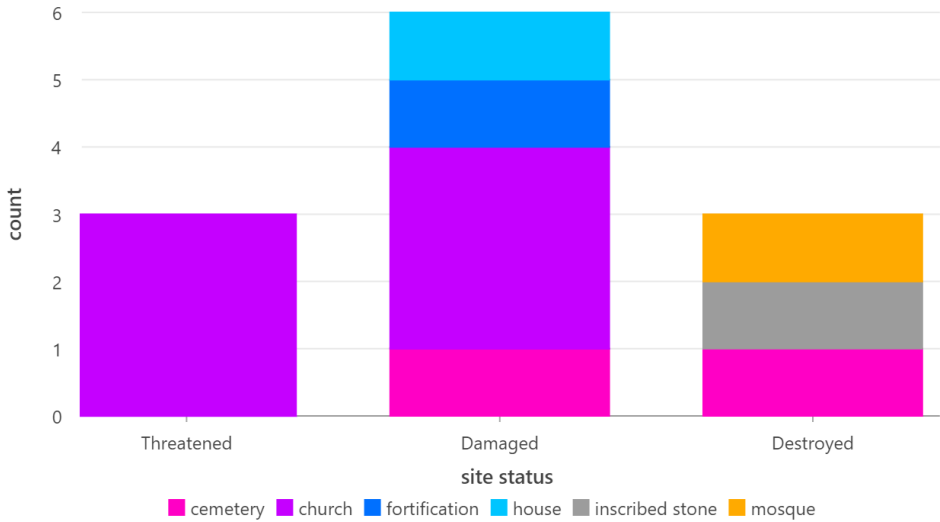
CHW DASHBOARD



SITES MONITORED BY TYPE



IMPACT STATUS BY SITE TYPE



IMPACTED SITES LIST

Site Number	Site Type	Site Name	Current Status
AN.226-0	church	S. Astvatsatsin	Threatened
AN.344-6	church	Vank'asar	Threatened
HT.074-0	church	Amenap'rkich	Threatened
HT.069-1	cemetery	Mets T'agher Cemetery	Destroyed
LN.004-0	mosque	Aygek Mosque	Destroyed
SH.052-0	church	Ghazanchets'ots' S. Amenap'rkich	Damaged
SH.052-2	inscribed stone	Ghazanchets'ots' Inscribed Stone	Destroyed
SH.053-0	church	Kanach Zham or S. Hovhannes Mkrtic	Damaged
SH.054-0	church	Surb Meghrets'ots'	Damaged
SH.074-0	house	The Zhamharyan's house	Damaged
SH.093-0	fortification	Shushi Eastern Rampart	Damaged
SH.101-2	cemetery	Shushi Northern Cemetery	Damaged



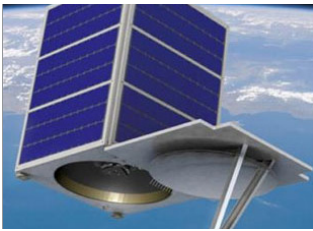
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## OUR **TOOLS**

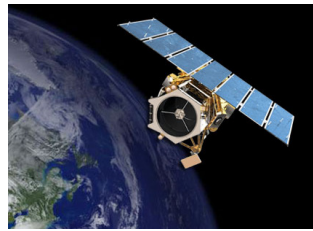
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*Platforms at work for CHW*

### SATELLITE IMAGERY SOURCES



SkySat Constellation:  
Planet Labs  
Launched 2014-2020  
Single pass stereo  
Resolution: 0.52 m



GeoEye-1:  
DigitalGlobe/Maxar  
launched September 6, 2008  
Single pass stereo  
Resolution: 0.41 m



WorldView 2:  
DigitalGlobe/Maxar  
launched October 8, 2009  
Single pass stereo 63\*112km  
Resolution: 0.46 - 0.52 m



WorldView 3:  
DigitalGlobe/Maxar  
launched August 13, 2014  
Single pass stereo 26.6\*112 km  
Resolution: 0.31 - 0.34 m

### THE PAST MEETS THE FUTURE

At the turn of the 21st century, publicly available high-resolution, multispectral satellite imagery provided archaeologists a new ability to remotely monitor damage inflicted on archaeological sites from looting and regional conflicts in places like Syria and Iraq. Since then, expanding commercial and public-domain satellite ventures offer important opportunities to harness evolving technologies of earth observation more directly in service of heritage monitoring. Each satellite platform carries trade-offs that must be weighed, including cost, spatial resolution, and frequency of image capture. For the purposes of monitoring threatened sites in Nagorno-Karabakh, the ability to control when and where a satellite flies over a site is vital in the forensic assessment of site destruction. Unlike the unpredictable and spotty coverage of the South

Caucasus available on Google Earth, Planet Lab's SkySat platform provides us the ability to "task" their satellites to provide their highest resolution (52 cm), multispectral imagery of specific at-risk locations essentially on-demand. The SkySat constellation consists of 21 satellites orbiting the Earth and capturing imagery 5-7 times per day, providing us the data we need to regularly assess site conditions and inform regional stakeholders in a timely manner.

Our baseline data on the condition of heritage in Nagorno-Karabakh prior to the 2020 conflict comes from Maxar satellite platforms. As the project moves forward, we will be developing a significant archive of baseline data for comparison to the most recent image captures.



## OUR FUNDERS

We are deeply grateful to the organizations that have provided financial and logistical support to help CHW get off the ground.

Funding and facilities for our current work has been generously provided by these institutions:

The Armenian General Benevolent Union  
The Aragats Foundation  
Cornell University  
Purdue University

We are also supported by public donations to our efforts. You can join the public network supporting CHW by donating to us through The [Aragats Foundation's CHW funding campaign](#) or with a donation to Cornell University earmarked for CHW. If you are interested in exploring how you can help support our work, [get in touch](#) with us.



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## OUR TEAM

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**LORI KHATCHADOURIAN**

*Associate Professor, Near Eastern Studies  
Cornell University*

Prof. Khatchadourian has been working in the South Caucasus since 1995, first in political development and since 2003 in archaeology. Her work has been supported by the NSF, NEH, and ACLS among other granting organizations. She is the author of [Imperial Matter](#).



**IAN LINDSAY**

*Associate Professor, Anthropology  
Purdue University*

Prof. Lindsay has been studying the history and prehistory of the South Caucasus since 2000, with support from the National Science Foundation and other agencies. His archaeological practice incorporates the use of GIS and terrestrial and aerial remotes sensing techniques.



