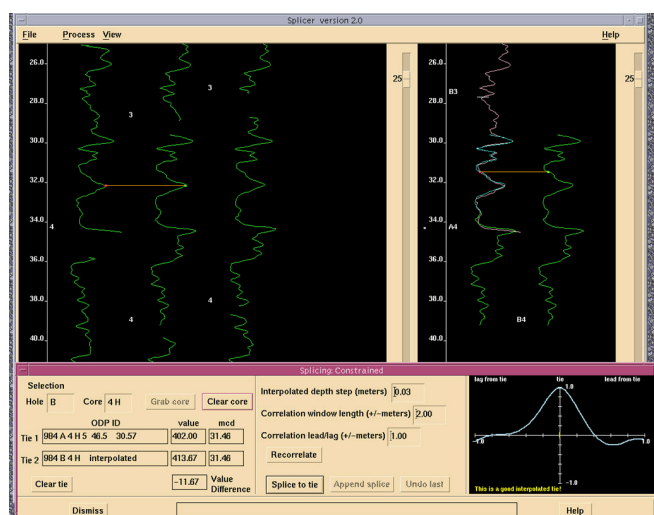


CLIP: Splicer

Description

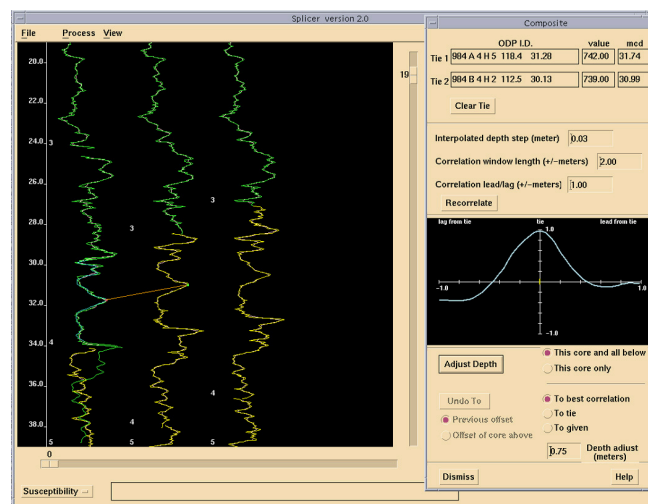
Splicer, the first component of the Core-Log Integration Package, is a graphical and interactive program for depth-integrating (depth-shifting) multiple-hole core data for building composite sections and developing age models. The program uses an optimized cross-correlation routine for determining the best interhole depth correlation and splice positions. Multiple data types can be compared simultaneously in order to quickly determine the best correlation for all variables (e.g. magnetic susceptibility, GRAPE density, P-wave velocity, natural gamma activity, color reflectance). Once the correct depth offset is determined, it is applied to the entire core and the user proceeds iteratively core-by-core until all cores of all holes at a given site are optimally depth-correlated. The real time feedback provided by shipboard application of Splicer allows gaps in the recovered sequence to be identified in time to guide drilling for complete recovery of stratigraphic sequences. Splicer has been used routinely on the *JOIDES Resolution* to build continuous sediment records since Leg 151 (1993). Metadata files generated by this program are now formally included in the JANUS database. Splicer also allows the composite section to be compared or tied to reference records such as insolation and isotope curves.



After compositing the records to a common depth scale, a continuous sequence is constructed by "splicing" cores from multiple holes together to cover the coring gaps and disturbances. The final "splice" provides a template to guide postcruise sampling.



The Core-Log Integration Platform (CLIP) software suite provides the ODP community with a set of graphic, interactive data analysis products for depth-merging and integrating core and downhole log data.



Magnetic susceptibility records from different holes are tied together to create a common "composite" depth scale for the site. A common feature is chosen for manually assigning a tie-point between the cores from different holes.

Applications

- ◆ Simultaneous comparison of multiple data types from multiple holes
- ◆ Tying holes together to build a common "composite" depth scale
- ◆ Building a continuous sediment section by "splicing" overlapping cores
- ◆ Comparing stratigraphic data from various holes down the splice
- ◆ Outputting a continuous "spliced" record for further analysis
- ◆ Tying downhole spliced record to reference data such as insolation or isotope curves

