

Astronomy for Development actions in long-standing refugee situations: the Amanar initiative.

Dr. Sandra Benítez Herrera

Instituto de Astrofísica de Canarias

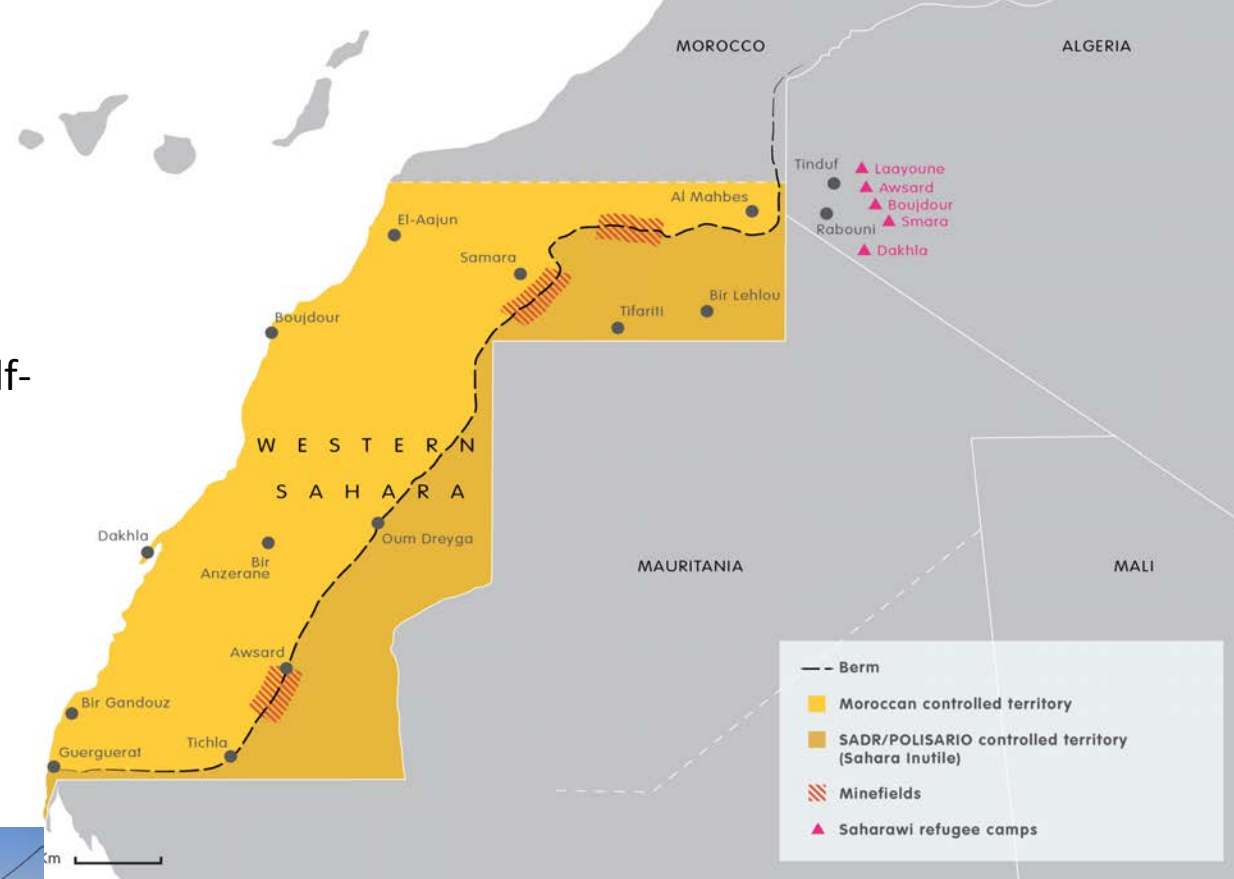
GalileoMobile



Amanar aims to support and inspire the Sahrawi community from the refugee camps in Tindouf, Algeria, using Astronomy. The initiative pays special attention to Sahrawi children and youth in order to awaken their interest in science, stimulate their imagination and critical thinking and enhance their resilience. The project also promotes mutual understanding and cultural exchange through the study and preservation of the Saharawi rich astronomical traditions and knowledge of the sky. The project had two phases. The first part of the project was developed in three of the Canary Islands on July and August 2019, and combined visits to the professional observatories with educational activities about the Universe and astronomical observations for the Sahrawi children who spend the summer in the islands (and the rest of Spain) together with Spanish families, within the successful and long-standing “Holidays in Peace” program. In October 2019, the team travelled to the Sahrawi refugee camps in Tindouf and promoted Astronomy outreach activities for students as well as teachers workshops to encourage educators to use Astronomy as a didactic tool and contribute to the improvement of the quality of education in the region. Telescopes and educational materials were also donated to the visited schools. In this talk we will present the results and best practices learned from the project, the planned actions to ensure its long-term sustainability and discuss the impact this type of activities can have globally in the framework of Astronomy for Development.

The Western Sahara Conflict

- Former Spanish colony, faced a **failed decolonization process** and **the invasion** by Morocco in the 70s, leading to a long war.
- In 1991 the UN established a **Peace Plan** with the promise of a self-determination referendum.
- The Sahrawi population is **still waiting in a situation that is both temporal and permanent**.



200.000 refugees, 40.000 children and youth

Main Challenges:

1. Rely on humanitarian aid, very small trade/economy
2. Water, fresh food and medicines supplies
3. Few opportunities for the youth (highly qualified leave)

The Amanar project

- The Sahara and the Canary Islands share strong and historical ties.
- In collaboration with the **Canarian Association of Friendship with the Sahrawi People**, the **Holidays in Peace** program and the Instituto de Atrofísica de Canarias.

Objectives:

1. Promote **quality science education** in the region.
2. Support the **local schools**: teacher workshops & donation of material.
3. **Inspire** the children and the youth: skill development & vocational training.
4. Research on their **own Astronomical knowledge**.
5. Raise **awareness** about the harsh conditions of the Sahrawi population.
6. Allow participants to share their experiences **worldwide**, via different audio-visual products.



Activities in the Canary Islands



July - August
2019



Activities in the refugees camps in Tinduf, Algeria

Secondary students



October
2019



Teacher trainings

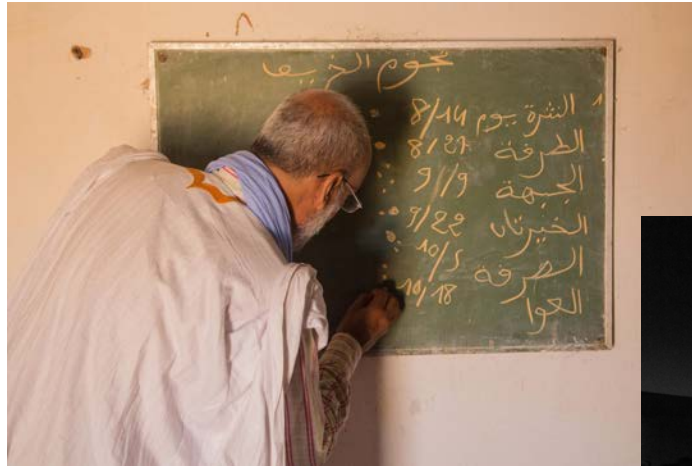
Ethnoastronomy Research

- Traditional Arab system based on the visibility of risings and settings of specific stars and asterisms. Used for prediction of atmospheric conditions, orientation in the desert & religious practices.
- Results will be presented at the annual meeting of the European Society for Astronomy in Culture next year.

Share the experience with a worldwide audience

Products:

1. Virtual reality video
2. Linear documentary
3. Interactive documentary



Impact

Schools + centres	6
Children and youth	550
Teachers	66
General public	60
Public in the Canary Islands	148
TOTAL Amanar 2019	824



- Positive feedback from participants and collaborators
- Interest shown by other Spanish Astronomical Institutions to participate in the summer program 2020
- Several articles about the project in international journals:
<https://www.nature.com/articles/s41550-020-1053-z>
- A lot of attention in regional written and digital press and radio
- Highlighted at the EAS conference closing ceremony
- Two grants awarded by the IAU Office of Astronomy for Development and one by the IAU100 program