**ADAM T. SMITH**

*Distinguished Professor of Arts and  
Sciences, Anthropology, Cornell University*

Prof. Smith has been conducting archaeological research in the Caucasus since 1992. He is the co-founder of [Project ArAGATS](#), the oldest international archaeological collaboration in the region. He is a former Guggenheim fellow and author of numerous [works](#) on the region.

**SALPI BOCCHIERIYAN**

*Monitoring Consultant, CHW*

Ms. Bocchierian is an archaeologist at Death Valley National Park and has an MA in Archaeology from Cornell University with a thesis on mortuary practice in ancient Armenia. She has also worked in Greece, Turkey, and Romania.



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## OUR PARTNERS



**MONUMENT  
WATCH**



**INSTITUTE OF ARCHAEOLOGY  
& ETHNOGRAPHY, RA**



**RESEARCH ON  
ARMENIAN ARCHITECTURE**



## WHAT WE DO

### *Monitoring*

Our inventory of cultural heritage sites in Nagorno-Karabakh currently includes nearly 2000 entries spread across an area of approximately 12,000 square kilometers.

At any particular moment, we have hundreds of discrete locations under satellite surveillance, including churches and mosques, cemeteries and fields of carved stones, bridges, and other cultural properties that tell the dynamic story of centuries of life in the region. The locations that we monitor will change as conditions on the ground change. Our site inventory is the result of extensive consultations with our partners, who share our concern for heritage preservation in the South Caucasus. Our partners are fundamental to what we do, providing expertise, experience, and eyes on the ground.

Because the CHW team is composed of archaeologists with a long history of working in Armenia, thus far our partners are Yerevan-based. As we undertake the time-consuming work of developing a geospatial inventory of Azerbaijani cultural heritage sites in Nagorno-Karabakh, we welcome new partnerships with specialists in Azerbaijani cultural heritage who support our mission and wish to assist in this work.

At present, our primary focus is on monitoring the condition of hundreds of Armenian historical monuments that now are under Azerbaijan's jurisdiction following a November 2020 ceasefire. As described in our summary assessment, we have determined through research and consultation that these monuments are currently under the most severe threat. This assessment is bolstered by both historical research into Azerbaijan's erasure of Armenian monuments in the province of Nakhchivan/Nakhichevan and by explicit threats of cultural erasure issued by Azerbaijani officials, from the [President](#) and Minister of Culture to the [Chairman of the Union of Architects](#).

CHW's monitoring effort is specifically focused on heritage monuments. It is not within our mission to document the wider destruction of towns, villages

and cities over the 30 years of conflict in the Nagorno-Karabakh region. We focus on historic sites that have been the subject of archaeological, architectural, or art historical research and are included on Soviet or post-Soviet state inventories of cultural properties. But it is important to note that we see the wider, heart-breaking destruction that has impacted the lives of so many Azerbaijani and Armenian families. We deplore the combination of violence and poverty that has created Nagorno-Karabakh's ravaged landscape. And we surveil these areas with a deep sense of empathy for the lives lost and futures upended. Nevertheless, we draw a distinction between the destruction and abandonment of villages over the course of this long-standing conflict and the systematic attempts to eradicate heritage properties as a means to erase communities from the region's past and thus rewrite the region's history. It is our hope that in the years we study this region we will see it bloom with new hope and a lasting peace.

There are some kinds of threats to cultural heritage that CHW is not well-equipped to address. Satellite imagery provides evidence of damage, but it cannot detect acts of desecration or directly combat heritage appropriation. Since the ceasefire, representatives of Azerbaijan's government have embarked on an extensive campaign to claim Armenian heritage sites as either non-existent or as "Caucasian Albanian". Both represent fraudulent historical claims unsupported by international research. The vast majority of experts in the region's art, architecture, and archaeology have all rejected Azerbaijan's revisionist claims as patently false. Nevertheless, the Caucasian Albanian propaganda has sparked some iconoclastic efforts to erase Armenian imagery and inscriptions from buildings and monuments. We are aware of these threats and track them via social media, but as these subtle but significant forms of erasure are not visible from our satellite imagery, we will have to rely on partners to document these activities.



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### *Archival Research*

In addition to monitoring current threats in and around Nagorno-Karabakh, we are also working to provide further documentation of cultural genocide in Nakhichevan/Nakhchivan and research accusations regarding the abuse of Islamic sites in Nagorno-Karabakh.

This archival dimension of our work requires analysis of lower resolution historic satellite imagery and hence will necessarily proceed at a slower pace than our monitoring of current threats.

CHW's archival research utilizes the USGS Earth Resources Observation and Science (EROS) center's extensive database of declassified US surveillance images, including the CORONA, Gambit, and Hexagon missions. These reconnaissance operations utilized medium- to high-resolution cameras using photographic film to image strategic locations, including many in the South Caucasus.

Analyses of historical imagery can be paired with more recent earth observation platforms available through Google Earth or other free providers to create a documentary record of cultural erasure.

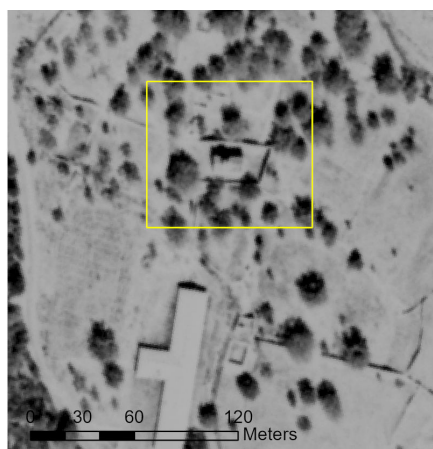


## HOW WE WORK

### *Satellite Tasking*

CHW documents changes in the built environment of cultural landscapes using high resolution satellite imagery. In order to monitor the condition of currently endangered sites, we task satellites to capture images throughout the year, providing a regularly updated stream of information on the physical integrity of cultural heritage sites in the region. We request imagery based on known or reported threats as well as our analysis of potential risks. Each site is examined by comparing recent captures to baseline imagery. For the purposes of this report, baseline imagery is satellite data that predates the 2020 conflict. These images are then compared with new captures from spring 2021 in order to detect and describe change at each heritage site of interest. Subsequent reports will compare newly tasked images with previously tasked images.

