



**RIO+20**  
United Nations Conference  
on Sustainable Development

# Achieving sustainable development: The role of UN-GGIM

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Co-Chair, United Nations Committee of Experts on  
Global Geospatial Information and Management

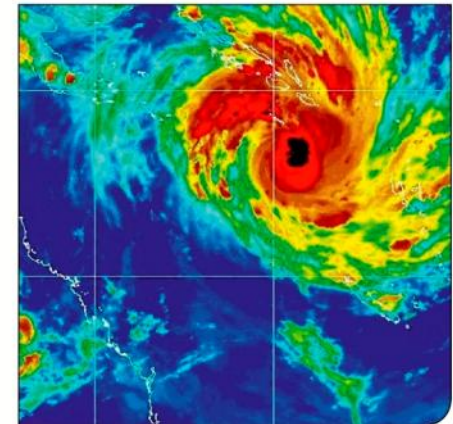
Director General and Chief Executive,  
Ordnance Survey of Great Britain,  
United Kingdom Government



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# Sustainable development: location matters



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# Everything happens somewhere



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TCBs

27.9m

Shelter

Ward Bdy  
CR

27.7m

PARK LANE

DUNRAVEN STREET

North Row Buildings

28 to 45

68

115

110

1 to 48

12

19

25

105

EMBASSY OF BRAZIL

32

32

138

20

12

132

22

131

23

130

129

Cycle Hire  
Station

LB

128

Avenfield House  
1 to 25  
1 to 27

1 to 25

36

6

5

38

44

48

101

103

TCP

WOOD'S MEWS

1a

5

3

1

24

22

21

Subway

# Location Information Framework

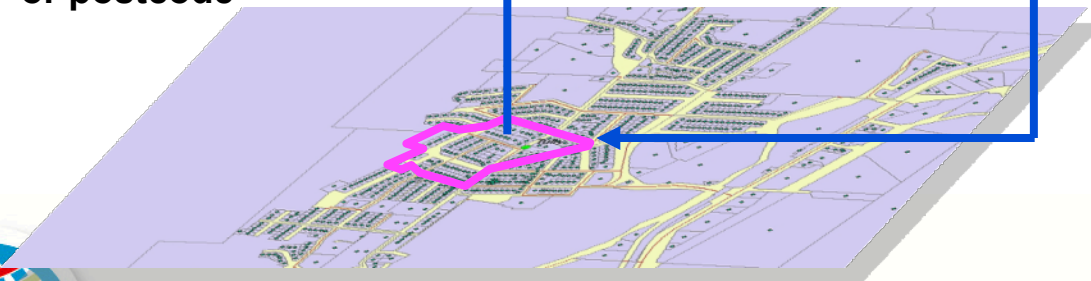
Analysis and aggregation across geographies



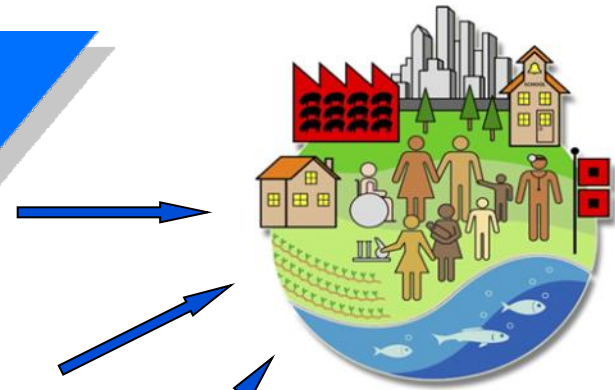
Aggregated to Local Government Area or higher



