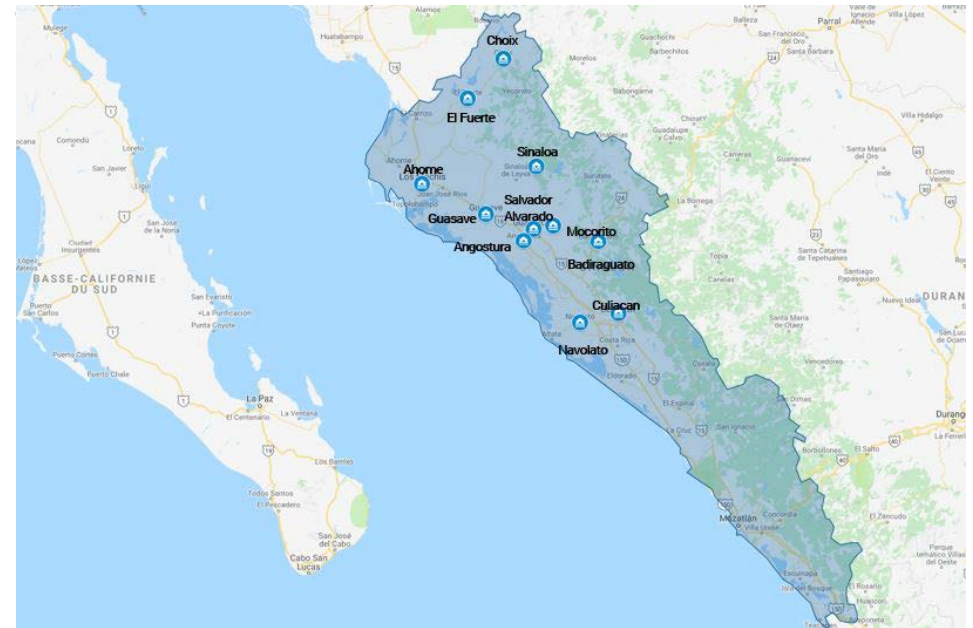# MEXICO
Floods in Sinaloa State

In the northern state of Sinaloa, more than 150,000 people were affected by the passage of tropical depression 19-E near the eastern coast of Mexico from 18–21 September. Around 3,500 people were evacuated to temporary shelters and flooding damaged more than 19,000 houses. The agricultural sector reported significant damage and loss of livelihoods.

NEED FOR INTERNATIONAL ASSISTANCE

Not required   Moderate   Major

IMPACT

Very low   Moderate   Major

Anticipated scope and scale

The floods are likely to have a **long-lasting impact** on the economy of rural households, whose livelihoods have been most affected by the loss of crops and cattle.

Humanitarian response is ongoing, but **more rainfall** is expected in the coming days and is likely to interrupt aid and recovery efforts. Another tropical storm is forming 555 kilometres off Mexico's southwestern coast. Although it is not yet clear when and where the storm might impact the country, it could have significant consequences for the population that has already been affected.

Key priorities

+3,500
people evacuated

+19,000
homes damaged

+20,000
hectares of crops damaged

Humanitarian constraints

Floodwaters have damaged 70 kilometres of motorway, and several local roads and at least two bridges have collapsed. Helicopters are required to access some of the most affected areas.

Limitations
Evaluation of the extent of the damage is continuing. Information on needs is limited. Lack of transparency about the delivery of aid makes it unclear which needs have been covered.

Crisis impact

The passage of tropical depression 19-E near the eastern cost of Mexico from 18–21 September led to heavy rains and strong tides in the northern states of Baja California Sur, Sonora and Sinaloa.

In Sinaloa, around 360 millimetres of accumulated rainfall were observed. This represents in less than four days more than 40% of the usual annual rainfall for the state (INEGI, 2018). The municipalities of Ahome, Choix, Culiacán, El Fuerte, Navolato, Salvador Alvarado, Guasave, Sinaloa, Badiraguato, Angostura and Mocorito were particularly affected, and were declared a disaster area by the government (El Sol de Sinaloa 27/09/2018, El Debate 24/09/2018).

Around 3,500 people were evacuated because of the storm, which killed at least four people. It is unclear how many have been able to return to their homes. Although the state of emergency was lifted on 23 September, the storm caused widespread damage (El Universal 21/09/2018).

