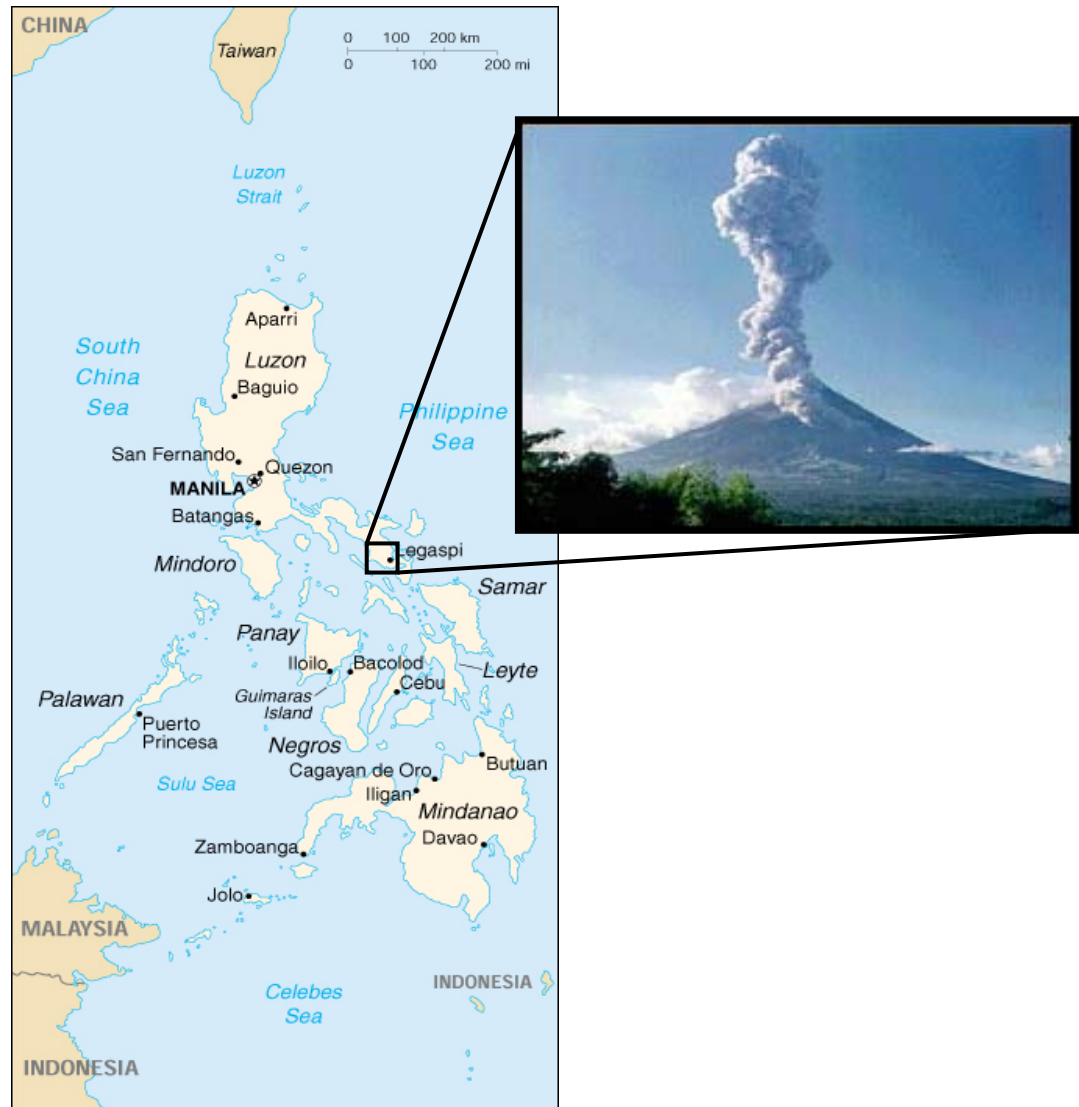


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MAYON VOLCANO PRIMER



This is provided as a service of the USCINCPAC Virtual Information Center (VIC), Pacific Disaster Center (PDC), and The Center of Excellence (COE) in Disaster Management & Humanitarian Assistance

Prepared By: Rick Parker, (VIC) 808-477-3661, ext, 2200, Pervaiz Meer (COE) 808-433-1423, and Carol Alessi (PDC), on 1 March, 2000

Updated By: Rick Parker and Pervaiz Meer on February 2, 2001

MAYON VOLCANO PRIMER

Executive Summary

- 1. Assessment:** The Philippine Institute of Volcanology and Seismology (PHIVOLCS) believes the Mayon Volcano will erupt again within the next few weeks. Residents and volcanologists alike believe the next full moon, on Thursday, February 8, will trigger an eruption. Alert level 3 remains in effect as provincial emergency and relief agencies are busy evacuating residents. The government appears prepared to support displaced residents, having allocated more than \$100,000 in funds to deal with this pending disaster; and loss of life should be negligible as Philippine National Police (PNP) are in the process of evacuating residents ahead of the eruption and securing the 6 km danger zone.
- 2. Background:** In further signs of an imminent eruption, the Mayon volcano shook with dozens of small earthquakes and belched 10 times more sulphur dioxide than normal in recent days. Magma-induced earthquakes and sulphur dioxide emissions of more than 5,000 tons a day indicates magma bubbles only a few hundred meters below the volcano could surface soon. On February 2, 2001, earthquake activity was at high levels as the seismographs around Mayon Volcano detected 22 volcanic events during the previous 24 hours. Moderate steam emissions were also observed. A faint crater glow was first observed on February 1, indicating that the lava dome is active and may be breaking due to pressure exerted by an ascending magma column. Dr. Ernesto Corpuz of PHILVOLCS Monitoring Division said increased lunar gravitational pull next week would further agitate the already restive volcano. Locals note that in the past, eruptions occurred under a full moon.
- 3. Discussion:** Mayon Volcano, located 215 miles southeast of Manila, last erupted in February 2000, when it tossed boulders as large as cars 1,640 feet into the sky. Although no casualties were reported, more than 80,000 local residents were displaced. Considered the most active volcano in the Philippines, Mayon has had at least 43 eruptions since 1616. The most violent eruption occurred in 1814 when flaming ash killed some 1,200 people. The most recent deadly eruption occurred in 1993, when 77 villagers were killed. In compassion, Mount Pinatubo killed about 800 people in 1991 in one of the world's biggest volcanic blasts of the 20th century. Mayon is located in rice- and coconut-growing Albay Province near the provincial capital of Legazpi. Albay Province has a population of over 600,000 with over 140,000 residing in Legazpi at the foot of the Mayon Volcano.
- 4. Prepared By:** Rick Parker, (808) 477-3661, ext. 2200, on February 2, 2001

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MAYON VOLCANO PRIMER

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1. MAYON VOLCANO

A. General Information

Mayon, Philippines

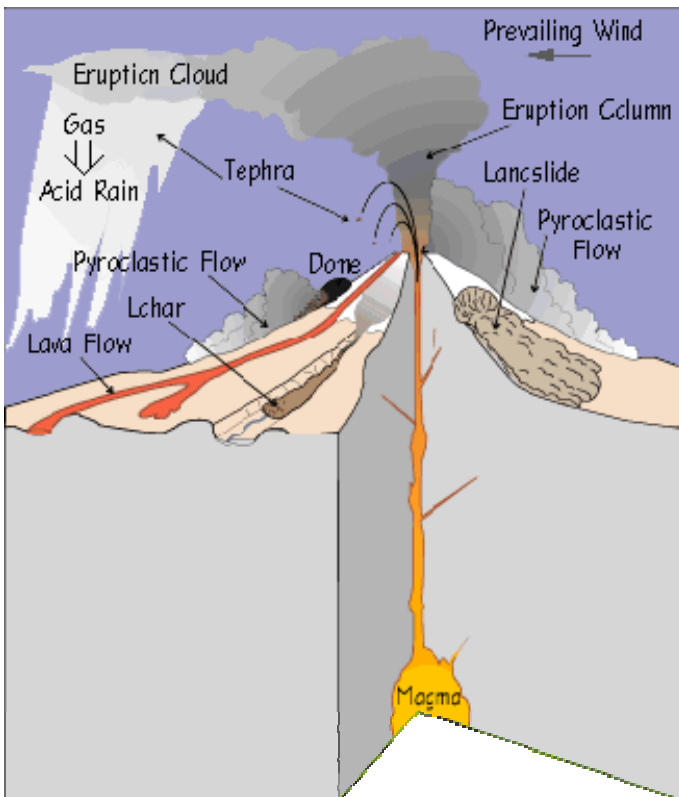
Location: 13.3N, 123.7E

Elevation: 2,462 m (8077 feet)

Mayon Volcano, the most active in the Philippines, lies in the eastern portion of the province of Albay and is about 300 km (186 miles) southeast of Manila. Well known for its beauty and near perfect cone, this volcano is one of the tourist attractions of the country. Mayon is classified as a stratovolcano or composite cone composed of a sequence of pyroclastic and lava flows. The Mayon Volcano National Park occupies 21 square miles on the Bicol Peninsula. The volcano is in the center of the park.



PHYSICAL CHARACTERISTICS:



Height: 2,460 m asl

Base Circumference: 62.8 km (reckoned from 10-km radius) encompassing the towns of Camalig, Malilipot and Sto. Domingo

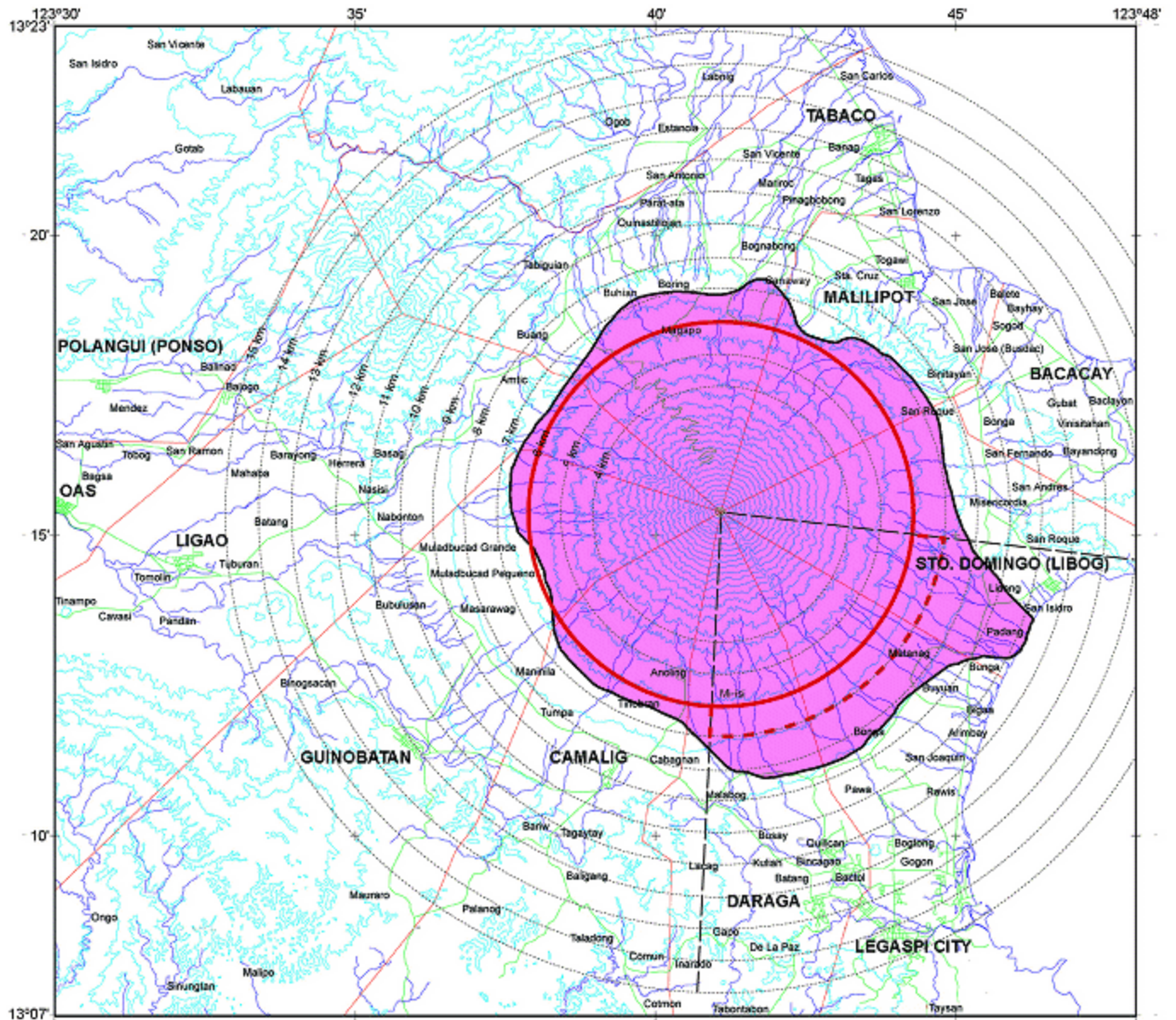
Type of Volcano: Stratovolcano or Composite Volcano, composed of a sequence of pyroclastic and lava flows

Area: 314.1 sq km (est. from 62.8 km base circumference)

Composition of Lava: Andesitic

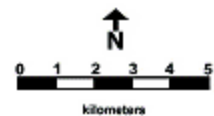
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1999 MAYON VOLCANO PYROCLASTIC FLOW HAZARDS MAP



LEGEND

- Municipal Boundary
- Roads
- River Channels
- Contours (100-m intervals)
- 6 km-Radius Permanent Danger Zone (PDZ)
- Additional Areas Highly Susceptible to Pyroclastic Flow-Generating Events
- Areas Prone to Pyroclastic Flow

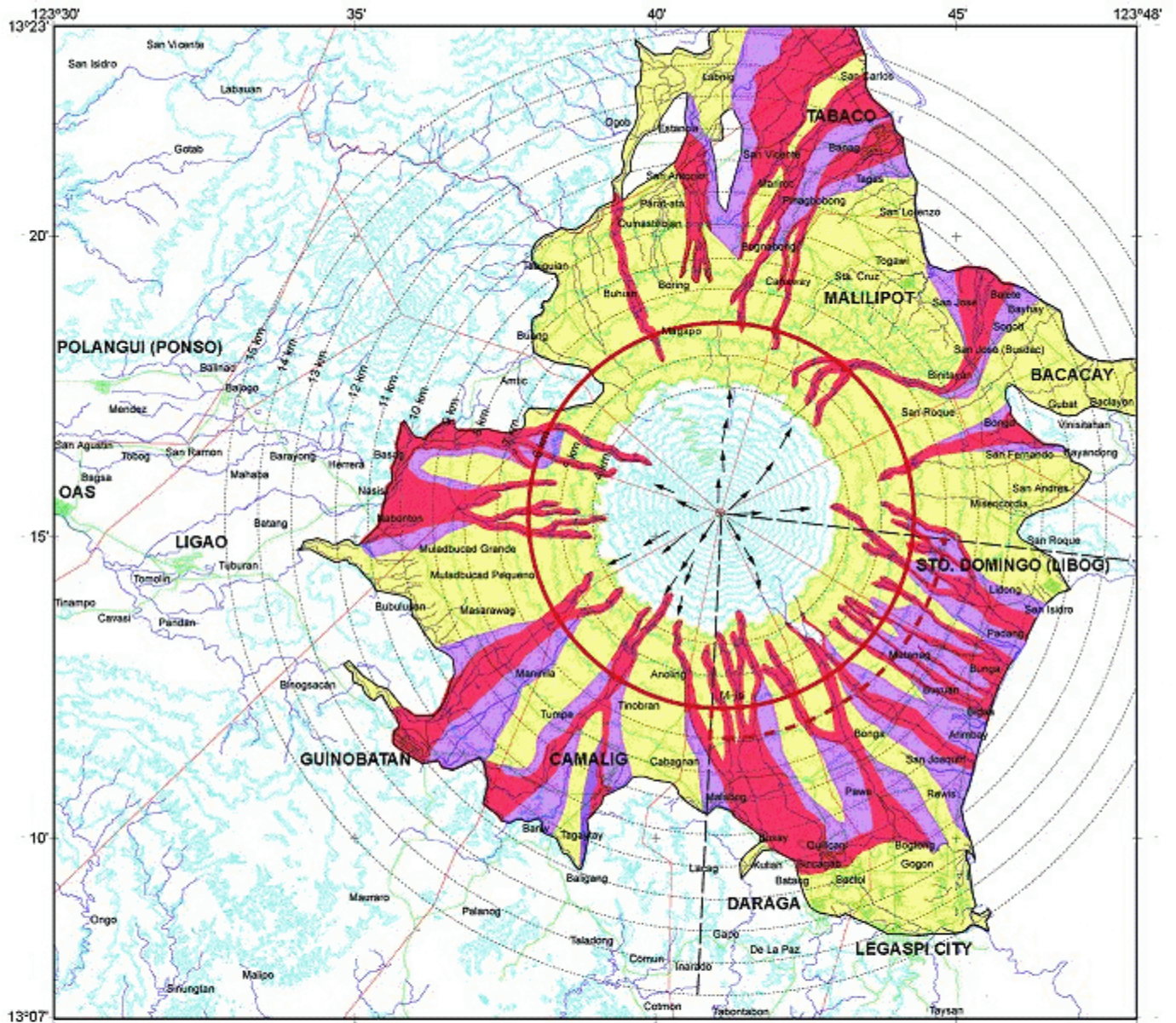


Topographic features based on NAMRIA maps (1:50,000 and 1:40,000). Boundaries are approximate. Spheroidal reference grid: Geographic.