Aggregated to suburb or postcode

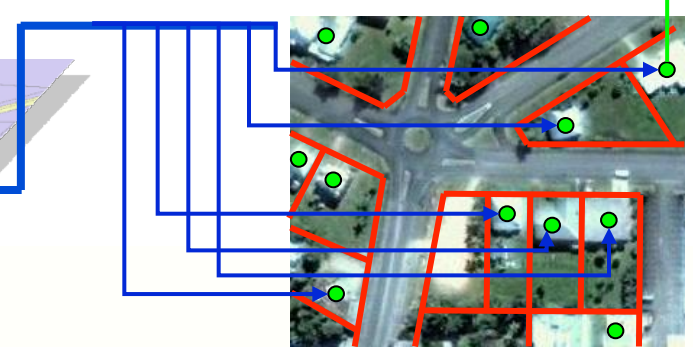


Location information at address level

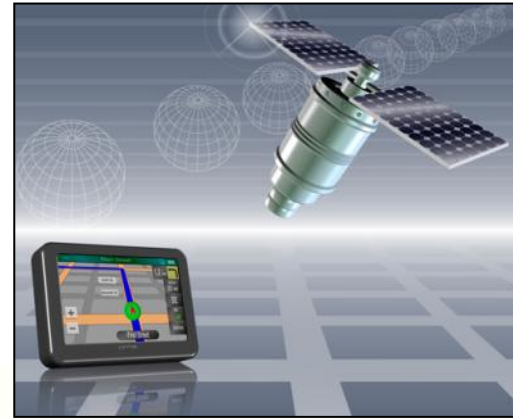


Geocoded unit level data

25 Smith St = x,y: 35.5676, 135.6587



# Technological developments



# The Future We Want: 19 June 2012

187. We recognize the importance of early warning systems as part of effective disaster risk reduction at all levels in order to reduce economic and social damages including the loss of human life, and in this regard encourage States to integrate such systems into their national disaster risk reduction strategies and plans. We encourage donors and the international community to enhance international cooperation in support of disaster risk reduction in developing countries as appropriate through technical assistance, technology transfer as mutually agreed, capacity building and training programmes. We further recognize the importance of comprehensive hazard and risk assessments, and knowledge and information sharing, including reliable geospatial information. We commit to undertake and strengthen in a timely manner risk assessment and disaster risk reduction instruments.

274. We recognize the importance of space-technology-based data, in situ monitoring, and reliable geospatial information for sustainable development policy-making, programming and project operations. In this context, we note the relevance of global mapping and recognize the efforts in developing global environmental observing systems, including by the Eye on Earth network and through the Global Earth Observation System of Systems. We recognize the need to support developing countries in their efforts to collect environmental data.





# The importance of geographic information

‘I am also pleased to see that the importance of reliable, trusted geographic information is now recognised. The United Nations has now established a Committee of Experts of Member States, which the UK co-chairs, to move this agenda forward.’



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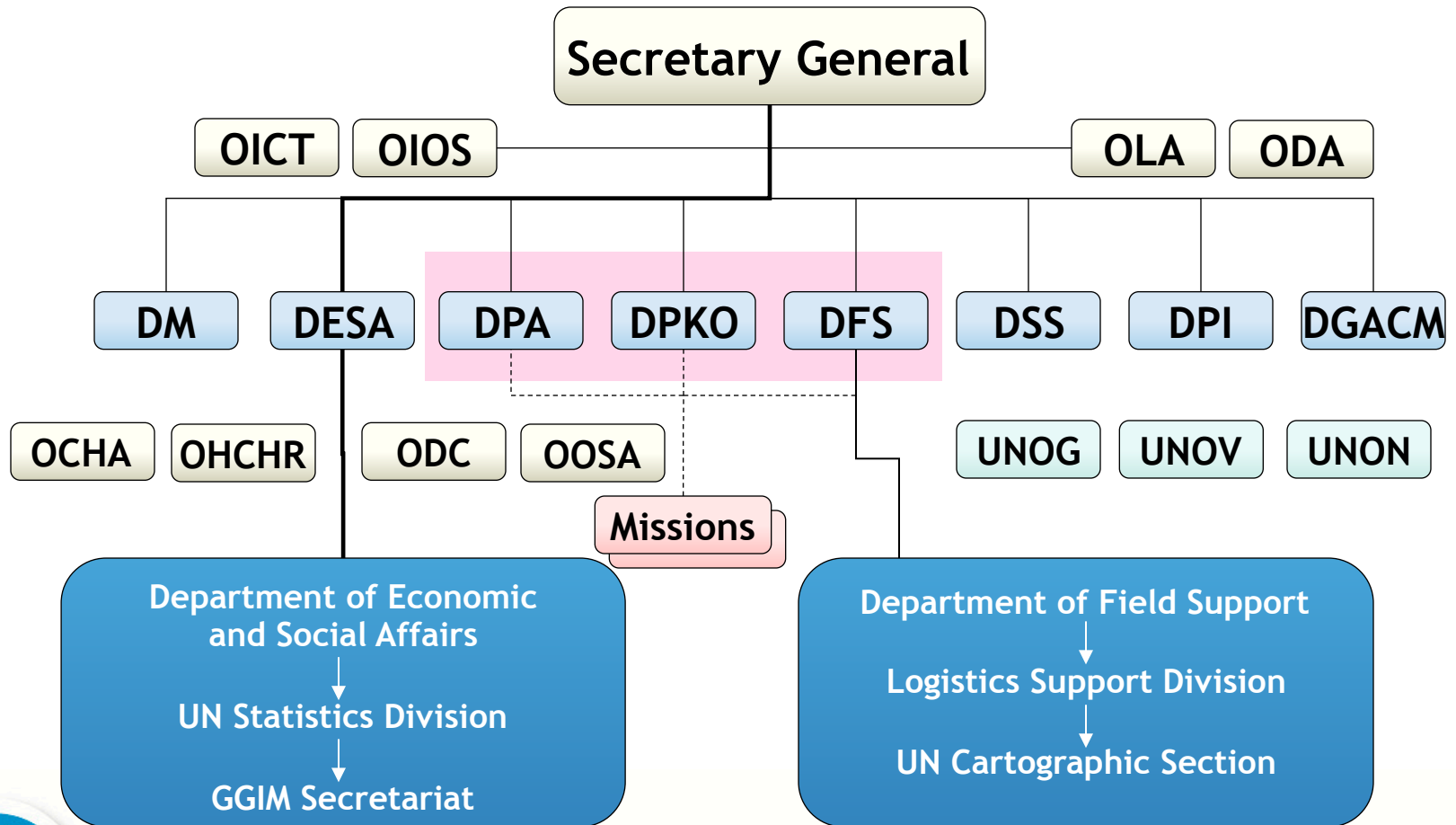
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# UN-GGIM – what is it?