Food security and livelihoods: The floods damaged at least 20,000 hectares of crops (El Universal 23/09/2018). According to the State Secretary of Agriculture and Livestock, the floods caused the loss of 112 metric tons of farm products, and 58,000 day labourers are without work due to the suspension of agricultural activities. The local government estimates that 15,000 livestock and 500,000 poultry died in the floods. The total economic loss is estimated at more than 800 million pesos, or around USD 43 million (El Sol de Sinaloa 26/09/2018).

Shelter: The extent of shelter damage is not yet known as an assessment is ongoing. By 28 September, the floods had damaged at least 19,000 houses (El Universal 21/09/2018, El Debate 28/09/2018). In Ahome, one of the most severely impacted municipalities, at least 852 people had to be evacuated from their homes to a temporary shelter. As of 30 September, it was unclear if the evacuees had been able to return home.

Education: The floods structurally damaged more than 200 public schools, leading to the suspension of classes. Most of these schools are in rural areas where the quality of the educative infrastructure is already limited. Several other schools are also being used as temporary shelters (Milenio 23/09/2018, El Universal 24/09/2018).

WASH: Access to clean water was interrupted for 150,000 people because of the floods. According to the local authorities, 60% of the affected population had access to water as of 24 September. The service was expected to be fully restored in the following days, including in the most affected communities where floodwaters washed away water pipes (El Debate 24/09/2018). However, as of 27 September, 60,000 people were waiting for the delivery of water pipes to restore their access to clean water (Government of Sinaloa 27/09/2018). It is unclear which communities or municipalities have the most pressing needs for water.

Health: Limited access to clean water increases the risk of transmission of waterborne and vector-borne diseases. The health authorities carried out preventative activities, including free medical consultation and the fumigation of high-risk areas, in the 18 municipalities of Sinaloa (La Jornada 21/09/2018). Underlying access to health services in the state of Sinaloa is not comprehensive, with an estimated 12% of the population lacking access to health services (CONEVAL 2016).

Vulnerable groups affected

There is limited information on the specific groups affected, however protection concerns are expected to be elevated for vulnerable groups such as children, women, older people, and people with disabilities. Women and girls are particularly vulnerable to security risks around temporary shelters when displaced by natural disasters. There is an increased risk of exposure to incidents of rape, sexual assault and gender-based violence, and such incidents go largely underreported. People with disabilities and older people may find leaving their shelters more challenging. Difficult terrain acts as a barrier to accessing relief shelter or aid. Children are at risk of exploitation and abuse, especially when left unattended during the recovery period when their parents may be busy collecting relief items and restoring livelihoods. The lack of disaggregated data on the affected population (indigenous, gender, age, disabilities, etc.) can impact the effectiveness of the response.

Humanitarian and operational constraints

The floods damaged several roads, including highways, and some communities are still cut off and/or hard to reach, affecting not only the delivery of aid, but also the evaluation of the damage and needs. Access is especially constrained in the municipalities of Ahome and Fuerte (El Universal 21/09/2018). According to the regional director of the Secretary of Transportation and Communication, floodwaters damaged 70 of the 809 kilometres of highways in the state, especially between the cities of Los Mochis and Ciudad Obregon, where two bridges have collapsed (El Debate 24/09/2018).

Aggravating factors

Hurricane season

Mexico is particularly exposed to tropical systems. The wet season from May to late November is often marked by tropical depressions, storms and hurricanes. The latest hurricane was Rosa (category 1), which is approaching the northwestern coast of

Mexico. Rosa, set to land in the State of Baja California Sur on 1 October, is causing moderate rainfall in Sinaloa, delaying the recovery process and the return of normal water levels (El Universal 29/09/2018). Another tropical storm, Sergio, is forming over 500 km from the west coast of Mexico. Though it is still unclear where and when the storm will hit the country, heavy rainfall is expected throughout the week and could impact the current response while deepening the needs of the affected population (SIPSE 29/09/2018, National Weather Service 30/09/2018).