Department of Science and Technology
 Philippine Institute of Volcanology and Seismology
 C.P. Garcia Ave., U.P. Diliman Campus
 1103 Quezon City
 June 1999

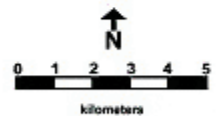
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1999 MAYON VOLCANO LAHAR HAZARDS MAP



LEGEND

- Municipal Boundary
- Roads
- River Channels
- Contours (100-m intervals)
- 6 km-Radius Permanent Danger Zone (PDZ)
- Additional Areas Highly Susceptible to Pyroclastic Flow-Generating Events
- Areas Least Prone to Lahar
- Areas Moderately Prone to Lahar
- Areas Highly Prone to Lahar

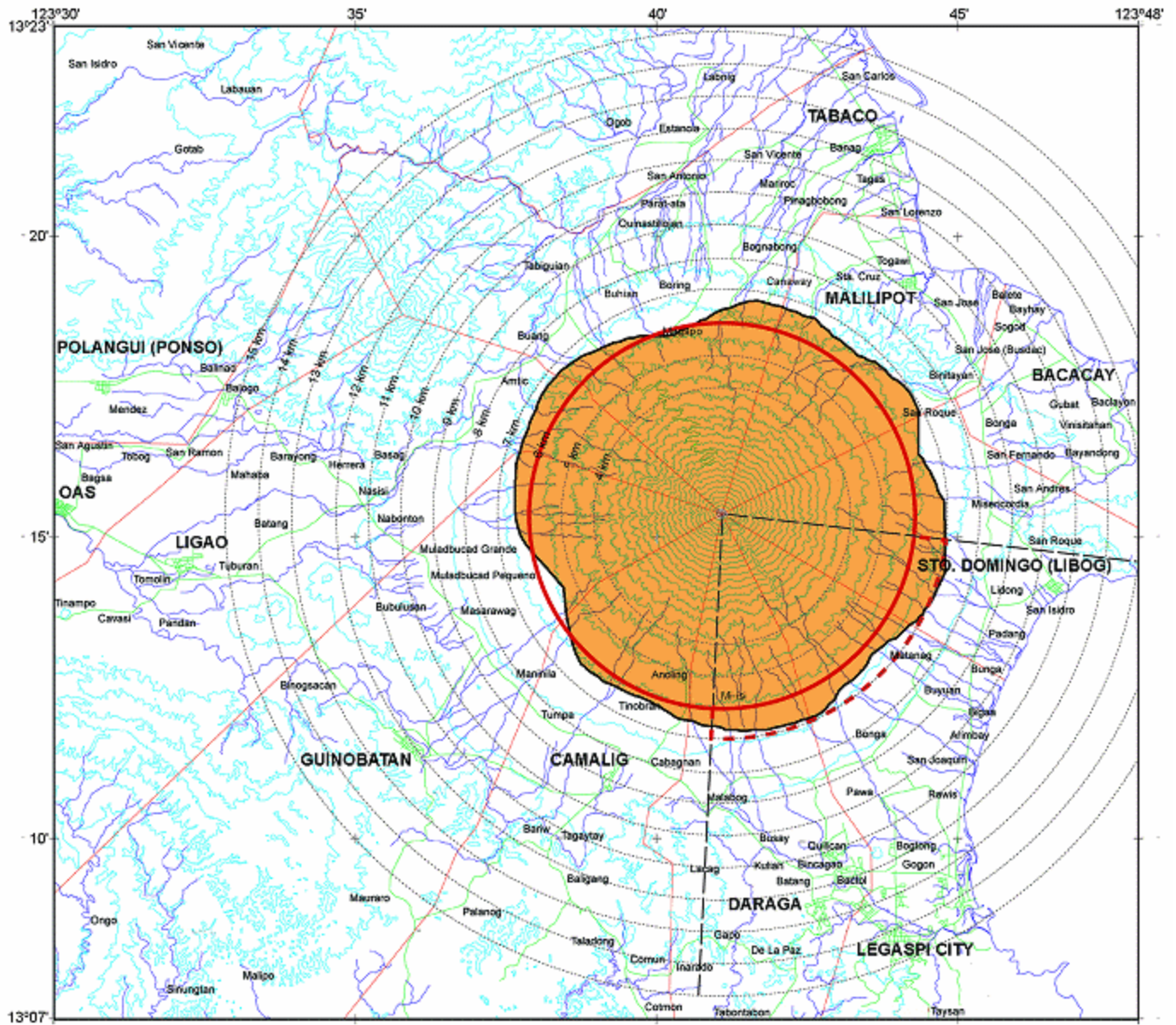


Topographic features based on SASTRA maps (1:25,000 and 1:50,000). Boundaries are approximate. Spherical reference grid. Geographic.

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 June 1999

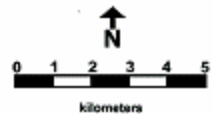
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1999 MAYON VOLCANO LAVA FLOW HAZARDS MAP



LEGEND

- Municipal Boundary
- Roads
- River Channels
- Contours (100-m intervals)
- 6 km-Radius Permanent Danger Zone (PDZ)
- - - Additional Areas Highly Susceptible to Pyroclastic Flow-Generating Events
- Areas Prone to Lava Flow



Topographic features based on NAMRIA maps (1:50,000 and 1:25,000). Boundaries are approximate. Spheroidal reference grid: Geographic.

DOCS Department of Science and Technology
 Philippine Institute of Volcanology and Seismology
 C.P. Garcia Ave., U.P. Diliman Campus
 1103 Quezon City
 June 1999

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B. Current Activity

Updates and general information on the Mayon Volcano can be found at the [Philippine Institute of Volcanology and Seismology \(PHIVOLCS\)](#) Web site.

Mayon Volcano Bulletin

10:00 AM 02 February 2001

Earthquake activity was at high level as the seismographs around Mayon Volcano detected 22 volcanic events during the past 24 hours. Moderate steam emission was observed all throughout, although Sulfur Dioxide (SO₂) flux outputs further decreased from about 3,300 t/d on 31 January to 2,600 t/d on 01 February. The decrease in SO₂ gas outputs maybe caused by the partial sealing of the conduit due to some growth in the summit lava dome, supporting the idea that magma is ascending close to the crater surface. This condition is supported by the observation of faint crater glow at around 8:40 PM to 9:25 PM yesterday, indicating that the lava dome is active and may be breaking due to the pressure exerted by the ascending magma column.

The status of Mayon Volcano stays at Alert Level 3, which means that eruptions may occur within the following weeks. PHIVOLCS reiterates that the six-kilometer radius Permanent Danger Zone (PDZ) should be off-limits at all times. Residents fronting or staying beside gullies radiating from the volcano should be extra alert for volcanic flows which maybe generated by sudden explosions.

PHIVOLCS <http://www.phivolcs.dost.gov.ph/Volcanoes/Mayon/MayonIndex.html>

Feb 8th Full Moon May Trigger Mayon Eruption

Feb 2, 2001 - LEGASPI CITY (ABS-CBN) - Many strange tales have been associated with the occurrence of full moons, including the impending eruption of Mayon volcano, as Bicolanos and volcanologists attest to. While a faint crater glow has finally been observed on the volcano's summit, residents and volcanologists alike are more wary of the full moon, which they believe will trigger an eruption. A full moon will light up Bicol skies on February 8, a date many consider ripe enough for an eruption, considering the steady activity of Mayon. Dr. Ernesto Corpuz of the Philippine Institute of Volcanology and Seismology (Phivolcs) Monitoring Division explained the increased lunar gravitational pull next week will further agitate the already restive volcano. Locals, meantime, noted a less scientific but consistent and chilling relation between the volcano and full moons. They noted that in the past, eruptions occurred under a full moon. And based on Phivolcs' latest report, the full moon theory may prove to be fool proof, what with the noted crater glows Thursday morning. Crater glows, according to volcanologists is an indication of the steady rise of lava to the crater. 19 low frequency volcanic quakes and a sulfur dioxide emission of 3,379 tons were registered in the past 24 hours. Alert

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level 3 remains in effect as the crater glow spotted still has a low density. Still, provincial emergency and relief agencies remain busy with the evacuation of residents within the permanent six kilometer-danger zone, even as some farmers openly defy the warning.

abs-cbnNEWS.com News - Provincial

<http://www.abs-cbnnews.com/abs/inews-feb2001.nsf/provincial/20010202016>

Philippine Villagers Evacuated From Volcano Area

Feb 2, 2001 - Officials in the Philippines say thousands of villagers have been evacuated from the area around the Mayon volcano in the eastern Philippines. Scientists have reported that Mayon's swollen crater glowed red overnight, indicating that an eruption was likely soon. The volcano erupted for about a week last year, displacing more than eighty thousand people. The government says it's set aside more than one hundred thousand dollars in funds to deal with any disaster.

BBC http://news.bbc.co.uk/1/hi/english/world/asia-pacific/newsid_1147000/1147900.stm

Restive Mayon Sparks Tourism Boom

Feb 2, 2001 - LEGAZPI CITY (ABS-CBN) - It's not all bad news for Albay with the likely eruption of Mayon volcano, as the flock of tourists out to see the volcano's raw fury is also expected to perk up business in the province. As in past eruptions, businessmen expect a sudden increase in tourist arrivals, translating into more opportunities for business enterprises in the province, particularly in /Legazpi City.

As of Friday afternoon, the Philippine Institute of Volcanology and Seismology (Phivolcs) maintained alert level 3 in the vicinity of the restive volcano, seeing no other development that would merit raising the alert level. Faint crater glows were spotted the other day but not lava trickles, which is more indicative of an eruption. A full scale evacuation of residents inside the six-kilometer permanent danger zone will be effected once the alert level is raised to 4.

Police teams have been deployed to secure perimeter of the six-kilometer danger zone, in response to complaints by residents of looting. Many residents near the foot of the volcano lamented the fact that some of them lose personal properties and even livestock whenever they are evacuated to safer areas. A 24-hour curfew inside the danger zone is also being mulled by the Philippine National Police (PNP) to address the said complaints. The PNP was also assigned to handle the communication facilities and other needs of the various agencies and organizations helping out in the rescue operations.

ABS CBN News <http://www.abs-cbnnews.com/abs/inews-feb2001.nsf/provincial/20010203044>

Mayon Volcano Bulletin

5:00 PM 01 February 2001

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Eighteen (18) volcanic earthquakes were detected around the volcano during the past 24 hours. Although there is a slight decrease in the number of earthquakes recorded for the past days, PHIVOLCS considers the seismic levels for this period to be well above average. A slight decrease in Sulfur Dioxide (SO₂) outputs from a high of about 8,000 tonnes per day (t/d) since 22 January to 3,300 t/d on 31 January was also noted. However, decrease in gas outputs may be caused by partial sealing of the conduit by the summit lava dome and not by cessation of activity. This condition is supported by last night's observation of incandescence at the summit crater. The faint crater glow reported during a visible period at around 6:22 PM yesterday indicated that the lava dome is still active and that the surface of the lava pile is breaking as a result of pressure exerted by an ascending magma column.

PHIVOLCS therefore reminds the public that Mayon remains at Alert Level 3 which means that eruptions may occur within the following weeks. Corollary to this alert status, the six-kilometer radius Permanent Danger Zone (PDZ) should be evacuated at all times due to loose debris that may roll down the steep slopes. For the moment, no area outside the PDZ has been recommended for evacuation. However, areas beside major rivers of Mayon are advised to be vigil against sudden explosions that may produce hazardous volcanic flows toward the lower slopes.

PHIVOLCS <http://www.phivolcs.dost.gov.ph/Volcanoes/Mayon/MayonIndex.html>

Mayon Volcano Situation Report

January 31, 2001 - The Mayon volcano continues to be in a high state of unrest. Five ash ejections occurred on 28 January and coincided with earthquakes that originated beneath the lava dome. Two more ash ejections were observed on 29 January. The ash plumes rose up to 500 meters above the crater. The lava dome is highly active, and tilt measurements support observations of lava dome growth. Sulfur dioxide (SO₂) readings indicate that magma is very close to the crater.

Smithsonian Institution's Preliminary Notices of Volcanic Activity.

http://volcano.und.nodak.edu/vwdocs/current_volcs/philippines/mayonvol.html#newest

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Ash fumes billow from the cloud-covered cone of Mayon Volcano in Albay province, southeast of Manila January 31, 2001. Twenty-seven volcanic earthquakes have been recorded in the last 24 hours at Mayon, one of 22 active volcanoes in the country. The defense department has ordered the evacuation of 22,000 residents living close to the volcano, which last erupted in February 2000.

Reuters <http://dailynews.yahoo.com/h/p/nm/20010131/wl/imdf06913.html>

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The crater of the Mayon volcano emits smoke as it continuously shows signs of abnormal activity Wednesday, Jan. 31, 2001 in Legaspi city, south of Manila. Mt. Mayon, which erupted last year, continues to emit smoke and registered tremors that caused authorities to raise the alert status to level three, or for the people to move to safer grounds.

AP http://dailynews.yahoo.com/h/p/ap/20010131/wl/philippines_volcano_dyt.html

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The Mayon volcano emits smoke from its crater Jan. 31, 2001.

AP http://dailynews.yahoo.com/h/p/ap/20010131/wl/philippines_volcano_7bb.html

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Smoke exits the crater of the Mayon volcano Jan. 31, 2001.

AP http://dailynews.yahoo.com/h/p/ap/20010131/wl/philippines_volcano.html

Mayon Volcano Closer To Erupting

Jan 30, 2001 - In a further sign of an imminent eruption, the Mayon volcano shook with dozens of small earthquakes and belched 10 times more sulphur dioxide than normal, scientists said yesterday. Magma-induced earthquakes and sulphur dioxide emissions of more than 5,000 tons a day indicated magma bubbles only a few hundred meters below the volcano which could surface soon, said volcanologist Julio Sabit. The volcano, 340 km south-east of Manila, erupted in February last year, driving 68,000 people from their homes.

AP <http://straitstimes.asia1.com.sg/asia/story/0,1870,20361,00.html?>

Mayon To Puff More Ash

Jan 30, 2001 - Expect Mayon Volcano to spew more ash as magma continues to ascend to its crater, the Philippine Institute of Volcanology and Seismology (Phivolcs) said yesterday. The institute said the four ash ejections last Jan. 28-29 indicate magma ascent, which may eventually cause the lava dome to become unstable and collapse, triggering volcanic avalanche along gullies around Mayon and more ash clouds. Phivolcs said an upward explosion of a considerable volume of ash and volcanic rocks is also possible. In either scenario, Phivolcs said villagers must stay away from the six-kilometer permanent danger zone around the volcano. Alert level 3 is still enforced, which means that an eruption is possible within weeks. Volcanologists recorded two ash-driven explosions

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yesterday. Meanwhile, President Gloria Macapagal-Arroyo approved yesterday the release of a P5-million "quick response fund" from the National Disaster Coordinating Council (NDCC) to the Albay provincial government. The fund will enable Albay officials to beef up their disaster preparedness in view of Mayon's imminent eruption. The volcano last erupted on Feb. 24 last year.

Philippine Star, Felix de los Santos, Celso Amo, Marichu
<http://www.philstar.com/philstar/News200101319919823.htm>

Mayon Volcano Situation Report

January 29, 2001 - According to [PHIVOLCS](#), activity at the Mayon volcano has increased during the past week. On 25 January, the Alert level was raised to 3. An Alert Level 3 means that there is an increased tendency towards eruption. Magmatic outbursts are possible within the coming weeks. On 10 January, an active lava dome was confirmed. Monitoring networks have reported numerous volcanic earthquakes, continued swelling of the edifice, and very high gas outputs from the summit crater.

Smithsonian Institution's Preliminary Notices of Volcanic Activity.
http://volcano.und.nodak.edu/vwdocs/current_volcs/philippines/mayonvol.html

Mayon alert level raised to 3, eruption imminent

Jan 25, 2001 - LEGAZPI CITY, (ABS-CBN) - Mayon volcano was hinted of another major eruption as it manifested increased activity Thursday morning, prompting the Philippine Institute of Volcanology and Seismology (Philvolcs) to raise the alert level to three. Philvolcs raised the alert level after experts explained the imminent eruption due to new and stronger activity registered. Volcanologists said that since the appearance of lava dome in its crater seen last January 10, the volcano has been showing increased unrest. Two ash puffs were also noted on January 22 which coincided with mild tremors. These observations mean that the lava dome is active and is probably being fed by a column of magma beneath the crater. Still, volcano experts admitted they could not predict the exact time of eruption. Officials of the Disaster Management Office emphasized the six kilometer permanent danger zone will be strictly observed. Residents near the gullies radiating from the volcano were advised to be extra alert because of possible sudden explosions. DMO officer Cedric Daep earlier said, residents living inside the declared permanent danger zone particularly in the southeast quadrant of Mayon volcano have been transferred to safe resettlement sites. Mayon volcano's latest major eruption was recorded in February last year.

abs-cbnNEWS.com News - Provincial
<http://www.abs-cbnnews.com/abs/inews-jan2001.nsf/provincial/20010126009>

Mayon Volcano Situation Report

January 16, 2001 - On 9 January, [PHIVOLCS](#) reported that activity at the Mayon Volcano was rapidly progressing beyond the usual background conditions. Lava dome growth was occurring at the volcano's summit that coincided with a slight ground tilt. Volcanic gases were released, and there was a significant increase in earthquake

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occurrences. These events are likely related to ascent of magma beneath the crater. PHILVOLCS issued an Alert Level 2 for the volcano and maintained the 6-km radius Permanent Danger Zone.