- The United Nations Initiative on Global Geospatial Information Management, an initiative to enhance and coordinate global geospatial information management.
- Provides a formal mechanism under the UN to discuss and coordinate GGIM activities by involving Member States at the highest Government level as the key participants.



# UN Secretariat



# Other United Nations Structures involved in geographic information

- UNCS (United Nations Cartographic Section) – provides geographic information support to the full range of United Nations operations.
- UNGIWG (United Nations Geographic Information Working Group) – a voluntary network of UN professionals working in the fields of cartography and geographic information science.
- UNGEGN (United Nations Group of Experts on Geographical Names) – provides technical recommendations on standardizing geographical names at the national and international levels, also falls under UN Statistics Division.
- UNOOSA (United Nations Office of Outer Space Affairs) – responsible for promoting international cooperation in the peaceful uses of outer space. Also runs UN-SPIDER (United Nations Platform for Space-based Information for Disaster Management and Emergency Response).



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# The UN steps forward: Global Geospatial Information Management

*'There is a significant gap in the management of geospatial information globally.'*

Paul Cheung, Director,  
United Nations Statistics Division,  
Cambridge Conference June 2011



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# Recognition of the need for geospatial information



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# Key driver for UN-GGIM

132. Promote the development and wider use of earth observation technologies, including satellite remote sensing, global mapping and geographic information systems, to collect quality data on environmental impacts, land use and land-use changes, including through urgent actions at all levels to:

(a) Strengthen cooperation and coordination among global observing systems and research programmes for integrated global observations, taking into account the need for building capacity and sharing of data from ground-based observations, satellite remote sensing and other sources among all countries;

(b) Develop information systems that make the sharing of valuable data possible, including the active exchange of Earth observation data;

(c) Encourage initiatives and partnerships for global mapping.

133. Support countries, particularly developing countries, in their national efforts to:

(a) Collect data that are accurate, long-term, consistent and reliable;

(b) Use satellite and remote-sensing technologies for data collection and further improvement of ground-based observations;

(c) Access, explore and use geographic information by utilizing the technologies of satellite remote sensing, satellite global positioning, mapping and geographic information systems.





# UN-GGIM: how and why it was formed

- The Economic and Social Council of the United Nations (ECOSOC) recognized the importance of geospatial information in national and global development.
- As a result and following extensive consultation with Member States, the ECOSOC meeting held in July 2011 established the UN Committee of Experts on Global Geospatial Information Management (UNCE-GGIM).
- ECOSOC encouraged ‘Member States to hold regular high-level, multi-stakeholder discussions on global geospatial information, including through the convening of global forums, with a view to promoting a comprehensive dialogue with all relevant actors and bodies.



