

DIVISION C / WORKING GROUP ASTRONOMICAL HERITAGE IN DANGER

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TERMS OF REFERENCE:

The WG on Astronomical Heritage in Danger is proposing to continue being a Commission C.4 (World Heritage and Astronomy) working group, under IAU Division C (Education, Outreach and Heritage). Reporting to the President of Commission C.4

GENERAL MISSION:

The objective of the WG is to make a list of sites with relevant astronomical value for Humanity that are currently at risk. The purpose of this list is to influence governments, nongovernmental organizations, international agencies, local authorities and decision makers to achieve protection and care of these sites.

DESCRIPTION OF THE WG:

The working group has been confirmed at the beginning of 2016. The objective of the WG is to make a list of sites with relevant astronomical value for Humanity that are currently in danger. The purpose of this list is to influence governments, nongovernmental organizations, international agencies, local authorities and decision makers to achieve protection and care of these sites.

During the year 2016 and 2017 we studied the ICOMOS' criteria for the elaboration of their list of World Heritage Sites at risk. We have seen that the idea of the list proposed by the Working Group has been different, since ICOMOS seeks to point out sites that have been declared by UNESCO as a World Heritage site and are at risk. This implies that UNESCO has checked with the local authorities about their commitment to the preservation of the site and discovered dangers to the site. The list in preparation by the WG includes sites connected to astronomy that have been identified by ICOMOS as being in danger, and additional sites beyond these that IAU experts have determined are endangered. In fact, the list is especially relevant in the case of sites that are not considered Humanity Heritage of UNESCO, since they are the most threatened. Also, many sites are part of living traditions and therefore change over time since they are in use. That is why, it is necessary to develop conceptions of "heritage" that dialogue flexibly with local ideas and practices. Beyond that, the list is designed to contain the basic information about the sites to align with what UNESCO requires for submission for world heritage status. The preliminary structure that has been designed to request such information is a provisional characterization that, in about 400 words, accounts the following information:

Name of the site:

Country:

Short description (including cultures involved, age, contemporary usage, etc.)

Astronomical Relevance:

Is it declared a World Heritage Site?:

Situation of danger (main threats):
Suggested actions to avoid danger:

During 2020 a great achievement has been to homologate and prepare to publish the list of sites of astronomical heritage that are at risk that we have gathered during these years of work. It is a set of 15 sites in America, Africa and Asia. We attach the list as an appendix to this report.

ANNUAL REPORT 2022

1. Main Remarks During the year 2022

One of the main goals of the WG is to influence the decision makers. This is a difficult objective to achieve due to the political complexity of situations related to heritage and its protection, which vary by country. This is clearly evident in the observations of the experts who contributed to the reports on endangered sites incorporated into the WG list. In this direction, during 2020 Alejandro López started to be requested to give scientific advice to the Institute of Culture of Chaco, Argentina, in the context of the project to promote the meteoric dispersion of Campo del Cielo to the status of Provincial Cultural Heritage. In this direction, continuing what was done during 2021 (already reported in the previous report), during the year 2022 he coordinated the “NAUECQATAXANAQ: Programa de jóvenes guías moqoit para Campo del Cielo”, as an expert in cultural astronomy. This is a training program for young people of the Moqoit indigenous people of the Argentine Chaco. The objective is to train them as guides for the Campo del Cielo Meteorite Park, through interaction with elders from different Moqoit communities and courses on didactic tools and cultural astronomy taught by Alejandro López. The idea is, on the one hand, to build a way of appropriation by the young Moqoit generations of a space of great importance for this group but to which they have had a very restricted access in recent times; it also seeks to make visible the cultural, political and historical relations of the Moqoit with the meteorites; It is an opportunity of economic income for these young Moqoit and a way for the Moqoit to receive part of the economic benefits of tourism; it also seeks to intensify the exchange between youth and elders -especially in the context of the growing migration of young people to peri-urban areas-. All this is carried out in collaboration with the Dirección de Patrimonio Cultural Chaco and funding obtained from the Consejo Federal de Inversiones in Argentina. Three training camps were held, with the participation of young people, elders and community leaders (November 12-13, November 19-20 and December 3-4, 2022). Audiovisual recordings were made and a “Guía de Campo del Cielo” was prepared for use by future Moqoit guides.

In the same direction, Thomas Hockey chaired a Task Force of the American Astronomical Society [AAS] charged with recommending whether or not the AAS should formally

designate relevant historical sites and how it might do so. The Task Force's 2022 report recommended that the AAS do so, with suggestions regarding on-line, physical, and event record of such designation.

Light pollution, and in general the progressive and rapid disappearance of access to dark night skies, is a growing problem in terms of humanity's astronomical heritage. It is a problem that affects a large part of astronomical heritage across the board. We understand that it is important to include it from the perspective of astronomical heritage in danger, beyond other approaches to the problem that are carried out by the IAU. In this sense, Duane Hamacher has published two articles:

- Noon, K.; De Napoli, K.; Swanton, P.; Guedes, C. and Hamacher, D.W. (2023) *Safeguarding Indigenous Sky Rights from Colonial Exploitation*. In *Routledge Handbook of Social Studies of Outer Space*, edited by Juan Francisco Salazar and Alice Gorman. New York: Routledge
- Hamacher, D.W.; De Napoli, K.; and Mott, B. (2023) *Whitening the Sky: light pollution as a form of cultural genocide*. In *Stories of the Sky, Proceedings of the 18th Annual Sophia Centre Conference*, edited by John McKim Malville. Lampeter, UK: Sophia Centre Press.