Smithsonian Institution's Preliminary Notices of Volcanic Activity.

http://volcano.und.nodak.edu/vwdocs/current_volcs/philippines/mayonvol.html

C. 1999-2000 Activity (Feb 2000 Eruption)

June 1, 1999 – The edges of Mayon's crater began to glow, and there was an increase in the output of sulfur dioxide. Disaster officials ordered evacuations in the area near the volcano.

June 22, 1999 – The Mayon Volcano sent smoke and ash four miles into the air. Government officials urged people living within a radius of four miles around the summit to evacuate.



A COLUMN OF STEAM AND ASH RISING FROM THE CRATER OF MAYON VOLCANO DURING ITS PHREATIC EXPLOSION ON 22 JUNE 1999. THE STEAM-DRIVEN EXPLOSION LASTED FOR ONLY TEN MINUTES.

July 6, 1999 – Philippine disaster officials prepared to evacuate the population (estimated at 42,000) around the Mayon Volcano. Lava was reported moving within the magma chambers.

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September 23, 1999 – The Mayon Volcano threw rocks and ash four miles into the sky for approximately four minutes. Burning rocks ignited brush fires in a gully on the volcano’s eastern slope. Philippines disaster officials advised people living within a four-mile radius of the Mayon Volcano to evacuate. Approximately 2,000 villagers fled their homes.

January 6, 2000 – The Mayon Volcano erupted and produced a steam and ash plume four miles into the air. The Philippine Institute of Volcanology and Seismology warned residents to stay away from the four-mile danger zone around the volcano. No evacuations were ordered.

February 12, 2000 – The Mayon Volcano Observatory at Lignon Hill observed congealed lava filling up the roughly 50 meter diameter vent opening in the summit crater. This development was accompanied by fluctuation in daily sulfur-dioxide measurements from close to 500 metric tons per day the previous week, to 11,170 metric tons February 11. More vigorous steaming activity has been observed around the margin of the lava.

February 16, 2000 - On 15 February, scientists at the Philippine Institute of Volcanology and Seismology issued a level three alert level for the Mayon Volcano. Earth tremors and a significant drop in the sulfuric gas emissions were recorded. There are indications that fresh magma is blocking the volcano's crater. Residents who live within four miles of the crater have been ordered to evacuate.

Philippine officials raised the alert level on the country’s 2,462-meter Mayon Volcano, following earth tremors and other indications that magma within the mountain was rising. This volcano is located in the Albay Province, 300km SE of Manila (13.3N 123.7E). Manuel Realuyo of the Provincial Disaster Management Office reported that the 5,000 residents who live within four miles of the crater have been ordered to evacuate. The five-stage warning system was raised to alert level three, signifying that fresh magma was close to the crater. Local seismologists said that the tremors, and a significant drop in the mountain’s sulfuric gas emissions from measurements taken February 11, were probably caused by lava blocking its crater.

Three hazard zones surrounding this volcano are defined as follows:

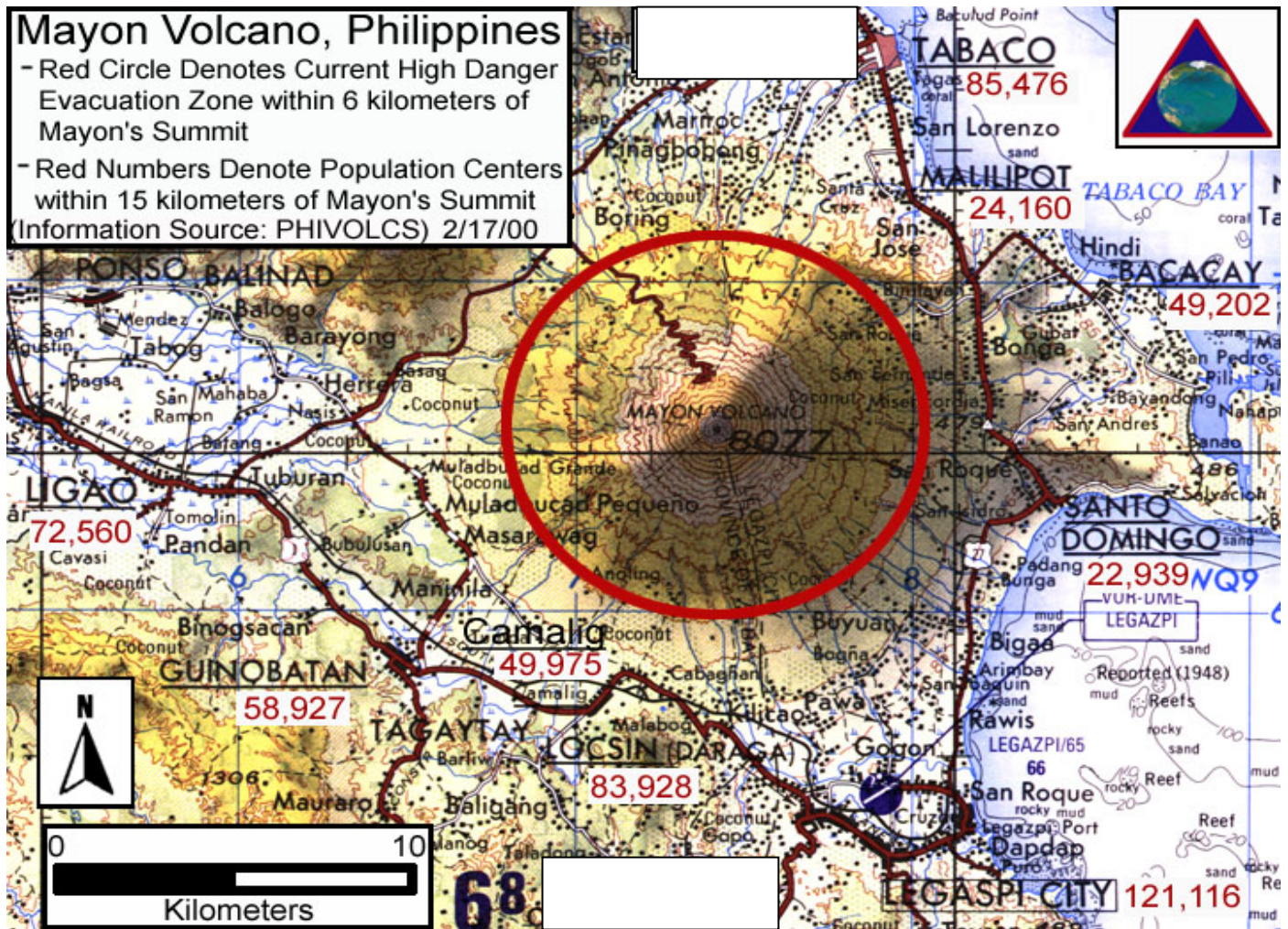
- [Permanent danger zone](#) – 6 km radius
- [High danger zone](#) – 6 km from the summit extended to 11 km in the SE sector.
- [Moderate danger zone](#) – 8 km from the summit extended to 15 km in the SE sector.

Table 1 shows municipalities located within 15 km of Mayon summit’s crater:

Municipality	Number of Households
Bacacay	8,864

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Camalig	9,216
Daraga	15,551
Guimobatan	10,884
Legazpi City	22,222
Ligao	13,070
Malilipot	4,555
St. Domingo	4,186
Tabaco	15,140



February 22, 2000 - A 6-kilometer-radius around the crater of the Mayon Volcano has been declared a "no man's land." All residents in this area have been ordered to evacuate. Fresh magma is slowly but steadily ascending in Mayon's plumbing system. An increase in SO₂ emissions and volcanic earthquakes indicate the possibility of a new eruption. A lava pile on the summit has been observed since 12 February.

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Philippine officials ordered the evacuation on Tuesday of thousands of villagers living on the slopes of Mayon volcano after scientists reported lava fragments rolling down its slopes. Provincial relief supervisor Cedric Daep said teams of police and soldiers had been sent to the mountain to persuade peasants to abandon their homes and farms because of the danger of an eruption. "To avoid charges that we are violating human rights, members of the human rights commission are accompanying the police and the army to convince the residents to leave. Evacuation is in progress," Daep said by telephone. Daep said that despite a previous order declaring a six-km (3.7-mile) radius from Mayon's summit a no man's land, over 5,000 people still lived in the area, stubbornly refusing to abandon their vegetable farms which were their only source of livelihood. Asked what the police would do if the residents refused to leave, Daep said: "We will take them with us. But I think we can persuade them." Vulcanologists said a pile of lava that had been forming around Mayon's crater since February 12 began to crack on Monday, sending burning fragments rolling down its slopes. The lava trickles continued until early Tuesday, they said. "It is not new lava coming out of the volcano but lava deposits around the crater which are breaking up because of the ascent of magma inside the volcano," vulcanologist Ted Sandoval told Reuters. The Philippine Institute of Volcanology and Seismology said it was maintaining an alert at "level 3," meaning the situation was critical and "a hazardous eruption" was possible within weeks. Sandoval said it was difficult to say definitely if or when an eruption would occur.

February 23, 2000 - On 21 February, a wall of the Mayon crater collapsed and sent chunks of volcanic rock crashing down the side of the volcano. Brown ash spewed 1,300 feet into the air. More than 5,000 people remain on the slopes and are reluctant to leave their farms.

Rocks the size of cars came crashing down the slopes of the Philippines' Mayon volcano on Wednesday, while residents left the area in an evacuation, officials said. The 8,118-foot volcano, one of the Philippines' most active, appeared to be following its usual pattern of a gentle rising of magma followed by an eruption, said Ernesto Corpuz, chief of volcano monitoring at the Philippine Institute of Volcanology and Seismology. Corpuz said fragmentation of the crater's lava dome increased slightly as the large rocks broke away. He said the rising of the magma suggests volcanic activity will intensify, leading to an explosive eruption that could occur "as soon as this week." "But before it does that, we will be observing signs like earthquakes accompanying explosions," he said. Juan Cordon, a research specialist at the volcanology institute, said short-duration tremors suggest the magma has become more fluid, freely moving through the crater.

Mayon is located about 215 miles southeast of Manila in Albay province. At least 4,150 people from 14 villages had been evacuated as of Wednesday, said Cedric Daep, head of the Albay provincial disaster management office. Classes were suspended in schools used as temporary shelters and in villages on the volcano's southeast slope, the area most vulnerable to falling rocks and superheated clouds of ash and volcanic debris. Most residents of the village of Bonga, directly in the path of a possible lava flow, left in the

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evacuation, but many men stayed home to watch over crops and farm animals. Florentino Mina, a 60-year-old farmer who survived five previous eruptions, said he was confident he could escape an eruption since he and his neighbors had several vehicles ready to flee in. The volcano has been showing signs of activity since last June, spewing ash-laden smoke high in the sky several times last year, but causing no injuries. An explosion in September forced more than 5,700 people to flee their homes.

The Provincial Disaster Coordinating Council (PDCC) evacuated here yesterday to safe areas 758 families or 3,944 persons residing in the seven-kilometerradius Extended Danger Zone around Mayon Volcano. The Philippine Institute of Volcanology and Seismology (Phivolcs) said the intension of magma beneath the lava dome on Mayon continued to cause yesterday a series of sectoral collapse on the southern side of the crater wall, sending molten rocks detached from the growing lava dome rolling down Bonga Gully. Ed Laguerta, Mayon resident volcanologist, said lava fragments detached from the dome rolled a distance of about one kilometer from the summit while ash clouds and gases drifted towards the towns of Camalig, Guinobatan, and Ligao. Volcanologist noted that the lava dome inside the crater earlier measured at 200 meters in diameter had significantly increased its width by about 12 meters. Albay Gov. Al Francis Bichara, PDCC chairman, in a radio interview said disaster mitigating measures are all in place, but he expressed concern that although relief goods have been supplied to evacuation center are ready, these can only last 15 days. Ted Sandoval, Phivolcs volcanologist, in a radio interview said that the volcano is now in a critical stage and in case a full eruption occurs, he said he expects it to be a Strombolian or explosive type of eruption. Phivolcs bulletin reported that their instrument recorded short-duration harmonic tremors. Sulfur Dioxide emission in the past 24 hours was measured at 4,070 tons per day. Philvolcs also noted a swelling at the south-southeast and northwest flanks of the volcano due to ascent of magma beneath the lava dome. Alert Level 3 is still being maintained, meaning a "hazardous eruption" is possible within weeks.

President Estrada will fly to Legazpi City today to oversee the distribution of relief goods to evacuees from the danger zone around Mayon Volcano. As the Chief Executive prepared for his trip yesterday, he urged people living within the six-kilometer danger zone to heed the advice of officials and leave their homes for safer ground away from Mayon's periphery.

February 24, 2000 - Philippines' Mayon volcano erupted early today spewing lava and ash up to three miles into the sky. Vulcanologists had warned as early as this Tuesday that a full-blown eruption could take place any anytime. An estimated 15,000 people have been evacuated from the area and number is expected to reach 50,000 by the evening. No casualties have been reported yet. Philippines' defense department has declared a 3.7 mile radius from the Mayon's crater as the no-man's land.

One of the Philippines' deadliest volcanoes erupted Thursday, sending rivers of fire surging down its slopes, darkening towns with ash falls and forcing about 30,000 people to flee, officials said. Mayon volcano in the central Philippines, which has been steadily building in activity since it reawakened last summer, unleashed 14 separate eruptions

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throughout the day but no casualties had yet been reported. The volcano, 190 miles southeast of Manila, hurled burning rocks and ash 6 miles into the sky. Some of the volcanic material fell back to the mountain's slopes to gather in superheated torrents as hot as 1,650 Fahrenheit that roared downhill at about 50 mph, vulcanologists said. President Joseph Estrada was to have flown to affected areas but cancelled the trip after the airport in the provincial capital of Legazpi was forced to close due to the airborne rocks and ash.

Mayon Volcano exploded several times yesterday, sending volcanic ash mushrooming seven kilometers high from its crater and lava and other pyroclastic materials cascading down from the summit some four kilometers down the mountain slope. Heavy ashfall covered several barangays in the towns of Camalig, Guinobatan, Ligao, Daraga, and even portions of the Maharlika Highway in these towns where tourists and sightseers have been watching the volcano since early evening the other day. The Philippine Institute of Volcanology and Seismology (Phivolcs) said that the volcano explosions had become major ones and it was very probable that future eruptions may be more deadly. Lignon Hill Observatory volcanologists Ed Laguerta and Ted Sandoval said the alert level in towns near the volcano had been raised from Level 3 the other day to Level 4 at dawn yesterday, and then to Level 5 at 9 a.m. When Alert Level 4 was announced, massive evacuation of people even in the seven-kilometer Expanded Danger Zone started even before the crack of dawn. Task Force Mayon's military servicemen from branches of the Armed Forces of the Philippines (AFP) and its composite PNP personnel began hauling off residents in Camalig, Guinobatan, Sto. Domingo, Ligao, and Daraga as early as 2 a.m. The first major explosion occurred at 9:30 a.m. yesterday, sending a seven-kilometer ash tower falling down in the four towns that lay in the southeast sector of Mt. Mayon and lava and other pyroclastic materials cascading down at a fast rate along the Bonga Gully facing Daraga, Sto. Domingo and this city to a four-kilometer distance. Mayon exploded several times more in the succeeding hours but these were considered minor until at 1:30 p.m. The volcano gave off another major explosion, considered bigger than the earlier 9 a.m. big bang. The evacuation of some 6,010 families, or 32,079 residents of 14 barangays within the six- to seven kilometers expanded danger zone had started but a family of four within the six-kilometer radius were injured by ashfall and suffered second-degree burns and were rushed to the Albay provincial and training hospital in nearby Daraga. All incoming commercial or private airplane and helicopter scheduled flights were suspended. The magnitude of the Mayon eruption would be "100 times less" than the eruption of Mt. Pinatubo in 1991 which spewed a cloud of ash covering provinces in the country for days and changed weather patterns worldwide. Philvolcs expects the eruption series to last two months with more pyroclastic flows down along the gullies. Rains could also trigger avalanches of volcanic debris deposited on the slopes, swamping communities at the foot of the volcano, he said.

DAY TURNS TO NIGHT

The fiercest of the eruptions, occurring at mid-morning, threw up a mushroom cloud of ash, which blotted out the sun, casting foothill towns into darkness and forcing vehicles to use their headlights, relief officials said. "I was cooking when the sky suddenly turned dark," said Luz Perela, who fled her home in Mayon's foothills after the fireworks began.

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"I could not see my surroundings. I just abandoned my cooking and ran outside with my children. It was so scary... that's why we are here," Perela said while waiting for a government truck to take her to a refugee center 10 km (six miles) from Mayon. As evening fell, rains began pelting the volcano and volcanologists warned of possible mudflows down Mayon's flanks if the rains intensified. "We have raised the alert to the maximum level of five, meaning a hazardous eruption is in progress," chief of the Philippine Institute of Volcanology and Seismology, Raymundo Punongbayan, told Reuters. Waves of tremors shook Mayon as it began erupting in the early hours of Thursday, unleashing rumbling sounds heard by residents as far away as Legazpi, 7 miles from the crater. "It's like a stampede of horses," a Legazpi resident said of the noises. Others compared the sounds to the booming of cannon. Relief agencies said a patient at a local hospital might have died of a heart attack amid the volcano's thunderous rumblings. Relief officials used military lorries and dump trucks to ferry people from their villages to evacuation centers.