# The UN discusses Global Geospatial Information Management

*‘Just like statistics, every country must have authoritative, trusted, maintained, definitive mapping data.’*

Professor Paul Cheung, Director,  
United Nations Statistics Division,  
Geospatial World Forum, Amsterdam, May 2012



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# UN-GGIM: its role

- To play the leading role in setting the agenda with Member State governments for the development of geospatial information within each Member State and to promote its use to address key global, regional, national and local challenges.
- To provide a forum:
  - to liaise, enable discussion and coordinate amongst Member states; and
  - liaise, enable discussion and coordinate between Member States and international organizations.
- To ensure, the provision of authoritative, trusted, maintained, definitive mapping data for each Member State.
- To ensure, within the provision of authoritative, trusted, maintained, definitive mapping data, that each country adheres to an ethical code set by the Member States.



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# GGIM motivation

- Strengthen national capacity and improve global availability of authoritative, trusted, maintained, definitive mapping data and its appropriate coordination and dissemination .
- There was no global forum at governmental level for member states where global geospatial information management issues can be discussed; Statistics and Environment already have similar structures.
- Due to the global nature of policy challenges and the opportunities offered by the fast development of IT capabilities, there was general support for the idea to create a global forum, supported by an expert committee, to discuss and help address Geospatial Information Management issues.



# UN-GGIM – 24–26 October 2011

- First high-level Forum on GGIM opened by Prime Minister Hwang Sik Kim, Republic of Korea; United Nations Under-Secretary-General Mr. Sha Zukang; and Prof. Bill Cartwright, President of the JBGIS
- 350 participants from 90 countries, 15 from international organizations, 22 from industry, and many United Nations agencies (UNSD, UNCS, UNGEGN, UNOOSA, and so on)



# UN-GGIM - Ministerial Segment

- Ministers from Chile, Finland, India, Korea, Malaysia, Mongolia, Namibia, and Niger provided views, including the value proposition, on the role of geospatial information in national development.



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# Forthcoming activities

- UN-GGIM statement paper and presentation at UN Conference on Sustainable Development (Rio+20), outlining the importance of geospatial information to sustainable development.
- Current work strands on key priority issues affecting geospatial information management and impacting Member States; vision for future trends in geospatial information management in next 5 to 10 years; statement of ethics for geospatial information.
- Ongoing work on building GGIM as an internationally-recognised body.
- Second Committee of Experts session: 13-15 August 2012, UN, New York.
- Second UN-GGIM High Level Forum: Doha, Qatar February 2013.
- ECOSOC requested a comprehensive report for the year 2016 – a detailed 5-year progress report.



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# Land tenure regularisation in Rwanda

- The UK's Department for International Development (DfID) has been supporting a major land tenure regularisation programme in Rwanda.
- Rwanda is one of the most densely populated countries in Africa, with pressure on land likely to increase in the coming years.
- Aim to increase number of registered plots from 40 000 in 2009–10 to 6.9 million by 2015, helping to reduce conflict and provide the security needed by farmers and businesses to invest in long-term food production.
- Location information a key part of this process.



Esperance, 39, a mother of four used to be in constant dispute with her neighbours over ownership of the land she lived on. Through a DFID-funded land registration programme, the dispute is now settled and she is a proud landowner.



