

Coastal landscapes of North-East Australia

Sentinel-2 MSI acquired on 09 October 2016 at 00:39:52 UTC
Sentinel-2 MSI acquired on 12 October 2016 at 00:47:02 UTC
Sentinel-3 OLCI FR acquired on 31 October 2016 at 23:51:15 UTC

...
Sentinel-2 MSI acquired on 31 December 2017 at 00:46:59 UTC

Author(s): Sentinel Vision team, VisioTerra, France - svp@visioterra.fr

Keyword(s): coastal, water colour, coral reef, rainforest, river, bay, gulf, Unesco World Heritage, Ramsar, Queensland, Australia



[2D Layerstack](#)

Fig. 1 - S3 OLCI (08.08.2017) - 8,6,3 colour composite - View of the Gulf of Carpentaria, located on the North-East Australian coast. [2D view](#) [3D view](#)

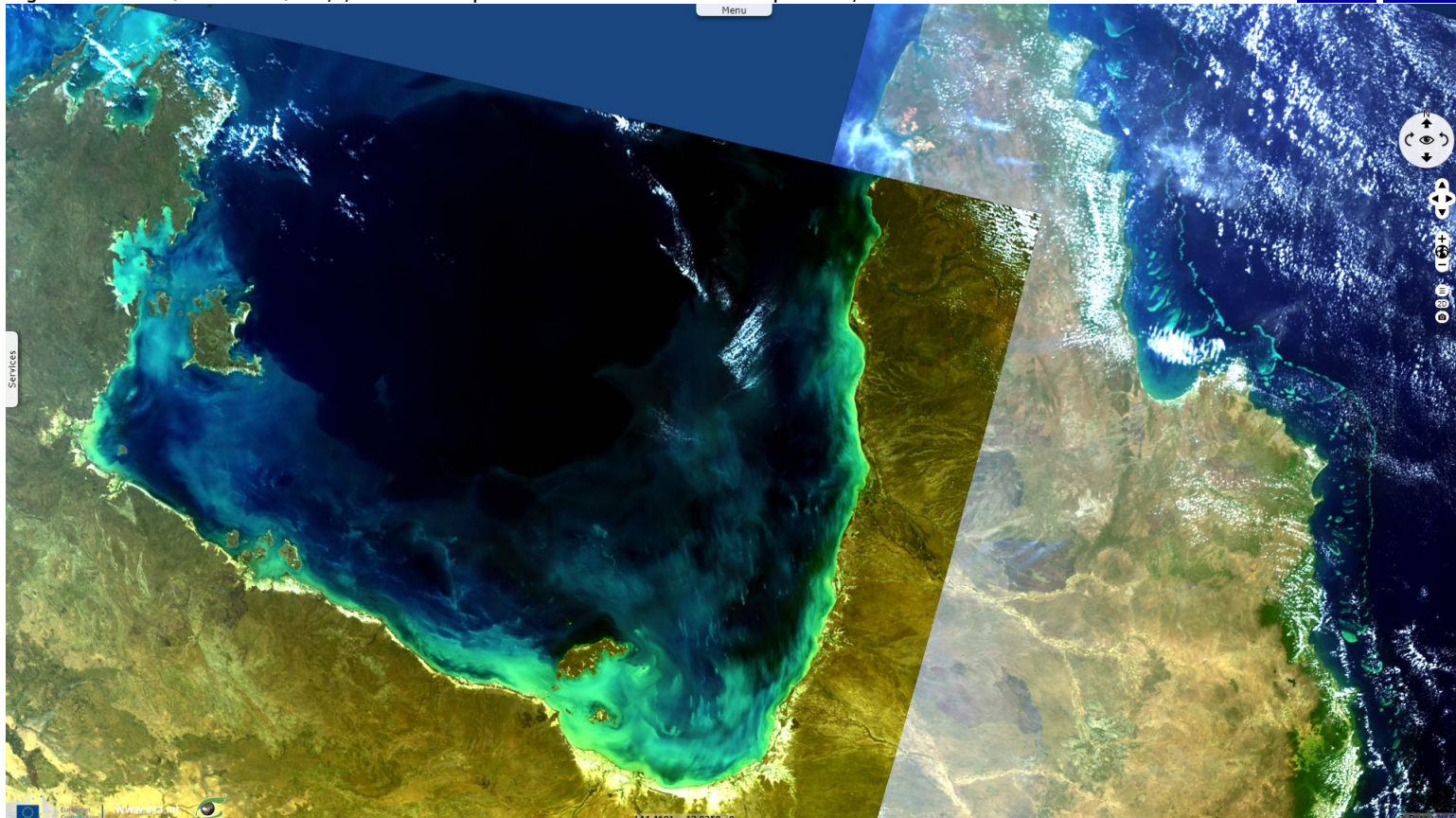


Fig. 2 - S2 (12.10.2016, 23.08.2017, 16 & 31.12.2017) - 4,3,2 natural colour - Cape York Peninsula & northern part of the Great Barrier Reef. [3D view](#)