Evidence for damage or destruction is passed from individual monitors to the team for group evaluation. If full agreement is reached, the site is flagged as either destroyed, damaged, or threatened. Consultations are held with our partners as the team works toward a strategic response. When CHW and its partners conclude that public scrutiny might blunt further intentional or accidental damage to a site or other sites in the vicinity, we use social media to broadcast the threat and to help focus the attention of relevant organizations, analysts, journalists and authorities. A GIS-powered dashboard on our website provides a summary of our current understanding of damaged and destroyed sites, as well as those that may be at elevated risk due to changes on the landscape. And at regular intervals during the year, we produce summary reports that document in greater detail evidence for impacts on cultural heritage, including findings of damage beyond those reported on social media.



### *Archival Analysis*

CHW recognizes that the cultural heritage of Nagorno-Karabakh and Nakhichevan/ Nakhchivan has already suffered multiple waves of destruction in its recent history. We are actively engaged in several forensic research projects to document aspects of past episodes of destruction using declassified and public-domain satellite imagery, and will release these reports on our website as they become available.

The methodology for our archival work entails identifying suitable images in existing repositories (e.g. declassified Cold War-era satellite imagery and aerial photographs) and working to document substantial changes to cultural heritage sites from the late Soviet period to the years following the first Nagorno-Karabakh war.

### *Making Our Findings Public*

Our goal is not to simply document heritage destruction but to deter it; it is therefore important for our observations to be broadly disseminated. We have chosen Twitter (@CaucasusHW) and Facebook as platforms for broadcasting impact notices and threat alerts. These are meant to complement our regular reports by providing more timely assessments. Before we tweet, our threat alerts and damage assessments go through a series of protocols that require careful thought, consultation and evaluation. If a CHW monitor detects damage or an immediate potential threat, the full CHW team is notified. If the other team members verify the situation of concern, our next step is to consider what steps to take. A decision to push the issue to social media is taken only when CHW believes public scrutiny might ameliorate the situation and/or spur public bodies to action, including journalists, multinational organizations, and civil society activists. If concerns emerge that publicity might make a situation worse, we reserve the observation for the next report. If we determine that public attention is merited, we then consult with our partner stakeholders, experts in the archaeology and architecture of the region, to seek their input on both our monitoring observation and publication plan. We then prepare the impact imagery from our archive and compose the written assessment for our report and/or social media.



## WHY WE DO THIS

There are a number of reasons why we founded CHW. None of them are about partisanship in the Nagorno-Karabakh conflict. We value the heritage of all communities. But we deplore and condemn heritage erasure and other deliberate abuses of tangible heritage. We seek to not only prevent destruction where we can but also clearly and soberly place responsibility where it belongs. That said, we recognize that the public deployment of satellite surveillance is a unique strategy and hence need to clearly justify both the time and expense of the effort.

CHW assesses the current threat to Armenian heritage monuments to be both present and long-term, necessitating a sustained program of surveillance. Archaeology has only rarely had the capacity to document an episode of heritage erasure in real time. By joining new technologies with the expertise of descendant communities, CHW is attempting to intervene in the kinds of silent erasure that took place first in Turkey, in the aftermath of the Armenian Genocide, and more recently in Nakhichevan/Nakhchivan. The destruction of the [khachkars at the cemetery of Djulfa](#) is already [well-documented, including by advanced satellite image analysis](#), and historical research has also established the destruction of numerous Armenian churches, including at least seven just [in the village of Agulis alone](#). Azerbaijan's leaders have gone on record with hostile remarks that clearly endorse attacks on Armenian heritage sites, including explicit calls for the erasure or falsification of cultural monuments. Delays in providing UNESCO inspectors access to the region suggest an effort to control the scope of such a mission. Given the bellicose rhetoric from Baku and the unwillingness to allow unfettered expert oversight, it can be no surprise that CHW has concluded that state-sponsored heritage destruction, combined with vandalism inspired by a governmental failure to protect heritage sites, represents a clear and immediate threat to the region's Armenian heritage.

It might be naive to suggest that we can forestall heritage erasure once initiated; but by documenting events in something close to real time, we change the traditional form of narrating cultural genocide. Forensic accounts of cultural genocide are typically elegies of loss, where accountability is clouded by distortions of the historical record by those in power. By doing the forensic work in real time, we are sounding an alarm rather than writing an elegy. And where possible, we are assigning culpability directly rather than diffusely.

To acknowledge cultural erasure in both Turkey and Nakhchivan/Nakhichevan is not to be partisan. It is to state historical facts corroborated by the preponderance of evidence. Where we are unsure, we will say so. Where the images clearly demonstrate, we will say so. Where we simply don't know, we will say so.

Past damage to cultural heritage does not justify or excuse current or future attacks. CHW does not condone assaults on cultural heritage past or present by either party in this conflict. And we strongly reject the moral logic of "what about-ism" that seeks to justify damage today by pointing to destruction in the past. Our goal is to break that cycle of endless recrimination by recognizing past destruction but also keeping a watchful eye on the present. Only through regular, publicly visible surveillance can we hope to clearly establish accountability and ultimately take the region's heritage off of the front lines of the conflict.

### Summary Assessment

During the spring of 2021, we encountered evidence of both wartime and post-war damage to cultural heritage. And we observed a surge in construction, especially of roads, that has destroyed some sites while seriously threatening others. As the CHW dashboard makes clear, there are currently two primary areas where significant damage to heritage is most clearly visible.

The first is in and around the town of Shusha/Shushi. Although there is extensive evidence of severe wartime damage across the city, including military attacks on heritage sites such as Ghazanchet'tsots' Cathedral and Kanach Zham church, there is also clear evidence of post-war impacts. The Shushi Northern Cemetery suffered extensive damage due to construction activities and there is also some indications of continued destruction at Kanach Zham. Minor damage in Shushi's Southern Cemetery (predominantly modern) suggests that attacks on heritage are emerging from both state-sponsored activities and more small-scale acts of vandalism.

