

## **COMMISSION B7+C4 / WORKING GROUP WINDOWS TO THE UNIVERSE**

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	<b>with broad community and government participation</b>

### **TRIENNIAL REPORT 2015-2018**

#### **1. Introduction**

This inter-commission B7-C4 Working Group (WG) was established to support the development and coordination of one or more nominations of modern astronomical observatory sites for inscription on the UNESCO World Heritage List (WHL). The goals of having these observatory sites recognized as World Heritage Sites are twofold:

(a) to enhance the recognition of these sites for their exceptional scientific and cultural value (in line with the goals of Commission C4), and

(b) to enhance the protection of these places as sites of active astronomical research, particularly focusing on protection against mining, light pollution, and radio spectrum interference (in line with the goals of Commission B7).

As a joint initiative, the WG has worked with experts from the UNESCO World Heritage Centre and advisory bodies to explore the options for the development of nomination portfolios. The WG has worked in association with groups at both national and international levels, including selected government officials from interested countries, to coordinate efforts exploring one or more proposals that may include serial international nominations.

#### **2. Developments within the past triennium**

##### *2.1. 2015*

Discussions for the formation of this WG (as a continuation of the previous Windows to the Universe initiatives from previous commissions) began in a splinter meeting at the IAU General Assembly in Hawaii. The meeting included participation from a diverse set of representatives of international observatories and other interested parties, notably including a representative of the Chilean government. The group agreed to the formation of the WG under the auspices of both Commission B7 and Commission C4 to capture the

dual nature of the initiative, preserving world-leading astronomical sites for both their intrinsic cultural and natural value as well as their scientific importance as platforms of current and future research. It was agreed that the IAU WG would work closely with national efforts, particularly in Chile and France, both of which had World Heritage initiatives underway related to active observatory sites.

Earlier in 2015, Michel Cotte and Clive Ruggles had co-authored a study exploring the serial nomination of “High Mountain Observatories”. To complement that study, the Chilean participants, together with the Chilean government, commissioned a complementary report by Clive Ruggles specifically to explore the options for the multiple active world-class astronomical sites in Chile, including the sites of the AURA Observatory (Cerro Tololo and Cerro Pachon), Las Campanas Observatory, the European Southern Observatory (Cerro La Silla and Cerro Paranal), and the ALMA site. Dr. Ruggles carried out his site visits in Chile during Decemeber 2015.

### 2.2. 2016

In February 2016, Division C formally approved the creation of the inter-commission WG, officially titled “Windows to the Universe: High-Mountain Observatories, and Other Astronomical Sites of the Late 20th and Early 21st Centuries.”

In mid-2016, Clive Ruggles completed the report on the possibility of developing a World Heritage nomination for the leading observatories in Chile. The report contains detailed suggestions and recommendations, but can be summarized with the following quote:

In my [Clive Ruggles’] view a viable proposal for inscription on the World Heritage List could certainly be developed as a serial nomination involving several of the observatories in northern Chile, focusing upon the extraordinary advances in humankind’s conceptions of the cosmos in modern times through extraordinary technical innovation and scientific inspiration achieved in some of the most exceptional locations on the planet.

Also in mid-2016, one of the co-chairs for the WG, Remi Cabanac, stepped down. As Cabanac had represented the active French initiatives and activities related to developing a World Heritage nomination for Pic du Midi, the new director of Pic du Midi, Eric Josselin, was nominated to assume the role of co-chair of the WG.

As efforts to move forward on developing a World Heritage nomination in Chile intensified, questions arose about the possible constraints such a designation might have on operations and future developments at the active observatory sites. Most of the sites under consideration had plans for next-generation facilities under development, including the LSST, GMT, and E-ELT projects. In order to better understand the possible impacts of the national processes and declarations necessary to move forward with one or more World Heritage nominations, in late 2016 the international observatories in Chile commissioned a study of the potential legal and political impacts of pursuing cultural or natural site declarations under the framework of the Chilean National Monuments laws and regulations.

### 2.3. 2017

Although not the work of this WG, the efforts in the development of WHL portfolios passed an important milestone in June 2017 with the publication of the second ICOMOS-IAU Thematic Study on Astronomical Heritage.

In mid-2017, the Chilean study of legal framework for World Heritage nominations was completed. This study outlined the steps involved in such nominations, and specifically

explored the options for the initial national protection which would provide the foundation for the nomination to UNESCO World Heritage List. The comparative analysis provided a clear indication of the risks involved in declarations based on the protection of cultural landmarks, and a recommendation that declarations based on the natural aspects of the observatory sites would be a better fit at both the national and World Heritage levels, given the objectives of protecting the characteristics of the sites that make them such outstanding locations for world-leading astronomical facilities.

### 3. Closing remarks

Clearly the recently completed Chilean study is not definitive for all of the modern astronomical sites under consideration for World Heritage List nominations. It does however serve as an important case study, and outlines innovative paths to explore both at national and UNESCO World Heritage levels. The Windows WG should continue to support the exploration of all potential paths toward World Heritage List nominations, along with other potentially complementary internationally recognized declarations, including those of Starlight, the International Dark Sky Association, and even possible protections under the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS).

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