

# **Floods in the southeastern region of Brazil, December 2013**

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Dear friends attending the Global Amateur Radio Emergency Communications 2014 conference (GAREC 2014), it is a pleasure to describe for you, in summary, the information received from the radio amateurs of Espírito Santo, Brazil, about the emergency communications activities that they carried out during the floods and landslides provoked by intense rains that hit the southeastern region of Brazil during December of 2013. The result was approximately 70 thousand persons affected, a death toll of 45 and significant economic losses in the states of Espírito Santo, Minas Gerais and Bahía.

Once again, the solidarity of radio amateurs towards their fellow men and affected communities is evident when facing a situation of emergency or disaster.

## **Introduction**

December 2013 had record highs of rain in three Brazilian states: Espírito Santo, Minas Gerais and Bahía.

According to the analysis of the Brazilian National Meteorology Institute (INMET), in Aimores, Minas Gerais, the rain recorded was 852.4 millimeters for the rains between December 1 and 27 of 2013, representing more than 400 % the average of rain recorded for that month.

According to the UN Office for the Coordination of Humanitarian Affairs, the extreme rains provoked floods and landslides in wide areas of the southeastern states of Brazil, leaving 45 dead persons.

The government of Espírito Santo (ES) considered that the cost to repair the infrastructure of ES is of approximately 540 million Reales (about US\$ 227 million).

According to Renato Casagrande, the Governor of Espírito Santo, the floods of December 2013 in ES have been the worst recorded in the last nine decades.

## **Radio amateurs of Espírito Santo (ES)**

The strong rains of December 2013 in southeastern Brazil provoked floods and landslides, power failures, problems in telephone, mobile and internet service, and isolated communities in the state of Espírito Santo (ES), affecting 70 % of municipalities.

Facing the need of information and communication with the different communities of inland ES that were isolated (among them Santa Leopoldina and Itaguacu), the office of Civil Protection and Defense of Vitoria, capital city of Espírito Santo, contacted Renán de Almeida, PU1AR (ex-PU1ARE), who up to a few years ago had been the coordinator of the National Amateur Radio Network of the State of Espírito Santo (RENER-ES), in order to contact, summon and coordinate radio amateurs to operate the communications of the Operations Command System (SCO) of Vitoria, provide support and establish communications with radio amateurs located in inland communities and at the municipal emergency operations centers of the state of Espírito Santo, which are coordinated by the Civilian Defense of ES.

The emergency communications were held on 7.125 MHz, due to the propagation characteristics for long-distance communications during the afternoon and evening until dawn. The 2-meter frequency of 146.500 was also used.

Some of the radio amateurs of Espírito Santo were transported by air along with their own HF equipment to different communities using any means available by the State Civilian Defense of Espírito Santo. They had to establish communications and provide support to humanitarian aid activities in those locations.

Kennedy Sandoval, PP1KS and Luis Paulo, PU1GLP, with their equipment, were taken to Santa Leopoldina, which was isolated and seriously affected by the rains. A few minutes after they arrived, they already had a radio station in operation and were able to establish communications with the Civilian Defense headquarters in Vitoria.

Luis Paulo, PU1GLP, despite being a young radio amateur, operated the radio station at Santa Leopoldina uninterruptedly for 72 hours.

Likewise, Renán de Almeida, PU1AR, and André, PU1BGT, were taken to Itaguacu, planning to remain there for 12 hours. However, due to transportation problems and needs that arose, they remained there for three days.

## **Recognition to the radio amateurs of Espírito Santo**

Carlos Marcelo D'Isep Costa, State Coordinator of the Civilian Defense and Military Firefighters of Vitoria, Espírito Santo, on February 25, 2014, sent a written recognition to the 16 radio amateurs of Espírito Santo for their organization capacity, knowledge of emergency radio communications, basic knowledge of Civilian Defense, effective and productive integration into emergency operations centers, and solidarity with their communities, shown during the floods of December 2013.

During an interview in a local TV channel in Vitoria, ES, Renán de Almeida, PU1AR, said: "We are comforted, even though we leave our families, knowing that we can help others that are in a much more difficult situation."

## **Self-analysis of the radio amateurs of Espírito Santo**

After the floods of December 2013, the radio amateurs of Espírito Santo stated:

1. That situations similar to this can happen in the future
2. That emergency practices with new communications modes should be encouraged
3. That youths should be lured into amateur radio in order to increase the number of radio amateurs, given the dynamism that they showed during the floods
4. There should be at least one radio amateur in every municipality of Espírito Santo, in order to facilitate emergency communications when the communities are affected by the interruption of conventional communications.

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73,

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