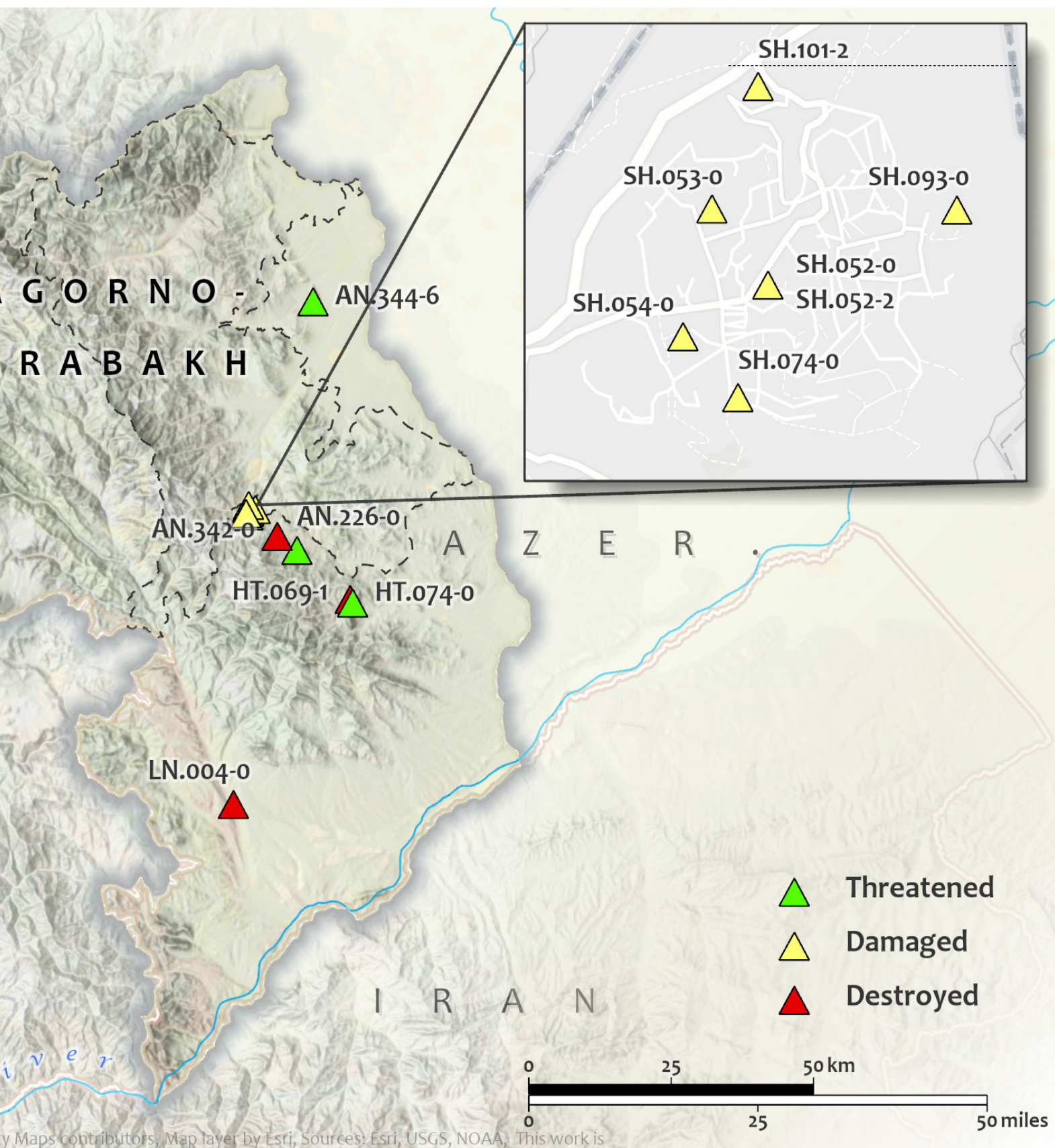
The second area of significant damage to heritage is visible along two corridors in the southern part of Nagorno-Karabakh where new roads are under rapid construction. Along one corridor from Fuzuli to Shushi, significant earth moving activities in the town of Mets Tagher/Böyük Tağlar targeted the main cemetery, which has now been completely erased. Other heritage sites in the same corridor are now under considerable threat. An additional road corridor is being built along the Hakari/Aghavno River valley. It is this large-scale construction project that bulldozed the 18th century mosque in the town of Aygek, a structure that was clearly intact throughout the years of Armenian administration in the region.

In sum, there are real and present threats to the integrity of the heritage landscape of Nagorno-Karabakh that result from a range of factors from development work undertaken without sufficient attention to heritage sites to intentional acts against Armenian monuments. Caucasus Heritage Watch recommends that all agencies invested in heritage preservation in the region remain vigilant, documenting destruction and calling attention to imminent threats.





## IMPACTED **SITES**



*Heritage Destruction*

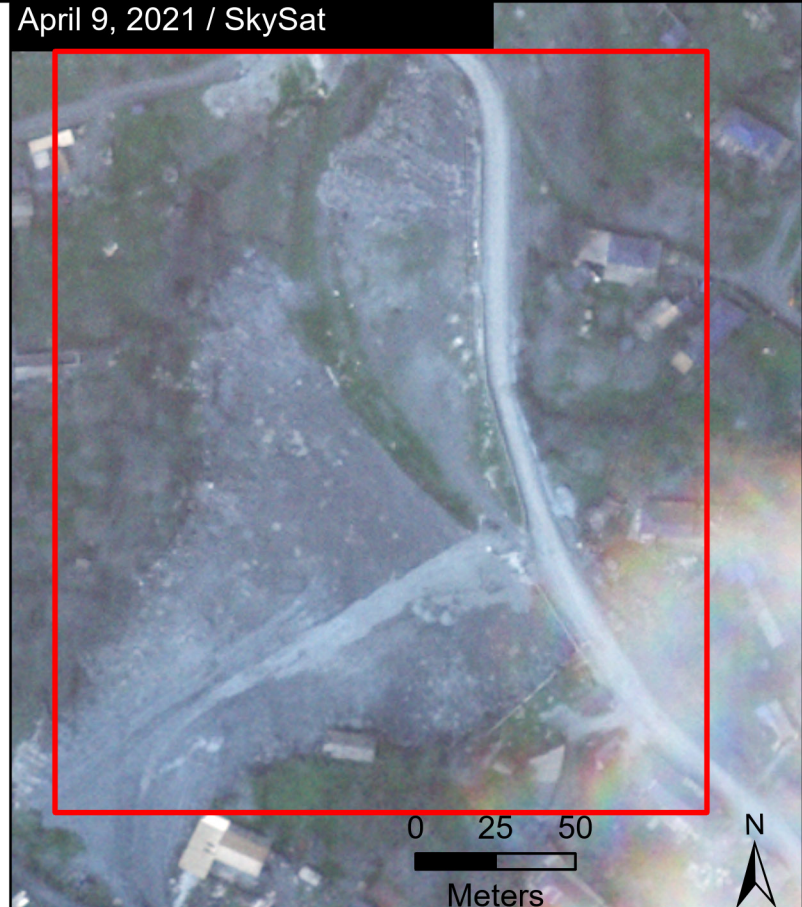
HT.069-1	Mets T'agher/ Büyük Tağlar Cemetery
Dates	approx. 1800-2020
Baseline Image	2020-06-21 / GeoEye1
Monitoring Image	2021-04-09 and 2021-05-16 / SkySat
Current Status	Destroyed
Notes	The area of this cemetery has been deeply graded with bull dozer scars clearly visible in the April 9, 2021 image. A subsequent image capture from May 16, 2021 shows continued destruction in the area as earth and funerary materials have been pushed into a large berm adjacent to the new road construction.
Alerts	The destruction of this cemetery was the focus of a <a href="#">social media alert that CHW issued on May 4, 2021</a>
Citations	<a href="#">Cultural Heritage Monitoring Lab: Rapid Report (07 May 2021), Virginia Museum of Natural History/Smithsonian Cultural Rescue Initiative.</a>