Source: UK Gov't/DfID



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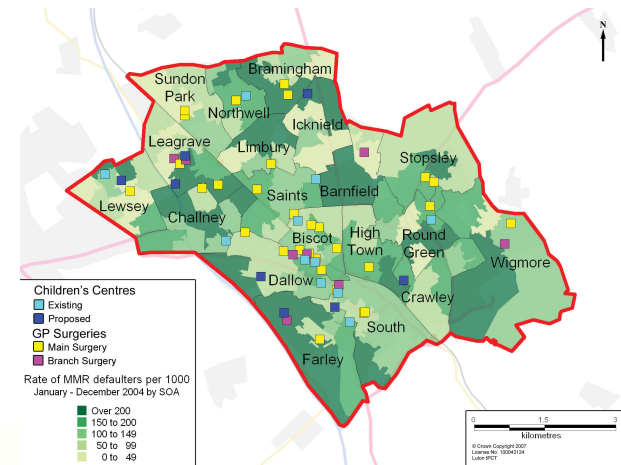
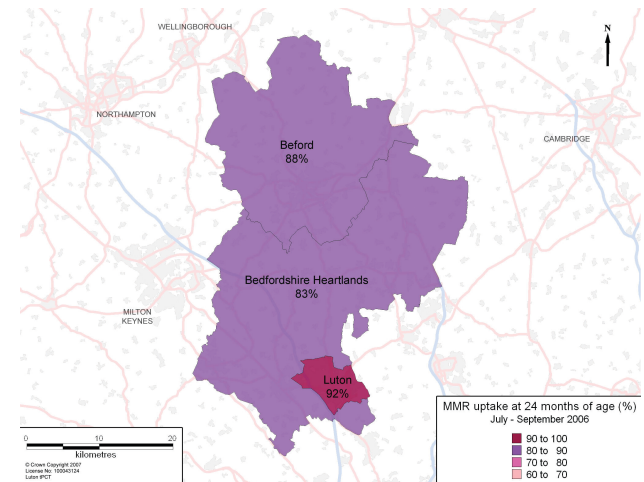
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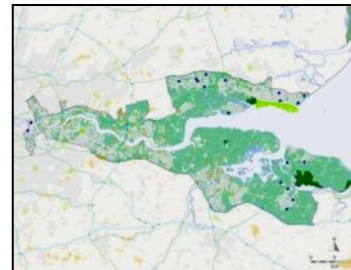
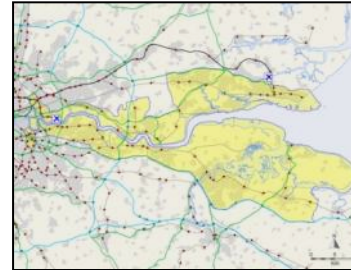
# Addressing social deprivation

- Location information can help to reveal trends and patterns. Luton Primary Care Trust used geospatial information to identify and monitor immunisation levels.
- Using geospatial information has helped to:
  - pinpoint localities of the town where immunisation uptake levels are low;
  - enable accurate targeting of resources based on actual performance of individual surgeries;
  - establish systems to measure the effectiveness of changes to the child immunisation programme; and
  - 12% increase in primary immunisation uptake in three months as a result.



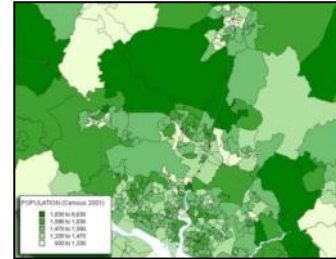
# Monitoring city development: sustainable urban development

- Location information is paramount when planning and monitoring development
  - transport links in and out of the area, either for the airports in the region, or for commuters to access the central business district.
  - regeneration planning of a city
  - knowledge of green space
  - accessibility of services
  - emergency planning



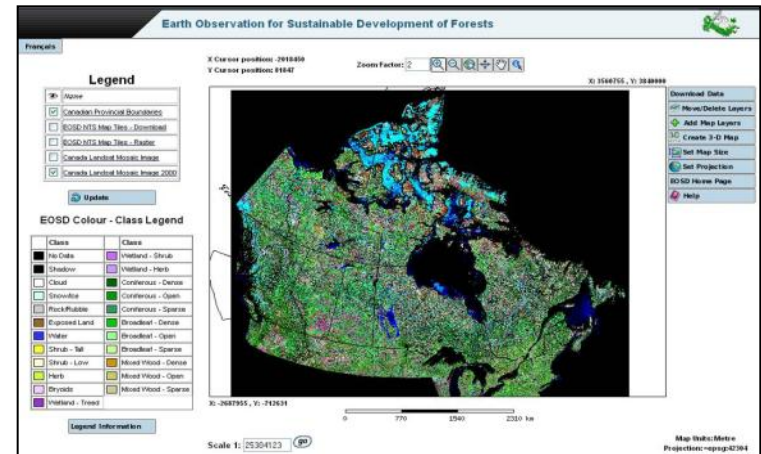
# Monitoring city development: building sustainable communities

- Combining geographic information with demographic data allows patterns to emerge to enhance decision-making.
- In this example enabling the analysis of the reopening an old station in an area of rapid urban growth to allow greater accessibility for the citizens in the area.