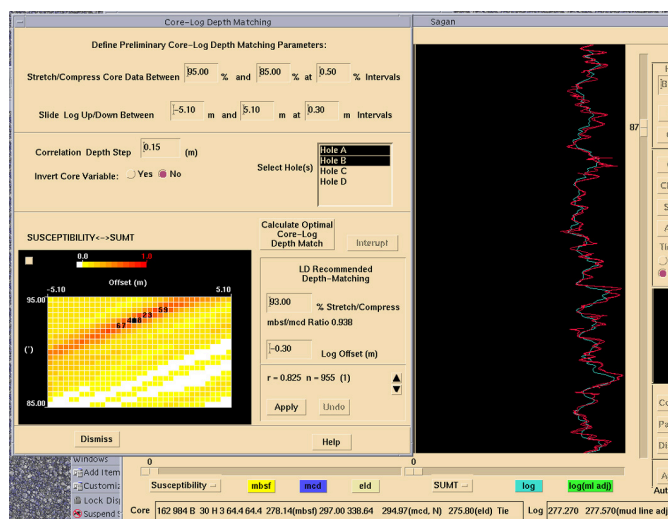
System Requirements

Platform:	Sun workstation
Operating system:	Sun OS 5.5 - 5.8
Window managers:	OpenWindows, Motif (mwm), CDE (dtwm)
Monitor:	Large screen monitor recommended
Data Input:	Flexible format (compatible with ODP Janus output)

CLIP: Sagan

Description

Sagan, the second software component of CLIP, allows the composite sections created in Splicer to be mapped to their true stratigraphic depths, unifying core and log records and providing a crosscheck on the completeness of the composite section. Sagan generates a single metafile that defines a set of precise depth correlations between core and log datasets at any given site. This metafile provides the foundation for core-log data integration, as it establishes the unique mapping function linking the two independent depth scales. The program performs the core-log depth merging using physical parameters which are measured on both cores by logs (e.g. natural gamma, bulk density, porosity, magnetic susceptibility, sonic velocity). The core-log depth correlations are conducted either manually (e.g., core-by-core from single or multiple holes) or automatically. Sagan can also perform smoothing, decimation, and culling procedures to modify the data. The program can manage up to 10 holes of core data, 5 data types, nearly an infinite number of cores and data points and up to 3 reference log curves. The resulting core-log timelines can be applied across equivalent mcd depths in different holes or just for individual cores.

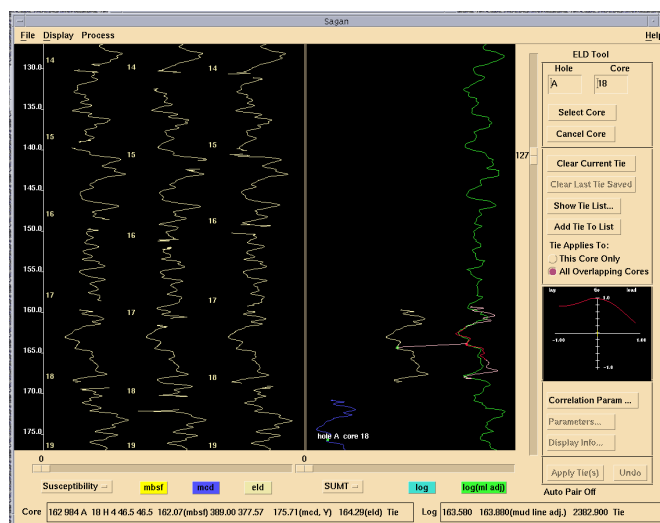


A cross correlation routine automatically determines the single best compression and offset adjustments to integrate the core-log data.



ODP Logging Services, Lamont-Doherty Earth Observatory, Rt. 9W, Palisades, NY 10964

The Core-Log Integration Platform (CLIP) software suite provides the ODP community with a set of graphic, interactive data analysis products for depth-merging and integrating core and downhole log data.



Downhole log magnetic susceptibility records are used as a reference to map core sections back to their original stratigraphic position. A common feature is chosen for manually assigning a tie-point between the core and log records.

Applications

- ◆ Comparison of multiple core data types (in mbsf or mcd space) to downhole log records (log mbsf)
- ◆ Automatic or manual mapping of core data back to log data to determine original stratigraphic depths
- ◆ Accurate estimation of size and position of coring gaps, as well as accuracy of composite sections
- ◆ After mapping of core data into the logs, core data can be saved versus Estimated Log Depth (eld), Meters Composite Depth (mcd) or Meters Below Sea Floor (mbsf)

System Requirements

Platform:	Sun workstation
Operating system:	Sun OS 5.5 - 5.8
Window managers:	OpenWindows, Motif (mwm), CDE (dtwm)
Monitor:	Large screen monitor recommended
Data Input:	Flexible format (compatible with ODP Janus output)