TENS OF THOUSANDS FLEE

Provincial officers said about 5,000 people living on Mayon's slopes had been evacuated before the eruption but by nightfall Thursday, refugee centers had swelled with more than 29,000 evacuees. A Reuters television and picture crew driving toward foothill villages saw hundreds of people, many of them children, clustered along roadsides waving at passing military trucks to take them from the area. Clutching their meager belongings, they looked gaunt and sleepless. Some wore slippers; others were in their bare feet. The truck drivers rolled past them, saying their priority was to evacuate people living closer to the flaming crater. Mayon has a history of violent eruptions, the worst occurring in 1814 when flaming ash killed some 1,200 people. It killed 77 villagers in its last major eruption in 1993. Located in rice- and coconut-growing Albay province, the 8,000-foot Mayon is one of 22 active volcanoes in the Philippines. Mount Pinatubo killed about 800 people in 1991 in one of the world's biggest volcanic blasts of the 20th century. Another volcano, Taal, killed more than 1,300 in a 1911 blast and another 200 in 1965.

February 25, 2000 - On 24 February, the Mayon Volcano erupted and sent superheated ash into the air. The ash rained as far as seven miles away. Lava with temperatures that reached well above 1,000 degrees cascaded 3 1/2 miles down the volcano's slopes. The eruption was accompanied by loud rumblings. The Philippine Institute of Volcanology and Seismology said fourteen explosions were recorded by late afternoon. The strongest sent ash 4 1/2 miles into the air and darkened the sky in some villages. The area is vulnerable to lava, rock falls, and pyroclastic flows. Authorities canceled all flights to Legazpi. Officials warned that a more violent explosion could occur at any time. The magma is still rising to the dome, and the volcanic activity could continue for some time.

The president of the Philippines, Joseph Estrada, has declared a state of emergency in five towns affected by the eruption on Thursday of the volcano Mount Mayon. Visiting the area, Mr Estrada pledged nearly half-a-million dollars in emergency aid. Relief workers have been struggling to cope with accommodating and feeding about thirty-eight thousand people who've been forced to leave their homes. Some have begun to return despite warnings of possible further eruptions.

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Mayon Volcano in the eastern Philippines quieted down yesterday after an explosive eruption, but officials cautioned more than 30,000 people against returning to their homes because of the continued buildup and rise of hot molten lava. The Philippine Institute of Volcanology and Seismology (Phivolcs) said activity at Mayon Volcano in Albay province, 330 kilometers southeast of Manila, was "mainly lava extrusion" after it spewed superheated ash and other debris high in the air on Thursday. No casualties have been reported in the pre-dawn eruption, which forced a total of 25,868 people to evacuate 35 villages at the foot of the country's most active volcano, said Renato Arevalo, head of the regional disaster management office in Albay. Arevalo said evacuees were restricted from returning to their homes, especially within a 6-kilometer permanent danger zone and a 7-kilometer buffer zone in the southeast sector of the volcano where lava flows have been channeled. "We are still in a critical stage," Arevalo said in a telephone interview from the Albay city of Legazpi. "However, we can allow men to check on their properties and farms if their homes are outside high-risk areas." In a bulletin, Phivolcs warned "the occurrence of more hazardous eruption events cannot be discounted" and urged displaced residents to remain in evacuation centers despite the lull. Sandoval noted Mayon's activity could last from one to three months based on recent eruption patterns. According to the National Disaster Coordinating Council, more than 60,000 people may have to be evacuated under a "worst-case" scenario.

February 28, 2000 - Mayon volcano erupted again today. There were no immediate reports of casualties in the latest explosion of the roughly 8,100-foot volcano, which began erupting Thursday in Albay province, about 215 miles southeast of Manila. "In the current eruption period of Mayon, this has been the biggest so far," said Ernesto Corpuz of the Philippine Institute of Volcanology and Seismology. "People should not venture back into the prescribed danger zones." The volcano belched a column of ash and molten rocks up to four miles high, followed by lightning and continuous rumblings, Corpuz said. Mayon also emitted pyroclastic flows – superheated clouds of volcanic ash that travel up to 50 mph and can instantly incinerate anything in their path. In Mabinit village, scores of men, women and children ran for their lives, carrying cooking pans, clothes and other belongings after seeing molten rocks and ash hurtling down Mayon's slope. More than 47,000 people were evacuated from nearby villages, but some have returned in recent days to check their houses and farms despite warnings by officials. The repeated explosions indicated that magma is still rising to the dome and volcanic activity could continue between two weeks to a month, officials said.

Restive Mayon Volcano blew its top seven times overnight and twice yesterday, and scientists said they expected eruptions to continue for weeks. "This is not yet the big one," Ernesto Corpuz, chief of the eruption prediction division of the Philippine Institute of Volcanology and Seismology (Phivolcs), said in an interview on local television. Phivolcs expects ashfall in areas to Mayon's southwest and its eastern section, and the west areas covering the vicinity of Baligang and Guinobatan. Phivolcs Director Raymundo Punongbayan proposed that the six-kilometer danger zone around Mayon be declared a "no-man's land." Bichara said 10,000 people in the evacuation centers had not come from the danger zone around Mayon, but had taken refuge out of fear and

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apprehension of the series of eruptions. Defense Secretary Orlando Mercado, who also heads the National Disaster Coordinating Center, said of the excess evacuees: "I really don't know if you can call them fakes. "Considering their poverty, it would not be surprising if the people took advantage of any opportunity for a windfall," Mercado said. Cedric Daep, provincial disaster management officer, said residents vacated several other barangays following overnight rain which could send mud avalanches down Mayon's flank. He warned that if the food ran low, the authorities "may have to give priority" to residents who fled the actual danger zones. The provincial government said the food stockpiled in anticipation of the eruption would run out in a month.

On 28 February, the Mayon Volcano had two powerful eruptions. On 24 February, the volcano erupted 14 times throughout the day. Rock and ash exploded into the sky, and lava raced down the slope at 50 mph. The alert level has been raised to the maximum level of five. At least 50,000 people have been evacuated to emergency centers. Magma is continuing to push its way up into the crater. Boulders as large as cars were being shot 1,640 feet into the sky. Officials have stressed that the eruption may continue for two or three months.

February 29, 2000 – "Volcanic bombs"--burning rocks as big as houses--exploded from the crater and rolled down the slopes of Mayon as the perfect-cone volcano blew its top several times overnight and yesterday afternoon. "This is not yet the big one," Philippine Institute of Volcanology and Seismology prediction division chief Ernesto Corpuz said in an interview on television. No casualties have been reported since Mayon began erupting on Thursday. Phivolcs said Mayon's restlessness, including a series of earthquakes, "strongly indicates that explosive activity shall continue over the next weeks." Provincial disaster management officer Cedric Daep said he expected the number of evacuees to swell. His office was still receiving reports of villagers leaving their homes at the foot of the volcano. "The ejection of large incandescent fragments went up to about 500 meters above the crater rim," Phivolcs said in an advisory issued at 7 a.m. yesterday. It maintained alert level 5, the highest state of alert indicating that the volcano is still in its eruption stage. Another disaster looms as weathermen predicted that heavy rains might fall in the next two days. Authorities fear that the rains could send lahar cascading down the volcano's slopes. Daep said that in case of lahar flows, the danger zone around the volcano will be extended up to 12 km, particularly in areas where gullies and lahar channels are located. In case of continuous heavy rains, these deposits may loosen and endanger about 16 villages in Legazpi City and the neighboring towns of Sto. Domingo, Malilipot, Daraga and Camalig. The Department of Health on Sunday warned that several illnesses could develop into an epidemic if health and sanitation in the evacuation centers would deteriorate.

The Mayon volcano continues to erupt showering towns with ash, knocking out power supplies and forcing thousands more villagers to leave their homes. Visibility was low and motorists had to turn their headlights on to drive along the streets. Residents have been moving about with their faces covered with handkerchiefs, pieces of cloth and paper masks. Scientists said they expected the eruptions - which began six days ago - to continue for another week or two.

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March 1, 2000 - According to the Philippine Institute of Volcanology and Seismology, the eruption activity at the Mayon Volcano is ongoing. Today's eruption was producing rocks as big as houses and cars. The most recent activity has increased the number of evacuees in the Albay Province to more than 83,000. Areas near the volcano were without power after the ash shorted out insulators on high-voltage lines. On 28 February, the volcano sent a column of ash and molten rocks 7 miles into the sky. Lightning and rumblings accompanied the explosions. Official from PHIVOLCS reported that the volcano had also emitted pyroclastic flows. Disaster officials expressed fear that more people could be threatened by ash and mudflows should the heavy rains continue.

March 2, 2000 -The Legazpi Airport remains closed, as volcanic ash is a hazard to aircraft engines. Philippine officials are warning residents near the Mayon Volcano to prepare for an immediate evacuation if the ongoing rain loosens volcanic debris. A large amount of debris is perched on the mountain's slopes. If the rain continues, deadly slides could occur. PHIVOLCS reported the possibility of further fierce eruptions in the coming weeks. Occurrence of pyroclastic flows may continue and it is expected to sweep down along the well-incised gullies and channels especially the Bonga Gully. Severe ashfall was felt in the SW sector of the volcano. Field surveys will be conducted to assess ashfall impact and map out the extent of runout distance of the most recent lava flow and pyroclastic flow deposits.

March 7, 2000 -On 7 March, a burst of ash darkened the sky over many Philippine towns. According to PHIVOLCS, a large lava deposit collapsed near the crater and the high pressure volcanic gases created ash clouds. The pyroclastic flows moved 3 1/2 miles down the volcanic slopes in less than 10 minutes. Rains have added to the instability of the debris on the slopes of the volcano.

March 16, 2000 - On 11 March, water came into contact with the still-hot lava at the summit and an ash column developed that rose 1 km over the Mayon Volcano. The ash column drifted to the northwest. A minor pyroclastic flow occurred down the Bonga Gully (SE flank). The volcano's SO₂ levels are declining. Deflation of the cone continues and with only moderate seismic levels. The Mayon Volcano appears to be gradually returning to quiet conditions. However, the parameters are still above normal repose levels, and the Alert Level 4 remains in effect. A significant volume of pyroclastic deposits are still susceptible to erosion and secondary pyroclastic flows, lahars or debris flows still may occur.

August 4, 2000 - On 30 July, the Mayon Volcano spewed ash from its crater, but according to [PHIVOLCS](#) it was not an eruption. Groundwater or rain was reported to have come in contact with hot volcanic matter creating the release of ash. However, a warning was issued regarding the possibility of mudslides.

D. History of Eruptions

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Mayon is one of the 22 active volcanoes in the Philippines. Considered the most active volcano in the Philippines, Mayon Volcano has had at least 43 eruptions since 1616. This range anywhere from Strombolian (quiet emissions) to basaltic Plinian (extremely violent eruptions).

The eruptions of Mayon are usually "Vulcanian" in nature or explosive. They are characterized by the emission of fine ash and ash-laden gases forming huge "cauliflower" clouds. Pyroclastic flows and mudflows have commonly swept down many of the approximately 40 ravines that radiate from the summit and have often devastated populated lowland areas. The symmetry of the volcano indicates that the eruptions have always occurred at the central vent and that these have never been violent enough to destroy Mayon's form.

The most recent eruption, in February 1993, began unexpectedly with an explosion. The initial eruption lasted only 30 minutes but it generated pyroclastic flows that killed 70 people and prompted the evacuation of 60,000 others.

Mayon's most violent eruption on Feb. 1, 1814, killed more than 1,200 people and buried entire towns in volcanic mud flows. Nearby towns of Camalig, Cagsawa and Budiao were severely damaged, half of Guinobatan was ruined.

Mayon is said to erupt about every 10 years – prior to 1993, the last eruptions were in 1978 and 1984 when a series of eruptions shook towns and villages nearby and 70,000 people had to be evacuated. Mayon has erupted more than 45 times since 1616, the date of its first recorded eruption.

HISTORICAL ERUPTIONS:

No. of Recorded Eruptions: 45 since 1616

Latest Eruption: 02 February 1993 (Strombolian & Vulcanian types)

Most Destructive Eruption: 01 February 1814; 1,200 people perished due to lahars

Eruption Types:

Strombolian - quiet emission of lava (e.g. 1978, 1st phase of 1984 eruption)

Vulcanian - violent explosions and eruptions of pyroclastic flows

(e.g. 1st phase of 1968 eruption, 2nd phase of 1984 eruption)

Plinian - extremely violent explosions with continuous sustained ejection of pyroclasts (e.g. 1814 eruption)

Precursors to Eruptions:

a) Increase in seismicity level (Background: 0-10 volcanic quakes per day)

b) Ground tilt due to magma intrusion

c) Change in color of steam emission from white to gray due to entrained ash

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- c) Increase in the volume of steam emission
- d) Crater glow due to presence of magma at or near the crater
- e) Rumbling sounds because of gas explosion
- f) Rockfalls and landslides caused by the rising magma and unstable rocks at or near the summit
- g) Fissuring due to pressure exerted by the rising magma (rarely observed)

Phenomena Associated with Eruptions:

- Airfall tephra (ballistic fragments, ashfalls)
- Pyroclastic flows
- Lava flows
- Lahars

MONITORING TECHNIQUES:

Monitoring Methods:

- A. Geophysical Method
 - Seismic monitoring - telemetered to Lignon Hill Observatory
- B. Geodetic Methods
 - Electronic Distance Measurement
 - Precise leveling
 - Tilt measurements (wet and dry)
- C. Visual Observations
- D. Geochemical methods
 - Gas chemistry - monitoring of sulfur dioxide emission using Correlation Spectrometer (COSPEC)
- E. Water Well Monitoring

Monitoring Stations:

- Mayon Rest House Observatory (MRHO) - 3.8 km NW of the summit
- Sta. Misericordia Volcano Observatory (SMO) - 8.5 km E of the summit
- Lignon Hill Observatory (LHO) - 12 km SSE of the summit

2. ALBAY PROVINCE

A. Introduction

The 8,000 foot Mayon Volcano is located some 210 miles from Manila in Albay Province, Bicol Region in the southeast of Luzon Island.



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B. History

Overview: The early history of the region is dominated by Spanish explorers and Catholic missionaries. In the 20th century the region came under American control with a brief Japanese occupation during WWII.

In July 1573, Juan de Salcedo, with 120 soldiers, explored Ibalon and founded the town of Santiago de Libong. The Augustinian missionary, Father Alonzo Jimenez, christianized the first inhabitants of Ibalon, Camarines and Burias. He learned the Bicol dialect and composed a Bicol catechism.

In 1846 a decree was issued by Governor and Captain General Narciso de Claveria separating Masbate, Ticao and Burias from Albay to form the comandancia of Masbate. Albay was then divided into four districts: Iraya, Cordillera or Tobacco, and Sorsogon and Catanduanes.

On September 22, 1898, the civil governor of Albay, Angel Bascaran y Federic and the Spanish residents evacuated Albay. Subsequently, A revolutionary junta was organized by Don Anacleto Solano who later turned over the command to general Vicente Luchan, General-in-chief of Operations of the revolutionary government in the southeast region. The provisional revolutionary government of Albay was formed with Anacleto Solano as provisional president. Major general Vito Belarmino, appointed military commander, reorganized the Filipinos Army in the province.

By January 23, 1900, the American forces arrived in Legazpi and defeated the Sandatabanes led by Generals Vito Belarmino and Jose Ignacio Paua at the battle of san Rafael Bridge. Although a civil government was established in Albay on April 26, 1901, Colonel Harry H. Bandholtz, Commanding Officer of the Constabulary in the Bicol region, attested that Simeon Ola, with a thousand of men, continued to defy American authority after the capture of Belarmino in 1901. Ola was later captured with about six hundred men. The American military government reestablish Legazpi, Albay and Daraga as independent towns. In 1908, the Philippine Assembly merged the three town to create the municipio de Albay which became the capital of the province. Again bitterly opposed, the Philippine assembly separated Daraga from the capital town in 1922.

On December 12, 1941, during the Second World War, the Kimura Detachment of the Japanese Imperial Forces occupied Legazpi. The region was defended only by the Philippine Constabulary unit under Major Francisco Sandico. By December 19, the Bicol Peninsula up to Sipocot, Camarines Sur, with patrons towards Ragay Gulf and Daet, was under the enemy occupation. The provisional military government of the Japanese was terminated upon the American liberation forces on April 1, 1945.

On June 18, 1948, Republic Act No. 36 created the City of Legazpi and again incorporated Daraga as one of it districts, effective upon its proclamation on December 15, 1948. Bitter feeling again prevailed in Daraga; so on June 8, 1945, R.A. No. 993 was

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passed. The law repealed R.A. No. 306 and created the Municipalities of Legazpi and Daraga. Finally, on June 12, 1959, Legazpi was again made a city under R.A. 2234. It became the capital of the Province of Albay and its seat of government.

Albay, a progressive province with the capital city of Legazpi, has a large reservoir of steam deposits in Tiwi, according to geothermal experts G.W. Gridley of New Zealand. On August 14, 1970, Presidential Proclamation No. 739 authorized the National Power Corporation to exploit and develop the Tiwi power plant project.

Mayon Volcano, major tourist attraction of the province, is known for its symmetrical, almost perfect cone that rises over 7,500 feet above sea level. It erupted 15 times, with the catastrophe of February 1, 1814 as the most destructive. Its lava buried the town and church of Cagsawa.

