A short data description (let me know if you have any doubt):

DF_A_crestlines_orients_all_sinu-45.shp - Dune morphologies mapped by Lori (Fenton et al., 2014 - Inverse maximum gross bedform-normal transport 2: application to a dune field in Ganges Chasma, Mars and comparison with HiRISE repeat imagery and MRAMS; Icarus, 230, pp. 47–63).

The field TYPE stores the inferred type of structure (b – barchan; ba – barchanoid; ot – oblique/transverse; ol- oblique/longitudinal).

The field SET identifies the several sets which are mentioned on Lori's paper.

LENGTH and AZIM are the geodesic length and azimuth of the features.

All azimuths mentioned here are in geographic notation (increase clockwise and North = 0^o).

ganges_lin.shp - Objects mapped and classified using the OBDA technique (Vaz, D.A et al 2015; Object-based Dune Analysis: Automated dune mapping and pattern characterization for Ganges Chasma and Gale crater, Mars. Geomorphology, 250, 128-139).

LENGTH and AZIM are the geodesic length and azimuth of the objects.

The CLASS_ID3 stores the inputs used for the object-classification of the objects (see section 3.2. in the paper) :

CLASS_ID3 = 0 - Not used for the classification process

CLASS_ID3 = 1 - Non-aeolian features

CLASS_ID3 = 2 - Other aeolian morphologies

CLASS_ID3 = 3 - Slipfaces

The NN_CLASS21 field stores the final outputs of the classification:

CLASS_ID3 = 0 - Non-aeolian features

CLASS_ID3 = 1 - Other aeolian morphologies

CLASS_ID3 = 2 - Slipfaces

To visualize the results give different colors to each class in arcgis. For comparison a simple query ("NN_CLASS21" >0) can be used to remove non-aeolian features (mainly bedrock structures).

ganges_grid2000.shp - This is the grid that is used to integrate all the info and that was used for the quantitative assessment of the results. It integrates the mapped morphologies, the manual mapping and can also be used to integrate wind model data.

It includes several parameters which allow the directional characterization and comparison of the mapped features. Using length-weighted circular statistics I have computed local mean vectors, which have the following proprieties:

*_VA – Vector azimuth

*_VM – Vector magnitude

*_VS – Circular standard deviation (degrees)

The circular distribution is also assessed using the kernel modal characterization described in section 3.3.1:

*_V1 – Primary mode azimuth

*_V2 – Secondary mode azimuth

*_VF – Kernel frequency

*_VR – Modal ratio

The length of the features is also included:

*_ LT_M – Mean length

*_ LT_S – Standard deviation of the lengths

*_ LT_MD – Median length

The number of features associated with each grid node is stored in the fields *_COUNT.

All the mentioned parameters where computed for all the aeolian features in the ganges_lin file ("NN_CLASS21" >0), corresponding to the field prefix ALL_*. The C1_* prefix correspond to the “other aeolian” class (“NN_CLASS21” =1) and the C2_* to the slipface class (“NN_CLASS21” =2).

The SF_* fields are computed from Lori’s mapped features (file DF_A_crestlines_orients_all_sinu-45.shp).

The *_ADIF fields are angular differences between the mean vectors azimuths for each class/dataset (for example the field C2_SF_ADIF stores the angular difference between the mean axis computed from the “slipface” class and the manual mapping).

The *_MDIF fields have the angular differences between the primary and secondary modes computed for each dataset/class (for example the C1_MDIF stores the angular difference between the modal trends of the “other aeolian morphologies” class).

The * _M1DF and * _M2DF fields have the angular differences between the primary (M1) and secondary modes (M2) for a dataset/class pair (for example AL_SF_M2DF has the modal angular difference between the secondary modes of the “ALL” class the manually mapped features).