He also, during 2022, developed a new university course that he will teach for the first time in December 2023:

[PHYC30025: Safeguarding Dark Skies](#) (University of Melbourne). It is taught between physics, biosciences, and design.

In reference to our goal of achieving greater visibility in the academic expert community, in 2022 we will hold a round table on astronomical heritage at the joint meeting of the Oxford Conference-VIII Jornadas Interamericanas de Astronomía Cultural “ ‘Living skies’/ ‘Cielos vivos’, Astronomies, cultures and societies / Astronomías, culturas y sociedades co-organized by the Sociedad Interamericana de Astronomía en la Cultura and the International Society for Archaeoastronomy and Astronomy in Culture, in the Facultad de Ciencias Astronómicas y Geofísicas, Universidad Nacional de La Plata, La Plata, Argentina, from October 31 to November 4, 2022, This important event (the Oxford conference is the largest world event in cultural astronomy and this is the first time that it will be held in conjunction with a SIAC meeting) was a critical opportunity to meet the goal of engaging the global community of experts in cultural astronomy around the issue of astronomical heritage at risk. In this same direction, Alejandro López was invited speaker at the round table "Astronomia cultural e patrimônio: questões em torno da base espacial em terras quilombolas em Alcântara", coordinated by Priscila Faulhaber, in the framework of the 33rd RBA Reunião Brasileira de Antropologia (August 28 to September 3, 2022), presenting the contribution “Cadenas celestiales: Un marco general para pensar los conflictos entre instalaciones astronómicas y poblaciones locales” and being part of the subsequent debate together with

Marcio D'Olne Campos (Unicamp), Davi Pereira Junior (University of Texas at Austin), and Dorinete Serejo Morais (Mabe). 31/08/2022.

An important issue is to achieve expert visibility, especially among young researchers. For this reason, it is a key contribution to introduce the discussion of endangered astronomical heritage in undergraduate and graduate courses. During 2022 we did so in the following courses:

- Alejandro López Postgraduate Course “Una antropología del cielo: introducción a la astronomía cultural” in the Maestría en Antropología, Facultad de Filosofía y Humanidades, Universidad Nacional de Córdoba, Argentina, from July 11 to 15, 2022, with a total of 45 hours.
- Alejandro López unit “Aproximación antropológica” in the graduate and postgraduate seminar “Introducción a la astronomía en la cultura”, Facultad de Ciencias Astronómicas y Geofísicas, Universidad Nacional de La Plata, Argentina. 19/04/2022 al 07/06/2022, 6 classes of two hours each.
- Alejandro López Course "Sociology of knowledge & Ethnoastronomical Methodology" (3 hs duration) in the IX Escuela Interamericana de Astronomía en la Cultura-X La Plata International School on Astronomy and Geophysics (LAPIS), held in the Facultad de Ciencias Astronómicas y Geofísicas, Universidad Nacional de La Plata, La Plata, Argentina, from october 24 to 28, 2022.

Also, during 2022, we do some actions of public communication of the problems linked to the astronomical heritage in danger. For example:

- Alejandro López was interviewed by Lucía Dozo for the Ñ supplement of Clarín newspaper, about the Campo del Cielo meteors and their relationship with the Moqoit indigenous People. This article appeared on February 25, 2022 in the digital version of the supplement (https://www.clarin.com/revista-enie/ideas/sembradio-estrellas-sudoeste-chaqueno_0_qt4MkzKRG1.html) and in reduced form on February 26, 2022 on page 8 of the printed version of the supplement.

During 2022 the members of the group made these related publications:

- López, Alejandro M. (2022) “El cielo entre nosotros: Patrimonio y dinámicas socioculturales en el Chaco Argentino”, In Lía Ferrero y Eduardo Restrepo (eds.) Memorias del VI Congreso de la Asociación Latinoamericana de Antropología: “Desafíos Emergentes. Antropologías desde América y El Caribe”, Vol. 6, Thematic axis 15 “Procesos étnicos e interculturalidad: cosmologías, espacio de creencias políticas-religiosas y espirituales nativas”, Symposium 128 “Políticas patrimoniales y conocimientos indígenas sobre el campo de relaciones cielo-tierra”, coordinated by Priscila Faulhaber, Alejandro M. López and Ricardo Moyano (conference held in 2020),

pp. 443-452, Asociación Latinoamericana de Antropología, Montevideo. ISBN: 978-9915-9333-5-1

Another important objective of the WG is to increase the number of its members. During 2022, we added two regular members and one associate member, who will officially join in 2023.

2. Future

The COVID-19 pandemic poses a major challenge for everyone. In particular, this is true for the goals that we set for the 2021-2024 triennium. In this sense, during 2022 we will focus on the following aspects:

1. Promote, through electronic tools, the knowledge by the experts in cultural astronomy of the basic format of the case proposal for listing of astronomical heritage at risk prepared by the WG. The preliminary structure that has been designed to request such information is a provisional characterization that, in about 400 words, accounts the following information:
 - Name of the site:
 - Country:
 - Short description (including cultures involved, age, contemporary usage, etc.)
 - Astronomical Relevance:
 - Is it declared a World Heritage Site?
 - Situation of risk (main threats):
 - Suggested actions to avoid risk:
2. Make public the present list of sites in danger, through various electronic channels, first of all the Portal to the Heritage of Astronomy (<https://www3.astronomicalheritage.net/index.php>)
3. Achieve greater visibility within the community of professional and amateur astronomers. In this sense, it is key to put them in contact with the results of the investigations of those who dedicate themselves to cultural astronomy. This can show them the relevance of issues related to identity, ethnic and cultural conflicts and colonialism for astronomical heritage.