Year	Significant Events
1587	<ul style="list-style-type: none"> Franciscan Friars began conversion of Sawangan to Christianity.
1616	<ul style="list-style-type: none"> Franciscan Friars transferred the settlement into a separate "pueblo" called "Albay". The first Parish Priest built a small chapel and established the "Mision de San Gregorio Magno de Sawangan".
Feb. 1, 1814	<ul style="list-style-type: none"> Eruption of Mayon Volcano destroyed half of the village. The people evacuated to Macalaya (now Barangay Taysan).
1818	<ul style="list-style-type: none"> Sawangan then known as the town of Albay was separated from Cagsawa and made the capital of "Partido de Ibalon" (the old name of Albay Province).
Oct. 1, 1829	<ul style="list-style-type: none"> The "Gobierno Superior" issued a decree prohibiting the founding of another town. The people formally settled in Taytay (now Bagumbayan), Albay district.
1834	<ul style="list-style-type: none"> St. Raphael de Archangel Church in Legazpi Port District was built through the generosity of Pedro Romero.
Sept. 22, 1856	<ul style="list-style-type: none"> The name "Legazpi" was given the ancient village of Sawangan by Royal Decree.
Oct. 23, 1856	<ul style="list-style-type: none"> Inaugurated Legazpi as independent town constituting the

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	visitas of Lamba, Rawis, Bigaa.
May 18, 1872	<ul style="list-style-type: none"> • Legazpi was opened to world trade by Royal Cedula.
1892	<ul style="list-style-type: none"> • Legazpi first became a city under the Becerra Law, constituting the municipalities of Legazpi (Legazpi Port), Albay Nuevo (Albay District), and Daraga into "Ayuntamiento de Albay".
1898	<ul style="list-style-type: none"> • First set of officials took office.
1900	<ul style="list-style-type: none"> • American occupation dissolved the AYUNTAMIENTO.
1908	<ul style="list-style-type: none"> • Legazpi Port together with Albay District and Daraga became one "Municipality of Albay", the Provincial Capital.
July 12, 1912	<ul style="list-style-type: none"> • Academia de Sta. Ines (St. Agnes Academy) was founded by the Missionary Benedictine Sisters.
1922	<ul style="list-style-type: none"> • The town of Daraga was separated from the Capital.
July 18, 1948	<ul style="list-style-type: none"> • Legazpi became a city for the second time. Daraga and Legazpi were recombined to constitute its territory under Republic Act No. 306.
June 8, 1954	<ul style="list-style-type: none"> • The city was dissolved for the third time with the re-creation of Legazpi and Daraga into municipalities.
June 12, 1959	<ul style="list-style-type: none"> • Legazpi became a city for the third time with a new charter under Republic Act No. 2234.
Feb. 05, 1973	<ul style="list-style-type: none"> • PD No. 125 issued by then Pres. Ferdinand E. Marcos, declared Legazpi City anew to include the Municipality of Daraga. Under the decree Legazpi is to be divided into 3 districts: Daraga, Albay district and Legazpi Port District. PD 125 is held in abeyance with full implementation of the integrated Reorganization Plan which also involves restructuring of local governments. • PD No. 1 - Legazpi City declared as Regional Administrative Center for the Bicol Region.

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<p>Aug. 10, 1988</p>	<ul style="list-style-type: none"> • Department of Trade and Industry (DTI) Department Order No. 81 created the Task Force on Bicol Regional Industrial Center.
<p>Important Dates</p>	<ul style="list-style-type: none"> • January 23 - Battle of Legazpi • September 2-3 - Albay district fiesta (St. Gregory, the Great) • October 23-24 - Legazpi Port District Fiesta (St. Raphael, Archangel) • SP Res. # 32-94, House Res.#54-94, RDC Res. # 13-93 - Resolutions of the SP; SPanlalawigan RDC identifying 54 hectares in Homapon as site for the Bicol Regional Agri-Industrial Center (BRAIC)

C. Population

Albay Province had a population of 673,981 in 1970. The Bicol region has a total estimated population of 4,655,812 in 1999.

Legazpi: As of the last census year, 1995, the City of Legazpi has a total population of 141,657 with 27,073 households. The Urban Area, which is composed of 41 barangays is home to 53% of the total population, while the remaining 47% is dispersed in the 29 rural barangays. Among the three cities found in the Bicol Region, Legazpi has the highest population.

Sex and Age Structure: There is an almost 50-50 proportion of males and females. Some 49.51% of the population is male and 50.49% female. There are 1,383 more females than males.

Approximately 57.84% (81,932) of the total population are of working age, 15-64 age, while 38.43% or 54,444 are 14 and younger. Only 3.73% or 5,281 of the people are 65 and older. The modal age group is 5-9 where 18,289 or 12.91% of the population belongs, which shows that that the city has a predominantly young populace. The city's median age is 19 years old, meaning 50% of the population are above this age and 50% is below.

Age Dependency Ratio: In 1995, there are 73 individuals who are economically dependent on every 100 persons in the working age group. Compared to the city's 1990 ADR of 77, the 1995 figure is a slight improvement. This has a very

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important implication for development planners in that the greater the relative size of young dependents, the higher is the economic burden on the working age group, as the needs of children and nature of economic support they require is much different from those of the older dependents.

Household Size: The city's total households in 1995 is 27,073, with an average household size of 5.2; lower than the 1990 household size of 5.4. There are 14,597 (53.92%) households in the urban area indicating an average household size of 5.2 which is slightly lower than that of the rural area's 5.3. In the urban area, Barangay #26-Dinagaan registered the biggest household size of 5.9; while barangays Tamaoyan, Dita, Padang and Buyoan in the rural area has 5.7 each. The smallest urban household size of 4.2 is recorded in Barangay Cabugao while the smallest rural household size of 4.8 is in Barangay Dap-Dap.

Population Density: As of 1995, the city's population density is 6.94 persons per hectare. Urban density is 54.44 persons per hectare while rural population density is 3.94 persons per hectare. Among the city's 41 urban barangays, Pigcale has the densest population followed by Sabang and Tula-Tula while the least dense is Capantawan. In the rural area, the barangay with the densest population is Buraguis and the least dense is Barangay Buenavista.

MUNICIPALITIES WITHIN 15 KM OF MAYON 'S SUMMIT CRATER:

Town	POPULATION	NO.OF HOUSEHOLD	Town	POPULATION	NO.OF HOUSEHOLD
Bacacay	49,202	8,864	Ligao	72,560	13,070
Camalig	49,975	9,216	Malilipot	24,160	4,555
Daraga	83,928	15,551	Sto. Domingo	22,939	4,186
Guinobatan	58,926	10,884	Tabaco	85,476	15,140
Legazpi City	121,116	22,222			

**Table 2.5.2 - CALAMITY AREAS, HOUSEHOLDS, POPULATION AND LAND AREAS
Legazpi City**

Calamity areas in Legazpi, where houses are in constant danger of flooding or volcanic eruption.

Calamity Areas	No. of Households	Population
A. Flood Prone Areas	186	1,028

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	267	2,088
	306	1,412
	258	2,163
	262	1,142
27 – Victory Village South	923	5,288
28 – Victory Village North	765	2,494
29 – Sabang	289	556
30 – Pigcale	141	5,273
31 – Centro-Baybay	438	
32 – San Roque		
33 – PNR Peñaranda St.		
34 – Oro-Site Magallanes		
36 – Capantawan		
37 – Bitano		
• Volcanic Casualty Areas	540	2,629
41 – Bogtong	794	6,460
42 – Rawis	147	901
43 – Tamaoyan	618	2,749
44 – Pawa	186	1,142
45 – Dita	205	1,668
46 – San Joaquin	499	2,734
47 – Arimbay	233	976

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48 – Bagong Abre	934	4,687
49 – Bigaa	400	1,998
50 – Padang	557	2,914
51 – Buyuan	214	1,322
52 – Matanag	571	2,854
53 – Bogña	245	976
54 - Mabinit		

Mayon Evacuee’s Resettlement Project: This project is primarily envisioned to address the problem of residents who are within the danger zone areas in case of Mayon Volcano eruption. The idea is to permanently relocate them in the identified resettlement area. The resettlement area is a 46.85 hectare lot situated at Banquerohan, about 17 kilometers from the urban center and bisected by the Legazpi-Manito National Road consisting of 504 housing units which is Phase I of the project at a total cost of P28.6M sourced from the office of the President. Phase II would provide housing to the urban poor sector consisting of site development – road network and drainage.

D. Health

Hospitals: Legazpi City has a total of seven (7) hospitals. Six of these hospitals are private with Bicol Regional Training and Teaching hospital, formerly Albay Provincial Hospital as the only public hospital in the city. Bicol Regional Training and Teaching Hospital, Ago General Hospital, Estevez Memorial Hospital and Aquinas University Hospital are classified as tertiary. These hospitals offer specialized services such as orthopedic, radiology, psychiatry, otaryngology, pathology and sterilization. Dr. Esteban P. Ante Memorial Hospital, formerly Sta. Teresita Hospital and Sacred Heart Clinic are classified as secondary. As to facilities, almost all the hospitals are equipped with electrocardiogram, x-rays and basic laboratory tests. Table 2.1.1 below details information on the existing hospitals in the City of Legazpi.

**Table 2.1.1- INVENTORY OF PUBLIC AND PRIVATE HOSPITALS
City of Legazpi, 1997**

Name of Hospital	No. of Beds	No. of Personnel	Medical Facilities	Services Offered
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Public:				
1. Bicol Regional Training and teaching Hospital (BRTTH)	200	214	Defibrillator Cardiac Monitor Ultrasound Machine Nebulizer Pharmacy Laboratory Auto-Clib Boiler Operating Room X-Ray Apparatus Ambulance	General Medicine Surgery Orthopedic Surgery Ophthalmology Pediatric OB-Gyne Dermatology Dental Services Diabetic Clinic
Private:				
1. Sacred Heart Clinic	22	22	X-Ray Facilities Laboratory Equipment ECG Machine Diagnostic Set	General Medicine Medical and Surgical Services OB-Gyne Pediatric
2. Dr. Esteban P. Ante Memorial Hospital	27	22	Operating Room ECG Machine Laboratory Electrocautery	General Medicine OB-Gyne Pediatrics Surgery
3. Estevez Memorial Hospital	50	44	Ambulance Service Prostate Center Ultrasanography Echocardiography Spirometric Studies Clinical Laboratory Organ System Studies Hematology Blood Chemistry Blood and Electrolytes Serology and Blood Banking Urine Analysis Spinal Fluid Bacteriology Special Thyroid Exam Pharmacy	Medical Services: > Medicine > Surgery > OB-Gyne > Pediatrics > Orthopedics > Urology > Psychiatry > Neurology Auxiliary Services: > Anesthesia > Laboratory > Radiology > OPD and General Practice > Dental > Dietary Services > Rehabilitation Medicine > Physical Therapy
4. Tanchuling Hospital	50	34	X-Ray Facilities ECGT Machine Laboratory with Complete Equipments	Obstetrics Medicine Surgery OB-Gyne

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			Ultrasound Pharmacy Dental Equipments	Pediatrics Anesthesiology Cardiology, EENT
5. Aquinas Hospital	40	20	Suction Machine Incubator Laparoscopy Machine Hemorrhalysis Machine ECG Machine EENT Instruments Dental Infirmary Thoractomy Set Ultrasound	Urology Neurology Surgery Obstetrics Physical Therapy Pathology Anesthesiology Radiology Medical/Social Services Pharmacy Dental
6. Ago General Hospital	100	87	Suction Machine Incubator Hemorrhalysis Machine ECG Machine EENT Instruments Dental Infirmary Ultrasound Machine Ambulance Laparoscopy Machine Thoracotomy Set	Dietetics/ Rehabilitation Psychiaratric/ Neurology Surgery Obstetrics Physical Therapy Pathology Anesthesiology Medical/Social Services Urology Laboratory Radiology

Source: Respective hospitals.

Clinics: There are thirty-eight (38) clinics in the City of Legazpi. Out of the total, 34 are private, 4 are public. City Health Office is located at Albay District. This clinic, as well as health stations strategically located mostly in rural centers of the city, provided health services in the area. Working hand-in-hand with the City Health Clinic are the Legazpi Puericulture Center, providing Maternal and Child Care, Family Planning and Dental Treatment; the Albay Skin Clinic for Leprosy and other skin disorders and the Social Hygiene Clinic for prevention and treatment of socially transmitted diseases. Private clinics classified according to the specialized services offered, consists of ten (10) optical clinics, thirteen (13) medical clinics and one (1) psychiatric clinic. Specialized services offered by optical clinics include refraction and contact lens fittings. Polyclinic, a lone private clinic which houses several doctors of different fields of specialization offers services such as: *General Surgery, OB-Gyne, Pediatrics, Ophthalmology, and Internal Medicine*. Dental services include tooth extraction, dental filling, root canal and other denture services.

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**Table 2.1.2 - INVENTORY OF PRIVATE CLINICS
City of Legazpi, 1997**

Name of Clinic	Specialized Services	Facilities/Equipment
1. Roces Clinic	Consultation and minor treatment	Minor surgical instruments
2. Martinez Clinic	Minor surgical operation	Minor surgical instruments
3. Villaraza Clinic	Minor surgical operation	Minor surgical instruments
4. Azucena Uy Clinic	Consultation and minor treatment (Pediatrics)	Medical instruments
5. Adornado Clinic	Consultation and minor treatment (Pediatrics)	Medical instruments
6. Little Clinic	Consultation and minor treatment (Pediatrics)	Medical instruments
7. Rayala Foundation	Minor surgical operation	Medical and surgical instruments
8. Lambanco Cua	OB-Gynecology	Medical instruments
9. Sto. Niño Polyclinic	Pediatrics-OB-Gyne	Minor surgical instruments
10. Florello Margallo	Consultation and minor treatment	Medical instruments
11. Albay TB Pavilion	X-Rays and treatment of TB cases	Medical instruments
12. Sambitan Psychiatric	Psychiatry	-
13. Glenn Estevez Dental Clinic	Dental	Dental equipment
14. Samarista Dental Clinic	Dental	Dental equipment
15. Sallan Dental Clinic	Dental	Dental equipment

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16. Monforte Dental Clinic	Dental	Dental equipment
17. Sto. Tomas Dental Clinic	Dental	Dental equipment
18. Emmanuel Barrios Dental Clinic	Dental	Dental equipment
19. Baduria Dental Clinic	Dental	Dental equipment
20. Napod Dental Clinic	Dental	Dental equipment
21. Juinno Dental Clinic	Dental	Dental equipment
22. Reolo Dental Clinic	Dental	Dental equipment
23. Mendiola Dental Clinic	Dental	Dental equipment
24. Reyes Dental Clinic	Dental	Dental equipment
25. Dabu Optical Clinic	Prescription of eyeglasses	Keratometer, Phroptor, Lens Ureta, Trial Cases
26. Aldana Optical Clinic	Contact lens fitting/refraction	Refraction unit and lens meter
27. Legazpi Eye Center	Refraction	Refraction unit and lens meter
28. Lucrida Optical Clinic	Refraction	Refraction unit, Ophthalmoscope, Aging Machine
29. Quijano Optical Clinic	Refraction	Trial lenses
30. Buenaventura Optical Clinic	Refraction	Refraction unit
31. Napod Optical Clinic	Refraction	Refraction unit
32. Fortades Optical Clinic	Eye, Ear, Nose and Throat (EENT)	Suction aparatus
33. Acebedo Optical Clinic	Refraction	Refraction unit
34. Polyclinic	General Surgery, OB-Gyne, Ophthalmology, Internal Medicine	Refraction unit/Ophthalmoscope

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Source: Respective Clinics

E. Climate and Topography

Climate: Legazpi and Albay province are characterized by having no definite dry season. Rainfall occurs during the month of November to January. All kinds of crops can be planted throughout the year because of the favorable climate provided by regular rainfall. The rich sandy loam at the level portion of Mayon Volcano and Catabrean mountains mixed with clay-loam soil from the nearby mountain range complete the rich land suitable for agriculture and very profitable for the people engage in farming.

Legazpi City enjoys an average temperature of 27⁰C; coldest during the month of December at 25⁰C and the warmest during the month of June at 28⁰C. The prevailing wind direction in the City is the northeasterly wind which comes during the months of January to April, with slight variation, east northeasterly, in May. Wind direction shifts from the southeast beginning the month of June up to October. During the months of November and December, winds from the northeast again prevail, bringing in the cool breeze from the western hemisphere.

The prevailing wind direction in the City is the northeasterly wind which comes during the months of January to April, with slight variation, east northeasterly, in May. Wind direction shifts from the southeast beginning the month of June up to October. During the months of November and December, winds from the northeast again prevail, bringing in the cool breeze from the western hemisphere.

The only catastrophic repercussion by the residents including the entire Bicol is the geographical location of the province. It lies closely at the typhoon belt. The eastern flank of the whole city is openly exposed to the Pacific Ocean. It is calm only during the early part of the year. But very often, strong winds sweeps over the city with velocity ranging from 60 to 180 kilometers per hour. In spite of this, residents continue to ply with their livelihood and trade. Typhoons to this patient people are already common occurrences. They do not give too much weight on its economic effects.