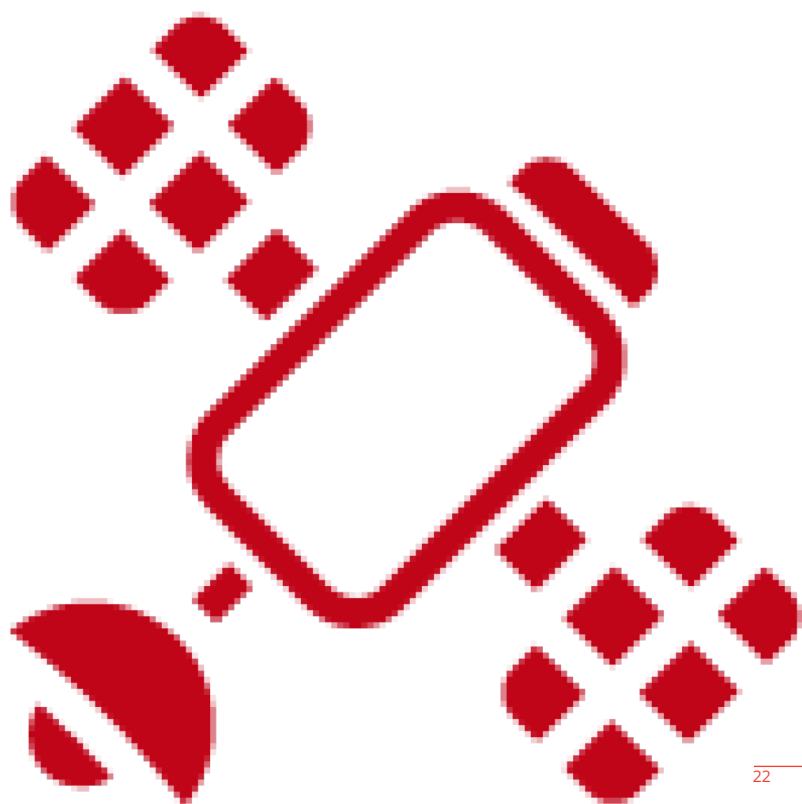
June 21, 2020 / GeoEye1



April 9, 2021 / SkySat



May 16, 2021 / SkySat





*Heritage Destruction*

LN.004-0	Aygek Mosque
Dates	18th Century
Baseline Image	2020-09-30 / Maxar Vivid
Monitoring Image	2021-05-12 / SkySat
Current Status	Destroyed
Notes	This 18th century mosque was destroyed by an Azerbaijani road crew in the process of widening the existing route. The destruction was publicized in <a href="#">social media reports</a> on April 14, 2021.

