

Facies Distribution Map of Sossusvlei (Middle of Namib Desert, Namibia)

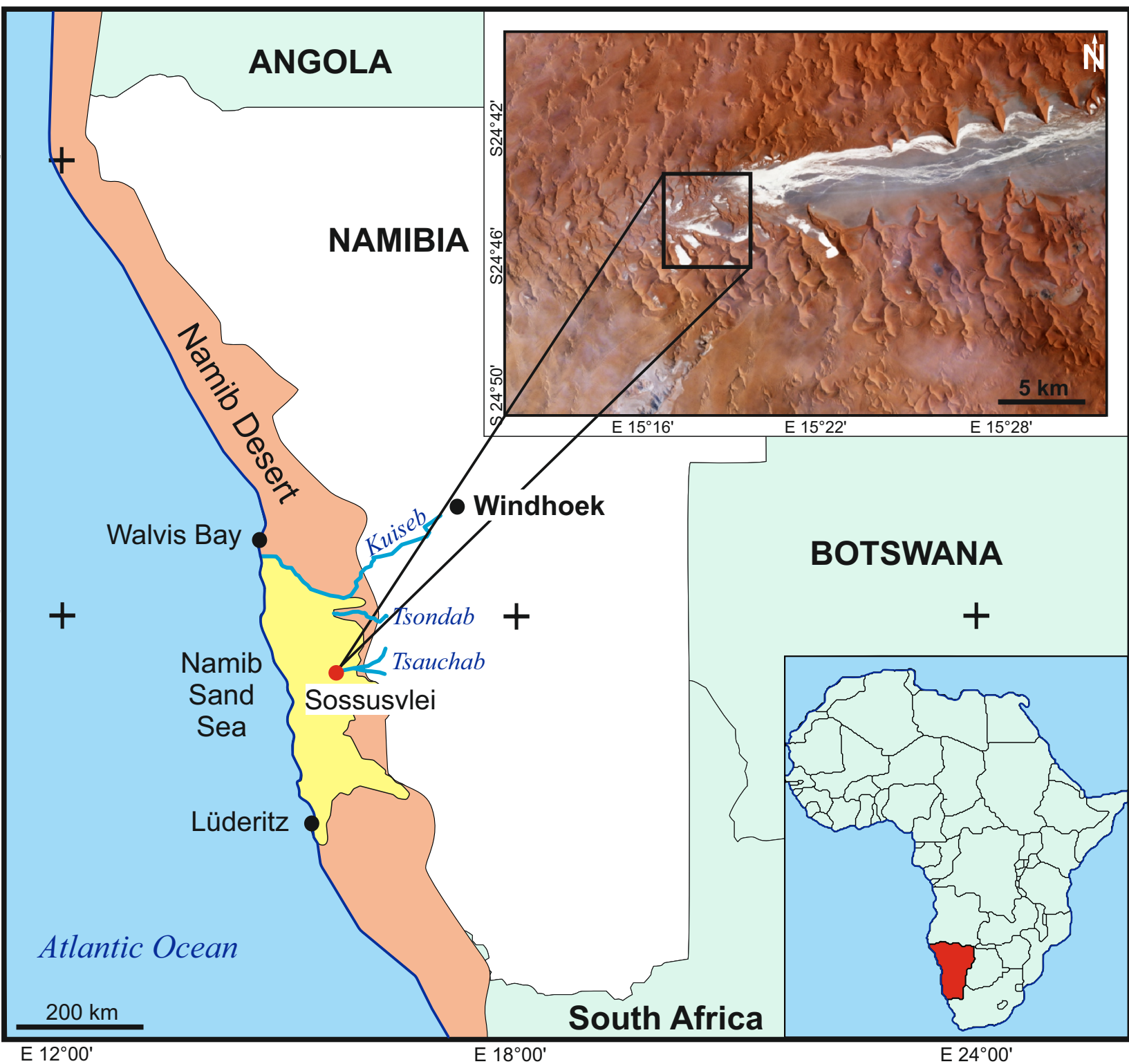
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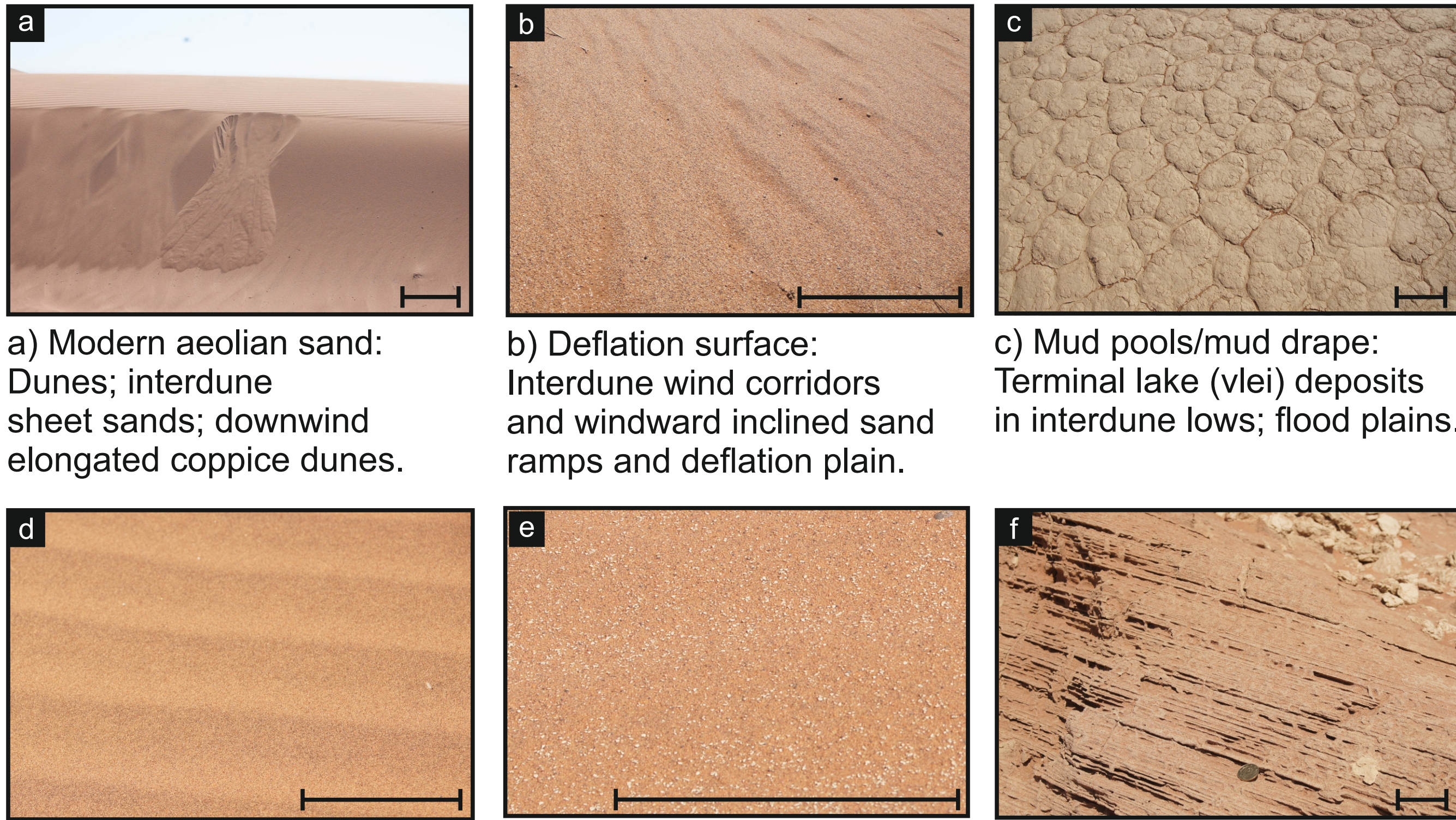
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This map shows the facies distribution pattern of fluvially influenced aeolian sediments. The Sossusvlei playa-lake at the eastern flank of the Namib Sand Sea (central Namibia), provides an excellent example of sedimentological processes associated with an ephemeral river repeatedly entering a dune field, becoming dammed by it and finally terminating in a flat interdune playa called 'vlei'. The spectrum of aeolian and fluvial processes generates a complex interplay of sedimentary facies, which make a facies map a prerequisite to better understand the mutual relationships and distribution pattern of the sediments. The map was created on the basis of a World View 3 satellite image, using a supervised classification algorithm trained by field observations, a combination of Principal Component Analysis, band ratios, texture and geomorphologic indices. The following facies were distinguished: modern aeolian sand, bypass surface, mud pool/mud drape, heavy mineral lag, fluvial aeolian reworked and fossil dune remnant.



Sedimentological facies in the field: the scale is 20 cm



Legend

- | | |
|--------------------------|---------------------|
| Modern aeolian sand | Fossil dune remnant |
| Deflation surface | Vegetation |
| Mud pool/mud drape | Shadow |
| Heavy mineral lag | |
| Fluvial aeolian reworked | |

Coordinate System: WGS84
UTM zone: 33S
Facies distribution based on supervised classification of Worldview 3 satellite data.
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