Topography: The Province of Albay is located between the provinces of Camarines Sur on the north and Sorsogon on the South. It is bounded on the east by the Pacific Ocean, on the northeast by the Lagonoy gulf, and on the west and southwest by the Burias Pass. Albay has a land area of 2,552.6 square kilometers, consisting of 17 towns. The mountains of the



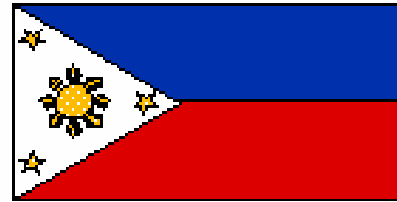
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province are Mayon, Masanara and Malinao in the northeast, and Catburaun in the west. Its forests are sources of timber, rattan, pili nuts and gum elemi. There are also vast grasslands for pasturing horses, cattle, carabaos, goats and sheep.

Legazpi, the only city in the province of Albay, is located at the southeastern seaboard of Albay. It is 556 kilometers away from Metro Manila. It is accessible by land, sea and air. On the northern side, the terrain is generally plain while on the southern part, rolling hills dominate the area. Like the other cities in Metro Manila, the general land area is still substantially used for agriculture but not very intensively.

F. Government

IMELDA C. ROCES – MAYOR, CITY OF LEGAZPI, REPUBLIC OF PHILIPPINES



Elected Officials - City of Legazpi (1998-2001)

Mayor

Imelda C. Roces

Vice Mayor

Ismael M. Buban

Councilors

Carlos A. Ante

Edmundo E. Aragon

Benedicto A. Azul

Michael Victor C. Imperial

Rodolfo D. Morante

Avelino A. Pacamara

Anita P. Rito

Vicente Martin C. Roces

Noel E. Rosal

Jesus Enrico M. B. Salazar

**LIST OF OFFICIALS
CITY OF LEGAZPI
1999**

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ELECTIVE	POSITION
Hon. Imelda C. Roces	City Mayor
Hon. Ismael M. Buban	City Vice-Mayor
Hon. Carlos A. Ante	Member, SP
Hon. Edmundo E. Aragon	Member, SP
Hon. Benedicto A. Azul	Member, SP
Hon. Michael Victor C. Imperial	Member, SP
Hon. Rodolfo D. Morante	Member, SP
Hon. Avelino A. Pacamara	Member, SP
Hon. Anita P. Rito	Member, SP
Hon. Vicente Martin C. Roces	Member, SP
Hon. Noel E. Rosal	Member, SP
Hon. Jesus Enrico Moises B. Salazar	Member, SP
Hon. Rolando R. Belbes	Member, SP President – Liga ng mga Barangay
Hon. Mary Martin Kathleen T. Nidea	Member, SP President – Liga ng mga Kabataan
CITY DEPARTMENT HEADS	POSITION
Mr. Roleo Battung	OIC, City Administrator
Mrs. Araceli A. Baile	Secretary to the Sanggunian
Atty. Astrid G. Natividad	City Treasurer
Engr. Corazon C. Matriz	City Assessor
Mr. Jaime R. Andes	Human Resource Management Officer
Mrs. Imelda R. Eva	City Budget Officer
Engr. Rhady R. Arevalo	City Engineer
Mrs. Dominica R. Lorbes	City Planning & Development Coordinator

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Mr. Reynaldo Padua	City Agriculturist
Mrs. Loreto B. Gile	General Services Officer
Mr. Joeben B. Ador	City Accountant
Dr. Nancy M. Andes	City Veterinarian
Mrs. Necitas R. Alvarado	City Civil Registrar
Dr. Sarah B. Vasquez	City Health Officer
Mrs. Ma. Marlene Manaya	City Social Welfare and Dev't Officer
Atty. Luis Adornado	City Legal Officer
NATIONAL GOVERNMENT AGENCIES IN THE CITY	POSITION
Mrs. Belen P. Abear	City Auditor/COA
Mrs. Lilia N. Rito	City Agrarian Reform Officer/DAR
Mr. Virgilio Lopez	City Government Operations Officer/DILG
Mr. Publeo Matamorosa	City Div. School Superintendent/DECS
Hon. Avelino V. Rodenas	City Prosecutor/DOJ
Atty. Erlinda A. Muro	City Register of Deeds/DOJ
Hon. Edmundo Escalante	MTCC Branch I/DOJ
Hon. Raymond Jacob	MTCC Branch II/DOJ
Hon. Jose Noel Rubio	MTCC Branch III/DOJ
F/Sr. Insp. Joselito T. Zepeda, BFP	Fire Marshall/DILG
P/Sr. Sup. Marquez, PNP	Chief of Police/DILG
Atty. Rosita M. Nayve	Asst. City Prosecutor/DOJ
Atty. Dominador B. Barrameda	Asst. City Prosecutor/DOJ
Atty. Maria Visia D. Maldo	Asst. City Prosecutor/DOJ
Atty. Ruben Dario T. Noqui	Asst. City Prosecutor/DOJ
Atty. Catalino G. Serrano	Asst. City Prosecutor/DOJ

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Atty. Palmarin E. Rubio	Asst. City Prosecutor/DOJ
Atty. Edgar L. Armes	Asst. City Prosecutor/DOJ
Atty. Solon B. Sison	Asst. City Prosecutor/DOJ
Atty. Arlinda C. Resari	Asst. City Prosecutor/DOJ
Atty. Mary May De Leoz	Asst. City Prosecutor/DOJ
Atty. Jose N. Hernandez	Asst. City Prosecutor/DOJ
Atty. Oscar T. Cadag	Asst. City Prosecutor/DOJ
Ms. Carlita V. Pineda	Asst. City Treasurer-Operation
Mrs. Eden A. Agu	Asst. City Treasurer-Admin.
Mr. Raul Acuña	Asst. City Assessor
Engr. Edgar Rempillo	Asst. City Engineer
Mr. Norberto G. Meneses	Asst. City Planning & Dev't Coord.

Meaning of the City Seal



The shape of the chief has the outline of a crown, which symbolizes power, the rising sun symbolizes progress; the Mayon volcano denotes that Legazpi is always associated with the beauty and grandeur of Mt. Mayon. The sea, as well as the pier, wharf and steamer show that Legazpi is a famous seaport. The fruiting coconut tree, as well as the bundles of palay, symbolize richness in agriculture which is the chief occupation of the people: that copra is the leading export of Legazpi and that the city can produce sufficient quantity of rice for the people's need. The wing, wheel and anchor symbolize air, land, and water transportation, all terminals of which are located in the city of Legazpi. The figure 1959 shows the year when Legazpi was created under Republic Act No. 2234.

Political Subdivisions: Legazpi City is divided into two districts: namely Legazpi Port District and Albay District. The main seat of government is centered at Albay District including the Provincial Government. It has a total of 70 barangays which are divided unto urban and rural. Forty-one political subdivisions composed the urban barangay and twenty-nine for the rural barangay.

The urban barangays are: EM'S Barrio South, EM'S Barrio East, Sagpon, Sagmin, Banadero, Bano, Bagumbayan, Pinaric, Cabugao, Maoyod, Tula-tula, Ilawod East,

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Kawit-East, Wahington Drive, Rizal Street-Illawod, Cabangan West, Cabangan East, Cabangan, Binanuahan west, Binanuahan East, Imperial Court Subdivision, Rizal Street, Lapu-Lapu, Dinagaan, Victory Village North, Sabang, Pigcale, Centro-Baybay, San Roque, PNR Penaranda St.-Iraya, Oro Site-Magallanes Street, Tinago, Market Site, Capantawan-Bitano, Gogon, Bonot, Cruzada, Bogtong.

The rural barangays are: Rawis, Tanaoyan, Pawa, Dita, San Joaquin, Arimbay, Bagong Abre, Bigaa, Padang, Buyuan, Matanag, Imalnod, Banquerohan, Bariis, San Francisco, Buenavista, and Cagbacong.



Mayon Volcano, Legazpi City, Philippines

City Disaster Coordinating Council (CDCC)

Legazpi City is situated along the path of tropical disturbances of which there are 19 to 20 occurrences per PAGASA record. On the average typhoons hit the area every year.

Every year, they sustain considerable losses to life and property from disaster triggered by natural causes, technological accidents and human carelessness. And every year, Legazpi City provided emergency support and financial assistance to the victims of these disasters and relief and rehabilitation work in affected areas.

The main contingency plan and programs of the City Disaster Coordinating Council (CDCC) consider two major activities, these are preparedness to prevent and reduce the adverse effects of natural and man-made calamities at the community level by minimizing the vulnerability through strengthening its capability and by promoting and sustaining community development.

CDCC enhances its local preparedness program, specially the institutional mechanism and arrangements as well as the human and material resources to deal with disaster.

G. Economy

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The important products of the people of Albay Province are hemp, coconut, sugar cane, pineapple, vegetables and rice.

Major Industry: As a center of trade, Legazpi has a only a few industries to speak of. It is divided among the three types of industry which are: large scale, medium-scale and small-scale. Legazpi Oil Company is the only large-scale industry existing in the city. For medium-scale, it has an oxygen plant (Mayon oxygen and Acetylene Co.) ice plant factory (Legazpi ice Plant). The Legazpi Ice Plant is presently managed by the Bureau of Fisheries, there are also manufacturers of cottage industry products which are sold abroad. For the last type, there are factories located on nearby suburbs which manufacture fibercrafts, bamboo and rattan crafts, woodcrafts, metalcrafts, fishing, poultry, and livestock raising, and a few food processing factories.

H. Infrastructure

Legazpi City

Capital of Albay province on southern Luzon Island in the Philippines, situated on the Albay Gulf near the foot of Mount Mayon; population (1995) 141,700. Legaspi is a deepwater port with oil storage facilities, and a shipping center for abaca (hemp) and copra. It is a base for tourists visiting Mount Mayon volcano.

Legazpi City is the commercial center of the Bicol region. Its rich and volcanic soil is mostly planted with coconut, abaca and rice. With one of the busiest ports in the country and a majestic Mayon Volcano, the city rightfully deserves the title of "The Queen City of Southern Luzon."

Roads: The City is linked to neighboring municipalities by a national road. From the City proper to the north, the Municipality of Sto. Domingo, by a distance of 7.37 kilometers; to the south, the Municipality of Manito, by a distance of 25.01 kilometers; and to the west, the Municipality of Daraga, by 4.14 kilometers.

Given the 1995 data on population of, 141,657 and total road kilometerage of 188.,255, the City's road density is estimated to be 1.27 kilometers per 1000 population. This is a little higher than the standard of 1 kilometer per 1000 population.

While it is true that the standard road density has been met, unlike other cities which are dense and compact, the City's rural areas, characterized by generally hilly and mountainous terrain and dispersed settlements, need more roads to facilitate people and product mobility and therefore stimulate economic activities.

ROAD LENGTHS BY ADMINISTRATION AND SURFACE TYPE

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The total road network in the City in 1995 is 180.255 kms., an increase of 1.59% over the 1991 road kilometerage (177.433 kms.). By surface type classification; 56.156 kms. (31.15%) is of concrete pavement; 55.861 kms. (30.99%) is of asphalt pavement; and 68.235 kms. (37.85%) is of gravel pavement. As to type of administration, 56.883 kms. (31.56%) is under the national roads category; 34.439 kms. (19.11%) is under the city roads category; and 88.93 kms. (49.53%) is under the barangay roads category.

**EXISTING ROAD LENGTH BY ADMINISTRATION
AND SURFACE TYPE**
Legazpi City, 1995

Category	Type of Pavement				
	Concrete (kms.)	Asphalt (kms.)	Gravel (kms.)	Earth (kms.)	Total
National	41.238	8.965	6.68	-	56.883
City	11.388	15.696	4.355	-	34.439
Barangay	3.53	28.20	57.20	-	88.93
TOTAL	56.156	55.861	68.235	-	180.255

Source: Dept. Of Engineering & Public Works, Legazpi City

Bridges: There are 18 bridges in the city with an aggregate length of 404.80 linear meters, of which 25 linear meters are of RCDG type; 340.50 linear meters are of Reinforced Concrete Slab type; and 27.30 linear meters is masonry abutment type. By administration, 10 are under the national category, 9 are under the city category and 1 is under the barangay category.

BRIDGE INVENTORY BY TYPE
Legazpi City, 1995

Type of	Type of Bridge
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Administration	Total (m)	RCDG (m)	Reinf. Conc. Slab (m)	Ms. Ab. (m)	Timber Threstle (m)	Width (m)	Total (Capacity) Tons
National	272.10	25.00	218.90	27.30	0.00	74.32	150.00
City	117.70	0.00	105.70	0.00	0.00	29.90	59.00
Barangay	15.00	25.00	340.00	27.30	0.00	110.22	219.00
TOTAL	404.80	50.00					

INVENTORY OF BRIDGES BY LOCATION

Legazpi City, 1997

Name of Bridge	Length (LM)	Span (M)	Width (M)	Capacity (Tons)	Location
A. Permanent					
Agna Bridge	2 - 12.50	24.00	7.32	15	Legazpi-Manito Road
Caridad Bridge	1 - 22.00	22.00	7.40	15	Legazpi-Manito Road
Sagpon Bridge	2 - 6.70	13.40	6.70	15	Legazpi-Daraga Road
Pinaric Bridge	2 - 10.20	20.40	6.70	15	Legazpi-Daraga Road
Pili Bridge	2 - 5.00	10.00	11.30	15	Legazpi-Sto. Domingo Road
Yawa Bridge	11 - 12.00	132.00	6.70	15	Legazpi-Sto. Domingo Road
Sagumayon Bridge	1 - 22.00	22.00	7.40	15	Legazpi-Daraga Road

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Ruran Bridge	1 - 5.00	5.00	6.70	15	Legazpi-Daraga Road
Sagumayon Bridge	1 - 7.30	7.30	6.70	15	Kap. F. Aquende Drive
Tibu Bridge	1 - 5.20	5.20	3.80	15	Calle Siping
Sagumayon Bridge	2 - 6.00	12.00	3.80	15	Ma. Clara Street
Ruran Bridge	1 - 12.00	12.00		15	BUCIT Road
Sagumayon Bridge	3 - 6.00	18.00	3.80	15	Guevarra Subd. Road (East Side)
Sagumayon Bridge	3 - 6.00	18.00	3.80	15	Guevarra Subd. Road (West Side)
Sagumayon Bridge	1 - 15.00	15.00	6.00	15	W. Vinzons Street
Macabalo Bridge	3 - 12.50	37.50	6.70	15	Legazpi-Puro Road
Cagbacong Bridge	1 - 8.00	8.00		15	San Francisco-Cagbacong Road

Source: DEPW, Legazpi City

Water Transportation: Several motor launches are operating at the Legazpi Port Area, plying at least three local routes: Legazpi-Rapu-Rapu (vice versa), Legazpi-Manito (vice versa) and Legazpi-Sto Domingo (vice versa). Other destinations are to and from the coastal barangays of the City. On commercial vessel operations several interisland vessels regularly call the port of Legazpi City to load and unload cargoes.

Seaport: One major facility that plays a vital role in the economic development activity of an area is its port/wharf. Legazpi City is lucky to have one, administration of which is under the Philippine Ports Authority/DOTC. Presently, the Port of Legazpi is classified as a national sub-port of entry. It has as an approach length and width of 329 meters and 12 meters, respectively. Total area is 4,942 square meters with an open storage space of 1,738 meters. There are 4 other ports in Legazpi City, namely: Dap-Dap Port (classified

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as municipal port) and the Bagacay Fishing Port; 2 private ports, one in Bigaa services the Cosay Co. and another one located at Arimbay services the Legazpi Oil Company.

Air Transportation: Two airline companies namely: Philippine Airlines and Air Philippines provide regular air transportation to and from the City of Legazpi. The Aboitiz Air is operating a regular air transport activity between Manila and the City of Legazpi, for cargo loads only. The Philippine Airlines operates on four air routes to and from (vice versa) the City of Legazpi, Namely: Manila-Legazpi, Masbate-Legazpi, Cebu-Legazpi and Legazpi-Virac, Catanduanes; while the Air Philippines only concentrate on one route, that is, Manila-Legazpi and vice-versa.

Airport: The Legazpi Airport, operated and administered by the Air Transportation Office/DOTC, is the only commercially operated airport in the City and classified as a trunkline. It has a total area of 75 hectares, and a concrete runway of 1,974 meters. It has to date, modern equipment and facilities, including a control tower with complete & updated gadgets and accessories needed for its operation. At present the airport can accommodate passenger medium range jet planes and lighter planes for commercial, military, and cargo operations. The airport is located within the boundaries of barangays Cruzada and Bogtong.

AIRLINE SCHEDULE AND DESTINATIONS

Legazpi City Airport, 1997

Aircraft	Destination	No. Of Flight/s	Schedule
PAL Boeing 737 Jet	Manila-Legazpi City (vice versa)	1/day	MTW & Sun
PAL Fokker	Cebu-Legazpi City (vice versa)	2/day	MWF & Sun
PAL Fokker	Legazpi City-Virac (vice versa)	1/day	MW
PAL Fokker	Masbate-Legazpi City (vice versa)	1/day	MW
Air Philippines	Manila-Legazpi City (vice versa)	1/day	daily
Aboitiz Air	Manila-Legazpi City (vice versa)	1/day	daily

Source: Air Transportation Office/DOTC V Legazpi Airport, City of Legazpi, 1997

Source Of Electricity: Power is provided by the National Power Corporation (NAPOCOR) and distributed for local consumption, i.e., residential, commercial, industrial, and other uses, by the Albay Electric Cooperative Inc. (ALECO). As of December 1995, 67 barangays or about 96 % of the city's 70 barangays (urban and rural) are already energized. A total of 17,182 households (active members) or 63.50 % of the total households are now served by the cooperative.