This view shows the Northern section of the [Great Barrier Reef](#), which is an exceptional UNESCO World Heritage site. It is described "*as the world's most extensive coral reef ecosystem, the Great Barrier Reef covers an area of 348,000 square kilometres and extends across a contiguous latitudinal range of 14o (10oS to 24oS). The Great Barrier Reef (hereafter referred to as GBR) includes extensive cross-shelf diversity, stretching from the low water mark along the mainland coast up to 250 kilometres offshore. This wide depth range includes vast shallow inshore areas, mid-shelf and outer reefs, and beyond the continental shelf to oceanic waters over 2,000 metres deep. Within the GBR there are some 2,500 individual reefs of varying sizes and shapes, and over 900 islands, ranging from small sandy cays and larger vegetated cays, to large rugged continental islands rising, in one instance, over 1,100 metres above sea level.*"

Fig. 3 - S2 (12.10.2016 & 16.12.2017) - 12,11,2 colour composite - Newcastle Bay encompasses mangrove, rainforest, grassland & bare soil. [2D view](#)



"The latitudinal and cross-shelf diversity, combined with diversity through the depths of the water column, encompasses a globally unique array of ecological communities, habitats and species. This diversity of species and habitats, and their interconnectivity, make the GBR one of the richest and most complex natural ecosystems on earth. There are over 1,500 species of fish, about 400 species of coral, 4,000 species of mollusk, and some 240 species of birds, plus a great diversity of sponges, anemones, marine worms, crustaceans, and other species. No other World Heritage property contains such biodiversity. This diversity, especially the endemic species, means the GBR is of enormous scientific and intrinsic importance, and it also contains a significant number of threatened species. At time of inscription, the IUCN evaluation stated "... if only one coral reef site in the world were to be chosen for the World Heritage List, the Great Barrier Reef is the site to be chosen"."

Fig. 4 - S2 (09.10.2016 & 22.08.2017) - 4,3,2 natural colour - On a coastal range, wet tropics of Queensland divide coral reefs from dry areas. [2D view](#)



[Wet Tropics of Queensland](#) are another important UNESCO World Heritage described as: *"The Wet Tropics of Queensland, or Wet Tropics, stretches along the northeast coast of Australia for some 450 kilometres. Encompassing some 894,420 hectares of mostly tropical rainforest, this stunningly beautiful area is extremely important for its rich and unique biodiversity. It also presents an unparalleled record of the ecological and evolutionary processes that shaped the flora and fauna of Australia, containing the relicts of the great Gondwanan forest that covered Australia and part of Antarctica 50 to 100 million years ago. All of Australia's unique marsupials and most of its other animals originated in rainforest ecosystems, and their closest surviving relatives occur in the Wet Tropics."*

Fig. 5 - S2 (22.08.2017) - 11,8,2 colour composite - Mangroves in the Hinchinbrook Channel & croplands next to the Bellenden Ker Range. [2D view](#)



"The property supports tropical rainforests at their latitudinal and climatic limits, and unlike most other seasonal tropical evergreen equatorial forests, is subject to a dry season and to frequent cyclonic events. Many of the distinct features of the Wet Tropics relate to its extremely high" (8300mm annual mean at Mount Bellenden Ker) "but seasonal rainfall, diverse terrain and steep environmental gradients".

Fig. 6 - S2 (28.10.2017) - 4,3,2 natural colour - Varied landscape & water colour near Proserpine.