Sept. 30, 2018 / Maxar Vivid



May 12, 2021 / SkySat



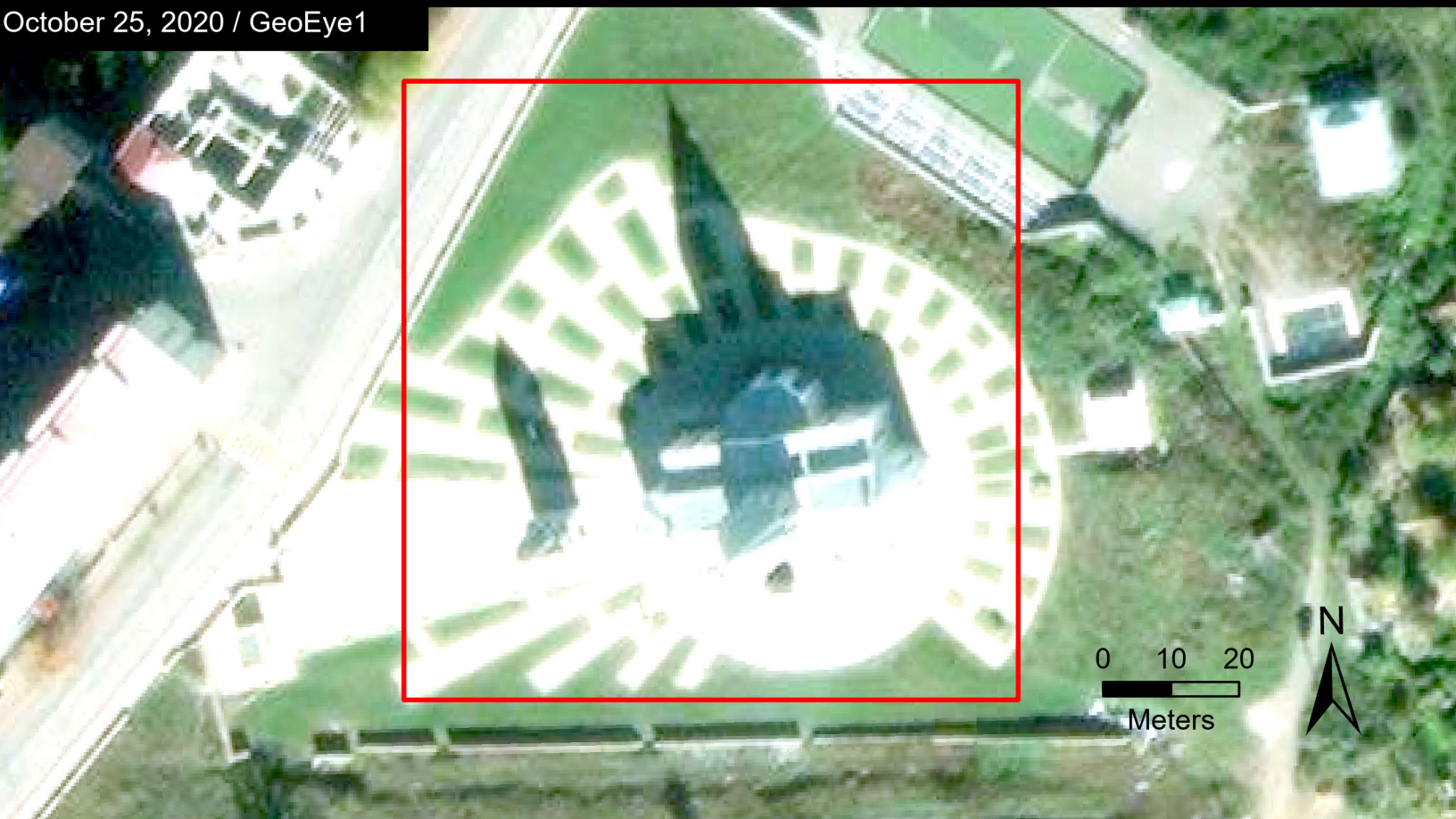


*Heritage Damage*

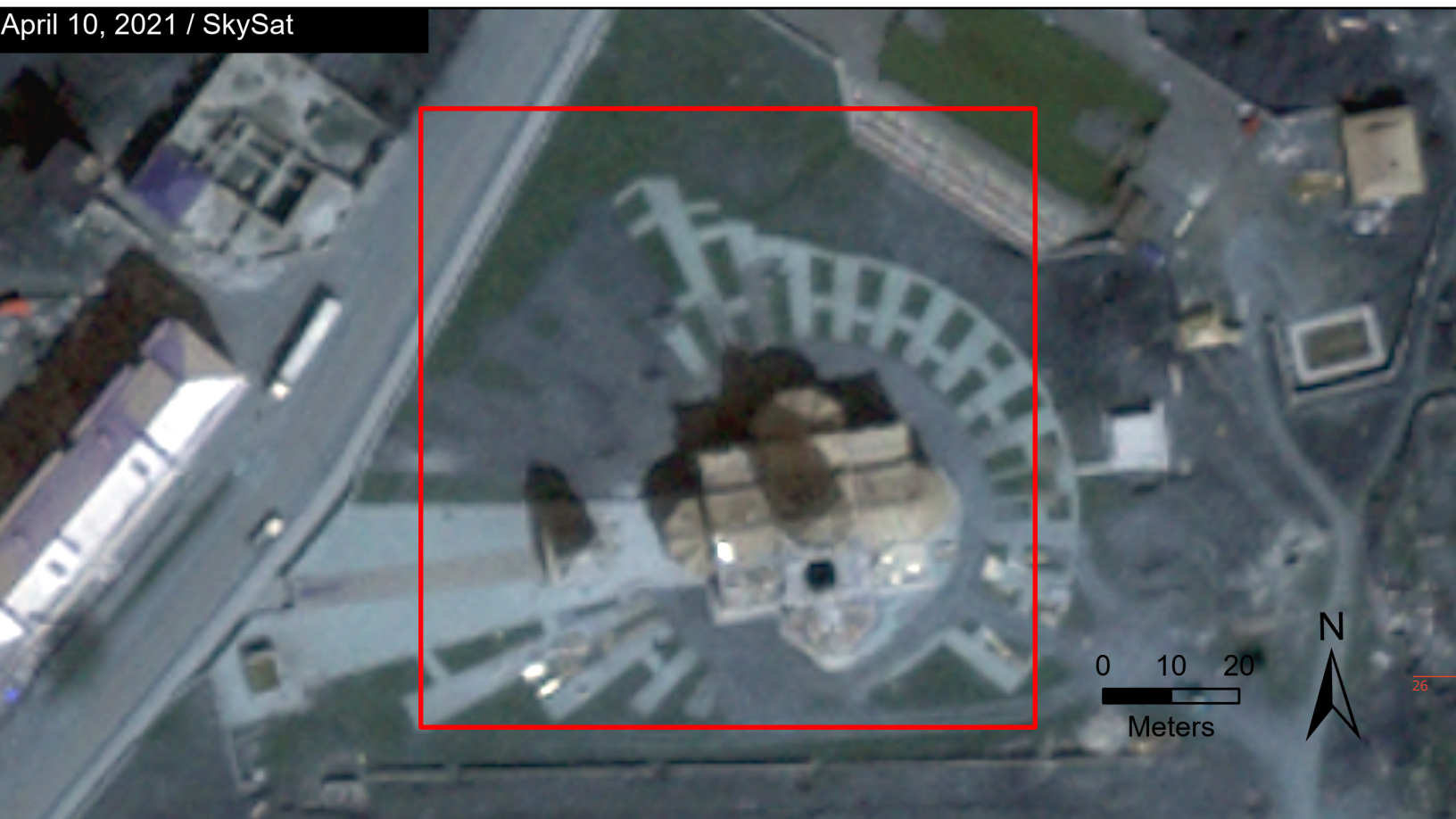
SH.052-0	Ghazanchets'ots' Cathedral (Shusha/Shushi)
Dates	Constructed 1868
Baseline Image	2020-10-25 / GeoEye1
Monitoring Image	2021-04-10 / SkySat
Current Status	Damaged
Notes	Shell hole visible in the south roof in the April 10, 2021 image has been widely documented as occurring during the 2020 war. CHW's monitoring image also shows damage to the patio northeast of the building and additional damage on territory east. The inscribed stone (SH.052-2) that had been standing on a pedestal a few meters southeast of the detached bell tower appears to have been completely destroyed. Social media since this image has documented the removal of the peaked cupola that topped the central dome. Representatives from Azerbaijan have indicated it is being restored. But the cupola shows no evidence of damage in the available imagery so it is unclear why restoration of this part was necessary.
Image Credit	Photo below 18 February 2018 by Baykar Sepoyan. Licensed under the the Creative Commons Attribution-Share Alike 4.0 International license.



October 25, 2020 / GeoEye1



April 10, 2021 / SkySat





*Heritage Damage*

SH.053-0	Kanach Zham (S. Hovhannes Mkrtich)
Dates	Constructed 1847
Baseline Image	2020-10-25 / GeoEye1
Monitoring Image	2021-04-10 / SkySat
Current Status	Damaged
Notes	The church formerly possessed two cupolas, both clearly visible casting tall peaked shadows in the baseline imagery from October 25, 2020. By April 10, it is clear that both towers have been demolished. While the site experiences some damage during the 2020 war, a February 2014 image available on Google Earth shows that a portion of the eastern cupola was still standing at that time. It is clear from the April 10, 2021 image that both towers have now been destroyed.
Image Credit	Photo below 17 April 2009 by LJ user plusninety. Licensed under the the Creative Commons Attribution-Share Alike 4.0 International license.