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Legazpi City Water District (LCWD): The LCWD is the main supplier of water for residential, commercial and industrial uses for the City. It services at present, the entire urban area and some rural barangays like Bigaa, Arimbay, Buraguis, Dap-Dap and portions of Taysan. Sources of water of the waterworks system are the barangays of Boña and Mabinit wells, Buyuan springs and the PBN, Bañadero and DENR pumping stations. The existing sources produces a combined capacity of 857,377,022 gallons per annum. Relative to the 1995 urban area need of 984,580,200 gallons per annum, a deficit of 127,203,180 gallons of water per annum is noted. On household connections, as of end of 1995, a total of 6,225 households have connections, 5,345 of which are residential, 678 commercial and 2 industrial. In addition to the LCWD water supply, there are at least 4,837 units of privately-owned water pumps (deep and shallow wells). Other water sources are dug wells, springs and streams.

Telecommunication Facilities: The following table shows the type and number of communication facilities in Legazpi.

**TELECOMMUNICATION FACILITIES, by Type
Legazpi City, 1997**

Type of Facility	Number
1. Telegraph	3
2. Telephone	3
3. Televisions	2
4. Cable TV Operators	3
5. Radio Stations	5
AM	8
FM	
6. Facsimile Stations	5
7. Internet Service Providers	3

Source: CPDO Data Bank

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Telephone Services: There are three (3) telephone companies operating in the City of Legazpi and its vicinity for local telephone call services. Long distance call services are also provided by these companies.

TELEPHONE SERVICES

Legazpi City, 1998

COMPANY	ADDRESS	INSTALLED LINES
1. Mayon Telephone Company	A.. Mabini Street, Legazpi City	SPC – 1,200 Stronger – 2,400
2. ICC/Byantel	Bayan Tel Bldg., Vel-Amor Subd., Legazpi City	8,720
3. DIGITEL	Elizondo Street, Legazpi City	4,063

Source: National Telecommunications Commission Regional Office No. 5
Rawis, Legazpi City

Television and Cable Facilities: Two (2) TV Stations, and another station, whose main office is located in an adjacent municipality, but is using Legazpi as its base, operate via GMA Rainbow Satellite since March 29, 1992.

TV STATIONS

Legazpi City

CALL SIGN	CHANNEL	ADDRESS	OPERATING COMPANY
1. DZAE – TV	4	3/F Bayantel Bldg., Vel-Amor Subd., Legazpi City	ABS-CBN Tel. No. 480-1730 481-1097
2. DWGB – TV	6	Taguntong Hills, Taysan, Legazpi City	People’s Broadcasting Network Tel. M. 480-56786

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Source: National Telecommunications Commission – RO V
Rawis, Legazpi City

Three (3) Cable TV stations are operating in the city.

CABLE TV
Legazpi City

CABLE TV	ADDRESS	SERVICE AREA
1. ESTV, Inc.	2/F. JAE Bldg., Rizal St. Legazpi City	Legazpi and Daraga
2. DCTV Cable Network*	New Town Homelots, Bagumbayan, Legazpi City	Legazpi and Daraga
3. Manila Cable TV Services	Gogon, -Legazpi City Tel. No. 480-9786	Legazpi

Source: National Telecommunications Commission – RO V
Rawis, Legazpi City

* Located in an adjacent municipality but using Legazpi at its base.

Broadcast Media: There are thirteen (13) privately-owned and operated radio stations, as compared to the 1990 data of ten(10). Five (5) of these operate on AM band while the remaining eight (8) are found on the FM band.

RADIO STATIONS
City of Legazpi, 1997

Station	Location	Frequency (Khz/Mhz)	Power (Kw)	Network Name	Air Time	Broadcast Coverage
AM Band						
1. DWRL	Bitano, Legazpi City	1080 Khz	1	Radio Audience Developers Integrated Org'n (RADIO, INC.)	5AM- 11PM	Primary- Legazpi/ Albay Secondary- rest of Region

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						V
2. DWGW	Bitano, Legazpi City	684	1	Intercontinental Broadcasting Network (IBN)	5AM-11PM	Primary-Legazpi/ Albay Secondary-rest of Region V/Samar
3. DZGB	Imperial Court Subd., Legazpi City	729	2.5	People's Broadcasting Network (PBN)	5AM-11PM	Primary-Legazpi/ Albay Secondary-rest of Region V/Northern Samar
4. DZRC	East Wash. Drive, Legazpi City	873	5	Filipinas Broadcasting Corp.	5AM-MIDNIGHT	Primary-Albay/Sor./ Catanduanes Secondary-rest of Reg.V
5. DZLG	Tahao Road, Legazpi City	927		People's Broadcasting Service		
FM Band						
1. DWDA	Pinaric, Legazpi City	90.7 Mhz	5	AMEC Institute of Mass Communication, Inc.	5AM-11PM	Primary-Legazpi City/ Albay Secondary – rest of Reg. V
2. DWGB	Imperial Court Subd. Legazpi City	97.1	5	People's Broadcasting Network (PBN)	5AM-11PM	Primary-Legazpi City/ Albay Secondary – rest of Reg. V
3. DWMR	Patio Napal Bldg. Legazpi City	97.9	5	National Broadcasting Corporation (NBC)	5AM-11PM	Primary-Legazpi City/ Albay Secondary – rest of Reg. V
4. DWCM	Vel-Amor	99.5	5	Pacific Broadcasting	24 hrs.	Primary-

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	Subd. Legazpi City			System, Inc.		Legazpi City/Albay Secondary – rest of Reg. V
5. DWRD	Vel-Amor Subd. Legazpi City	93.9		ABS-CBN Broadcasting Corp.		
6. DWCW	Tahao Road Legazpi City	96.3		Republic Broadcasting System, Inc.		
7. DWGP	Tahao Road Legazpi City	103.5		Consolidated Broadcasting System, Inc		
8. DWRC	East Wash. Drive, Legazpi City	95.5	5	Filipinas Broadcasting Corp.	5AM-11PM	Primary-Legazpi City/Albay Secondary – rest of Reg. V

These stations are on the air starting at 5:00 o'clock in the morning and sign off at 12:00 o'clock midnight. Some continue up to the wee hours of the morning. Broadcast materials are evenly balanced and may be classified as informational, educational, public service, entertainment and commercials. Also, some stations give time slots for governmental programs, which may take from 30 minutes to 1 hour.

Print Media: There are twelve (12) major publications stationed in Legazpi City which circulate weekly in the province and in the other nearby provinces.

INVENTORY OF LOCAL WEEKLIES Legazpi City

NAME OF PUBLICATION/ ADDRESS	FREQUENCY	PUBLISHER
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<p>1. ALBAY JOURNAL</p> <p>Atty. Augusto Balde Law Office</p> <p>Rizal St., Legazpi City</p>	<p>Weekly (every Monday)</p>	<p>Jake Fortaleza</p>
<p>• BICOL CHRONICLE</p> <p>Rm. 206, Rañola Bldg.</p> <p>Quezon Ave., Legazpi City</p>	<p>Weekly</p>	<p>Enrico Gonzales</p>
<p>• BICOL NEWS TODAY</p> <p>Doña Paz Subd. Phase I</p> <p>Cruzada, Legazpi City</p>	<p>Weekly</p>	<p>Manny Solis</p>
<p>• SARONG BANGI NEWSWEEKLY</p> <p>McVill's Tailoring</p> <p>Sagpon, Legazpi City</p>	<p>Weekly (every Wednesday)</p>	<p>Maico B. Julu</p>
<p>• BICOL NEWSLINK</p> <p>Premier Secretarial and Fashion School Bldg., Rizal St., Legazpi City</p>	<p>Weekly</p>	<p>Rudyard L. Cabigao</p>
<p>• MAYON TIMES</p> <p>Lapu-Lapu St., Legazpi City</p>	<p>Weekly (every Wednesday)</p>	<p>Elizabeth B. Millare</p>
<p>• BICOL METRO NEWS</p> <p>Oro Site, Legazpi City</p>	<p>Weekly</p>	<p>Rowel G. Endrinal</p>
<p>• BICOL NEWS EXPRESS</p> <p>Binanuahan, Legazpi City</p>	<p>Weekly (every Monday)</p>	<p>Hizelle Contado</p>
<p>• THE WEEKLY NEWS</p>	<p>Weekly (every Monday)</p>	<p>Marites A. Nual</p>

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Rm. 5, PVLB Bldg. I Peñaranda St., Legazpi City		
• IBALONG TRIBUNE Bulawan Na Koron Washington Drive, Legazpi City	Weekly	Grace Borja
• PERYODIKO BICOL High-Rise R#2, ABC Shopping Center Albay District, Legazpi City	Weekly (every Sunday)	Bobby O. Ala
• MAURAG 28-C Aeroville University Homes Legazpi City	Weekly	Bob C. Gaffny

Source: Philippine Information Agency – RO V - Legazpi City

Postal Services: Over the 7-year period, an aggregate of 7,953,128 letters of foreign and domestic destinations were posted in 8 postal stations of the city. The Legazpi City Post Office, the center of postal activities in the city, absorbed 62.97% of the total number of letters posted or 5,401,183 letters with an average of 2,114 letters per day.

Messengerial, Freight and Cargo Services: The City is enjoying the services of at least 18 messengerial, freight and cargo offices. Services offered by these offices vary from mail deliveries to bulk shipments of cargoes. Facilities include service panel, heavy trucks, telex machines, and in some cases SSB radios. Rates for mail letters, packages, etc. vary as to destination, weight and category by which these materials are classified.

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MESSENGERIAL, FREIGHT AND CARGO SERVICES

NAME/TRADE NAME	KIND OF BUSINESS
1. Circle Freight International Phil., Inc.	Freight Forwarding
2. JC Forwarder Enterprises/Legazpi Cargo Express	Cargo Forwarding Services
3. Redoblado, Rogelio R.	Messengerial Services
4. Jay Van Lines/Jay Van Freight Hauling Services	Freight/Hauling Services
5. Cheran Trading/Cargo Linkage Services	Trading and Cargo Office
6. Borromeo, Alberto M.	Freight Services
7. DHL Phil. Corporation	Light Cargo Services
8. EXL Worldwide Express, Inc.	Documents and Freight Forwarding
9. LBC Express Express, Inc.	Common Carrier/Cargo Service Broker
10. JRS Business Corp.	Messengerial Services
11. LIBCAP Super Express	Messengerial/Cargo Forwarder
12. Kabayan Forwarders, Inc.	Forwarding Business
13. Caceres Integrated Transport Services, Inc.	Forwarding & Warehousing
14. Okina Cargo Express, Inc.	Cargo Forwarding
15. Aries General Services	Services, Messengerial, Janitorial
16. Sipalay, Leopoldo Jr. B.	Cargo Forwarder
17. Fastpak Air Express Corp.	Freight Forwarder
18. Multiform Freight Forwarder	Cargo Handling/ Forwarding

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Telegraph Services: There are three (3) companies operating telegraph services in the City.

TELEGRAPH COMPANIES

Legazpi City

Name of Companies	Location
1. Bureau of Tele-communications (BUTEL)	2 stations (Legazpi Port and Albay District)
2. Radio Communications of the Philippines, Inc. (RCPI)	1 station at Legazpi Port
3. Philippine Telegraph and Telephone Corporation (PT&T)	2 stations both situated at Legazpi Port

Internet Service Providers: At present, there are three (3) Internet Service Providers (ISPs) which provide internet services such as email, web surf, chat, file transfer protocol, email to fax, among others.

INTERNET SERVICE PROVIDERS

City of Legazpi, 1998

Name of Internet Service Provider	Address
1. Bicol Infonet	Rizal St., Legazpi City
2. Globalink Internet	Rizal St., Legazpi City
3. CATSNet	Old Albay , Legazpi City

I. Government Protective Services

The Legazpi City Police Station of the Philippine National Police has, as of 1997, a strength of 110 policemen, and 6 non-uniformed Personnel at the Office of the Station Commander, and at the operation services and administrative branches.

The Police Station has its general administration office (417 sq. m. Area) at Albay District, about 50 meters southeast of City Hall; 20 meters south of Albay Cathedral and

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a block east of the Albay Provincial Capitol. Located on the same building is the Albay Sub-Station while another sub-station measuring 55.5 sq. m. is located at Legazpi Port District in front of the Philippine National Railways (PNR) Terminal.

The Police station maintains seven (7) police boxes located in strategic places at the City.

The 2 patrol cars and 2 motorcycle are the only mobile facilities available in the entire unit. For the communication facilities, the PNP Legazpi Station is provided with 10 hand held radio transceiver, two of which are presently out of order.

The Legazpi City Jail is situated on a 2 hectare lot within the Provincial Jail compound, has a floor area of 528 sq. m. and has 9 cells for male, female, Juvenile and insular prisoners. To ensure a better rehabilitation atmosphere, the building is provided with 12 comfort rooms (one for each cell and the others for Jail staff), a kitchen and a dining room. Water and water facilities were the priorities in the construction of the building. For the 100% completion of the City Jail, the following facilities will have to be constructed, viz:

1. Administrative Office
2. Jail Warden Office
3. Perimeter Fencing

The average Tenancy is 30 per month with less than 1% being female.

Government Firemen Complement

The Legazpi City Fire Station has as of 1997 a complement of 48 firemen and 1 non-uniformed personnel, distributed to the office of the City Fire Marshall and to the operations and administrative services.

Fire Facilities Available

The Fire Station has its 85.84 sq. m. fire headquarters building at Albay District right beside the Legazpi Police Station and a fire sub-station at Legazpi Port District. Fire fighting equipment consist of 1 Isuzu ambulance, 1 Isuzu Pumper Fire truck, 1 Isuzu Break squirk which are now unserviceable, 1 Nikki Hino Pumper Fire truck, 1 Isuzu Tanker and one Daewo Super Tanker are serviceable. The firemen gears consist of 30 Fire Helmets, 18 Fire Jackets, 10 Fire Boots, Personal Alarm Locator (PAL) and Mask, Oxygen Cylinder, Foam Generator, and Smoke Generator complete the firemen's gear and equipment.

Barangay Tanod

As provided in PD 1232 there is in every barangay of the city, volunteer groups called Barangay Tanod consisting of 6 to 24 members each who see to the security of the place

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from unwanted elements like thieves, robbers and other groups which may cause disturbance. Mostly in the urban areas, the barangay tanod members are organized to serve as traffic auxiliary brigades, while in the rural areas, their main function is as neighborhood watchers. As of 1989, there were 742 members of Barangay Tanod.

Barangay Disaster Brigades

Another brigade in charge of overseeing emergency rescue operation during disasters and calamities are the Barangay Disaster Brigades whose membership is from a minimum of 5 to a maximum of 25 depending on the size of the barangay and the magnitude of the disaster that is faced.

Barangay justice Brigade or Lupon Tagapayapa

Still another barangay brigade organized for the main purpose of attending to settlement of disputes in the barangay level is the Barangay Justice Brigade, numbering from 10 to 20 per barangay.

In all, there can be somewhere from 2,100 to as much as 4000 of these volunteer groups both in the rural and urban barangays which augment the provision of protection of life and property under the self-reliance concept.

Legazpi City Disaster Coordinating Council

A structure likewise charged with the coordination of manpower, materials and monetary resources during major disaster in the city is the Legazpi City Disaster Coordinating Council. This council sees to the control of prices of basic commodities soon after a disaster, coordinates private and government relief operations and maximize utilization of resources.

Composed mostly of the city government department heads and representative of the Philippine National Red Cross, and office of the Civil Defense, this council assures the populace of certain regulations needed during period of calamity as well to disaster preparedness and mitigation.

An average crime solution efficiency of 89.00% was achieved over the 6-year period; with the lowest efficiency noted in 1992 at 86.75%. A crime against property posted a 75% solution efficiency. This refers to such crimes as carnapping, robbery, attempted robbery, theft, theft of large cattle, estafa, malicious mischief, damage to property and arson. All other crimes were efficiently handled by the police department.

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Appendix A: Humanitarian Aid Agencies in the Philippines

List following updated list was provided by the Center of Excellence (COE) in Disaster Management & Humanitarian Assistance on February 2, 2001

Action by Churches Together (ACT)

Website: http://www.act-intl.org/act_main_title.html

ACT International is a worldwide alliance of churches and aid agencies responding to emergencies. More than 75 churches and aid agencies of the World Council of Churches (WCC) and the Lutheran World Federation (LWF) carry out relief work as members of ACT International. Members in 26 countries in Europe, North America and Asia raise funds for ACT International from private donations, church collections and from partners such as ECHO and USAID and other individual governments. ACT International offers assistance to victims of both natural disasters and emergencies caused by war and civil conflict. ACT strives to reach needy populations across front lines, national borders and other ethnic, political or religious divides. ACT provides assistance irrespective of race, gender, creed, nationality, ethnic origin or political persuasion.

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Email: act@act-intl.org

Regional Office

Christian World Service
P O Box 22-652
Christchurch
Aotearoa New Zealand
Phone: (64-3) 366 9274
Fax: (64-3) 365 2919
email: cws@cws.org.nz

AMDA (Association of Medical Doctors of Asia)

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http://www.amda.or.jp/index_e.html

The headquarters of AMDA is in Okayama. A UN-recognized NGO with members in 20 countries in the world. We have a policy of mutual assistance in providing humanitarian support all over the world.