Violence

On 27 September, armed men opened fire on the streets of Culiacan city, hitting a public school that was being used as an aid collection centre for the families affected by the floods (La Jornada 28/09/2018). Though the school does not appear to have been the target of the attack, this event illustrates the violent context in which relief operations and the recovery process take place. Similar incidents are frequent in the state of Sinaloa, a stronghold of organised crime in Mexico. The state is part of the "Golden Triangle" (which encompasses the states of Sinaloa, Chihuahua and Durango), where most Mexican drugs are produced. The high crime rate also maximises the vulnerabilities stemming from poverty, lack of local governance, corruption and limited access to basic public services in the state of Sinaloa.

Poverty

Pre-existing socioeconomic vulnerabilities are of concern in Sinaloa. The latest census shows that almost 40% of the population in the state of Sinaloa live in poverty (CONEVAL 2016) and the incomes of roughly 26% are insufficient to cover the cost of the basic food basket (CONEVAL 2018). Some of the municipalities most affected by the floods are also among the poorest in Sinaloa state, such as Badiraguato (where about 66% of the population live under the poverty line), Choix (about 55%), Sinaloa (about 52%) and Mocorito (about 50%) (CONEVAL 2015).

Key characteristics

Key indicators	Mexico	Sinaloa
Total population	127,000,000 (WHO 2016)	2,966,321 (INEGI 2015)
Living in poverty	43.6% (World Bank 2016)	39.4% (CONEVAL 2016)
Health	Life expectancy: 77.1 (World Bank 2016) Infant mortality rate: 12.6 (World Bank 2016)	Life expectancy: 75.9 (INEGI 2016)

Response capacity

Local and national response capacity

Plan DN-III-E: Mexico counts on a National Defence plan to respond to natural disasters, implemented primarily under the Secretariat of National Defence (Secretariat of National Defence 09/06/2015). Some 812 soldiers were deployed to Sinaloa to execute Plan DN-III-E, including assessment and rescue operations as well as to the removal of debris and the clearing of roads. Another 516 soldiers were to join them, and five helicopters were assigned to help with the states of Sinaloa and Sonora (El Universal 24/09/2018, La Jornada 24/09/2018).

Plan Marina: On 20 September, the Secretary of the Navy (SEMAR) activated Plan Marina in four of the northern states affected by tropical depression 19-E, including Sinaloa (Proceso 20/09/2018). Some 183 marine soldiers were deployed in the state along with a helicopter and two light boats to help with the evacuation of the people in need (La Jornada 22/09/2018). The plan was also activated on 28 September in a preventative manner to reduce the risk to human lives posed by hurricane Rosa, which is expected to make landfall in the State of Baja California Sur on 1 October (Secretaría de Marina, 28/09/2018). SEMAR is also planning to deliver 11 metric tons of humanitarian aid (including food, NFI and WASH material) to the impacted communities in Sinaloa (Excelsior 28/09/2018, Eje Central).

Natural Disasters Fund (FONDEN): The 11 municipalities that were declared a disaster area will benefit from the Natural Disasters Fund managed by the National System of Civil Protection. Is it still unclear how much money will be allocated to respond to this specific crisis (Secretaría de Gobernación 24/11/2016).