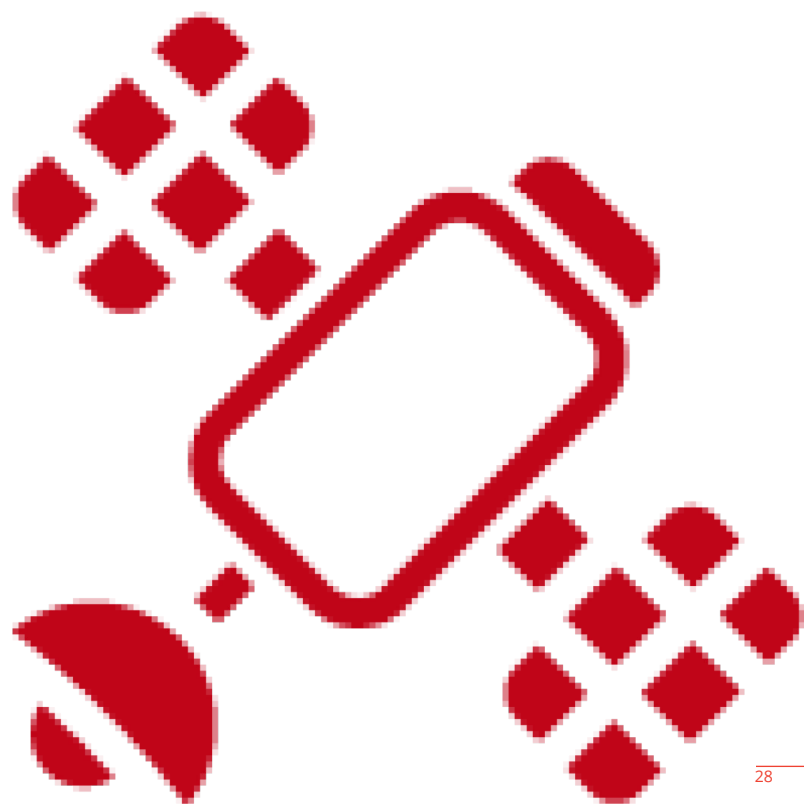
Oct. 25, 2018 / GeoEye1



Feb. 14, 2021 / Maxar; Google



April 10, 2021 / SkySat





*Heritage Damage*

SH.093-0	Shushi/Shusha Eastern Rampart
Dates	Constructed 1848
Baseline Image	2020-09-14 / GeoEye1
Monitoring Image	2021-04-10 / SkySat
Current Status	Damaged
Notes	This portion of the historic city rampart appears to have been damaged, perhaps during conflict based on the ejecta pattern of some of the debris. The area now appears to host temporary structures (visible with orange and purple roofs). It is unclear what kind of threat these new structures may pose to the rampart.
Image Credit	Photo below 20 October 2012 by Areg Balayan. Licensed under the Creative Commons Attribution-Share Alike 4.0 International license





Sept. 14, 2020 / GeoEye1



April 10, 2021 / SkySat





*Heritage Damage*

SH.101-2	Shushi/Shusha Northern Cemetery
Dates	1834-1920
Baseline Images	2020-09-14 / GeoEye1; 2021-02-14 Maxar; Google Earth
Monitoring Image	2021-04-10 / SkySat
Current Status	Damaged
Notes	The centuries-old cemetery north of Shusha/Shushi has been partially destroyed. A portion of the grounds on the west side of a road leading into the city was leveled in the construction of a building complex. The expansive cemetery, which spans both side of the road, contained 96 tombstones dating 1832-1920 and two 12-13th c. cross stones (khachkars), including the tombs of noble Armenian families (meliks). Although the construction occurred in an area shaded by tree cover, imagery from February 2021 reveals a dense array of tombstones, and documentation provided by Monument Watch details specific plots in the location.
Alerts	Damage to Shusha/Shushi's Northern Cemetery was reported in a <a href="#">social media alert issued on May 17, 2021</a> .
Citations	<a href="#">Cultural Heritage Monitoring Lab: Rapid Report (13 May 2021), Virginia Museum of Natural History/Smithsonian Cultural Rescue Initiative.</a>
Photo Credit	Photo below from Harutyunyan 2008. Շուշի XVIII-XIX դդ. տապանադեր: Եր. ԵՊՀ հրատ.



# SH.101-2. Shushi/Shusha Northern Cemetery

Sept. 14, 2020 / GeoEye1



Feb. 14, 2021 / Maxar; Google



April 10, 2021 / SkySat





*Heritage Damage*

SH.054-0	Surb Meghrets'ots', Shushi/Shusha
Dates	Constructed 1833
Baseline Image	2020-09-14 / GeoEye1
Monitoring Image	2021-04-10 / SkySat
Current Status	Damaged
Notes	Much of this church was destroyed in the 1960s and replaced by an open-air cinema. But archaeological excavations in spring 2017 exposed the original foundations of the structure beneath the asphalt, including the now-damaged north wall. This wall at the site appears to have sustained damage leading to displacement of building material and an inward bow of the wall, perhaps indicating it has been pushed inwards.
Photo Credit	<a href="#">Vatican Radio Archive</a>



Oct. 25, 2020 / GeoEye1



April 10, 2021 / SkySat





*Heritage At Risk*

AN.226-0	Madadkend/Madat'ashen Surb Astvatsatsin
Dates	Constructed 19th century
Baseline Image	2020-09-14 / GeoEye1
Monitoring Image	2021-05-13 / SkySat
Current Status	Threatened
Notes	This already fragile 19th century church sits just 50m from extensive earth moving adjacent to the road. Satellite imagery shows an extensive area of bulldozing just south of the road in what formerly was agricultural territory.



Sept. 14, 2020 / GeoEye1



May 13, 2021 / SkySat





*Heritage At Risk*

AN.344-6	Vank'asar Church
Dates	Constructed 7th century
Baseline Image	2020-10-13 / WorldView2
Monitoring Image	2021-04-16 / SkySat
Current Status	Threatened
Notes	CHW's April 19, 2021 threat alert for Vank'asar focused on two key changes in the satellite imagery for the site. First, we noted the presence of heavy equipment in the parking area right in front of the church including what appears to be 1-2 trucks. Second, we noted a 20 x 10m temporary structure just northeast of the parking area. Despite calls for clarification, the purpose of these developments has not been communicated to date to either CHW or the media outlets that amplified the alert.
Alerts	CHW released a <a href="#">social media alert on April 19, 2021</a> .
Media	<a href="#">Activity at Recaptured Armeinan Church in Azerbaijan Raises Concern</a> (RFE/RL April 20, 2021). <a href="#">Церковь на землях, перешедших под контроль Баку: опасения утратить древний памятник</a> (Радио Азаттык April 22, 2021)
Image Credit	Photo below by Vahag851 licensed under the Creative Commons Attribution-Share Alike 3.0 Unported license.



