

With the first mining of Seabed Massive Sulphides (SMS) deposits less than three years from startup in Papua New Guinea, Pacific Island countries have been urged to encourage mineral exploration within their Exclusive Economic Zone (EEZ) by SOPAC's **Akuila Tawake**, SOPAC's Aggregate Geologist.

EEZ is the two hundred nautical miles internationally recognized ocean zone reaching out from a coastline of a Pacific island country. All economic activity within the zone belongs to that country including its mineral wealth.

Mr. Tawake, speaking at the SOPAC/STAR meeting held in Nadi this week, said that based on the results of previous studies, a number of the island countries have marine mineral potential.

He listed the major marine mineral deposits into three groups: SMS (Seafloor Massive Sulphites), Cobalt-rich Crusts, and Manganese Nodules.

SMS deposits include high grade copper, with significant enrichment in gold, silver, zinc and lead. These can usually be found at depths from 350 metres to 5,000 metres. Cobalt-rich crusts include cobalt, nickel and platinum and range in depths from 400 to 4,000 metres.

The last is the manganese nodules found on the ocean floor at depths ranging from 4,000 to 6,000 metres. They are a composite of manganese, iron, cobalt, nickel and copper.

Before any mining operation can be considered, significant investments and detailed exploration is required (not to mention the lead time) and countries in the region can ill-afford these costs," said Mr. Tawake.

Three countries in the region are at various stages of exploration.

The Canadian mining company, Nautilus Minerals, began its research in Papua New Guinea in 2005 and is expected to begin operations at it Solwara 1 site in 2012. It will mine Seafloor Massive Sulphides (SMS).

Seabed minerals could be mined soon

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Nautilus has also begun exploration of SMS sites in Tonga and the Solomon Islands. It could take up to at least five years before conclusive evidence is produced that a mine in either country is feasible, he said.

Mr. Tawake said that SOPAC has been working closely with island countries in the region to encourage them into exploring their seabed mineral assets.

"With Japan, we partnered a 21 year study of deep seas mineral resources from 1985 through 2005. Through this survey, we have the most complete data on seabed mineralization in the region.

"We are now preparing a number of brochures with detailed information as a guide for public awareness and to promote the minerals potential of Pacific Island Countries to potential investors.

It is the mining companies that will have the resources and expertise to carry out the proper exploration and this should be encouraged.

But these countries through sound policy, legislation and regulations would be better placed to introduce this exploration. He did caution that governments should not penalize exploration through taxes. It is a common practice throughout the exploration/mining industry worldwide to introduce tax holiday to exploration projects to encourage investment in the minerals sector.

"Exploration is purely at the cost of the mining company. Imposing taxes on exploration would be a major deterrent. Tax should only be imposed introduced after the mine becomes operational," he said.