Information gaps and needs

There is conflicting information regarding the damage caused by the floods, especially in terms of the clean water system and the shelter and education infrastructure.
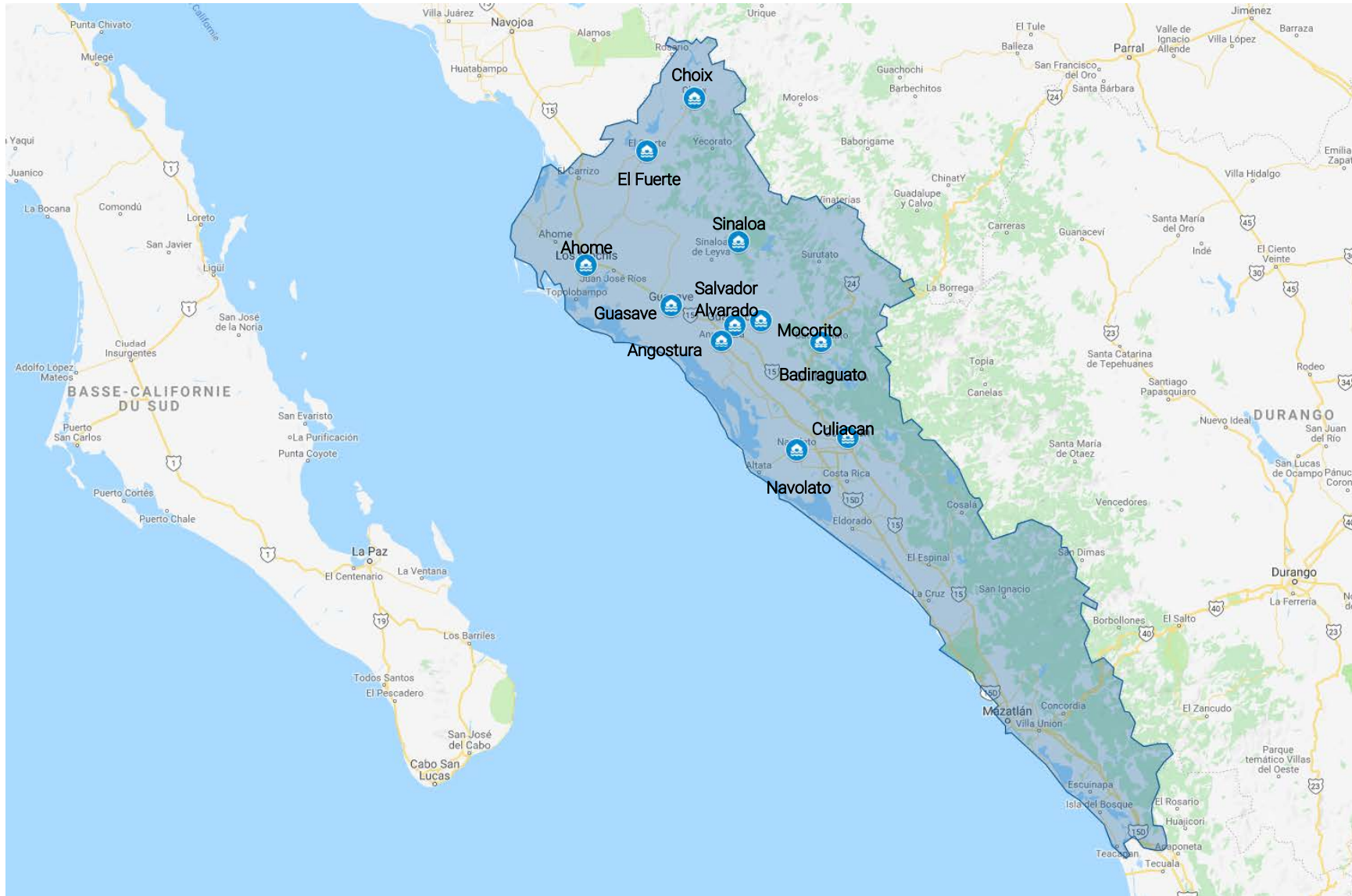
Data on needs is limited and most available information is several days old.

There is no disaggregated data on the affected population for each municipality, nor disaggregated data based on age, gender or people with disabilities.

Lessons learned

- Although aid is being delivered to the affected communities, it is unclear if it corresponds to the needs of the population. Responses to natural disasters are not always based on a previous needs assessment, which can lead to some populations being overlooked or to an inadequate response.

- Cases of corruption were reported during previous disasters in Mexico, resulting in delays or an inadequate response.

- The Federal Superior Auditors (ASF) has criticised FONDEN for being too slow to respond to past disasters and claimed, in several cases, that the money was not used in an efficient manner, especially in cases where reconstruction efforts were involved (use of low-quality material, no respect of the construction laws, etc.) (El Pais 09/10/2017).

- One year after the earthquake that caused significant damage in central Mexico, and despite significant media coverage, insufficient response means that the needs of hundreds of rural families are still unattended – demonstrating a general neglect for rural areas affected by emergencies (Contra Linea 19/09/2018).

- Needs in flooding emergencies can change over time and assessment results can quickly become obsolete, for example, if people start moving back into their homes. This means multiple assessments may be needed (ALNAP 2014).

- Floods can have long-term impacts that may not be contemplated during the emergency response. However, if no action is taken to reduce the vulnerability and increase the resilience of the affected population, it is likely that similar consequences will arise when the next natural disaster strikes (ALNAP 2014).

Map: Municipalities most affected by the floods

Map created by ACAPS using Google Maps.