[3D view](#)

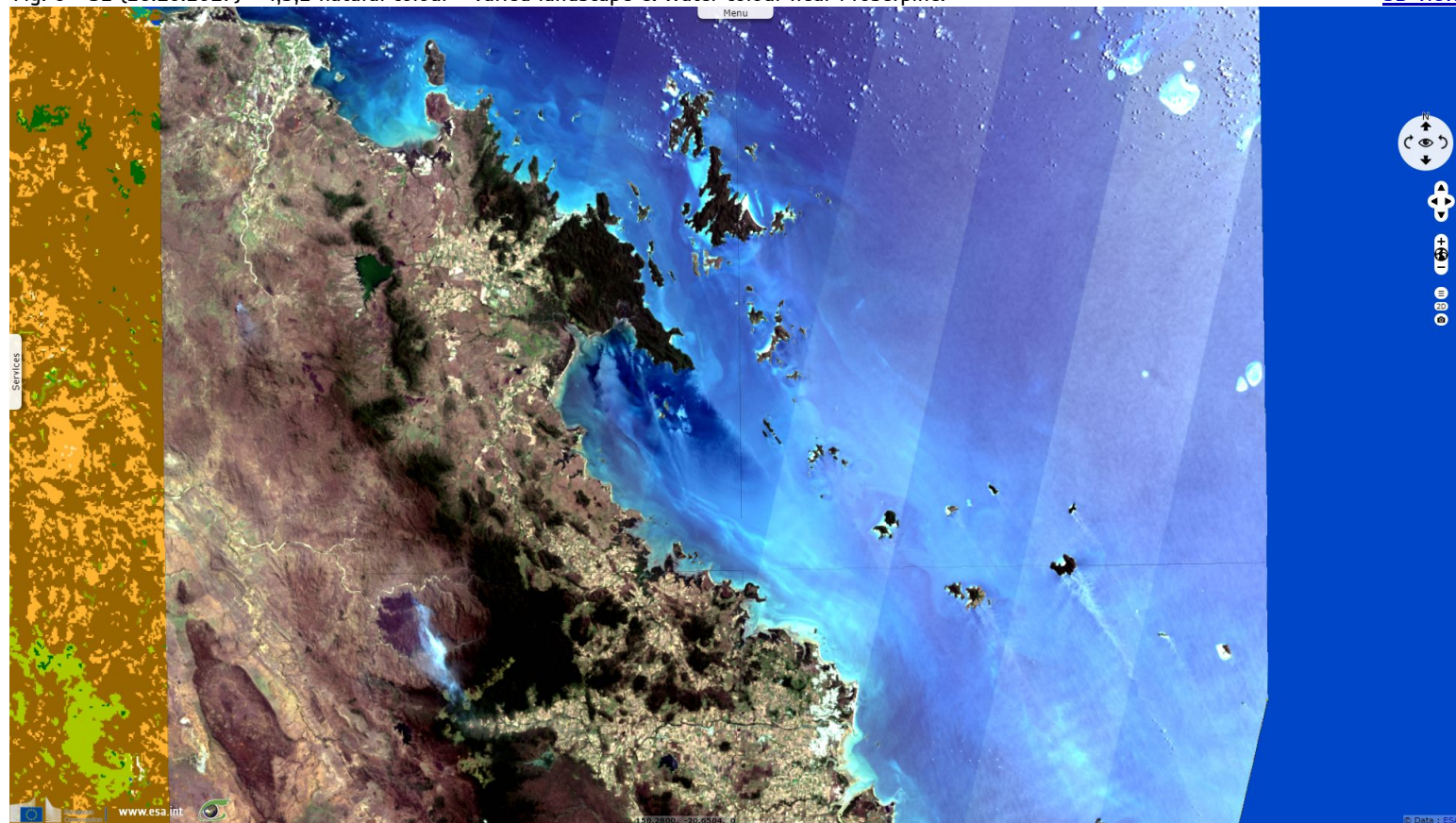


Fig. 7 - S2 (27.07.2017) - 4,3,2 natural colour - Shoalwater & Corio Bays, a Ramsar wetland.

[2D view](#)















[Shoalwater and Corio Bays](#) form a Ramsar site: "Bounded by coastline, the area's terrestrial, estuarine and marine environments represent the largest area in east Queensland containing representative ecosystems in relatively undisturbed habitats for significant floral and faunal assemblages and includes populations of rare and threatened species. The area represents a climatic overlap zone with an unusual mix of tropical, sub-tropical and temperate species. An important feeding area with high-tide roost sites for a large number and diversity of shore and migratory birds."

Fig. 8 - S2 (28.04.2017) - 4,3,2 colour composite - Curtis Island, at the mouth of Fitzroy River. [2D view](#)



The views expressed herein can in no way be taken to reflect the official opinion of the European Space Agency or the European Union.

More on European Commission space:							
More on ESA:				S-1 website	S-2 website	S-3 website	
More on Copernicus program:				SciHub portal	Cophub portal	Inthub portal	Colhub portal
More on VisioTerra:				Sentinel Vision Portal	Envisat+ERS portal	Swarm+GOCE portal	CryoSat portal Proba-V portal