

## Increasing activity of Ijen Crater Lake Indonesia In 2011-2012

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Ijen Crater Lake is located on the eastern border of Java island, Indonesia. Monitoring of volcanic activity of Ijen Crater Lake has been done using visual observation, temperature measurement, seismicity, and changes in chemical composition. Since October 2011, the activity of Ijen Crater Lake has increase which were marked by the increasing of seismicity. Water lake temperature increased from 27 °C up to 45 °C on March 2012. Water lake color changes from dark green to whitish green observed in October to December 2011. On January 2012 gas bubble observed on the surface of the lake. From January to March 2012, Chloride concentration increased from 20,934 mg/liter to 45,629 mg/liter, Sulfate concentration increased from 30,078 ppm to 57,017 ppm, the ratio of Cl/SO<sub>4</sub> increased from 0.70 to 0.80.

The end of March 2012, activity of Ijen Crater Lake begins to decline which were characterized by the decreasing of water lake temperature into relatively stable about 35-36 °C. Gas bubble was not visible on the surface of the lake since mid-March 2012. Chloride concentration decreased from 45,629 mg/liter to 25,250 mg/liter, the ratio of Cl/SO<sub>4</sub> decreased from 0.80 to 0.32, whereas sulfate is still an increase up to 79,435 ppm. From May to August 2012, chloride and sulfate concentration showed a pattern indicating magmatic gasses supply is relatively stable.