Oct. 13, 2020 / WorldView2



April 16, 2021 / SkySat





*Heritage At Risk*

HT.074-0	Mets T'agher/ Böyük Tağlar Amenap'rkich Church
Dates	Built 1846
Baseline Image	2020-06-21 / GeoEye1
Monitoring Image	2021-05-16 / SkySat
Current Status	Threatened
Notes	The area of this cemetery has been deeply graded with bull dozer scars clearly visible in the April 9, 2021 image. A subsequent image capture from May 16, 2021 shows continued destruction in the area as earth and funerary materials have been pushed into a large berm adjacent to the new road construction.
Alerts	The threat to this church was thightlighted in a <a href="#">social media alert that CHW issued on May 4, 2021</a>
Image Credit	<a href="#">Photos below courtesy of Gayane Budaghyan</a>





June 21, 2020 / GeoEye1



May 16, 2021 / SkySat





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## HISTORICAL RESEARCH

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### *Working With Legacy Data to Document Heritage Destruction*

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CHW recognizes that the cultural heritage of the Nagorno-Karabakh region has already suffered multiple waves of destruction in its recent history. We are actively engaged in several forensic research projects to document aspects of past episodes of destruction and will release these reports on our website as they become available.

During this reporting period, CHW provided satellite documentation for an investigative study by Simon Maghakyan that appeared in [The Art Newspaper](#) on the destruction of Armenian churches in the village of Agulis, located in Azerbaijan's Nakhichevan Autonomous Republic. We unearthed declassified imagery captured in 1977 by the US government's KH-9 Hexagon photographic reconnaissance satellite, allowing us to confirm the obliteration of seven churches. Maghakyan was able to use interviews and archival research to date the destruction events to the late 1990s. Using declassified Cold War satellite imagery, CHW's historical research can provide a powerful tool for exposing past acts of cultural erasure.

### CURRENT HISTORICAL RESEARCH PROGRAMS



The Mosques of Nagorno-Karabakh.

CHW is working to develop a database of Islamic religious heritage in the Nagorno-Karabakh region. To date our efforts have been slowed by the lack of authoritative lists with geographic coordinates. We invite stakeholders to send us information they may have in order to aid in this research.



The Churches of Nakhichevan.

Recent investigations indicate the near total destruction of Armenian ecclesiastical structures in the Azerbaijani province of Nakhichevan. CHW has already provided documentation of church destruction in the town of Agulis, exemplified in the images at right, and will be extending this research.





The work of CHW has received media attention in several outlets during the last few months.

Our threat alert for Vankasar led to an article in RFE/RL headlined "[Activity At Recaptured Church In Azerbaijan Raises Concern](#)". The story was followed by a translated post on Радио Азаттык entitled "[Церковь на землях, перешедших под контроль Баку: опасения утратить древний памятник](#)".

Le Monde ran a piece featuring CHW's work and an interview with Lori Khatchadourian headlined "[Après la guerre au Haut-Karabakh, le patrimoine culturel arménien menacé](#)".

Our alert regarding the destruction of a cemetery in the villages of Mets Tagher/ Böyük Tağlar was picked up in an article on EurasiaNet on [Azerbaijan's controversial renovation of Ghazanchetsots Cathedral](#).

Our archival research into the fate of

Armenian heritage sites in Nakhichevan resulted in a piece in [The Art Newspaper by Simon Maghakyan](#) on the erasure of the churches in the village of Agulis. CHW provided the satellite imagery for the work.

Additional reporting on our investigations has appeared on [CivilNet](#) and other outlets in the South Caucasus. As a public facing monitoring organization, we welcome media inquiries. Please contact us at [chw@cornell.edu](mailto:chw@cornell.edu).

## IMAGE CREDITS

Except where noted at right and in the text, images are from SkySat captures of the Nagorno-Karabakh region.

The CHW logo and website were designed by Garen Harboyan & CodOptix.



Page	Scene	Source
Cover	Satellite view of Vankasar Church	SkySat, April 16, 2021.
3	Shusha Eastern Rampart	Credit: Areg Balayan licensed under the Creative Commons Attribution-Share Alike 4.0 International license.
5-6 & 19-20	Regional Map	©CHW 2021.
7	Detail, Khachkar at Dadivank Monastery	Credit: Alaexis, licensed under the Creative Commons Attribution 3.0 Unported license.
13	Tombstone with Engraving from Gandzasar Monastery	Credit: Adam Jones, licensed under the Creative Commons Attribution-Share Alike 2.0 Generic license.
14	KH-9 Hexagon reconnaissance satellite image of Agulis	USGS EROS Center
41	Upper Mosque of Shusha/Shushi	Credit: Nathan868, licensed under the Creative Commons Attribution-Share Alike 4.0 International license.
41	St. Tovma Monastery, Agulis in the early 1900s.	Archival image, History Museum of Armenia
42	KH-9 Hexagon and Google Earth comparative images from the village of Agulis, Nakhichevan, Azerbaijan. Top: the site of Surp Hakob Hayrapet. Bottom: Surb Hovhannes Mkrtych.	Basemap images from USGS/EROS (left) and Maxar Technologies/Google Earth (right).

### *Land Acknowledgements:*

*Cornell University is located on the traditional homelands of the Gayogohó:no' (the Cayuga Nation). The Gayogohó:no' are members of the Haudenosaunee Confederacy, an alliance of six sovereign nations with a historic and contemporary presence on this land. The confederacy precedes the establishment of Cornell University, New York state and the United States of America. We acknowledge the painful history of Gayogohó:no' dispossession, and honor the ongoing connection of Gayogohó:no' people, past and present, to these lands and waters.*

*We acknowledge Purdue University is located on the traditional homelands of the Woodland People. We honor and appreciate these indigenous caretakers, which include the Bodéwadmik (Potawatomi), Lenape (Delaware), Myaamia (Miami), and Shawnee People.*

### *How to cite this report:*

Khatchadouran, L., I. Lindsay, A. T. Smith. 2021. [Caucasus Heritage Watch Monitoring Report #1, June 2021](#). Ithaca: Caucasus Heritage Watch

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