

### 3.23 HYDRO-METEOROLOGICAL OBSERVATORY OF CORDOBA, ARGENTINA

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Very few countries in Latin America have Weather Radars in operation and even less have managed to integrate them as a network along with some other remote sensing instruments for hydrometeorological monitoring. More developed countries around the globe have already recognized its importance decades ago, as these systems are crucial for everyday nowcasting and, more importantly, for decision making over large regions of intense storm generation as the central region of Argentina. This region arguably has among the most intense convective systems in the world with respect to the frequency of large hail, height of storm tops and extreme lightning activity[1].

In the wake of these facts, Argentina's National Government started a radarization programme called SiNaRaMe (Sistema Nacional de Radares Meteorológicos) in 2010. Its main purpose consists in providing weather radar coverage for the Argentine territory by integrating and upgrading existing infrastructure[2] and more importantly, by fully manufacturing twelve new generation weather radar systems (the RMA series). In parallel to this ambitious goal, is the need for specialized human resources. Engineers, scientists and technicians capable of exploiting a weather radar network full potential. In order to create valuable human resources, among several training courses -both locals and internationals-, a MSc. career in Radar Systems and Instrumentation was created in Cordoba province in 2012. This important milestone was possible thanks to the joined efforts between two recognized Universities: the National University of Cordoba (UNC) and "Instituto Universitario Aeronáutico (IUA)".

Since 2015, Cordoba's State Government in particular has made important efforts to implement a central region dedicated organism, focused on preventing hydrometeorological catastrophes by remote sensor data analysis, both real-time and forecasted or modeled. This organism is the Hydro-meteorological Observatory of Cordoba. This entity is being developed with a measure of success and it is expected to be fully operational by the end of this year.

Even though radar and other remote sensing technologies are incipient in Argentina, a lot has been achieved in a relatively short lapse and a lot of know-how has been capitalized. Nevertheless, much more is yet to be done as a very challenging goal approaches for Argentina: its remote sensing network calibration process!

#### References

[1] RELAMPAGO (Remote Sensing of Electrification, Lightning and Mesoscale/micromscale Processes with Adaptive Ground Observations) white paper, 2016, <https://publish.illinois.edu/relampago/>.

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[2] Meaning many other remote sensing instruments for hydrometeorological monitoring e.g. weather stations, disdrometers, limnimeters, lightning-strike detectors, etc.

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