# Monitoring deforestation: national forest management

- Canada's National Forest Information System (NFIS) integrates data from different sources across the country to provide information about the state of Canada's forest and how they are being sustainably managed.
- By monitoring forest growth or decline, sustainable techniques and programmes can be identified to help share best practice and standards.



Source: Canada National Forest Inventory



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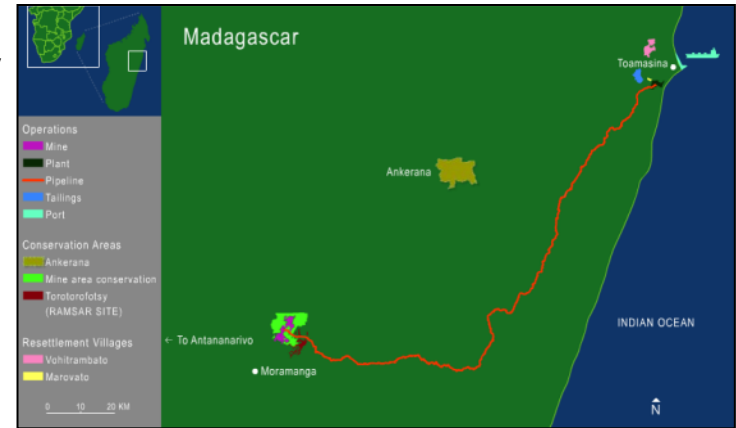
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# Monitoring deforestation and biodiversity: the Ambatovy Mining Project

- This project has advocated itself as a ‘sustainable’ project in the use of natural resources and providing economic value to Madagascar.
- By using location information, the project has prioritised social development and environmental protection alongside economic development.
- In terms of social development, the mines have provided work but also actively relocated villagers to new sustainable resettlement villages.

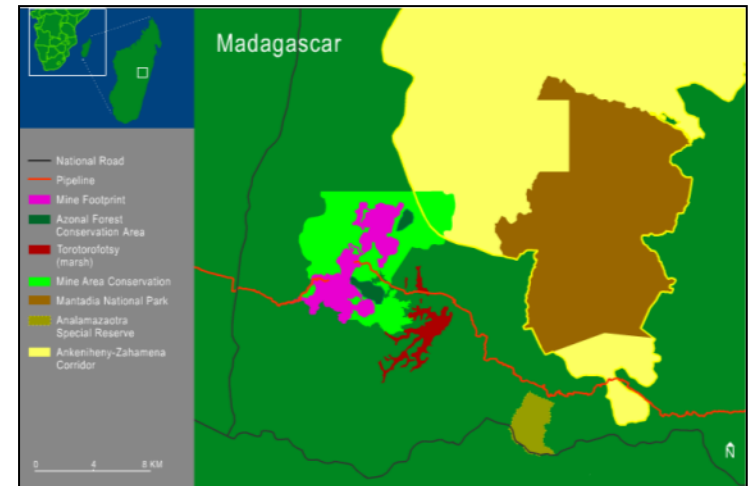


Source: Ambatovy Mining Project

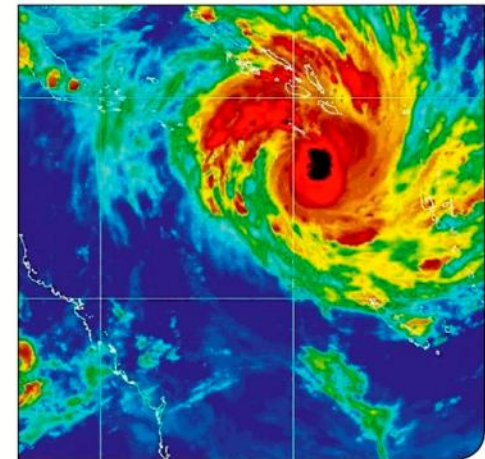


# Monitoring deforestation and biodiversity: the Ambatovy Mining Project

- The Project has also used location to prioritise conservation and environmental protection by both planning alternative conservation areas and monitor the impact of the mine on local wildlife. For example, identified impact on lemurs no longer crossing between habitats and created special ‘lemur pathways and crossings’ to help lemurs move between habitats.



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