

Statement of Work Update for “Ciencia Abierta Accesible: Community-Based Teaching of the TOPS OpenCore Online in Spanish” (Grant Number 80NSSC23K0854)

The **bolded** content represents updates to the award objectives after the realization of these risks:

- NASA TOPS Program Officer Steven Crawford informed us that NASA TOPS will not provide a Spanish translation of slides nor the MOOC for the TOPS OpenCore Modules.
- We had access to beta versions of TOPS OpenCore Modules during the first week of August 2023. This grant was written using the information provided in [the call through which this grant was awarded](#), assuring that OpenCore Modules would be public by April 1st, 2023.

Updated objectives

- **Develop contextualized and accessible versions of the NASA TOPS OpenCore Modules for Spanish-speaking audiences.**
- **As new stable versions in English of the NASA TOPS OpenCore Modules are released, update the contextualized Spanish-speaking NASA TOPS OpenCore Modules once a year.**
- **Champion NASA TOPS in low-resourced research environments through conference presentations, publications, press releases, social networks, and community activities.**
- **Conditional on the public availability of an initial version of inclusive and accessible NASA TOPS OpenCore Modules, train virtual cohorts with these contents until June 30th, 2026.** Each cohort will receive 6 weeks of online training covering the 5 NASA TOPS OpenCore modules in Spanish.
- Steward a supportive and inclusive Spanish-speaking online community around NASA TOPS training.

Justification for the Update

Open Science is about lowering barriers to knowledge. Indeed, NASA TOPS recognizes that equity, diversity, inclusion, and accessibility to learning opportunities are crucial. However, during the review of the first version of the training material we had access to in the first week of August, we reported that “the material indicates that many aspects of diversity, inclusion, and accessibility are currently neglected” (see MetaDocencia’s team submission to [this form](#)). There is also the realized risk that NASA TOPS will not translate its educational materials to Spanish.

Both risks put us in the privileged position to work alongside NASA TOPS to attend to these critical matters immediately because we have experience in content design, for example, contextualizing to Spanish the book Teaching Tech Together (<https://teachtogether.tech/>), being bilingual Carpentries trainers and instructors, and contextualizing Carpentries lessons to Spanish-speaking regions. In addition to knowing about Open Science in low-resourced research environments, MetaDocencia knows how to develop educational content effectively. Indeed, that is our origin and what our name implies in Spanish. That is why we are confident we will be able to successfully advise the current development of the NASA TOPS OpenCore Modules, contextualize it to Spanish once a stable version that attends to inclusivity, diversity, and accessibility is released, and keep the contextualization to Spanish up to date yearly until the end of this award.

The NASA TOPS OpenCore content delays already experienced demonstrate that flexibility in timelines will be necessary. Versatility is one of [our values](#). We understand that achieving the ambitious NASA TOPS mission will not happen overnight. That is why we are adding the objective of becoming NASA TOPS Champions in low-resourced environments through conference presentations, publications, press releases, social networks, and community activities. This will be key to attracting the inclusive and diverse audience that NASA TOPS seeks. Some examples of how we are already doing this are:

- [The csv,conf,v7 keynote talk captioned to Spanish and bilingual accessible slides](#) (Buenos Aires, Argentina, 2023). This video will soon also have high-quality human-edited English subtitles for increased accessibility.
- Press pieces such as [this one](#) and [this one](#).
- We are currently starting a campaign through our diverse network to attract examples to [Open Science Stories](#).
- We submitted to peer-review a piece to Nature Human Behaviour about Open Science and Generative Artificial Intelligence, with all co-authors coming from Argentina and Uruguay, where NASA TOPS is heavily referenced and acknowledged as the funder.
- We submitted an invited talk to AGU 2023.

In our experience, translation can be seen as simply putting content through an automated tool. The quality of such translation will look good enough only to persons who do not speak the translated language and who do not need the translation. That usually results in the actual targeted audiences feeling that they are excluded second-class learners. That is why MetaDocencia does contextualization, rather than translation. Contextualization goes much further than translation - which is already much more than simply putting a text through an automatic translator.

For example, as part of the TOPS content contextualization, we will engage with NASA TOPS to include examples that speak to global audiences, including some in Spanish, such as those in <https://ciencia.nasa.gov/>, and we will lead the development of a multilingual community glossary of Open Science terms. Also, it is a lot more work to make something accessible when it is not designed from scratch with accessibility in mind. Our team of accessibility experts will review the application of best practices throughout the Spanish materials, both text and images, and we will consider subtitles, dubbing, or re-versioning of videos if needed.

Contextualization efforts can be done more efficiently only once stable versions of the original materials are available. However, OpenCore Modules are expected to be stable by December 2023. To keep up with this dynamic and somehow unpredictable scenario, we will monitor the development of the English content to plan the adaptation to Spanish. However, we will keep a flexible schedule for providing an initial, complete version of the Modules in Spanish. We will also stay flexible regarding the number and dates of the virtual cohorts to offer.

In a nutshell, all of the modifications above seek to honor MetaDocencia's inclusion value and the NASA TOPS mission to build an inclusive culture of open science. They will allow us to guarantee that the learning experience for Spanish-speaking cohort participants will be as high-quality as that of the learners participating in the English-first NASA TOPS learning experiences.