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Country Office

AMDA PHILIPPINES
REPRESENTATIVE: Dr. Kenneth Hartigan-Go (President)
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College of Medicine,
3/F Medical Annex Building
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Ermita, Manila 1000 O:

Asian Disaster Preparedness Center

Website: <http://www.adpc.ait.ac.th/default.html>

The Asian Disaster Preparedness Center (ADPC) is the lead center in the Asia and the Pacific regions dedicated to protecting communities and the environment from the devastation of disasters. ADPC, which is located in the outreach building on the campus of the Asian Institute of Technology in Bangkok, was established in 1986 to assist countries in the region in formulating their policies and strengthening their capabilities in all aspects of disaster management. A decade of providing disaster management services throughout Asia and the Pacific region has brought international recognition to ADPC.

Along with offering an extensive range of training programs, providing information, and maintaining a network of highly-placed experts working throughout the region, ADPC provides consulting services to all levels of government, international agencies and non-governmental organizations.

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Over the past ten years, ADPC has trained over 2,000 people and developed a strong regional knowledge base concerning disaster policy, prevention, mitigation, preparedness and response.

Contact Information

HQ Office

The Management Team
Asian Disaster Preparedness Center
Asian Institute of Technology
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Pathumthani, 12120, Thailand
Telephone: 66-2-524-5353
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Email: adpc@ait.ac.th

CARE

Website: <http://www.care.org>

CARE founded in the aftermath of World War II is one of the world's largest international relief and development organizations and has become a leader in self-help development and food aid.

Contact Information

HQ Office

CARE International Secretariat
Boulevard du Regent, 58/10
B-1000 Brussels
Belgium
Phone: 32-2-502-43-33
Email: careci2@ibm.net

USA Office

CARE
151 Ellis Street
Atlanta, GA 30303
Phone: (404) 681-2552
Fax: (404) 577-5977
Email: info@care.org

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Regional Office

CARE Australia

Website: <http://www.careaustralia.com.au>

GPO Box 2014

Canberra, ACT 2601

Australia

Phone: 61-6-257-4022

Email: careaus@spirit.com.au

Country Office

<http://www.care.org>

PO Box 2052

Manila

Philippines 1099

Telephone: (632) 551-2615/2630

Fax: (632) 551-2631

E-mail: carephil@globe.com.ph

Christian Children's Fund

Website: <http://christianchildrensfund.org/>

What began as a missionary's determination to help children devastated by war 60 years ago has evolved into a community of caring sponsors reaching out to needy children and their families around the world. Christian Children's Fund currently assists more than 2.5 million children in 30 countries.

Contact Information

HQ Office

Christian Children's Fund

2821 Emerywood Parkway

Box 26484

Richmond, VA 23261-5066

Tel: 800-776-6767

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Metro Manila
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telex: 29113 CCF PH

Food for the Hungry

Website: <http://www.fh.org/home.html>

Food for the Hungry is an international organization. Our efforts include integrated, child-focused development and relief programs in more than 25 countries in Asia, Africa, and Latin America. Development efforts include programs that equip entire communities with the tools they need to pull themselves from poverty. Additional relief efforts expand our reach into even more countries, where we respond to natural disasters (such as famines and earthquakes) and man-made disasters (such as war).

Contact Information

HQ Office

7729 East Greenway Rd.
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Tel: (602) 998-3100
(800) 248-6437
hunger@fh.org

Health Action Information Network (HAIN)

Website: <http://www.hain.org/>

The Health Action Information Network (HAIN) is a non-profit non-government organization established in 1985 based in Quezon City, the Philippines. It is involved in health education and research and mainly works with community-based organizations involved in health and development.

Our work covers a wide range of health issues with emphasis on reproductive health (including prevention of HIV/AIDS, sexually transmitted diseases and other reproductive tract infections); environmental health, and the appropriate use of medicines.

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(632) 927-0715 (Programs)
(632) 929-9064 (Programs)
Fax (632) 927-6760
e-mail: hain@mnl.sequel.net

International Committee of the Red Cross (ICRC)

Website: www.icrc.org

The International Committee of the Red Cross (ICRC) is an impartial, neutral and independent organization, which directs and coordinates the international relief activities conducted by the Movement in situations of conflict. Established in 1863, the ICRC is at the origin of the International Red Cross and Red Crescent Movement.

Contact Information

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International Committee of the Red Cross
Public Information Centre
19 avenue de la Paix
CH 1202, Geneva
Phone: (41 22) 734-6001
Fax: (41 22) 733-2057
Email: press.gva@icrc.org

Regional Office

Jalan Iskandarsyah I, No. 14
Kebayoran Baru
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12041 JAKARTA, Indonesia
Email: djakarta.dja@icrc.org

Country Office

Erechem Building Fifth Floor
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Legaspi Village, Makati City
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International Federation of Red Cross and Red Crescent Societies (IFRC)

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Website: <http://www.ifrc.org/>

The International Federation of Red Cross and Red Crescent Societies is an international humanitarian organization with a unique worldwide network.

The International Federation exists to improve the situation of the world's most vulnerable people. It provides assistance without discrimination as to nationality, race, religious beliefs, class or political opinions.

The International Federation, founded in 1919, has a presence in almost every country in the world today through its national Red Cross and Red Crescent societies. The Red Crescent is used in place of the Red Cross in many Islamic countries. Our strength lies in the global network of National Societies and the Federation Secretariat with its delegations strategically located to support Red Cross and Red Crescent activities in various regions. This network allows us to be there - on the spot - so we can respond to crises effectively and rapidly.

The Federation provides humanitarian relief to people affected by disasters or other emergencies and development assistance to empower vulnerable people to become more self-sufficient.

Contact Information

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Email: secretariat@ifrc.org

The Philippine National Red Cross
PO Box 280
Manila 2803
Tel: (63) (2) 5270866 / 5270856 / 5278384 97 (main line)
Fax: (63) (2) 5270857
Telex: 27846 PNR PH
Telegram: PHILCROSS MANILA
E-Mail: pnrnhq@pdx.rpnet.com

Medecins Sans Frontieres (MSF)

Website: <http://www.msf.org>

Medecins Sans Frontieres (MSF) (known in the US as Doctors without Borders USA) is the world's largest independent international medical relief agency aiding victims of armed conflict, epidemics, and natural and man-made disasters, and others who lack health care due to geographic remoteness or ethnic marginalization working in over 80 countries.

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MSF

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Doctors Without Borders
Doctors Without Borders USA, Inc.
6 East 39th Street, 8th Floor
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United States
tel : ++ (1) 212 679 6800
fax: ++ (1) 212 679 7016
telex: 4947197
e-mail: dwb@newyork.msf.org

Oxfam

Website: <http://www.oxfam.org/>

Founded in 1942, as the Oxford Committee for Famine Relief, concentrating on refugees and emergency work, with associated fund-raising. Long-term development work began around 1960, and the name was shortened to Oxfam in 1965. Oxfam is a development, advocacy, and relief agency working in over 100 countries to put an end to poverty. Oxfam works partnership with local groups, and provides assistance for self help programs. It provides food, clothes, medicine, and shelter for emergency/disaster victims. For fiscal year 1997/98 Oxfam raised around \$390 million to support its programs.

Oxfam's activities include fund-raising through volunteer-run shops, fund-raising events and a range of donation schemes. Grants to development projects run by groups in Asia, Africa, Latin America, the Caribbean and the Middle East (proportion to various sectors: social development 33%; health 15.5%; agriculture 15%; emergencies 36.5%). Organize an educational and campaigning program in the UK and Ireland, Oxfam shops and Oxfam waste saver scheme. Health projects supported include water and sanitation; training materials and courses for traditional midwives/birth attendants, nurses and community health workers; medical supplies; immunization. Supporting primary and secondary level health activities through work with governments and nongovernmental organizations. HIV/AIDS work; women's reproductive rights; birth spacing; MCH; health in emergencies and conflict situations. Advocacy: an important part of campaigning for

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funds. Development education: educational material and training courses, particularly for schools.

Contact Information

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oxfam@oxfam.org.uk

Oxfam International Secretariat
administration@oxfaminternational.org

Washington Advocacy Office
advocacy@oxfaminternational.org

Save the Children Fund

Website: <http://www.oneworld.org/scf/>

Save the Children works in 70 countries helping children in the world's most impoverished countries. SCF is part of the International Save the Children Alliance.

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The Salvation Army

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Contact Information

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The Salvation Army

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536 3068
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US Agency for International Development (USAID) **Office of Foreign Disaster Assistance (OFDA)**

Website: <http://www.usaid.gov/>

When disasters strike in foreign countries, the response within USAID is led by the Office of U.S. Foreign Disaster Assistance (OFDA), which is part of the Bureau for Humanitarian Response (BHR). When a disaster occurs, U.S. representatives to that country determine if there is a need and desire for U.S. assistance. If U.S. assistance is requested, OFDA and the U.S. Embassy and USAID Mission in the affected country determine what OFDA assets are best suited for the specific disaster. OFDA can respond to disasters through grants to the embassy in the affected country, through grants to non governmental and international organizations working with affected people (such as the United Nations and the International Committee of the Red Cross), and by fielding a team to the affected country to assess the situation and work with relief personnel in the field. OFDA also maintains stockpiles of relief commodities such as plastic sheeting, tents, and water purification units, which it can provide quickly when needed. In order to reduce the impact of disasters when they strike, OFDA also sponsors development of early warning system technology and in-country and international training programs designed to strengthen the ability of foreign governments to rely on their own resources.

Contact Information

U.S. Agency for International Development Information Center
Ronald Reagan Building
Washington, D.C. 20523-1000

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FAX: 202-216-3524

UN Agencies:

Food and Agricultural Organization of the United Nations (FAO)

Website: http://www.un.or.id/fao_link.htm

The Food and Agriculture Organization (largest autonomous agency within the UN system) was founded in October 1945 with a mandate to raise levels of nutrition and standards of living, to improve agricultural productivity, and to better the condition of rural populations.

FAO is promoting agricultural development programs to help in alleviating hunger, poverty, improving nutrition, land and water development, plant and animal production, forestry, fisheries, economic and social policy, investment, food standards and environmental protection.

Contact Information

HQ Office

FAO

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Country Office

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893-9593; 817 - 1507; 817 - 1654

Fax No (632) 817 - 1654

E-mail Address: fao-phil@field.fao.org

United Nations Children's Fund (UNICEF)

Website: http://www.un.or.id/unicef_link.htm

UNICEF Founded in 1946, advocates and works for the protection of children's rights, to help the young meet their basic needs and to expand their opportunities to reach their full potential.

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UNICEF, the only organization of the UN is dedicated exclusively to children, works with other UN agencies, governments and non-governmental organizations (NGOs) to lighten children's loads through community-based services in primary health care, basic education, and safe water and sanitation in developing countries. UNICEF is committed to ensuring special protection for the most disadvantaged children - victims of war, disasters, extreme poverty, all forms of violence and exploitation and those with disabilities. UNICEF responds in emergencies to protect the rights of children. In coordination with United Nations partners and humanitarian agencies, UNICEF makes its unique facilities for rapid response available to its partners to relieve the suffering of children and those who provide their care.

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Regional Office

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United Nations Development Fund for Women (UNIFEM)

Website: <http://www.unifem.undp.org/>

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UNIFEM promotes women's empowerment and gender equality. It works to ensure the participation of women in all levels of development planning and practice, and acts as a catalyst within the UN system, supporting efforts that link the needs and concerns of women to all critical issues on the national, regional and global agendas. UNIFEM focuses its work at the country level within the context of the United Nations Resident Coordinator System. Playing a strong advocacy role, the Fund concentrates on fostering a multilateral policy dialogue on women's empowerment.

Since its creation in 1976 as an innovative and catalytic fund, UNIFEM has supported numerous projects and initiatives throughout the developing world that promote the political, economic, and social empowerment of women. These have ranged from small grassroots enterprises that improved working conditions for women to public education campaigns and the design of new gender-sensitive laws and marketing systems.

Contact Information

HQ Office

United Nations Development Fund for Women
304 East 45th Street, 15th floor
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Tel: 212/906-6400
Fax: 212/906-6705
Gopher: <gopher://gopher.undp.org/1/unifem>
e-mail: unifem@undp.org

Regional Office

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Contact: Lorraine Corner
Regional Programme Director, UNIFEM
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Phone 66-2-288-1934 or 66-2-280-3810
Fax 66-2-280-6030
E-mail unifem-bkk@mozart.inet.co.th
Website www.unifem-eseasia.org

Country Office

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United Nations Development Programme (UNDP)

Website: <http://www.undp.org/>

UNDP is part of the United Nations and upholds the vision of the United Nations Charter. It is committed to the principle that development is inseparable from the quest for peace and human security and that the United Nations must be a strong force for development as well as peace.

UNDP's mission is to help countries in their efforts to achieve sustainable human development by assisting them to build their capacity to design and carry out development programmes in poverty eradication, employment creation and sustainable livelihoods, the empowerment of women and the protection and regeneration of the environment, giving first priority to poverty eradication.

Contact Information

HQ Office

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USA
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Fax: (212) 906-5364
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Regional Office

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United Nations Development Programme
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United Nations Fund for Population Activities (UNFPA)

Website: <http://www.unfpa.org/>

UNFPA extends assistance to developing countries, countries with economies in transition and other countries at their request to help them address reproductive health and population issues, and raises awareness of these issues in all countries, as it has since its inception.

UNFPA's three main areas of work are: to help ensure universal access to reproductive health, including family planning and sexual health, to all couples and individuals on or before the year 2015; to support population and development strategies that enable capacity-building in population programming; to promote awareness of population and development issues and to advocate for the mobilization of the resources and political will necessary to accomplish its areas of work.

Contact Information

HQ Office

UNFPA
United Nations Population Fund
220 East 42nd Street
New York, N.Y. 10017
U.S.A.

Country Office

6th Floor, NEDA sa Makati Building
106 Amorsolo Street, Makati City, Philippines
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Fax No - (632) 817 – 8616

United Nations Office for the Coordination of Humanitarian Affairs (OCHA)

Website: www.reliefweb.int/ocha_ol

The Office of the Coordination of Humanitarian Affairs (OCHA) is part of the United Nations Secretariat and has the mandate to coordinate UN assistance in humanitarian crises that go beyond the capacity and mandate of any single humanitarian agency. Most humanitarian emergencies are both multidimensional and complex, and involve many actors such as Governments, non-governmental organizations, UN agencies, and individuals. OCHA works with all these actors to ensure that there is a coherent framework within which each actor can contribute effectively and promptly to the overall effort.

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World Food Programme (WFP)

Website: <http://www.wfp.org>

World Food Programme (WFP) is the frontline United Nations organization fighting to eradicate world hunger -- whether it is the hunger that suddenly afflicts people fleeing ethnic conflict in Rwanda or Bosnia or the chronic hunger that affects the hungry poor in countries such as Bangladesh or India. WFP became operational in 1963 and is now the world's largest international food aid organization.

In 1998, WFP delivered 2.8 million metric tons of food aid to nearly 75 million people in emergencies and long-term refugee operations and development projects. WFP has emergency and development projects in 80 countries worldwide and a staff of more than 5,000, over half of whom are employed on a temporary basis. WFP buys more goods and services from developing countries, in an effort to spur their economies, than any other UN agency-more than US \$149.5 million in 1998 alone.

Contact Information

HQ Office

WFP International:
Via Cesare Giulio Viola, 68
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Telex : 626675 WFP I

Cable: WORLDFOOD

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World Health Organization (WHO)

Website: <http://www.who.org.id/>

The objective of WHO is the attainment by all people of the highest possible level of health. Health, as defined in the WHO Constitution, is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. WHO also proposes conventions, agreements, regulations and makes recommendations about international nomenclature of diseases, causes of death and public health practices. It develops, establishes and promotes international standards concerning foods and biological, pharmaceutical and similar substances.

Contact Information

HQ Office

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Sources

'Volcanic bombs' roll down Mayon

http://www.inquirer.net/issues/feb2000/feb29/news/news_4.htm

Philippines Volcanic Eruption

meerp@website.tamc.amedd.army.mil

More Aid For Philippine Volcano Relief

http://news.bbc.co.uk/hi/english/world/asia-pacific/newsid_652000/652282.stm

Philippine Volcano Erupts Again

http://www.washingtonpost.com/wp-srv/aponline/20000228/aponline095800_000.htm

Thousands Told to Leave Philippine Volcano Slopes

<http://www.nytimes.com/reuters/international/international-philipp.html>

Volcanic Ash Smothers Towns

http://news.bbc.co.uk/hi/english/world/asia-pacific/newsid_660000/660928.stm

More Mt. Mayon families evacuated

<http://www.mb.com.ph/MAIN/2000-02/MN022401.asp>

Mayon state of calamity declared

<http://www.mb.com.ph/MAIN/2000-02/MN022602.asp>

Mayon's looming eruption draws Estrada to Legazpi

<http://www.philstar.com/>

Mayon explodes, sends lava cascading 4 kilometers

<http://www.mb.com.ph/MAIN/2000-02/MN022502.asp>

Mayon erupts nine times; big one ahead

<http://www.philstar.com/>

Tourism to Southern Luzon Bicol Provinces of the Philippines

www.bicol.net

Legaspi

<http://ukdb.web.aol.com/hutchinson/encyclopedia/82/M0059282.htm>

HISTORY OF THE PROVINCE OF ALBAY

http://www.filonline.com/albay/html/albay_-_overview.html

HISTORY OF THE CITY OF LEGAZPI

http://www.filonline.com/legaspi_city/html/legaspicity_-_overview.html

Legazpi City Government

<http://www.globalink.net.ph/~cpdoleg/>

The Web's Premier Source of Volcano Info

<http://volcano.und.nodak.edu/>

Mayon Volcano

<http://www.philonline.com.ph/~seismo/VMEPD/mayon.htm>